

ECOPETROL S.A.

FORM 20-F

(Annual and Transition Report (foreign private issuer))

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Washington, D.C. 20549

FORM 20-F
(Mark One)

☐ REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF *THE SECURITIES EXCHANGE ACT OF 1934*

For the fiscal year ended December 31, 2024

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

☐ SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of event requiring this shell company report

Commission file number: 001-34175

ECOPETROL S.A.

(Exact name of Registrant as specified in its charter)

N/A

(Translation of Registrant's name into English)

REPUBLIC OF COLOMBIA

(Jurisdiction of incorporation or organization)

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Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
American Depositary Shares (as evidenced by American Depositary Receipts), each representing 20 common shares par value COP 609 per share	EC	New York Stock Exchange
Ecopetrol common shares par value COP 609 per share		New York Stock Exchange (for listing purposes only)
8.625% Notes due 2029	EC29	New York Stock Exchange
6.875% Notes due 2030	EC30	New York Stock Exchange
4.625% Notes due 2031	EC31	New York Stock Exchange
7.750% Notes due 2032	EC32	New York Stock Exchange
8.875% Notes due 2033	EC33	New York Stock Exchange
8.375% Notes due 2036	EC36	New York Stock Exchange
7.375% Notes due 2043	EC43	New York Stock Exchange
5.875% Notes due 2045	EC45	New York Stock Exchange
5.875% Bonds due 2051	EC51	New York Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Act: **None**

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Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: **None**

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

41,116,694,690 Ecopetrol common shares, par value COP 609 per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

☒ Yes ☐ No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

☐ Yes ☒ No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒

Accelerated filer ☐

Non-accelerated filer ☐

Emerging growth company ☐

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards[†] provided pursuant to Section 13(a) of the Exchange Act. ☐

[†] The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

☐ U.S. GAAP

☒ International Financial Reporting Standards as issued by the International Accounting Standards Board

☐ Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow:

☐ Item 17 ☐ Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

☐ Yes ☒ No

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1. **Introduction**

1.1 **About This Annual Report**

We file our Annual Report on Form 20-F and other information with the U.S. Securities and Exchange Commission.

We file reports, including annual reports on Form 20-F, and other information with the SEC pursuant to the rules and regulations of the SEC that apply to foreign private issuers. The materials included in this annual report on Form 20-F may be downloaded at the SEC's website: <http://www.sec.gov>. Any filings we make are also available to the public over the Internet at the SEC's website at www.sec.gov and at our website at www.ecopetrol.com.co. These URLs are intended to be inactive textual references only. They are not intended to be active hyperlinks to such websites. The information on our website, which might be accessible through a hyperlink resulting from such URL, is not and shall not be deemed to be incorporated into this annual report.

Unless the context otherwise requires, the terms "Ecopetrol", "we", "us", "our", "Ecopetrol Group", "Group" or the "Company" are used in this annual report to refer to Ecopetrol S.A. and its subsidiaries on a consolidated basis.

For purposes of the section *Business Overview—Exploration and Production*, "we" refers to Ecopetrol S.A., its subsidiaries and the partnerships in which Ecopetrol has an interest.

References to the "Nation" or "Colombia" in this annual report relate to the Republic of Colombia, our controlling shareholder. References made to the Colombian Government or the "Government" correspond to the executive branch including the President of Colombia, the ministries, and other government agencies responsible for regulating our business.

Our consolidated financial statements for the years ended December 31, 2022, 2023, and 2024 were prepared in accordance with IFRS accounting standards as issued by IASB. References in this annual report to IFRS mean IFRS as issued by the IASB.

IFRS differs in certain significant aspects from the current reporting standards as in effect in Colombia ("Colombian IFRS"), which is the accounting standard we use for local reporting purposes. As a result, our financial information presented under IFRS is not directly comparable to our financial information presented under Colombian IFRS. For a description of the differences between Colombian IFRS and IFRS, see section *Financial Review—Summary of Differences between Internal Reporting Policies (Colombian IFRS) and IFRS*.

Our consolidated financial statements were consolidated line by line and all transactions and balances among subsidiaries have been eliminated. These financial statements include the financial results of all subsidiary companies controlled, directly or indirectly, by Ecopetrol S.A. See Exhibit 1 – *Consolidated subsidiaries, associates, and joint ventures, to our consolidated financial statements included in this annual report*.

In this annual report, references to "USD" or "U.S. dollars" are to United States dollars and references to "COP" "Colombian Peso" or "Colombian Pesos" are to Colombian Pesos, the Ecopetrol Group's functional and presentation currency under which we prepare our consolidated financial statements. This annual report translates certain Colombian Peso amounts into U.S. dollars at specified rates solely for the convenience of the reader. Unless otherwise indicated, such Colombian Peso amounts have been translated at the rate of COP 4,073.75 per USD 1.00, which corresponds to the average *Tasa Representativa del Mercado* (TRM), or Representative Market Exchange Rate, for 2024. Such conversion should not be construed as a representation that the Colombian Peso amounts correspond to, or have been or could be converted into, U.S. dollars at that rate or any other rate. On March 31, 2025, the Representative Market Exchange Rate was COP 4,192.57 per USD 1.00. Certain figures shown in this annual report have been subject to rounding adjustments, and, accordingly, certain totals may therefore not precisely equal the sum of the numbers presented. In this annual report, a billion is equal to one with nine zeros.

In this annual report, we use unit measures like: "bpd" (barrels per day), "boepd" (barrels of oil equivalent per day), "mbd" (thousand barrels day), "mboed" (thousand barrels of oil equivalent day), "mboe" (thousand barrels of oil equivalent), "mmboe" (million barrels of oil equivalent), "mmbd" (million barrels per day) and "mmb" (million barrels).

1.2 Forward-looking Statements

This annual report on Form 20-F contains forward-looking statements within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. These statements are not based on historical facts and reflect our expectations for future events and results. Most facts are uncertain because of their nature. Words such as “anticipate”, “believe”, “could”, “estimate”, “expect”, “should”, “plan”, “potential”, “predict”, “prognosticate”, “project”, “target”, “achieve” and “intend”, among other similar expressions, are understood as forward-looking statements. We have made forward-looking statements that address, among other things:

- changes in international crude oil and natural gas prices;
- our exploration and production activities, including drilling; and import and export activities;
- our liquidity, cash flow, and sources of funding;
- the results of our electric power transmission and toll roads activities through our subsidiary, Interconexión Eléctrica S.A. (“ISA”);
- our projected and targeted capital expenditures and other cost commitments and revenues; and
- dates by which certain areas will be developed or will come on-stream.

Our forward-looking statements and sensitivity analysis are not guarantees of future performance and are subject to assumptions that may prove incorrect and to risks and uncertainties that are difficult to predict. Actual results could differ materially from those expressed or forecasted in any forward-looking statements as a result of a variety of factors. These factors may include, but are not limited to, the following:

- future growth and development of the energy industry and its transition into lower carbon sources of energy;
- general economic and business conditions, including increased and prolonged inflation in Colombia and worldwide, volatility in crude oil and other commodity prices, refining margins and prevailing exchange rates;
- competition;
- our ability to obtain financing;
- our ability to find, acquire or gain access to additional reserves and our ability to develop existing reserves;
- uncertainties inherent in making estimates of our reserves;
- the modification, adjustment or reduction of the tariffs, rates or fees charged by the electricity transmission and transport businesses in the countries where they operate;
- significant political, economic and social developments in Colombia and other countries where we do business;
- the impact of tariffs, trade barriers and other restrictions imposed on global trade;
- natural disasters, pandemics and other public health events;
- the continuing Russian invasion of Ukraine and Israel - Hamas conflict;
- other military operations, terrorist acts, wars or embargoes;
- regulatory developments, including regulations related to climate change and cybersecurity;

- receipt and maintenance of government approvals and licenses;
- technical difficulties; and
- other factors discussed in section *Risk Review—Risk Factors* of this document as “Risk Factors.”

All forward-looking statements attributed to us are qualified in their entirety by this cautionary statement. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information or for any other reason. Accordingly, readers should not place undue reliance on forward-looking statements.

1.3 ***Selected Operating Data***

The following table sets forth, for the periods and at the dates indicated, certain key operating data.

Table 1 – Selected Operating Data

Operating Information	2024	2023	2022	2021	2020
Oil and gas production (mboed)	745.8	736.6	709.5	679.0	697.0
Proved oil and gas reserves (mmboe) ⁽¹⁾	1,893	1,883	2,011	2,002	1,770
Exploratory wells ⁽²⁾⁽³⁾	16	26	29	16	18
Refinery throughput (bpd) ⁽⁴⁾	416,879	422,623	360,451	355,895	322,038
1P Reserves replacement ratio	104 %	48 %	104 %	200 %	48 %
Transmission Lines (km)	49,677	49,426	48,766	48,330	47,358

(1) Include natural gas royalties and exclude crude oil royalties.

(2) Gross exploratory wells.

(3) The table does not include stratigraphic wells, although they are considered exploratory. These wells do not come into production, and are subsequently plugged and abandoned after the relevant study is completed. The table also includes wells drilled by partners at sole risk.

(4) Includes the Barrancabermeja, Cartagena, Apiay and Orito refineries.

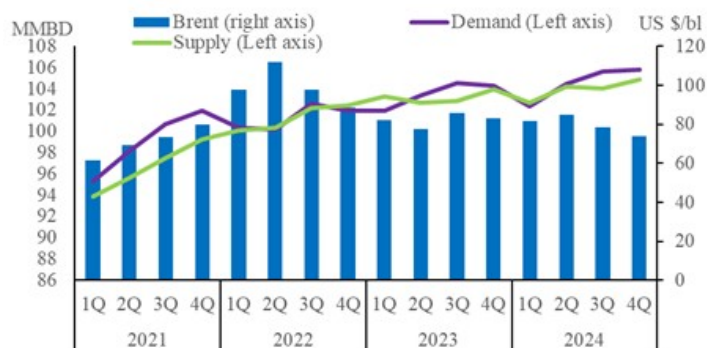
2. ***Strategy and Market Overview***

Our consolidated financial results for 2024 reflect the cumulative impact of a crude oil price that exceeded our initial expectations. In our investment plan for 2024, we forecasted a Brent Crude oil price of USD 75 per barrel for the year, while the actual average price stood at USD 79.84 per barrel, a decrease of USD 2.33 per barrel compared to 2023. This higher-than-expected price was due to (i) a volatile global crude market, shaped by the steady growth in supply from non-OPEC+ countries and subdued demand, and (ii) to weaker-than-anticipated consumption in China and the influence of geopolitical factors. Despite the overall increase in 2024, Brent oil prices averaged lower than in 2023, reflecting a market shift towards supply-side dominance.

On the demand front, global oil consumption grew by one million barrels per day (“mmbd”) in 2024, below the trend rate of 1.2 mmbd over five years preceding the pandemic (2015-2019). Notably, while the U.S. economy exceeded expectations for a second consecutive year, with robust growth, China’s oil demand slowed significantly in 2024. Given that China accounted for nearly 50% of global oil demand growth over the past two decades, this slowdown weighed heavily on the worldwide demand balance. However, strong demand growth in emerging markets, particularly in Asia-Pacific, partially offset this weakness. Meanwhile, demand in OECD countries showed minimal growth, reflecting a manufacturing sector that remained in contraction throughout the year.

On the supply side, OPEC and its allies (OPEC+), including Russia, maintained their production quotas throughout the year, prioritizing price stability through disciplined output cuts. By year-end, OPEC+ supply was 0.7 mmbd lower than in 2023, reflecting improved compliance among member countries. These cuts helped counterbalance the increasing supply from non-OPEC+ countries (excluding Russia), which decreased by 1.4 mmbd over the year. As a result, global crude inventories remained essentially unchanged compared to the beginning of 2024. The expansion of non-OPEC+ supply was primarily driven by the U.S. production of 0.3 mmbd. However, non-OPEC+ supply growth fell short of market expectations made at the beginning of the year, highlighting a more constrained expansion than anticipated (1.4 mmbd versus the 2.5 mmbd forecast in January). Overall, the market achieved better balance by the end of 2024, driven by a combination of disciplined output reductions by OPEC+ and the moderated growth of non-OPEC+ supply. The graph below sets forth the oil demand and supply balance compared against the evolution of the Brent price as of the periods indicated.

Graph 1 – Supply/Demand Balance vs ICE Brent Price Evolution



Source: S&P Global Commodity Insights, Bloomberg

In the latter part of 2024, with the U.S. economy stabilizing, inflation moderating in developed markets, and major economies initiating interest rate cuts, signs of demand recovery emerged. Additionally, China’s economy rebounded, boosting market sentiment. These developments prompted the International Monetary Fund (IMF) to maintain the forecast global economic growth of 3.2% for 2024, with advanced economies growing at 1.8% and emerging market and developing economies at 4.2%.

Although international oil prices and global demand and supply dynamics are significant factors affecting our business and financial condition, Colombia’s local economic factors have also influenced, and will continue to affect our performance, given that we conduct most of our business in Colombia.

The Colombian economy, as measured by real GDP, grew at a rate of 1.7% in 2024, one of the lowest in the region, but exhibiting a much faster economy as compared to the 0.6% growth rate in 2023. In 2024, GDP growth rate was mainly driven by (i) a small increase in private consumption, which expanded at a rate of 1.6%, and (ii) a decrease in the unemployment rate to 9.1%, which was 0.89 percentage points lower compared to 2023 and positively impacted by a growth of investment into the country. Investment spending also contributed favorable to GDP, with an increase in gross capital formation in annual terms of 3.0% in 2024. In contrast, the external sector contributed negatively to GDP growth, with imports increasing by 4.2% and exports growing by 2.0%, resulting in an increase in the current account deficit.

Under current Colombian regulations, depending on the price of fuels in the international markets, participants in the Colombian fuel market either contribute to or receive payments from the Fuel Price Stabilization Fund (“FEPC” for its acronym in Spanish), a fund managed by the MHCP to attenuate, in the domestic market, the impact of fluctuations of fuel prices in international markets. Moreover, the decrease in the difference between gasoline and diesel parity prices with those of domestic prices due to factors such as Brent price, gasoline and diesel cracks and the exchange rate, has resulted in a decrease in the amounts owed by FEPC to Ecopetrol. See “*Regulation Concerning Production and Prices—Fuel Price Stabilization Fund (FEPC)*”. On March 22, 2024, the Annual Shareholders’ Meeting announced a dividend per share of COP 312. The dividend amount declared by the Company for the Government of Colombia (the “Government”) as majority shareholder was COP 11.35 trillion. This dividend was offset against the 2024 FEPC receivables from the Government. As of December 31, 2024, the cumulative balance of the FEPC account receivable was COP 7.6 trillion, accrued in 2024, to be paid in 2025.

2.1 **Our Corporate Strategy**

2.1.1 **2040 Strategy: Energy That Transforms**

On February 8, 2022, the Ecopetrol Group published its long-term strategy (the “2040 Strategy”), also referred to as “Energy That Transforms”, being the first company in the oil and gas industry in Latin America to disclose a roadmap for the next 20 years. The strategy aims to address comprehensively current environmental, social, and governance priorities, while maintaining our focus on generating sustainable value for all our stakeholders. The objective of this long-term strategy is to consolidate an agile and dynamic organization that promptly adapts to the changes faced by the energy industry.

“Energy That Transforms” is designed to position the Ecopetrol Group as an integrated energy group, leader in Latin America in energy diversification, that participates in all segments of the hydrocarbon chain (upstream, midstream, downstream and commercialization) as well as energy infrastructure, with the ambition to diversify into low-emission businesses that allow us to continue reducing our carbon footprint and achieve a 55% reduction in methane emissions by 2030, a net-zero carbon emissions (scopes 1 and 2) and a 50% reduction in total emissions (scopes 1, 2 and 3) by 2050. This strategy comprises four strategic pillars: (i) Grow with the Energy Transition, (ii) Generate Value through Technology, Environmental, Social and Governance (“TESG”), (iii) Cutting-edge Knowledge, and (iv) Competitive Returns. The strategy is based on a short-term Brent price of USD 75/Bl and a long-term oil price of USD 55/Bl.

In addition, on September 11, 2023, Ecopetrol announced certain adjustments to its 2040 Strategy initially presented in February 2022. Such adjustments were approved by the Board of Directors of the Company and pertain to the following aspects of the strategy: (1) the new strategic focus of the Caribbean offshore lever is to maximize gas potential in the Colombian Caribbean; (2) unconventional hydrocarbon exploration activities will not be pursued in Colombia; and (3) the previously defined strategic objective of “energy efficiency” has been replaced by optimization of the internal consumption of energy by 25 petajoules (“PJ”) for the period 2018-2030.

The replacement of the strategic objective of “energy efficiency” has impacted the “Generate Value through TESG” and “Grow with the Energy Transition” pillars of the Company. All other elements of the 2040 Strategy which were announced to the market in February 2022 remain unchanged. The long-term strategy reaffirms our commitment to a just and equitable energy transition, emphasizing portfolio diversification while preserving the integrity and value of our traditional business. Additionally, our focus remains on strict capital discipline to ensure profitable and sustainable growth in our business lines and the creation of value for all our stakeholders.

Although the Company has not yet updated its operating and financial reporting model to the 2040 Strategy, some progress made in relation to the 2040 Strategy includes (i) changes in the management structure of the upstream subsegment, which belongs to the exploration and production segment (see *Ecopetrol S.A.’s Production Activities in Colombia*), (ii) statutory reforms to include guiding principles of the 2040 Strategy, (iii) new business line committees and a strategic committee aligned to the 2040 Strategy (see – *Section 7 – Corporate Governance*).

2.1.1.1 Grow with the Energy Transition

The first pillar seeks to maximize the life and value of the hydrocarbon portfolio, while advancing in the decarbonization and diversification strategy of low-emission businesses. This pillar aims to maintain Ecopetrol Group’s competitiveness in the integrated hydrocarbon value chain and increasing gas supply, offshore exploration, and enhanced recovery, thereby strengthening our traditional businesses with the latest technology and innovations to have more sustainable processes and maximize the value of reserves and future barrels.

On average, we expect to invest between COP 20 and COP 30 trillion annually by 2040. In production, investment is expected to be focused on enhanced recovery technologies, Caribbean offshore gas developments, and protecting the base production curve by improving the natural decline of production fields. In line with international best practices, the valuation for these projects includes greenhouse gas emissions cost under the CO2 shadow price methodology, with a price curve that begins at 40 USD/tCO₂e today and reaches 50 USD/tCO₂e by 2030.

In the upstream segment, we expect to maintain our production between 700 and 750 thousand barrels of oil equivalent per day (“mboed”) through 2040. For gas, production is expected to increase, along with new commercialization options, with the long-term expectation of business to grow its stake in relative EBITDA generation.

In the midstream segment, the long-term objectives include capturing over 90% share of the Colombian hydrocarbon transport market, among others.

The downstream segment seeks to: (i) increase the margin of existing refineries’ assets; (ii) maximize the polypropylene margin, and (iii) assess options for diversifying into petrochemicals and on green fuels.

Additionally, the value of the various products is expected to be strengthened through commercial strategies which seek to diversify heavy crude destinations, leverage the advantage in quality and reliability of supply and integrate customer-based logistics and recipes.

The diversification towards low-emission businesses in the long term contemplates a gradual incursion into emerging businesses that seek to mitigate the effects of climate change, such as the production of low-carbon hydrogen as an energy carrier, Carbon Capture, Utilization, and Storage (“CCUS”), and Natural Climate Solutions (NCS). The value proposition includes diversifying into low-emission businesses, for which more than USD 183 million are expected to be invested over the next three years, in green hydrogen projects, CCUS and in renewables incorporation.

ISA, a leader in the electric power transmission business, responds competitively to the challenges of decarbonization and diversification, meeting new demands in the context of the energy transition.

In the electric power transmission and road concessions segment, the aim is to continue the growth trajectory in both new and existing geographies, leveraging ISA’s strategic leadership position in the power transmission business in Latin America.

On March 13, 2025, ISA launched its 2040 Strategy “Energy that brings life to the transition” intending to establish itself as a leading energy transmission company on the continent, with investments in new electric energy businesses. In this new strategic cycle, the goal is to maintain the relevance of the transmission business and seize opportunities in new businesses derived from the energy transition, complementing the core business.

For this new strategic cycle, the focus will be on: consolidating the core business, and accelerating new energy businesses (i.e. energy solutions, and storage). Additionally, the strategy includes expanding into new locations, making a positive contribution to communities and nature, and growing selectively and strategically in the roads business. By 2040, ISA intends to have invested between USD 28 billion and USD 33 billion across the continent, focusing on: (i) consolidating electric energy transmission in Latin America (67%), (ii) deploying/accelerating new electric energy businesses (23%), (iii) growing selectively/strategically in the toll roads business (10%), (iv) expanding into new geographies, (v) doubling 2024 EBITDA COP 0.7 trillion, (vi) actively managing its portfolio of toll roads and concessions transmission lines, and (vii) positively contributing to the development of talent, communities, and nature.

2.1.1.2 Generate Value through TESG

This pillar seeks to strengthen transparent and ethical relations with our stakeholders, applying high standards of corporate governance to achieve environmentally responsible, safe, and efficient operations in which innovation and technology act as catalysts to accelerate solutions for future challenges. To achieve this, the Ecopetrol Group has identified five strategic lines: (i) build and generate value through an efficient, clean and safe production, (ii) accelerate and prioritize decarbonization and energy efficiency, (iii) ensure circular water management, (iv) support local development in the places where we operate, and (v) generate trust in the social context through proactive dialogue and by improving the quality of life of people looking for mutual benefits, with a focus on inclusion, and on reactivating and diversifying local economies.

Environmentally, the long-term TSEG targets include the achievement of: (i) 45% and 55% reduction in methane emissions by 2025 and 2030 in the upstream business, respectively (however, Ecopetrol intends to reach zero methane emissions under the Oil and Gas Climate Initiative (OGCI), (ii) net-zero emissions of CO₂ equivalent by 2050 (scopes 1 and 2) in all our operations, (iii) zero routine gas flaring by 2030 in the upstream business, (iv) zero treated produced and wastewater discharges by 2045 along with an expected reduction of 58% to 66% in the intake of fresh water for operations, (v) the addition of a portfolio of Natural Climate Solutions (NCS) that help reduce 2-4 metric tons of carbon dioxide equivalent (MtCO₂e) by 2030.

The Company has set specific targets towards achieving its energy matrix decarbonization and enabling the incorporation of low-emission businesses within its portfolio. Additionally, by 2025, the Company aims to accelerate the incorporation of approximately 900 MW of non-conventional renewable energy into its generation. The Company maintains its long-term target of incorporating more than 1,000 MW of non-conventional renewable energy by 2030.

On the social front, the long-term TSEG targets focus on promoting the generation of approximately 230 thousand new non-oil related jobs by 2040 and contributing to the education of two million young Colombians.

2.1.1.3 Cutting-edge Knowledge

This pillar seeks to develop the required skills and capacities to face the challenges towards growth and TSEG, through a comprehensive science, technology, and innovation strategy, as well as improving the competitiveness and resilience of current assets, contributing to diversification, increasing clean energy, decarbonizing operations and strengthening of talent through transformative practices by means of training programs to optimize performance (upskilling) or fill new positions (reskilling).

Thus, the expected long-term goals are, among others: (i) having approximately 70% of workers complete reskilling programs by 2030, and (ii) achieving automation of 100% of human talent processes by 2030.

2.1.1.4 Competitive Returns

The fourth pillar ensures continuity of our strict capital discipline, the efficient use of resources, and the protection of cash, all of which have been leveraging the Ecopetrol Group's strategy since 2015. The long-term aspiration includes, among others, maintaining the ordinary dividend policy at between 40% and 60%, in line with operating results. The long-term strategy will allow transfers to the Nation between COP 13-20 trillion annually on average, through royalties, taxes, and dividends and is expected to enable a sustainable capital structure with a gross debt to EBITDA ratio below 2.5 times.

2.1.2 2025 Investment Plan

On November 29, 2024, we announced that the Board of Directors approved the 2025 investment plan (the "2025 Investment Plan") which contemplates a budget of between COP 24 trillion pesos (USD 5.9 billion) and COP 28 trillion pesos (USD 6.9 billion). The 2025 Investment Plan is aligned with the group's commitment to energy security and the country's energy transition. The 2025 Investment Plan assumes, among others, a USD 73 /Bbl Brent price, an exchange rate of COP 4,100 per USD 1.00 and assumes the collection of the accounts receivable from the FEPC for 2024. The 2025 Investment Plan increases investment levels compared to 2024, under capital discipline criteria and is expected to have the following implications:

The upstream business is expected to invest approximately COP 17.2 trillion pesos (approximately USD 4.0 billion) (equivalent to 52% of the 2025 Investment Plan for crude oil-related investments and 12% for gas-related investments). The upper range of the target is adjusted to 740,000 and 750,000 barrels of oil equivalent per day for 2025 (78% crude, 17% gas, and 5% white products), seeking to implement recovery technologies that optimize the use of available resources and maintain production levels. Crude oil production in Colombia is expected to grow, compensating the natural decline of gas fields. In 2025, the Company plans to drill between 455 and 465 development wells, of which 79% are expected to be executed in Colombia and the remaining 21% in the United States. In terms of exploration, the Company expects to drill 10 wells mainly in the Llanos area and Caribbean offshore of Colombia. Gas investments are estimated between COP 3.1 and COP 3.3 trillion pesos (approximately 750 and 800 million dollars), mainly in the Piedemonte Llanero and Offshore, to develop the gas of the Caribbean offshore, contributing to a production of approximately 123,000 barrels of oil equivalent per day (which represents approximately 700 million cubic feet of natural gas), of which 85% are forecasted to be part of the gas supply for the country.

Investments in the transportation segment are expected to reach approximately COP 1.5 trillion pesos (approximately USD 350 million), corresponding to 5% of the 2025 Investment Plan, mainly focused on integrity and reliability projects concerning the infrastructure developed by Cenit Transporte y Logística de Hidrocarburos S.A.S., Oleoducto Central S.A., Oleoducto de Colombia S.A., and Oleoducto de los Llanos S.A. Transported volumes are expected to reach between 1,130,000 and 1,170,000 barrels per day, in line with the country's production expectations and refined products demand. Investments in the refining segment are expected to reach approximately COP 1.6 trillion pesos (approximately USD 400 million), corresponding to 6% of the total investment budget for 2025, and are expected to be focused on ensuring the reliability, availability, and sustainability of the operation of the Barrancabermeja and Cartagena refineries, as well as developing programs that would reduce product imports, improve quality of fuels, and advancing sustainable fuel (SAF) projects. The joint load of both refineries is expected to be between 415,000 and 420,000 barrels per day.

Interconexión Eléctrica S.A E.S.P. (ISA), a subsidiary of Ecopetrol S.A., is expected to invest between COP 5.7 and COP 6.5 trillion pesos (approximately 1.4 and 1.6 billion dollars) in 2025 (equivalent to approximately 21% of the 2025 Investment Plan), of which approximately 90% is expected to be allocated to the electric transmission business. These investments seek to increase the electric power grid to achieve approximately 50,400 km in operation by 2025, maintaining the Company as the energy transmission leader in the region.

In order to advance in the energy transition goals while simultaneously decarbonizing the hydrocarbon operations, the 2025 Investment Plan intends to allocate an amount between COP 9.4 trillion pesos (approximately USD 2.3 billion) and COP 11.4 trillion pesos (approximately USD 2.8 billion), which include investments in electric power transmission and roads, gas investments, and renewable energy projects, among others. We continue to review growth opportunities in all business lines and depending on the results of this process, the Company may allocate additional investment resources towards energy transition in 2025.

Moreover, in 2025, the Company expects to achieve an additional energy optimization of 2.6 Peta Joules (PJ) reaching an accumulated energy saving of around 21 PJ between 2018 and 2025, accelerating the completion of the goal of 25 PJ optimization by 2030. Additionally, the goal of 900 MW by 2025 is projected to be accomplished in line with the corporate strategy. As part of the Company's energy transition efforts, the 2025 Investment Plan forecasts an additional reduction of about 300,000 tons of CO2 equivalent emissions by 2025, contributing to the achievement of the total emissions reduction target by 2030.

In line with our goal of generating value through TESG, the 2025 Investment Plan allocates COP 2.3 trillion pesos (USD 555 million) towards this objective. The financial plan for 2025 aims to ensure competitive returns in a scenario of Brent prices averaging USD 73/barrel, generating an EBITDA margin at levels close to 39%.

The plan incorporates efficiency targets for 2025, exceeding 4 trillion pesos, aiming to capture savings in operational management and investment projects, to achieve improvements on indicators such as lifting cost, total refining cost, and cost per barrel transported. We expect our Return on Average Capital Employed (ROACE) to remain at competitive levels. Considering the above, the financing of the 2025 Investment Plan for Ecopetrol S.A. is expected to be carried out with operational resources and forecasts transfers to the Nation (including dividends, royalties, and taxes) of approximately 35 trillion pesos (approximately USD 8.4 billion). The table below sets forth the details of the investment plan per business segment:

Table 2 – 2025 Investment Plan

Business Segment	% Percentage ⁽¹⁾
Exploration	6 %
Production	59 %
Downstream	6 %
Midstream	5 %
Electric Power Transmission and Toll Roads	21 %
Other	3 %
TOTAL	100 %

(1) Percentage over the upper range.

3. **Business Overview**

3.1 **Our History**

We were formed in 1951 by the Colombian Government as *Empresa Colombiana de Petróleos* and began operating the crude oil fields at La Cira-Infantas, the first oil field in Colombia, where production started in 1918, and the pipeline that connected that field with the Barrancabermeja refinery and the port of Cartagena. In 1961, we assumed the direct operation of the Barrancabermeja refinery and continued its transformation into an industrial complex. In 1974, we acquired the Cartagena Refinery (as defined below), which had been in operation since 1957. Pursuant to Decree 0062 of 1970, we were transformed into a governmental, industrial, and commercial company.

In 2003, pursuant to Decree Law 1760, the National Hydrocarbons Agency (*Agencia Nacional de Hidrocarburos* or “ANH” for its acronym in Spanish) was created and Ecopetrol's public role as administrator and regulator of the national hydrocarbons resources was transferred to the ANH. Ecopetrol modified its organic structure and became Ecopetrol S.A., a publicly held corporation, one hundred percent state-owned, and continued the development of exploration and production activities on a competitive basis with autonomy over business decisions. Since 2006, according to Law 1118, we evolved from a wholly state-owned entity to a mixed-economy company with private capital. This process has resulted in a substantial change in the legal framework to which we are subject, and in the nature of our relationship with the Nation, as our controlling shareholder.

We carried out our initial public offering in August 2007, when our common shares were listed on the Colombian Stock Exchange. Our American Depositary Shares (ADSs) were listed on the New York Stock Exchange in September 2008. We carried out a follow-on public offering in Colombia in August 2011.

In June 2012, Cenit was incorporated as a subsidiary specialized in logistics and transportation of hydrocarbons in Colombia, whose main objective was to enhance the strategic and logistical framework of the Colombian oil industry, given the boost in hydrocarbon production and looking to increase sales of crude oil and refined products in Colombia and in the international markets.

In 2016, 34 units of the Cartagena Refinery came into operation and upgrades were made to the Barrancabermeja refinery.

In 2017, we entered for the first time into the Mexican market, where we were awarded (together with Petronas and Pemex) two blocks to explore and produce hydrocarbons in shallow waters in the southeastern basin.

In 2018, we made progress in the internationalization of offshore exploration by entering the Brazilian pre-salt oil region, one of the areas with the greatest potential for oil reserves in the world, working together with top-tier companies such as British Petroleum, China National Petroleum, China National Offshore Oil Corporation (“CNOOC”), Shell and Chevron. Additionally, we reached a milestone in our plan to transition into renewable energies with the award of a contract for the construction of the first solar farm in Meta, with an installed capacity of more than 20 MW to supply part of the energy demanded by the Castilla field.

In 2019, we began operations in the Permian Basin through a strategic alliance with Occidental Petroleum. We believe this project contributed to strengthen our position in knowledge and technology in unconventional reservoirs.

On July 1, 2021, we incorporated Ecopetrol Singapore Pte Ltd., a wholly owned subsidiary which owns 100% of the capital stock of Ecopetrol Trading Asia Pte Ltd. The latter’s main purpose is the international commercialization of crude oil and refined products of the Ecopetrol Group and of third parties throughout Asia.

On August 20, 2021, we acquired 51.4% of the outstanding shares of ISA from the Ministry of the Treasury and Public Credit (*Ministerio de Hacienda y Crédito Público* or “MHCP” for its acronym in Spanish), through which we expect to reposition ourselves along the energy value chain by offering services such as electricity transmission and aligning ourselves with the market trends towards decarbonization and electrification.

On November 16, 2022, we incorporated Ecopetrol US Trading LLC, a wholly owned indirect subsidiary of the Company owned through its subsidiary Ecopetrol USA Inc. Ecopetrol US Trading LLC’s main purpose is the international marketing of refined, petrochemical and industrial products as well as crude oil and natural gas from the Ecopetrol Group and third parties.

On March 17, 2023, we incorporated Econova Technology & Innovation, S.L.U. (“Econova”), a wholly owned subsidiary in Spain. Econova’s main purpose is the development of technology, innovation and science activities.

On October 1, 2024, the Company concluded the liquidation process of Ecopetrol Energía S.A.S. E.S.P.

3.2 Our Corporate Structure

We are currently organized into three corporate business lines: (A) hydrocarbons, which includes four operational divisions: (i) exploration and production, (ii) transportation and logistics, (iii) refining, petrochemicals and biofuels, and (iv) sales and marketing; (B) energies for the transition; and (C) energy transmission and toll roads. This organization seeks to maintain the competitiveness of the Hydrocarbons business, the development and scaling of the businesses in the Energies for the Transition portfolio, and the growth of the Transmission and Toll Roads line. However, as discussed above in *Our Corporate Strategy—2025 Investment Plan*, given the transformation of our Company with the ISA acquisition and in line with our 2040 Strategy, in 2022, we started a process to align our current segments more closely to the vision of the 2040 Strategy for the Ecopetrol Group and such process is expected to continue throughout 2025.

For purposes of this annual report, the financial information included in this annual report is organized by the following segments: (i) exploration and production, (ii) transportation and logistics, (iii) refining and petrochemicals, and (iv) energy transmission and roads, which is consistent with previous Company annual reports. The Company’s management is currently reviewing different options to update the operating and financial reporting model of the Company to be better aligned with the 2040 Strategy.

Our subsidiaries, Refinería de Cartagena S.A.S. (“Reficar” or “Cartagena Refinery”), Cenit, ISA, Ecopetrol Trading Asia Pte Ltd. (“Ecopetrol Trading Asia”), Ecopetrol US Trading LLC, Esentia S.A., Ecopetrol Permian LLC (“Permian”), and Ocesa are significant subsidiaries, as such term is defined under SEC Regulation S-X.

We have several directly and indirectly held subsidiaries both in Colombia and abroad. As of December 31, 2024, we have 12 directly owned and 76 indirectly owned subsidiaries.

In 2024, the Ecopetrol Group's corporate structure changed as follows:

- The Shareholders' Meeting of Ecopetrol Energia S.A.S E.S.P., with the favorable and affirmative vote of 100% of its subscribed shares, authorized its liquidator, Mr. Christian Schneider Jaramillo, to carry out all the necessary steps for the due liquidation of this company whose purpose was the commercialization of energy, which culminated with the cancellation of its commercial registration the first days of October 2024. The liquidation of this entity was because Ecopetrol S.A. is currently the parent company of an electric power transmission company, and current regulations restrict the same group from simultaneously carrying out commercialization and transmission activities.
- On July 22, 2024, a share purchase agreement was executed among Oleoducto Central S.A. ("Ocensa"), as purchaser, and Talisman Colombia Holdco Limited, as seller, by means of which Ocensa acquired 100% of the shares of C.I. Repsol Ductos Colombia S.A.S., which is now known as Ocensa Ductos S.A.S. ("Ocensa Ductos"). Ocensa Ductos holds a 7.14% equity interest in Oleoducto de Colombia S.A. ("ODC"), a subsidiary of Ecopetrol. Following the closing of the transaction, Ocensa Ductos became a fully-owned subsidiary of Ocensa.
- On December 16, 2024, the respective General Shareholders' Meetings of both Ocensa and Ocensa Ductos approved the merger of Ocensa Ductos S.A.S. and Ocensa, with Ocensa resulting the surviving entity. The completion of this merger is subject to the authorization of the Superintendencia de Companies (*Superintendencia de Sociedades*). Once the merger is completed, Ocensa will become a direct shareholder of ODC, holding a 7.14% equity interest in the company.

The table below sets forth our corporate structure as of December 31, 2024:

Graph 2 – Ecopetrol's Corporate Structure



The stock ownership percentage listed next to each entity refers to Ecopetrol S.A.'s direct and indirect participation therein as of December 31, 2024. Such data presents a summary of Ecopetrol S.A.'s corporate structure and does not include information about every entity directly or indirectly owned by the Company, and participation information has been rounded to the nearest integer; as such, it should not be relied upon and should be used solely for information purposes.

Exhibit 8.1 to this annual report identifies our principal operating subsidiaries, their respective countries of incorporation, and our percentage ownership in each (both directly and indirectly through other subsidiaries).

3.3 **Recent Developments**

Refinería of Cartagena

On January 16, 2025, Refinería de Cartagena S.A.S. was notified of the decision issued by the Court of the Southern District of New York, by which it denied the request presented by Chicago Bridge & Iron Company N.V., CB&I UK Limited to vacate the arbitration award dated June 2, 2023 in relation to the EPC Contract (Engineering, Procurement, and Construction Contract) executed between Reficar and CB&I for the expansion and modernization of the refinery located in the city of Cartagena, accordingly resolving the disputes between Reficar and Chicago Bridge & Iron Company N.V., CB&I UK Limited and CBI Colombiana S.A. (collectively “CB&I”). Consequently, the arbitration award in question was confirmed in its entirety. For more information, see section **Risk Review—Legal Proceedings and Related Matters—Reficar Investigations**.

Management

On January 15, 2025, we announced the following senior management changes:

1. Walter Fabián Canova, who had served as Vice President of Refining and Industrial Processes, performed his duties until January 15, 2025 and terminated his employment contract by mutual agreement after working at the Company for more than seven years.
2. Felipe Trujillo López, current Vice President of Commercial and Marketing, serves as Vice President of Refining and Industrial Processes until a permanent appointment is made.
3. Julio César Herrera serves as Vice President of Commercial and Marketing in charge and until a permanent appointment is made.

On January 31, 2025, we announced the following senior management changes:

1. María Cristina Toro Restrepo was confirmed as Corporate Legal Vice President and General Secretary. This Vice Presidency reports directly to the President.
2. Rafael Ernesto Guzmán Ayala was appointed Executive Vice President of Hydrocarbons. He will continue to report directly to the President.

On April 23, 2025, we announced the following senior management changes:

1. Diana Marcela Jimenez Rodriguez was confirmed as Director of Institutional Relations and Communication.
2. Julian Fernando Lemos Valero was confirmed as Corporate Vice President of Strategy and Business Development.
3. Julio Herrera was confirmed as Vice President of Commercial and Marketing.

See **Corporate Governance – Management**.

Temporal reduction in the conversion cost of Ecopetrol’s ADR

On January 15, 2025, Ecopetrol reached an agreement with JPMorgan Chase Bank N.A., the depositary bank of its American Depositary Receipts (ADR) program, to reduce 50% of the conversion cost for the purchase and sale of ADRs in the United States. The measure is temporary and is expected to be effective until July 10, 2025.

Ecopetrol & Occidental Petroleum Corp. Joint Venture extension agreement

On February 3, 2025, Ecopetrol Permian LLC and Occidental Petroleum Corp (“Oxy”) reached an agreement to extend the development plan of Rodeo Midland Basin LLC, located in the Permian Basin in Texas, under the joint-venture established in July 2019.

Ecopetrol & Repsol transaction completion to acquire 45% of its participation in Block CPO-09

Ecopetrol S.A. successfully completed the transaction with Repsol Colombia Oil & Gas Limited to acquire the remaining 45% of its participation in the CPO-09 Block, making it the holder of 100% of the participation interest in the block, a strategic asset in the Piedemonte Llanero.

Agreement for Launching the Market Maker program for its Shares on the Colombian Stock Exchange

On March 3, 2025, Ecopetrol S.A. announced it implemented a market maker program for Ecopetrol's shares listed on the Colombian Stock Exchange, for a 12-month period with Valores Bancolombia S.A. Comisionista de Bolsa and Andes Investment Group Inc., a subsidiary of the Chilean group Larraín Vial and an affiliate of the local Larraín Vial broker-dealer, each entity operating under applicable regulation and in compliance with Colombian markets' regulation. On March 14, 2025, Ecopetrol S.A. announced it had completed the necessary procedures for the implementation of market maker program for its common stock, with Andes Investment Group Inc., and Valores Bancolombia S.A. Comisionista de Bolsa. The market maker program began on March 3, 2025, through Andes Investment Group Inc., while through Valores Bancolombia S.A. Comisionista de Bolsa, the program began on Friday, March 14, with the authorization from the Colombian Stock Exchange.

Election of the statutory auditor for the 2025–2029 period

On March 28, 2025, Ecopetrol S.A. shareholders approved to appoint the firm Deloitte & Touche S.A.S., as the statutory auditor of Ecopetrol S.A. for fiscal years 2025-2028. The agreement with Deloitte & Touche S.A.S. was executed in April 2025, while the statutory audit and external audit agreement executed with the firm ERNST & YOUNG AUDIT S.A.S., ending on May 27, 2025.

Ecopetrol signed an agreement to build the Jemeiwaa Ka'I wind cluster in La Guajira

On April 14, 2025, Ecopetrol S.A. signed an investment framework agreement with AES Colombia & CIA SCA E.S.P. to build 49% of the Jemeiwaa Ka'I wind cluster located in La Guajira, subject to the fulfillment of condition precedents and other legal requirements. Jemeiwaa Ka'I comprises a portfolio of wind projects located in the upper and middle Guajira, in the municipality of Uribia, with an approximate capacity of 1,087 MW, along with a 35 km transmission line.

3.4 Our Business

We are the largest company in Colombia and one of the main integrated energy companies in the American continent. We are responsible for more than 60% of the hydrocarbon production, of most transportation, logistics, and hydrocarbon refining systems, and hold leading positions in the petrochemicals and gas distribution segments. With the acquisition of 51.4% of ISA's shares, the Company participates in energy transmission, the management of real-time systems (XM), and the Barranquilla - Cartagena coastal highway concession. At the international level, Ecopetrol has a stake in strategic basins in the American continent, with drilling and exploration operations in the United States (Permian basin and the Gulf of Mexico (aka Gulf of America)), Brazil, and Mexico, and, through ISA and its subsidiaries, Ecopetrol holds leading positions in the power transmission business in Brazil, Chile, Peru, and Bolivia, road concessions in Chile, and the telecommunications sector. The Nation currently owns 88.49% of our voting capital stock. We are among the world's largest public companies, ranking 316 on the Forbes 2024 Global 2000 Ranking, and the largest Colombian company in this ranking.

3.5 Exploration and Production

Our exploration and production business segment includes exploration, development, and production activities in Colombia and abroad. We began local exploration in 1955 and international exploration in 2006. Exploration and production activities are conducted directly by Ecopetrol S.A., and through some of our subsidiaries, as well as through joint ventures with third parties. As of December 31, 2024, we were the largest operator and producer of crude oil and natural gas in Colombia, maintaining the largest exploration acreage position in Colombia.

Unless otherwise stated, all figures are given before deducting royalties.

3.5.1 ***Exploration Activities***

In 2024, our exploration strategy was focused on three working fronts: Colombian onshore, Colombian Caribbean offshore, and overseas. By year-end, the Ecopetrol Group was a party to 86 contracts for exploratory activities, with 49 of those contracts being for Colombia, and 37 of those contracts for outside of Colombia, distributed as follows:

- Exploratory Activities in Colombia:
 - Ecopetrol is a party to (i) 22 E&P contracts in exploratory stage, (ii) three E&P Agreement in exploratory stage, (iii) three technical evaluation agreements (TEAs), (iv) one risk sharing agreement, (v) two association contracts.
 - Hocol S.A. (“Hocol”), is a party to (i) 16 E&P contracts in exploratory stage, and (ii) two E&P Agreements in exploratory stage.
- Exploratory Activities outside of Colombia:
 - One production sharing contract (PSC) in Mexico;
 - 24 royalty tax agreements for Ecopetrol America LLC, and
 - One production sharing (PSC) and 11 concessions (four in 2024 (S-M-1717, S-M-1707, S-M-1719, and S-M-1715) for Ecopetrol Óleo e Gás do Brasil Ltda.

Our Business Plan aims at incorporating resources in high reward projects concentrated in: (i) onshore basins in Colombia (both foothills and foreland in Llanos basin, Middle and Upper Magdalena Valley, Putumayo and gas in Guajira, Sinú-San Jacinto and Lower Magdalena Valley), (ii) offshore Colombia (appraise and evaluate existing gas discoveries as well as identify new hydrocarbons accumulations), and (iii) international areas such as Gulf of Mexico (aka Gulf of America) and offshore Brazil in pre-salt and post-salt Santos and Campos basins.

Graph 3 – Sedimentary Basins where Ecopetrol Executes Exploration Activities



3.5.1.1 Exploration Activities in Colombia

In 2024, Ecopetrol S.A. and its subsidiaries drilled 15 exploration and appraisal wells in Colombia, out of which ten were exploratory (A3/A2) and five were appraisal (A1) wells. As of December 31, 2024, six wells were successful, six were dry, and three remained under technical evaluation. This drilling activity was concentrated in basins of interest around Colombia, including the Caribbean offshore, Llanos, the Lower, Middle and Upper Magdalena Valley.

The six successful wells drilled by Ecopetrol S.A. and its partners in Colombia during 2024 were located in the following regions: Toritos Norte-1, Toritos-2, Toritos Sur-1, Bisbita Este-1 and Guamal Profundo-1 in Llanos basin, and Sirius-2 in the Caribe Offshore.

In 2024, Ecopetrol and other partners executed the following agreements for exploration activities:

- In April, a business collaboration agreement (BCA) was signed with Parex Resources (Colombia) AG (“Parex”) with the objective to develop exploratory activities in the Siriri region of the Piedemonte basin.
- In June, Ecopetrol and Parex signed an amendment to LLA-121, LLA 16-1 and LLA 4-1 E&P agreements to make exploratory gas activities in Piedemonte, with a 50% participation by Ecopetrol and 50% participation by Parex in each agreement.
- In July, Río Magdalena E&P agreement for an exploratory stage in Medium Magdalena Valley basin was executed. Ecopetrol holds 100% of the participation in this agreement.
- In September, the Magangué E&P agreement for an exploratory stage in the Lower Magdalena Valley basin was assigned from Ecopetrol to Hocol.
- In November, an agreement with Parex was executed to develop exploratory activities in the Farallones region of the Llano’s basin, which is in process of formalization with the ANH.

On February 5, 2025, Ecopetrol S.A. successfully completed the transaction with Repsol Colombia Oil & Gas Limited to acquire the remaining 45% of its participation in the CPO-09 Block, making it the holder of 100% of the participation interest in the block, a strategic asset in the Piedemonte Llanero.

The following table sets forth, for the periods indicated, the number of gross and net productive, dry, and under evaluation exploratory wells drilled by Ecopetrol S.A., Hocol and by our joint venture partners, and the exploratory wells drilled by third parties pursuant to sole risk contracts with us.

Table 3 – Exploratory Drilling in Colombia

	For the year ended December 31,		
	2024	2023	2022
	(Number of wells)		
COLOMBIA			
Ecopetrol S.A.			
Gross exploratory wells			
Owned and operated by Ecopetrol			
Productive	—	—	1.00
Dry ⁽¹⁾	—	3.00	1.00
Under Evaluation ⁽²⁾	—	2.00	1.00
Total	—	5.00	3.00
Operated by a partner in Joint Venture			
Productive	1.00	1.00	3.00
Dry ⁽¹⁾	2.00	—	2.00
Under Evaluation ⁽²⁾⁽⁴⁾	1.00	2.00	1.00
Total	4.00	3.00	6.00
Operated by Ecopetrol in Joint Venture			
Productive	1.00	2.00	1.00
Dry ⁽¹⁾	1.00	1.00	—
Under Evaluation ⁽²⁾	—	1.00	1.00
Total	2.00	4.00	2.00
Net Exploratory Wells⁽³⁾			
Productive	1.11	1.60	3.10
Dry ⁽¹⁾	1.21	3.48	2.00
Under Evaluation ⁽²⁾⁽⁴⁾	0.65	3.55	1.75
Total	2.97	8.63	6.85
Sole Risk			
Productive	—	—	1.00
Dry ⁽¹⁾	—	2.00	3.00
Under Evaluation ⁽²⁾	—	1.00	2.00
Total	—	3.00	6.00
Hocol			
Gross Exploratory Wells			
Productive	4.00	5.00	2.00
Dry ⁽¹⁾	3.00	3.00	6.00
Under Evaluation ⁽²⁾	2.00	3.00	3.00
Total	9.00	11.00	11.00
Net Exploratory Wells⁽³⁾			
Productive	2.00	2.50	2.00
Dry ⁽¹⁾	2.50	1.50	5.50
Under Evaluation ⁽²⁾	1.00	2.00	2.50
Total	5.50	6.00	10.00

- (1) A dry well or hole is an exploratory well found to be incapable of producing either crude oil or natural gas in sufficient quantities to justify completion as a crude oil or natural gas well.
- (2) An “under evaluation” well is an exploratory well where there is not yet enough information to determine its result as successful or dry. This classification is maintained until additional well-testing operations are carried out to determine the hydrocarbon production capacity or some petrophysical parameter of the rocks or fluids in the reservoir.
- (3) Net exploratory wells were calculated according to our percentage of ownership in these wells.
- (4) Caripeto-1 well was classified as “under evaluation”. However, as of January 2025, it has been declared successful well drilling, confirming hydrocarbon presence.

Seismic

In Colombia, during 2024, Ecopetrol acquired 193.4 km² of seismic information through the Yacopi 3D program, and the completion of 2.7 km² through the Cesar 3D program, while Hocol acquired 352.9 km² 3D of seismic information in Llanos 86, 281 km² in Llanos 104, and 84,53 km² in COR 9. Additionally, Ecopetrol purchased 108.65 km of 2D seismic and 333.99 km² of 3D seismic of the Middle Magdalena Valley; while Hocol purchased 98.9 km of 2D seismic of the Lower and Upper Magdalena Valley.

Moreover, 23,969 km² of 3D seismic and 3,858 km of 2D seismic were reprocessed by Ecopetrol in the Middle (VMM) and Lower (VIM) Magdalena Valley, Putumayo Llanos, Piedemonte and in the Colombian Caribbean. In non-seismic methods, 18,413 km of aerogradiometry (iFTG) data were acquired and reprocessed and seismic characterization has been done through quantitative interpretation – IQ of 7,256 km² of 3D projects and 83 km in 2D in the Middle (VMM) and Lower (VIM) Magdalena Valley, Llanos and in the Colombian Caribbean.

3.5.1.2 Exploration Activities Outside Colombia

Our international exploration strategy is focused on basins with high materiality, aiming at mitigating our risk exposure and ultimately increasing our reserves. This strategy is supported by an efficient, business-oriented portfolio management, which involves the participation in competitive bidding rounds to secure high-potential exploration blocks in the focus areas. Within this context, a key element is the formation of strong joint-ventures with international and regional oil companies which can contribute with operational expertise and leading-edge technology.

In the Santos Basin, the partnership among BP plc (“BP”), CNOOC, Ecopetrol Óleo e Gás do Brasil Ltda., in which the aforementioned partners have, respectively, a 50%, 30% and 20% ownership stake, pursued the exploration and drilling of the Pau Brasil-1 well. The Pau Brasil-1 well resulted dry with hydrocarbon shows.

Regarding the Gato do Mato project in Brazil, operated by Shell and associated with Total Energies, the project has made steady progress. In 2025 Ecopetrol Óleo e Gás do Brasil Ltda, a subsidiary of the Ecopetrol Group S.A., has already approved the Final Investment Decision (FID). The project completed the basic engineering “Front End Engineering Design” (FEED) for the subsea and floating production facilities, with the expectation of incorporating the first volumes of 1P reserves during 2025.

The following table sets forth information on our international exploratory drilling for the periods indicated.

Table 4 – Exploratory Drilling Outside Colombia

	For the year ended December 31,		
	2024	2023	2022
	(Number of wells)		
UNITED STATES			
Ecopetrol America LLC			
Gross Exploratory Wells			
Productive	—	—	—
Dry ⁽¹⁾	—	—	1.00
Under Evaluation ⁽²⁾	—	—	—
Total	—	—	1.00
Net Exploratory Wells ⁽³⁾			
Productive	—	—	—
Dry ⁽¹⁾	—	—	0.25
Under Evaluation ⁽²⁾	—	—	—
Total	—	—	0.25
BRAZIL			
Ecopetrol Óleo e Gás do Brasil Ltda.			
Gross Exploratory Wells			
Productive ⁽⁵⁾	—	—	—
Dry ⁽¹⁾	1.00	—	—
Under Evaluation ⁽²⁾	—	—	—
Total	1.00	—	—
Net Exploratory Wells ⁽³⁾⁽⁴⁾			
Productive	—	—	—
Dry ⁽¹⁾	0.20	—	—
Under Evaluation ⁽²⁾	—	—	—
Total	0.20	—	—

- (1) A dry well or hole is an exploratory well found to be incapable of producing either crude oil or natural gas in sufficient quantities to justify completion as a crude oil or natural gas well.
- (2) An “under evaluation well” is an exploratory well where there is not yet enough information to determine its result as successful or dry. This classification is maintained until additional well testing operations are carried out to determine the hydrocarbon production capacity or some petrophysical parameter of the rocks or fluids in the reservoir.
- (3) Net exploratory wells were calculated according to our percentage of ownership in these wells.
- (4) None of our international wells were drilled pursuant to a sole risk contract.

Seismic

During 2024, Ecopetrol Óleo e Gás do Brasil Ltda, aligned with its commitment to the National Petroleum Agency (ANP, for its acronym in Portuguese), completed the high-quality multi-client 3D seismic campaign, acquiring 2,173 km² of 3D seismic data this year, for a total of 10,816 km² of 3D seismic data located in the southern Santos basin. This dataset will be used to evaluate the exploratory potential of the area and mature existing opportunities within the portfolio.

3.5.2 Production Activities

In 2024, our consolidated average production was 745.8 thousand barrels of oil equivalent per day (“mboed”), showing an increase of 9.2 mboed as compared to 2023, primarily due to the following factors: (i) incremental production from Permian, (ii) an increase in production of 7.6 thousand barrels of oil per day (“mboed”) as compared to 2023 due to a better performance in production and increased capacity in water facilities in Caño Sur Field; and (iii) better performance in basic production in fields located in Llanos and Central regions. The above was partially offset by: (i) environmental impacts mainly of the fields located in Llanos, Putumayo and Arauca (6.4 mboed decrease in 2024 compared to 6.7 mboed decrease in 2023); (ii) Hurricane season in Gulf of Mexico (aka Gulf of America) that affected Ecopetrol America LLC, and (iii) a decrease in gas sales.

The following table summarizes the results of our oil and gas production activities for the periods indicated:

Table 5 – Ecopetrol Group’s Oil and Gas Production

	For the year ended December 31,								
	2024			2023			2022		
	Oil	Gas ⁽¹⁾	Total	Oil	Gas ⁽¹⁾ (mboed)	Total	Oil	Gas ⁽¹⁾	Total
Total gross production in Colombia ⁽²⁾⁽⁵⁾	509.4	135.1	644.5	515.7	147.6	663.3	509.9	152.5	662.4
Total international gross production ⁽³⁾	60.4	40.9	101.3	44.5	28.8	73.3	31.9	15.2	47.1
Total gross production of Ecopetrol Group	569.8	176.0	745.8	560.2	176.4	736.6	541.8	167.7	709.5
Total production of Ecopetrol Group for presentation of reserves⁽⁴⁾	531.6	152.6	684.2	521.1	156.9	678.0	502.1	155.2	657.3

(1) Conversion between million cubic feet per day (mcfpd) and boepd is performed at 5,700 mcfpd to 1 boepd. Includes natural gas and natural gas liquids.

(2) Total production in Colombia corresponds to Ecopetrol S.A. and Hocol. Includes royalties.

(3) Total International production corresponds to Ecopetrol Permian LLC and Ecopetrol America LLC. Includes royalties.

(4) For the Company’s presentation of reserves, the Company deducts from its total gross production the 100% of crude royalties from Ecopetrol Group companies and gas royalties from non-Colombian Ecopetrol Group companies, Ecopetrol Permian LLC (United States) and Ecopetrol America LLC (United States). Gas royalties derived from Colombian production are not deducted because according to local regulation the Company is entitled to such gas royalties. Also includes self-consumption, which is only comprised of natural gas self-consumption and is immaterial. Oil production include natural gas liquids (“NGL”) and oil self-consumption, which is immaterial.

(5) The total gross production in Colombia, includes the production of 50% of Arauca field (0.5 mboed). In December 2024, Ecopetrol S.A. and Parex filed a request to transfer Ecopetrol’s 50% stake in the agreement for the Arauca field to Parex, as a result of the business collaboration agreement (BCA) executed between Ecopetrol S.A. and Parex.

3.5.2.1 Production Activities in Colombia

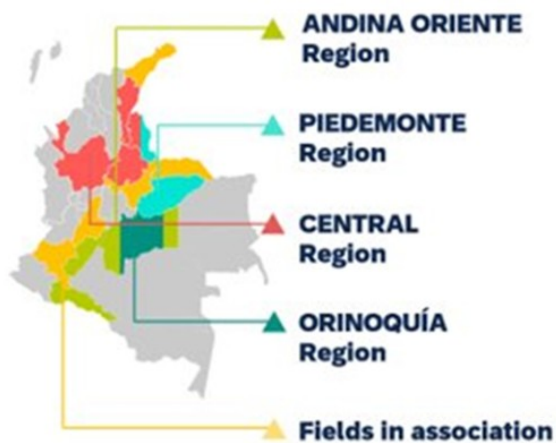
3.5.2.1.1 Ecopetrol S.A.’s Production Activities in Colombia

For the year ended December 31, 2024, Ecopetrol S.A. was the largest participant in the Colombian hydrocarbons industry, accounting for approximately 63.6% of crude oil production and 59.9% of natural gas production (calculations based on information from the Ministry of Mines and Energy (*Ministerio de Minas y Energía* or “MME” for its acronym in Spanish). In 2024, Ecopetrol S.A. drilled and completed 326 development wells, mainly in the Andina Oriente region and some through associated operation with partners (209 through direct operations and 117 through associated companies).

Up until February 16, 2025, Ecopetrol S.A. managed its production operations taking into account the regional location of the operation and whether the operation was carried out in association with partners (“associated operations”). Such organization comprised a total of 158 oil and gas fields with active production in 2024 divided into four regions: (i) Central Region, (ii) Orinoquía Region, (iii) Andina Oriente Region, and (iv) Piedemonte Region. Additionally, we operate 69 fields with active production through associated operations with different partners.

On February 16, 2025, the upstream segment changed its management structure from one defined by regions to one defined by products or asset groups (i.e. oil and gas). This change seeks to strategically redirect the segment to comply with the 2040 Strategy. The map below shows the locations of Ecopetrol S.A.’s operations by region until February 16, 2025.

Graph 4 – Ecopetrol S.A. Operations in Colombia



Note: Associated operations are conducted through a countrywide vice-presidency of subsidiaries and assets with partners.

The map below shows the locations of Ecopetrol S.A.'s operations by product, adopted on February 16, 2025.

Graph 5 – Ecopetrol S.A. Operations in Colombia



Note: Associated operation is conducted through a countrywide management of assets with partners.

Crude Oil Production

The average daily production of crude oil in Colombia by Ecopetrol S.A. (excluding its subsidiaries), was 491.4 mbd in 2024, 7.3 mbd lower than in 2023, which represents a year-to-year decrease of 1.5%.

The following chart summarizes Ecopetrol S.A.'s average daily crude oil production in Colombia by region, prior to deducting royalties, for the periods indicated.

Table 6 – Ecopetrol S.A.'s Average Daily Crude Oil Production in Colombia by Region

	For the year ended December 31,		
	2024	2023	2022
	(Thousand bpd)		
Central Region			
La Cira – Infantas	15.10	16.35	17.31
Casabe	11.62	12.47	12.67
Yarigui	14.28	15.53	16.81
Nare	14.45	14.79	15.66
Other	15.35	15.98	16.35
Total Central Region	70.80	75.12	78.80
Orinoquía Region			
Castilla	98.64	100.69	102.77
Chichimene	57.72	59.03	62.62
CPO-09	12.68	11.46	8.95
Apiay	6.07	5.04	4.70
Other	6.00	6.63	7.07
Total Orinoquía Region	181.11	182.85	186.11
Piedemonte Region			
Floreña	16.53	16.45	20.02
Cupiagua	3.75	3.73	5.05
Cusiana	0.70	0.86	1.10
Recetor	1.54	2.09	2.37
Gibraltar ⁽¹⁾	0.59	0.63	0.74
Total Piedemonte Region	23.11	23.76	29.28
Andina Oriente Region			
Rubiales	97.98	103.29	101.58
Caño Sur	39.54	31.91	7.66
San Francisco	3.12	3.43	3.54
Huila Area	4.03	4.19	4.09
Tello	3.93	4.28	4.38
Other	8.94	8.60	8.52
Total Andina Oriente Region	157.54	155.70	129.77
Associated Operations			
Quifa	12.47	13.38	13.97
Caño Limon	22.44	23.90	26.10
Other	23.91	24.00	28.76
Total Associated Operations	58.82	61.28	68.83
Total average daily crude oil production Ecopetrol S.A. (Colombia)	491.38	498.71	492.79

(1) Since 2022, Gibraltar field is included in Table 6 pursuant to the ANH's request to consider condensate as crude oil production and not as natural gas liquids in this field.

Table 7 – Ecopetrol S.A. Production per Type of Crude

	2024 (Mbd)	Year-on-Year Δ (%)	2023 (Mbd)	Year-on-Year Δ (%)	2022 (Mbd)
Light	23.9	(1.0)%	24.1	(19.5)%	29.9
Medium	115.4	(5.2)%	121.8	(8.1)%	132.6
Heavy	352.1	(0.2)%	352.8	6.8 %	330.3
Total	491.4	(1.5)%	498.7	1.2 %	492.8

Ecopetrol S.A.'s crude oil production in Colombia during 2024 was approximately 72% heavy crudes and 28% light and medium crudes. In 2023, approximately 71% of the crude oil production consisted of heavy crudes, and 29% of the crude oil production consisted of light and medium crudes. In 2022, approximately 67% of the crude oil production consisted of heavy crudes and 33% consisted of light and medium crudes.

Natural Gas Production

In 2024, the average daily production of natural gas by Ecopetrol S.A. (excluding its subsidiaries) reached 118.26 mboed, including natural gas liquids (NGLs), corresponding to a 3.6% decrease compared to 2023 production. This production was supplied from the following fields: Floreña (36.0%), Cupiagua (31.9%), Cusiana (14.4%), Guajira (7.2%), and the remaining 10.5% from other fields.

By the end of December 31, 2024, the Liquefied Petroleum Gas ("LPG") plant of the Cupiagua field produced 9,455 LPG barrels per day. The plant produces LPG and other products such as natural gas liquids (NGL), and penthane (C5).

Table 8 – Ecopetrol S.A.’s Average Daily Natural Gas Production in Colombia

	For the year ended December 31,					
	2024		2023		2022	
	Thousand bpd	mmcfpd	Thousand bpd	mmcfpd	Thousand bpd	mmcfpd
Central Region						
La Cira – Infantas	0.46	2.11	0.43	1.99	0.29	1.51
Provincia	1.17	3.67	1.00	2.73	1.00	2.29
Yarigui	0.24	1.39	0.37	2.13	0.29	1.70
Other	1.84	9.55	1.72	8.9	1.68	8.98
Total Central Region	3.71	16.72	3.52	15.75	3.26	14.48
Orinoquía Region						
Apiay	0.12	—	0.14	—	0.12	—
Other	0.29	—	0.40	—	0.41	—
Total Orinoquía Region	0.41	—	0.54	—	0.53	—
Piedemonte Region						
Floreña	42.58	215.49	42.10	212.04	39.53	197.18
Cupiagua	37.71	169.23	41.16	183.87	45.19	205.29
Cusiana	16.99	81.61	23.84	113.63	23.02	106.47
Gibraltar	5.70	32.48	5.68	32.41	6.46	36.81
Total Piedemonte Region	102.98	498.81	112.78	541.95	114.20	545.75
Andina Oriente Region						
Huila Area	0.17	0.33	0.28	0.9	0.29	0.94
Tello	0.06	0.32	0.07	0.4	0.07	0.32
Other	0.28	1.24	0.30	1.35	0.38	1.88
Total Andina Oriente Region	0.51	1.89	0.65	2.65	0.74	3.14
Associated Operations						
Guajira	8.57	48.86	9.93	56.62	12.23	69.70
Other	2.08	8.16	1.75	7.24	1.73	7.22
Total Associated Operations	10.65	57.02	11.68	63.86	13.96	76.92
Total Natural Gas Production (Colombia)	118.26	574.44	129.17	624.21	132.69	640.29

Note: Conversion between mcfpd and boepd is performed at 5,700 mcfpd to 1 boepd. Conversion was done only in respect of natural gas since natural gas liquids cannot be converted into mcfpd. Therefore, when the Company’s natural gas production is measured in boepd, it is higher as that includes natural gas and natural gas liquids. Ecopetrol S.A.’s sales of natural gas liquids represented less than 2.9 % of the Ecopetrol S.A.’s consolidated production for the periods presented in this annual report.

Projects to Increase Recovery Factor

In 2024, Ecopetrol continued to implement recovery programs to enhance the recovery factor of the fields. By year-end 2024, the fields with secondary and tertiary recovery programs contributed 41% of the Ecopetrol Group’s production.

The recovery programs increased proven reserves by 97 mmboe with an investment of approximately USD 662 million distributed among 36 recovery projects, 32 of which correspond to secondary recovery and four to tertiary recovery.

Development Wells

The following table sets forth the number of gross and net development wells drilled and completed or plugged and abandoned in Colombia, both solely by Ecopetrol S.A. and with its associates, that reached total depth for the years ended December 31, 2024, 2023 and 2022.

Table 9 – Ecopetrol S.A.’s Gross and Net Development Wells in Colombia⁽¹⁾

	For the year ended December 31,					
	2024		2023		2022	
	Productive Wells	Dry Wells	Productive Wells	Dry Wells	Productive Wells	Dry Wells
Central Region						
Gross development wells owned and operated by Ecopetrol	—	1.0	1.0	1.0	43.0	—
Orinoquía Region						
Gross development wells owned and operated by Ecopetrol	21.0	—	21.0	1.0	12.0	—
Andina Oriente Region						
Gross development wells owned and operated by Ecopetrol	176.0	—	181.0	4.0	185.0	—
Piedemonte Region						
Gross development wells owned and operated by Ecopetrol	1.0	—	2.0	-	1.0	—
Total gross development wells owned and operated in Colombia	198.0	1.0	205.0	6.0	241.0	—
Associated Operations						
Gross development wells in joint ventures	128.0	2.0	131.0	—	171.0	1.0
Net development wells	67.18	0.5	79.8	—	103.96	0.55
Total gross development wells in joint ventures Ecopetrol S.A. in Colombia	128.0	2.0	131.0	—	171	1.0
Total net development wells in joint ventures Ecopetrol S.A. in Colombia⁽²⁾	67.18	0.5	79.8	—	103.96	0.55
Total gross development wells Ecopetrol S.A. in Colombia	326	3	336.0	6.0	412	1.0
Total net development wells Ecopetrol S.A. in Colombia⁽²⁾	265.18	1.5	284.8	6.0	344.96	0.55

(1) Includes only wells that were drilled and completed or plugged and abandoned.

(2) Net wells correspond to the sum of wells owned and operated by us plus the net wells in our associated operations. Net wells in the associated operations are the result of our working interest in wells owned in joint ventures with our partners, as defined in the contract obligations.

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The following tables set forth activities by geographical area, including the number of gross and net wells in the process of being drilled, completed, or waiting on completion for the year ended December 31, 2024.

Table 10 – Ecopetrol S.A.’s Gross and Net In Process Wells

	For the year ended December 31, 2024			
	Drilled but not completed	Mobilization (Number of wells)	Being drilled	Being completed
COLOMBIA				
Central Region				
Gross in process wells owned and operated by Ecopetrol	—	—	—	—
Orinoquía Region				
Gross in process wells owned and operated by Ecopetrol	2.0	1.0	1.0	—
Andina Oriente Region				
Gross in process wells owned and operated by Ecopetrol	—	2.0	4.0	—
Piedemonte Region				
Gross in process wells owned and operated by Ecopetrol	—	—	1.0	—
Total gross in process wells owned and operated in Colombia	2.0	3.0	6.0	0.0
Associated Operations				
Gross in process wells in joint ventures	6.0	—	—	2.0
Net in process wells ⁽¹⁾	3.4	—	—	1.1
Total gross in process wells in joint ventures Ecopetrol S.A.	6.0	—	—	2.0
Total net in process wells in joint ventures Ecopetrol S.A.⁽¹⁾	3.4	—	—	1.1
Total gross in process wells Ecopetrol S.A. in Colombia	8.0	3.0	6.0	2.0
Total net in process wells Ecopetrol S.A. in Colombia⁽¹⁾	5.4	3.0	6.0	1.1

(1) Net wells correspond to the sum of wells owned and operated by Ecopetrol plus the net wells in our associated operations. Net wells in the associated operations are the result of our working interest in wells owned in joint ventures with our partners, as defined in the contract obligations.

Production Acreage

The following table sets forth Ecopetrol S.A.’s developed and undeveloped gross and net acreage of crude oil and natural gas production in Colombia for the year ended December 31, 2024.

Table 11 – Ecopetrol S.A.’s Developed and Undeveloped Gross and Net Acreage of Crude Oil and Natural Gas Production in Colombia

	For the year ended December 31, 2024			
	Developed		Undeveloped	
	Gross	Net (Acres)	Gross	Net (Acres)
Ecopetrol S.A.	429,536	371,616	3,945,532	2,993,850

Gross and Net Productive Wells

The following table sets forth Ecopetrol S.A.'s total gross and net productive wells by region for the year ended December 31, 2024.

Table 12 – Ecopetrol S.A.'s Gross and Net Productive Wells by Region⁽¹⁾⁽²⁾

	For the year ended December 31, 2024			
	Crude Oil ⁽³⁾		Natural Gas ⁽⁴⁾	
	Gross	Net ⁽⁵⁾	Gross	Net ⁽⁵⁾
	(Number of wells)			
COLOMBIA				
Central Region	3,404	2,877	18	17
Orinoquía Region	987	963	—	—
Andina Oriente Region	1,627	1,615	1	1
Piedemonte Region	60	60	7	7
Associated Operations	1,537	886	28	17
Total	7,615	6,401	54	42

- (1) The table reflects the productive wells that directly contribute to hydrocarbon production and therefore excludes wells used for injection, disposal, water abstraction, or other similar activities.
- (2) Includes only wells that were drilled and completed.
- (3) We consider crude oil wells to be those in which the main operation is oil production, although many of these wells produce gas associated with oil production that, in some cases, have a commercial purpose.
- (4) Natural gas wells are those in which operations are directed only toward the production of commercial gas.
- (5) Net productive wells are calculated by multiplying gross productive wells by our ownership percentage.

3.5.2.1.2 Ecopetrol S.A.'s Affiliates and Subsidiaries' Production Activities in Colombia

In 2024, the subsidiaries' production in Colombia came from Hocol, with a production of 34.9 mboed, which represents 4.7% of the Ecopetrol Group's total production.

Crude Oil Production

The following table sets forth our average daily crude oil production from Hocol, prior to deducting royalties, for the periods indicated.

Table 13 – Ecopetrol S.A.'s Subsidiaries in Colombia Average Daily Crude Oil Production

	For the year ended December 31,		
	2024	2023	2022
	(Thousand bpd)		
COLOMBIA			
Hocol			
Joint venture operation	3.49	1.77	1.35
Direct operation	14.53	15.25	15.75
Total Hocol	18.02	17.02	17.10
Total Average Daily Crude Oil Production (Subsidiaries in Colombia)	18.02	17.02	17.10

Natural Gas Production

The following table sets forth our subsidiaries' average daily natural gas production, prior to deducting royalties, for the periods indicated.

Table 14 – Ecopetrol S.A.'s Subsidiaries in Colombia Average Daily Natural Gas Production

	For the year ended December 31,					
	2024		2023		2022	
	Thousand bpd	mmcfpd	Thousand bpd	mmcfpd	Thousand bpd	mmcfpd
COLOMBIA						
Hocol						
Joint venture operation	2.62	14.95	3.12	17.80	2.71	15.45
Direct operation	14.26	81.29	15.31	87.26	17.06	97.24
Total Hocol	16.88	96.24	18.43	105.06	19.77	112.69
Production Tests	—	—	—	—	—	—
Total Average Daily Gas Production (Subsidiaries in Colombia)	16.88	96.24	18.43	105.06	19.77	112.69

Note: Conversion between mcfpd and boepd is performed at 5,700 mcfpd to 1 boepd.

Development Wells

The following table sets forth the number of gross and net development wells drilled and completed exclusively by our subsidiaries and in their joint ventures in Colombia for the periods indicated.

Table 15 – Ecopetrol S.A.'s Subsidiaries in Colombia Gross and Net Development Wells⁽¹⁾

	For the year ended December 31,					
	2024		2023		2022	
	Productive Wells	Dry Wells	Productive Wells	Dry Wells	Productive Wells	Dry Wells
	(Number of wells)					
Hocol						
Gross development wells owned and operated by Hocol	3.0	—	14.0	1.0	18.0	1.0
Gross development wells in joint ventures	—	—	2.0	—	2.0	—
Net development wells ⁽²⁾	3.0	—	15.0	1.0	19.0	1.0
Total gross development wells owned and operated in Colombia	3.0	—	14.0	1.0	18.0	1.0
Total gross development wells in joint ventures in Colombia	—	—	2.0	—	2.0	—
Total net development wells (Subsidiaries in Colombia)⁽²⁾	3.0	—	15.0	1.0	19.0	1.0

(1) Includes only wells that were drilled and completed.

(2) Net wells correspond to the sum of wells owned and operated by us plus the net wells in our associated operations. Net wells in the associated operations are the result of our working interest in wells owned in joint ventures with our partners, as defined in the contract obligations.

There were no gross and net in process wells drilled and completed exclusively by our subsidiaries and in their joint ventures in Colombia for the year ended December 31, 2024.

Production Acreage

The following table sets forth our subsidiaries developed and undeveloped gross and net acreage of crude oil and natural gas production in Colombia for the year ended December 31, 2024.

Table 16 – Ecopetrol S.A.’s Subsidiaries in Colombia Developed and Undeveloped Gross and Net Acreage of Crude Oil and Natural Gas Production

	For the year ended December 31, 2024			
	Developed		Undeveloped	
	Gross	Net	Gross	Net
	(Acres)			
Hocol	63,888	39,758	855	696
Total	63,888	39,758	855	696

The following table sets forth the expiration dates of material concentrations of the Company’s consolidated undeveloped acreage by geographic area as of December 31, 2024.

Table 17 – Undeveloped Production Acreage as of December 31, 2024 by Expiration Year

	For the year ended December 31,							
	2025		2026		2027		2028	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net
	(Acres)							
COLOMBIA								
Ecopetrol S.A. ⁽¹⁾	—	—	—	—	—	—	—	—
Hocol	—	—	—	—	—	—	—	—
Total Colombia	—	—	—	—	—	—	—	—
UNITED STATES OF AMERICA								
Ecopetrol America LLC	—	—	—	—	—	—	—	—
Ecopetrol Permian LLC ⁽²⁾	39	39	5,233	5,233	10	10	—	—
Total United States of America	39	39	5,233	5,233	10	10	—	—

- (1) Inclusive of potentially material areas with an expiration date. Areas which represent more than 5% of the total net undeveloped areas are considered material. Areas that can be developed until their resources are exhausted or until they need to be reverted to their owners, are not included.
- (2) Net acres correspond to our share and includes only acreage under direct operation by Occidental Petroleum. Non-operated acreage is not included because they are not considered material.

Gross and Net Productive Wells

The following table sets forth our subsidiaries’ total gross and net productive wells in Colombia for the year ended December 31, 2024.

Table 18 – Ecopetrol S.A.’s Subsidiaries in Colombia Gross and Net Productive Wells⁽¹⁾⁽²⁾

	For the year ended December 31, 2024			
	Crude Oil ⁽³⁾		Natural Gas ⁽⁴⁾	
	Gross	Net ⁽⁵⁾	Gross	Net ⁽⁵⁾
	(Number of wells)			
Hocol	404	367.7	47	27.9
Total (Subsidiaries in Colombia)	404	367.7	47	27.9

- (1) The table reflects productive wells that directly contribute to hydrocarbons production and therefore excludes wells used for injection, disposal, water abstraction or other similar activities.
- (2) Includes only wells that were drilled and completed.
- (3) We consider crude oil wells to be those in which the main operation is oil production, although many of these wells produce gas associated with oil production that, in some cases, have a commercial purpose.
- (4) Natural gas wells are those in which operations are directed only towards the production of commercial gas.
- (5) Net wells correspond to the sum of wells entirely owned by us or our subsidiaries and our ownership percentage of wells owned in joint ventures with our partners.

3.5.2.2 Production Activities Outside Colombia

In 2024, the subsidiaries' production outside Colombia came mainly from Ecopetrol America LLC and Ecopetrol Permian LLC. In 2024, the production obtained from these two companies was 101.27 mboed, which represents 13.6% of the Ecopetrol Group's total production.

Crude Oil Production

The following table sets forth our average daily crude oil production outside Colombia, prior to deducting royalties, for the periods indicated.

Table 19 – Ecopetrol S.A.'s Subsidiaries Outside Colombia Average Daily Crude Oil Production

	For the year ended December 31,		
	2024	2023	2022
	(Thousand bpd)		
UNITED STATES OF AMERICA			
Ecopetrol America LLC	6.68	5.86	8.10
Ecopetrol Permian LLC	53.69	38.61	23.84
Total average daily crude oil production (International)	60.37	44.47	31.94

Natural Gas Production

The following table sets forth our average daily natural gas production outside Colombia, prior to deducting royalties, for the periods indicated.

Table 20 – Ecopetrol S.A.'s Subsidiaries Outside Colombia Average Daily Natural Gas Production

	For the year ended December 31,					
	2024		2023		2022	
	Thousand bpd	mmcfpd	Thousand bpd	mmcfpd	Thousand bpd	mmcfpd
UNITED STATES OF AMERICA						
Ecopetrol America LLC	0.83	4.73	0.95	5.41	1.21	6.89
Ecopetrol Permian LLC	40.06	102.34	27.82	70.11	13.95	35.77
Total average daily natural gas production (International)	40.89	107.07	28.77	75.52	15.16	42.66

Note: Conversion between mcfpd and boepd is performed at 5,700 mcfpd to 1 boepd. Conversion was done only in respect of natural gas since natural gas liquids cannot be converted into mcfpd. Therefore, when the Company's natural gas production is measured in boepd, it is higher as that includes natural gas and natural gas liquids. The sales of natural gas liquids by Ecopetrol S.A.'s subsidiaries outside Colombia represented less than 21.8% of the consolidated production by Ecopetrol S.A.'s subsidiaries outside Colombia for the periods presented in this annual report.

Development Wells

The following table sets forth the number of gross and net development wells outside Colombia, drilled and completed exclusively by us and in joint ventures for the periods indicated.

Table 21 – Ecopetrol S.A.’s Subsidiaries Outside Colombia Gross and Net Development Wells⁽¹⁾

Number of wells	2024		2023		2022	
	Productive Wells	Dry Wells	Productive Wells	Dry Wells	Productive Wells	Dry Wells
UNITED STATES OF AMERICA						
Ecopetrol America LLC						
Gross development wells	1	—	2.0	—	—	—
Net development wells ⁽²⁾	0.2	—	0.6	—	—	—
Ecopetrol Permian LLC						
Gross development wells	105.0	2.0	111.0	—	102.0	1.0
Net development wells ⁽²⁾	61.0	1.1	67.5	—	50.0	0.5
Total gross wells (International)	106.0	2.0	113.0	—	102.0	1.0
Total net wells (International)⁽²⁾	61.2	1.1	68.1	—	50.0	0.5

(1) Includes only wells that were drilled and completed.

(2) Net wells correspond to the sum of wells entirely owned by us or our subsidiaries and our ownership percentage of wells owned in joint ventures with our partners.

Table 22 – Ecopetrol S.A.’s Subsidiaries Outside Colombia Gross and Net In Process Wells

	For the year ended December 31, 2024			
	Drilled but not completed	Mobilization	Being drilled	Being completed
(Number of wells)				
UNITED STATES OF AMERICA				
Ecopetrol America LLC				
Gross in process wells	—	—	—	—
Net in process wells ⁽¹⁾	—	—	—	—
Ecopetrol Permian LLC⁽²⁾				
Gross in process wells	22.0	—	9.0	10.0
Net in process wells ⁽¹⁾	14.6	—	5.2	3.5
Total gross in process wells (International)	22.0	—	9.0	10.0
Total net in process wells (International)⁽¹⁾	14.6	—	5.2	3.5

(1) Net wells correspond to the sum of wells owned and operated by us plus the net wells in our associated operations. Net wells in the associated operations are the result of our working interest in wells owned in joint ventures with our partners, as defined in the contract obligations.

(2) Includes only wells under direct operation by Occidental Petroleum. Non-operated wells are not included because they are not material.

Production Acreage

The following table sets forth our developed and undeveloped gross and net acreage of crude oil and natural gas production outside Colombia for the year ended December 31, 2024.

Table 23 – Ecopetrol S.A.’s Subsidiaries Outside Colombia Developed and Undeveloped Gross and Net Acreage of Crude Oil and Natural Gas Production

	For the year ended December 31, 2024			
	Developed		Undeveloped	
	Gross	Net	Gross	Net
	(Acres)			
UNITED STATES OF AMERICA				
Ecopetrol America LLC	56,420	14,773	—	—
Ecopetrol Permian LLC ⁽¹⁾	54,366	41,595	5,283	5,283
Total (International)	110,786	56,368	5,283	5,283

(1) Inclusive of acreage held by production.

Gross and Net Productive Wells

The following table sets forth our total gross and net productive wells outside Colombia for the year ended December 31, 2024.

Table 24 – Ecopetrol S.A.’s Subsidiaries Outside Colombia Gross and Net Productive Wells⁽¹⁾

	For the year ended December 31, 2024	
	Crude Oil	
	Gross	Net
	(Number of wells)	
UNITED STATES OF AMERICA		
Ecopetrol America LLC	20	5
Ecopetrol Permian LLC ⁽⁴⁾	420	240.18
Total (International)	440	245.18

(1) The table reflects productive wells that directly contribute to hydrocarbons production and therefore excludes wells used for injection, disposal, water abstraction or other similar activities.

3.5.2.3 Unconventional Hydrocarbons

On February 28, 2020, the Colombian Government, issued the Decree 328, providing the general guidelines for developing Integral Research Pilot Projects (PPIIs), followed by the issuance of corresponding environmental technical and social regulation by other Ministries to allow PPIIs to be performed. Furthermore, on December 24, 2020, Ecopetrol S.A. signed a Special Contract for Research Projects (Contrato Especial de Proyectos de Investigación, or “CEPI” for its acronym in Spanish) with the ANH regarding the development of a PPII, entitled Kalé. On June 4, 2021, Exxon Mobil Colombia signed a contract for the development of a PPII located near Ecopetrol S.A.’s PPII area, named Platero. On June 17, 2021, Exxon Mobil and Ecopetrol S.A. signed a consortium to jointly develop both PPIIs, in which Ecopetrol S.A. is the consortium operator.

The Government of Colombia (Ministry of Mines and Energy and Ministry of Environment and Sustainable Development) has announced a change in the energy policy of the country, according to which it seeks to prohibit activities related to the application of the technique known as “fracking”, including the prohibition of the Integral Research Pilot Projects PPII which were being executed through the referred CEPIS. In connection to said new policy, on September 9, 2022, Ecopetrol S.A and ExxonMobil requested to the ANH the suspension of the CEPIS.

On September 23, 2022, Ecopetrol S.A. filed a request for the suspension of the environmental obligations of Resolutions 00648 of March 25, 2022, and 01283 of June 10, 2022 before the National Authority of Environmental Licenses (“ANLA” for its acronym in Spanish), relating to the environmental license for the PPII Kalé. On September 29, 2022, the ANLA accepted Ecopetrol’s request and suspended such environmental obligations relating to the environmental license for PPII Kalé.

On November 4, 2022, in response to the request for suspension of the CEPIs filed on September 9, 2022, the ANH published Agreement 009, through which it was authorized to amend Clause 55 of the CEPIs, to allow for the suspension by mutual agreement of such contracts.

On December 28, 2022, the CEPI Kalé was formally amended to allow for its suspension by mutual agreement, as authorized by Agreement 009 of November 4, 2022, and was extended by Suspension Agreement No. 2 on October 4, 2023.

After a failed attempt with a bill proposed in 2022, a new bill to prohibit fracking was proposed to the legislative branch in 2024. Ecopetrol is currently awaiting the outcome of the legislative process in the Colombian Congress regarding such bill.

For more information see [*Applicable Laws and Regulations and Risk Factors – Risks Related to Our Operations*](#).

In addition, in connection with Ecopetrol’s unconventional resources strategy outside Colombia, in 2019 we formed a joint venture (JV) with Occidental Petroleum Corp. (“Occidental Petroleum”) for the development of approximately 97,000 acres in the Midland Basin, within the Permian Basin, Texas, by which we acquired 49% of Rodeo Midland Basin LLC (“Rodeo JV”).

See section [*Business Overview—Exploration and Production—Production Activities—Production Activities Outside Colombia*](#).

As of January 1, 2022, the Rodeo JV agreement with the Company and Occidental Petroleum was amended to provide Ecopetrol access to a larger production stake (75%) and adjust the carry obligation in the Midland area of the Permian Basin. On June 17, 2022, Ecopetrol Permian LLC (a subsidiary of Ecopetrol) signed a Joint Development Agreement (JDA) with certain Occidental Petroleum subsidiaries to carry out drilling and production programs from 2022 to 2027, in an area of approximately 21,000 acres located in Permian Basin. The agreement allowed Ecopetrol to expand its presence in the Permian with an approximately 49% interest stake of drilling and production programs in this area.

On September 11, 2023, Ecopetrol announced certain adjustments to its 2040 Strategy, including that unconventional hydrocarbon exploration activities will not be pursued in Colombia, among other updates. See section [*2040 Strategy: Energy That Transforms*](#).

On February 3, 2025, Ecopetrol and Oxy announced they reached an agreement to extend the Midland development plan, in the Permian Basin, until June 2026, under the joint-venture established in July 2019. The agreement maintains the possibility of signing a new extension of the development plan in the future, subject to the macroeconomic environment, industry situation, and partners’ interests. Ecopetrol and Oxy expect to keep an independent contract for the development of the Delaware subbasin active, which is expected to remain in force until 2027. Ecopetrol Permian’s 2025 Plan for Midland and Delaware sub-basins intends to include the drilling of approximately 91 development wells, with an estimated investment of USD 885 million and an average annual production of approximately 90 thousand barrels of oil equivalent per day (net to Ecopetrol Permian).

For more information, see section [*Business Overview—Applicable Laws and Regulations*](#) and section [*Risk Review—Risk Factors—Risks Related to Our Business*](#).

3.5.2.4 Marketing of Crude Oil and Natural Gas

In 2024, we sold 1,011.6 mboed, out of which 466.8 mboed represented sales of fuels and petrochemicals (46%), 445.9 mboed represented sales of crude oil (44%), and 99.0 mboed sales of natural gas (10%).

Crude Oil Export Sales

In 2024, crude oil export sales totaled 445.9 mboed and increased by 15.9 mboed compared to 2023, mainly due to higher production (10 mboed). Our crude oil export sales are traded both in the spot and contract markets, primarily to refiners in Asia and the United States.

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The Castilla blend is the main type of crude oil for export sales, with 270.9 mboed sold during 2024 (a 61% share of the crude oil basket) followed by the Apiay blend with 61.5 mboed (a 14% share of the crude oil basket), the Mares blend with 32.0 mboed (a 7% share of the crude oil basket) and the domestic crudes from Ecopetrol Permian LLC with 40.6 mboed (a 9% share of the crude oil basket).

We place our exports in markets that provide the best value for its crudes. In 2024, Asia was the main destination, representing 50% of crude oil exports, followed by the United States with 44%. Crude oil flows from Colombia to Asia were supported by the refining capacity's growth, mainly in China, as well as the increase in crude oil demand from India. At the same time, the United States kept a strong position as a result of its economic activity.

Moreover, volatility in the production of regional competitors has given refiners in the United States, India, and other markets an incentive to diversify their supply sources, which in turn has opened opportunities for Colombian producers. Our crude basket realization price decreased by USD 0.1/B1 year over year, due to market conditions.

Crude Oil Purchase Contracts

We have signed several crude oil purchase contracts with third parties and business partners. We also purchased the country's crude oil royalties from the ANH. These crudes are processed in our refineries or exported. The purchase price is referenced to export parity based on international market prices, plus a commercial fee. See section *Business Overview—Related Party and Intercompany Transactions*.

The table below sets forth the volumes of crude oil purchased from our business partners and third parties and volumes of crude oil purchased from the ANH from royalties for the years ended on December 31, 2024, 2023 and 2022.

Table 25 – Ecopetrol Consolidated Crude Oil Purchases

	For the year ended December 31,		
	2024	2023 (Million barrels)	2022
Crude oil purchased from ANH royalties	35.5	32.1	27.2
Crude oil purchased from third parties	42.7	42.7	42.2
Crude oil imported from third parties	16.8	23.0	12.1

During 2024, part of our crude strategy was centered on increasing the purchase and subsequent commercialization of crude oil from third parties, which enables further optimization of the supply chain and margin capture.

Import of Diluents

In 2024, we increased the imports of diluent by 15% (3.7 mboed) compared to 2023, due to higher crude sales. Diluent is used to transport heavy crudes through the pipeline system.

Natural Gas Sales

We sell natural gas to distribution companies through firm, interruptible and conditional contracts. These distributors supply natural gas to the residential market, as compressed natural gas for vehicles market and to large industrials in Colombia. We also market and sell natural gas directly to the industrial sector and to gas-fired power plants.

Our natural gas sales and self-consumption in 2024 decreased by 3.34% (-0.0047 mboed) compared to 2023, mainly due to the decrease in production from large fields and external events that affected production (-0.0104 mboed), which was partially offset by the increase in production in the Permian (+0.0057 mboed).

Natural Gas Delivery Commitments

The table below sets forth the commitments we have in Colombia under firm contracts with local natural gas distribution companies, local industries, gas-fired power generators and internal agreements with our refineries and fields.

Table 26 – Ecopetrol Consolidated Natural Gas Delivery Commitments

	For the year ended December 31,			
	2025	2026	2027	2028
	(GBtud)			
Volume for sales third parties	362.60	160.70	140.6	44.90
Volume for self-consumption	119.40	154.10	154.70	154.61
Volume for intercompany sales	53.20	54.10	51.60	42.20
Total Commitments	535.20	368.90	346.90	241.71

The table above is based on current contracts of Ecopetrol S.A. and the official report made to the Ministry of Mines and Energy in 2024. Self-consumption volumes decreased over time as a result of more efficient operations in our refineries. Third party volumes do not include potential production coming from exploratory projects. According to current regulations, these volumes will be committed and commercialized after declaring exploratory success.

3.5.3 Reserves

The reserves reporting process was conducted in accordance with SEC definitions and rules set forth in Rule 4-10(a) of Regulation S-X and the disclosure guidelines contained in the SEC's Modernization of oil and gas reporting final rule dated December 31, 2008, and effective as of January 1, 2010.

The estimated reserve amounts presented in this annual report, as of December 31, 2024, are based on the average price during the 12-month period prior to the ending date of the period covered in this annual report, determined as the unweighted arithmetic averages of the prices in effect on the first day of the month for each month within such period, unless prices were defined by contractual arrangements, as required by the SEC regulations. For 2024, the average ICE Brent price was USD 79.7/Bl.

Our crude oil and natural gas net proved reserves include reserves from our subsidiaries located in the United States, and from Hocol's assets in Colombia.

Estimated Net Proved Reserves

The following table sets forth our estimated net proved developed reserves of crude oil and gas by region for the years ended December 31, 2024, 2023 and 2022.

Table 27 – Net Proved Developed Reserves

	Colombia	North America	Total
Net Proved Developed oil reserves in million barrels oil equivalent			
As of December 31, 2024	971.9	56.5	1,028.9
As of December 31, 2023	969.2	56.8	1,026.0
As of December 31, 2022	893.3	44.6	937.9
Net Proved Developed NGL reserves in million barrels oil equivalent			
As of December 31, 2024	33.4	25.4	58.8
As of December 31, 2023	37.3	19.4	56.7
As of December 31, 2022	44.0	12.9	56.9
Net Proved Developed gas reserves in billion standard cubic feet			
As of December 31, 2024	1,622.4	127.6	1,750
As of December 31, 2023	1,906.4	100.9	2,007.3
As of December 31, 2022	2,101.9	72.1	2,174.0
Net Proved Developed oil, NGL and gas reserves in million barrels oil equivalent			
As of December 31, 2024	1,289.9	104.3	1,394.2
As of December 31, 2023	1,341.0	93.9	1,434.9
As of December 31, 2022	1,306.0	70.1	1,376.1

Note: Totals may not exactly equal the sum of the individual entries due to rounding. The conversion rate used is 5,700 standard cubic feet = 1 barrel of oil equivalent.

We are required, as are all oil companies undertaking exploratory and production activities in Colombia, to pay a percentage of our production to the Government as royalties. However, the ANH's Resolution 877 of 2013, Resolution 351 of 2014 and Resolution 640 of 2014 require natural gas royalties to be paid in cash, which has the effect of determining the amount to be paid in royalties, based on property rights to the total volume of natural gas produced, without deductions on account of royalties. The main producing gas fields are Cupiagua, Pauto, Cusiana, Chuchupa and Cupiagua Sur.

Ecopetrol S.A. owns 100% of Cenit, a subsidiary that operates in Colombia and is dedicated to the storage and transportation of hydrocarbons through pipelines and of refined products through multipurpose pipelines. Cenit provides transportation services for the entire Ecopetrol Group, and Cenit is fully consolidated into our consolidated results of operations. Therefore, the difference between the tariffs set by the Ministry of Mines and Energy and the real transportation costs (fixed and variable operating expenses) does not affect our consolidated income statement. Thus, in presenting our reserves information in the 2022, 2023 and 2024 annual reports, we have used our real transportation costs, rather than the regular tariffs set by the Ministry of Mines and Energy.

The following table summarizes our proved oil, NGL and natural gas reserves, which includes 19.96 million barrels of fuel oil, 235.5 billion standard cubic feet of fuel gas within our natural gas results and 276.8 billion cubic feet of royalties, as of December 31, 2024. Of the total of 104.3 mmboe of proved developed reserves within North America, 94.1 mmboe corresponds to unconventional reservoirs within the Permian Basin, and 10.2 mmboe correspond to Gulf of Mexico (aka Gulf of America) fields. Moreover, of the total of 100 mmboe of proved undeveloped reserves within North America, 95 mmboe corresponds to unconventional reservoirs within the Permian Basin, and 5 mmboe corresponds to Gulf of Mexico (aka Gulf of America) fields.

Table 28 – Proved Oil, NGL and Natural Gas Reserves for 2024

	Oil (mmb)	NGL (mmb)	Natural Gas (bcf)	Total Oil and Gas (mmboe)
PROVED DEVELOPED RESERVES				
Colombia	971.9	33.4	1,622.4	1,289.9
International				
North America	56.5	25.4	127.6	104.3
TOTAL PROVED DEVELOPED RESERVES	1,028.4	58.8	1,750.0	1,394.2
PROVED UNDEVELOPED RESERVES				
Colombia	353.6	4.7	231.5	398.9
International				
North America	46.8	29.3	134.0	99.6
TOTAL PROVED UNDEVELOPED RESERVES	400.4	34.0	365.5	498.5
TOTAL PROVED RESERVES	1,428.8	92.8	2,115.5	1,892.7

Note: Totals may not exactly equal the sum of the individual entries due to rounding. The conversion rate used is 5,700 standard cubic feet = 1 barrel of oil equivalent.

The following table summarizes our proved oil, NGL and natural gas reserves, which includes 17.9 million barrels of fuel oil, 281.5 billion standard cubic feet of fuel gas within our natural gas results and 304.9 billion cubic feet of royalties, as of December 31, 2023.

Table 29 – Proved Oil, NGL and Natural Gas Reserves for 2023

	Oil (mmb)	NGL (mmb)	Natural Gas (bcf)	Total Oil and Gas (mmboe)
PROVED DEVELOPED RESERVES				
Colombia	969.2	37.3	1,906.4	1,341.0
International				
North America	56.8	19.4	100.9	93.9
TOTAL PROVED DEVELOPED RESERVES	1,026.0	56.7	2,007.3	1,434.9
PROVED UNDEVELOPED RESERVES				
Colombia	282.7	6.4	221.7	328.0
International				
North America	75.4	24.0	116.8	119.9
TOTAL PROVED UNDEVELOPED RESERVES	358.1	30.4	338.6	447.9
TOTAL PROVED RESERVES	1,384.2	87.1	2,345.9	1,882.8

Note: Totals may not exactly equal the sum of the individual entries due to rounding. The conversion rate used is 5,700 standard cubic feet = 1 barrel of oil equivalent.

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The following table summarizes our proved oil, NGL and natural gas reserves, which includes 17.5 million barrels of fuel oil, 368.9 billion standard cubic feet of fuel gas within our natural gas results and 375.7 billion cubic feet of royalties, as of December 31, 2022.

Table 30 – Proved Oil, NGL and Natural Gas Reserves for 2022

	Oil (mmb)	NGL (mmb)	Natural Gas (bcf)	Total Oil and Gas (mmboe)
PROVED DEVELOPED RESERVES				
Colombia	893.3	44.0	2,101.9	1,306.0
International				
North America	44.6	12.9	72.1	70.1
TOTAL PROVED DEVELOPED RESERVES	937.9	56.9	2,174.0	1,376.1
PROVED UNDEVELOPED RESERVES				
Colombia	375.0	14.1	503.4	477.5
International				
North America	101.1	29.8	151.1	157.4
TOTAL PROVED UNDEVELOPED RESERVES	476.2	43.9	654.4	634.9
TOTAL PROVED RESERVES	1,414.0	100.8	2,828.5	2,011.0

Note: Totals may not exactly equal the sum of the individual entries due to rounding. The conversion rate used is 5,700 standard cubic feet = 1 barrel of oil equivalent.

Changes in Proved Reserves

Table 31 – Changes in Proved Reserves

	For the year ended December 31,		
	2024	2023	2022
		(Mmboe)	
Revisions of previous estimates	84.4	8.9	63.0
Improved Recovery	97.0	93.1	80.9
Extensions and discoveries	49.2	17.2	57.5
Purchases	35.4	—	47.7
Sales	(6.3)	—	—
Total reserves additions	259.6	119.3	249.0
Production	(249.7)	(247.5)	(239.9)
Net change in proved reserves	10.0	(128.2)	9.0

Note: Totals may not exactly equal the sum of the individual entries due to rounding.

Reserves Replacement

The reserves replacement ratio is defined as the sum of additions and revisions of proved reserves divided by produced volumes in any given period. The following table presents the changes in reserves in each category relating to the reserve replacement ratio for the years 2024, 2023 and 2022.

The reserves replacement ratio for 2024 was 104% compared to 48% in 2023 and 104% in 2022.

The average replacement ratio for the last three years was 85%.

Table 32 – Reserves Replacement Ratio (Including Purchases and Sales)

	For the year ended December 31,		
	2024	2023	2022
Annual	104 %	48 %	104 %
Three-year average	85 %	117 %	117 %

Revisions of Previous Estimates

In 2024, revisions increased reserves by 84.4 mmboe, mainly as a result of:

- (i) An increase of 51.5 mmboe in reserves due to better performance in development activities in existing fields, including the Caño Sur, Chichimene, Castilla, Pauto, La Cira- Infantas, Apiay-Suria, Caño Limon, Palagua and Nare Area fields, among others.
- (ii) A decrease of 36 mmboe in reserves due to depletion of gas fields including Ballena, Chuchupa, Cupiagua and Gibraltar among others.
- (iii) An increase of 15.7 mmboe in reserves due to new projects mainly in the Palogrande and Cupiagua fields.
- (iv) An increase 14.4 mmboe as a result of the agreement executed by and amount ANH and Ecopetrol in 2024, by means of which it was agreed that the payments related to the E&P Contract CPO-9 for the oil and gas produced from the Akacias field are to be paid in cash, and therefore, included in reserves pursuant to applicable legislation.
- (v) An increase of 30.9 mmboe in reserves due to better performance in North American fields.
- (vi) 7.9 mmboe, increase in reserves was due to varying increases due to development activities and good well performance in others fields.

In 2023, revisions increased reserves by 9 mmboe, mainly as a result of:

- (i) An increase of 67 mmboe in reserves due to new projects and better performance in development activities in different fields; mainly in the Rubiales, Castilla Asset and Caño Sur fields.
- (ii) A decrease of 58 mmboe, due to economic factors, primarily the decrease in oil prices, and the ICE Brent crude price decreasing by 15.5% in 2023 as compared to 2022, which resulted in the lowering of economic limits in some of our fields and an increase of operating costs.

In 2022, revisions increased reserves by 63 mmboe, mainly as a result of:

- (i) An increase of 54 mmboe in reserves due to new areas included in the approved development plan for the North American fields.
- (ii) An increase of 40 mmboe in reserves due to new projects mainly in the Caño Sur, Palogrande and Recetor fields.
- (iii) An increase of 70 mmboe in reserves due to better performance in development activities in existing fields, including, among others, the Rubiales and Caño Sur fields.

This increase was partially offset by a decrease of 101 mmboe in reserves due to changes in the development plan in some of the North American fields where Ecopetrol holds working interest, as well as a reduction in Ecopetrol's working interest in some fields in Colombia.

Improved Recovery

In 2024, improved recovery activities increased reserves by 97 mmboe. This increase was mainly associated with new proved areas under water flooding in the Chichimene, Akacias, Castilla, Suria, Yarigui, Casabe and La Cira- Infantas fields among others, and optimization of the gas injection of the Pauto and Floreña fields.

In 2023, improved recovery activities increased reserves by 93 mmboe, mainly due to new proved areas under water flooding in the Chichimene Asset, Castilla Asset and Akacias fields.

In 2022, improved recovery activities increased reserves by 81 mmboe, mainly due to new proved areas under water flooding in the Chichime, Castilla, Akacias, Dina Terciario and Rio Ceibas fields.

Extensions and Discoveries

The following table sets forth the change in the Company's proved reserves attributed to extensions and discoveries in millions of barrels of oil equivalent for the periods indicated.

Table 33 – Changes in Proved Reserves Attributed to Extensions and Discoveries

	For the year ended December 31,		
	2024	2023	2022
	(Mmboe)		
Extensions and discoveries			
Total change	49.2	17.2	57.5
Proved Undeveloped Reserves Change	39.7	10.4	51.7
Change from unproved to proved developed reserves	9.4	6.8	5.8

Note: Totals may not exactly equal the sum of the individual entries due to rounding.

The difference between the change of developed proved reserves and undeveloped proved reserves is related to the drilling of new wells in unproved acreage that led to new proved producing reserves.

The Company's extensions and discoveries during 2024 amounted to 49.2 mmboe, primarily due to extensions of proved acreage, which in turn were mainly from activities in new proved areas in the Rubiales and Caño Sur fields, among others, which accounted for 34.8 mmboe of the increase. The remaining 14.4 mmboe corresponds to 6.1 million in small changes in different fields and 8.3 million in newly discovered fields Arrecife, Saltador and Toritos fields.

The Company's extensions and discoveries during 2023 amounted to 17.2 mmboe, primarily due to extensions of proved acreage, which in turn were mainly from activities in new proved areas in the Caño Sur y Cohembi fields, among others, which accounted for 13.5 mmboe of the increase. The remaining 3 mmboe corresponds to 1.8 million in small changes in four fields and 1.9 million in newly discovered fields and reservoirs in the Alqamari, Flamencos and Ibamaca fields.

The Company's extensions and discoveries during 2022 amounted to 57 mmboe, primarily due to extensions of proved acreage, which in turn were mainly from activities in new proved areas in the Rubiales and Quifa fields, among others, which accounted for 47 mmboe of the increase. The remaining 10 mmboe corresponds to newly discovered fields and reservoirs in the Recetor West, Ibamaca, El Niño and Capachos fields.

Purchases

On February 5, 2025, Ecopetrol acquired the remaining 45% of its participation in the CPO-09 Block of Repsol Colombia Oil & Gas Limited ("Repsol"), for an amount of USD 452 million, making it the holder of 100% of the participation interest in the block, a strategic asset in the Piedemonte Llanero. This transaction is the result of the exercise of the right of first refusal by Ecopetrol, within the framework of the Joint Operation Agreement (JOA). This purchase increased Ecopetrol's proved reserves by 31.7 mmboe.

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Additionally, Ecopetrol S.A., through its wholly owned subsidiary, Ecopetrol Permian LLC, and acting within the joint venture with Occidental Midland Basin LLC, purchased additional acreage of 5,840 acres net to the joint venture that extended the South Curtis Ranch Field area in the Midland Basin. This purchase increased Ecopetrol's proved reserves by 3.7 mmboe.

In 2023, there were no purchases or acquisitions of reserves.

In 2022, Ecopetrol S.A., through its wholly owned subsidiary, Ecopetrol Permian LLC, entered into a joint development agreement with affiliates of Occidental Petroleum and acquired participation rights in certain future drilling locations in the Delaware Basin, including access to up to 21,000 net acres in Lea County, New Mexico and Loving County, Texas. Also, Ecopetrol Permian LLC, through its joint venture with Occidental Midland Basin LLC, acquired additional acreage extending the South Curtis Ranch Field in the Midland Basin. These purchases increased proved reserves as of December 31, 2022 by 48 mmboe.

Sales

In 2024, Ecopetrol S.A., through its wholly owned subsidiary, Ecopetrol Permian LLC, and acting within the joint venture with Occidental Midland Basin LLC, sold all acreage of 4,967 acres net to the joint venture that comprised the Saint Andrews field area. The result of the sale reduced Ecopetrol's proved reserves by 6.3 mmboe.

In 2023 and 2022, there were no sales of reserves.

Development of Reserves

As of December 31, 2024, our total proved undeveloped oil and gas reserves amounted to 498.5 mmboe, 80% of which is related to development activities at the Rubiales, Caño Sur Este, Akacias, Castilla Asset, Chichimene Asset, Pauto, Palogrande, Quifa, Floreña and Suria in Colombia, among others, and 20% of which is related to development activities in North American fields; which is broken down as follows: 95% corresponding to unconventional reservoirs within Permian and Delaware basins and the other 5% corresponding to Gulf of Mexico (aka Gulf of America) fields.

The proved undeveloped reserves estimated for the As of January 1, 2022, the Rodeo JV agreement with the Company and Occidental Petroleum was amended to provide Ecopetrol access to a larger production stake (75%) and adjust the carry obligation in the Midland area of the Permian Basin, with an effective date of January 1, 2022. Rubiales, and Caño Sur Este fields included locations with production start dates that extend beyond the five-year initial disclosure period and were associated with the water-handling capacities in these fields.

Similarly, the development plan of La Cira and Infantas fields includes investments for next seven years because the current waterflooding project considers the drilling of new injectors wells and starting the water injection before the drilling of producers in the same pattern. These exemptions were reviewed and approved by an external certification agent.

As of December 31, 2023, our total proved undeveloped oil and gas reserves amounted to 448 mmboe, 73% of which was related to development activities at the Rubiales, Castilla Asset, Chichimene Asset, Caño Sur Este, Pauto, Cupiagua, Recetor, Akacias, Quifa and La Cira fields in Colombia, among others, and 27% of which was related to development activities in North American fields; which is broken down as follows: 25% corresponding to unconventional reservoirs within Permian and Delaware basins and the other 2% corresponding to Gulf of Mexico (aka Gulf of America) fields. The proved undeveloped reserves estimated for the Rubiales, and Caño Sur Este fields included locations with production start dates that extend beyond the five-year initial disclosure period and were associated with the water-handling capacities in these fields. Similarly, the development plan of La Cira and Infantas fields includes investments beyond the next five years, because the current waterflooding project requires the drilling of new injector wells and beginning the water injection before drilling of producers in the same pattern. These exemptions were reviewed and approved by an external certification agent.

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As of December 31, 2022, our total proved undeveloped oil and gas reserves amounted to 635 mmboe, 75% of which is related to development activities at the Rubiales, Castilla, Chichimene, Caño Sur, Pauto, Cupiagua, Akacias, Quifa and Casabe fields in Colombia, among others, and 25% of which is related to development activities in North American fields. The proved undeveloped reserves estimated for the Cajúa and Caño Sur Este fields include locations with production start dates that extend beyond the five-year initial disclosure period and are associated with the current water-handling capacities in these fields. The development plan in the Rubiales field includes investments beyond the next five years due to the limitations in water-handling capacities in the field, which require the scheduling of the entry of new wells based on spare capacity of the plant. These exemptions were reviewed and approved by an external certification agent.

The following table reflects the developed and undeveloped proved reserves estimates through the past three fiscal years.

Table 34 – Developed and Undeveloped Proved Reserves

	Oil (mmb)	NGL (mmb)	Natural Gas (bcf)	Total Oil and Gas (mmboe)
2024 Proved Reserves				
Developed	1,028	59	1,750	1,394
Undeveloped	400	34	366	499
2023 Proved Reserves				
Developed	1,026	57	2,007	1,435
Undeveloped	358	30	339	448
2022 Proved Reserves				
Developed	938	57	2,174	1,376
Undeveloped	476	44	654	635

Changes in Undeveloped Proved Reserves

The following table reflects the main changes in undeveloped proved reserves as of December 31, 2024, 2023, and 2022.

Table 35 – Changes in Undeveloped Proved Reserves

	For the year ended December 31,		
	2024	2023	2022
	(Mmboe)		
Consolidated companies			
Revisions of previous estimates	41.3	(91.1)	(2.5)
Improved Recovery	75.9	22.8	26.6
Extensions and discoveries	39.7	10.4	51.7
Purchases	16.5	—	46.4
Sales	(6.3)		
Proved undeveloped converted to proved developed	(116.6)	(129.0)	(119.1)
Net change in unproved reserves	50.5	(186.9)	(3.1)

Note: The conversion rate used is 5,700 standard cubic feet = 1 barrel of oil equivalent. Totals may not exactly equal the sum of the individual entries due to rounding.

Of the total amount of proved undeveloped reserves that we had at the end of 2023 (448 mmboe), we converted approximately 116.6 mmboe, or 26%, to proven developed reserves during 2024. Approximately 73% of the total conversion is mainly associated with the development of crude oil and gas projects in Caño Sur, Rubiales, Castilla, Chichimene Cupiagua and Pauto, among others, and 27% is associated with development execution in fields in the United States, 100% of the total volume within United States corresponds to unconventional fields within the Permian and Delaware basins. Investments made during 2024 to convert proved undeveloped reserves to proved developed reserves totaled USD 1,145 million in cash.

Of the total amount of proved undeveloped reserves that we had at the end of 2022 (635 mmboe), we converted approximately 129 mmboe, or 20%, to proven developed reserves during 2023. Approximately 73.6% of the total conversion is mainly associated with the development of crude oil and gas projects in Castilla Asset, Chichimene Asset, Rubiales, Caño Sur Este and Pauto fields, among others, and 26.4% is associated with development execution in fields in the United States, which in turn is broken down as follows: 25.9% of the total volume within United States corresponds to unconventional fields within the Permian and Delaware basins and 0.5% corresponds to Gulf of Mexico (aka Gulf of America) fields. Investments made during 2023 to convert proved undeveloped reserves to proved developed reserves totaled USD 1,498 million in cash.

Of the total amount of proved undeveloped reserves that we had at the end of 2021 (632 mmboe), we converted approximately 119 mmboe, or 19%, to proven developed reserves during 2022. Approximately 80% of the total conversion is mainly associated with the development of crude oil and gas projects in the Castilla, Rubiales, Caño Sur, Cupiagua and Cusiana fields, among others, and 20% is associated with development execution in fields in the United States. Investments made during 2022 to convert proved undeveloped reserves to proved developed reserves totaled USD 1,066 million in cash.

All the explanations that were included in the section on Changes in Proved Reserves apply to this section.

Reserves Process

The Ecopetrol Group follows international standards for estimating, classifying, and reporting reserves, as defined in SEC regulation. Our reserves process is coordinated by Fidel Antonio Delgado Loría, the Resources and Reserves Manager. Mr. Delgado Loría is a Petroleum Engineer with over 20 years of experience in the upstream sector of production business in the Ecopetrol Group and other companies in the oil and gas industry in Colombia and Venezuela. He received his engineering degree from Universidad Central de Venezuela and a financial management specialist degree from Pontificia Universidad Javeriana. He reports to the Hydrocarbon Chief Financial Officer. In addition, our reserves team is comprised of reserves coordinators who are geologists and petroleum engineers, each of them with more than fifteen years of experience in reservoir characterization, field development, estimation, and reporting of reserves by SEC guidelines. This team supports and interacts with the specialists involved in the estimation and reporting process, following an established procedure with its corresponding internal controls. As in previous years, reserves are estimated and certified by recognized external independent engineers, this year consisting of DeGolyer and MacNaughton, GaffneyCline, and Ryder Scott Company, in compliance with the definitions of the Society of Petroleum Engineers and the applicable SEC rules. According to our corporate policy, we report the values of the reserves obtained from the external engineers, even if they are lower than our expected reserves.

The reserves estimation process ends when the Resources and Reserves Manager consolidates the results and together, and the Upstream Vice-President, presents the outcome to the Resources and Reserves Committee, which comprises the Ecopetrol Group's CEO, CFO, COO and the Upstream Vice-President, among others. Results are later presented to the Audit and Risk Committee of the Board of Directors and finally reviewed and approved by the Board of Directors.

The Resources and Reserves unit, and the Vice-Presidency of Upstream presented the reserves balance to the Board of Directors, who approved it in February 2025.

The aforementioned external independent engineering consultants have estimated and certified our proved reserves as of December 31, 2024. These external engineers estimated 99% of our estimated net proved reserves for the year ended December 31, 2024, 2023 and 2022. In accordance with these certifications, our reserves report complies with Rule 4-10 of Regulation S-X issued by the SEC. The reserves' reports of the external engineers are included as exhibits to this annual report.

Our reserves process uses deterministic methods which are commonly used internationally to estimate reserves. These methods whilst reliable, have some inherent uncertainty, and thus, estimates should not be interpreted as exact amounts. Most of the producing proved reserves were estimated by applying appropriate decline curves or other performance relationships. In analyzing decline curves, reserves were estimated by calculating economic limits that are based on current economic conditions. In certain cases where the methods previously employed could not be used, reserves were estimated by analogy with similar reserves for which more complete data was available.

Estimates of reserves were prepared by geological and engineering standard methods commonly used in the oil and gas industry. The method or combination of methods used in the analysis of each reserve was adopted from experience analogy reserves, including information on the stage of development, quality and completeness of basic data and production history.

The following table reflects the estimated proved reserves of oil and gas as of December 31, 2022 until 2024, and the changes therein.

Table 36 – Estimated Proved Reserves of Oil and Gas

	Colombia	North America	Total
	Net proved oil, NGL and gas reserves in mmbbl		
At December 31, 2022	1,783.0	228.0	2,011.0
Revisions	2.2	6.7	8.9
Improved Recovery	93.1	—	93.1
Extensions and Discoveries	17.2	—	17.2
Purchases	0	—	—
Sales	0	—	—
Production	(227.1)	(20.4)	(247.5)
At December 31, 2023	1,668.7	213.9	1,882.8
Revisions	63.3	21.1	84.4
Improved Recovery	97.0	—	97.0
Extensions and Discoveries	49.2	—	49.2
Purchases	31.7	3.7	35.4
Sales	0	(6.3)	(6.3)
Production	(221.5)	(28.3)	(249.7)
At December 31, 2024	1,688.4	204.0	1,892.7

Note: Totals may not exactly equal the sum of the individual entries due to rounding.

3.5.4 Joint Venture and Other Contractual Arrangements

We conduct our exploration and production business through a variety of contractual arrangements with the Colombian Government or with third parties. Below is a general description of the main types of contractual arrangements to which we were a party as of December 31, 2024.

Association Contracts

Association contracts were introduced by Decree 2310 of 1974 and were entered into between private companies and Ecopetrol between 1975 and 2003. Through an association contract, Ecopetrol partnered with a petroleum company or a consortium to explore and, upon successful discovery, exploit the found oil and gas resources. An operator is defined among them or hired as a third party.

Under association contracts, the exploratory risk is entirely assumed by Ecopetrol S.A.'s contractual partner, the associate. If there is a discovery and Ecopetrol S.A. agrees that the relevant field is commercially viable, Ecopetrol S.A. intends to participate in the field's development. A joint account is expected to be created, and Ecopetrol S.A. and the partner plan to participate in the expenses and investments in the proportions established in the corresponding contract. Ecopetrol S.A. intends to reimburse the direct exploratory expenses incurred by the contractual partner in the proportions established by the contract.

If Ecopetrol S.A. does not believe that the relevant field is commercially viable, the partner has the right to execute on its own all activities considered necessary for the field's exploitation as a "sole risk operation", and to be reimbursed for a defined percentage of all investments for such sole risk operation in accordance with the corresponding contract.

Every association contract provides for an executive committee that makes all technical, financial, and operational decisions if Ecopetrol S.A. has agreed that a field is commercially viable. All major decisions of this committee must be made unanimously.

The maximum term of an association contract is 28 years. The first six years of the contract are for the exploratory phase, which may be extended for one or two additional years at the partner's request. The remaining time is for the exploitation phase. This type of contract, together with E&P contracts and special contracts (La Cira-Infantas and Teca-Cocorná fields), both of which are described below, are the most significant in terms of our production and proved reserves.

Incremental Production Contracts

We enter into incremental production contracts to obtain additional hydrocarbon production beyond a base production curve that is established based on the proven reserves of a specific field or well, originating from contracts entered into by Ecopetrol with third parties or from projects undertaken by Ecopetrol. This incremental production results from new investments to increase the recovery factor of reservoirs or to add new reserves. Therefore, under this type of arrangement, Ecopetrol S.A. owns 100% of the hydrocarbons defined by the base production curve. The incremental production (i.e., the hydrocarbon volume obtained beyond the basic production as a result of investment activities), is expected to be owned by the contract parties in the proportions established by such contract.

The initial phase of an incremental production contract has a term of up to three years, in which the contractual partner executes an initial work program approved by Ecopetrol S.A. in order to gain the right (but not the obligation) to continue with the second phase. If our partner decides to continue with the project for the second phase (the complementary phase), it must inform Ecopetrol S.A. in writing no later than 90 days prior to the termination date of the initial phase and deliver a proposed development plan for each covered field. The second phase is the production phase and has a maximum term of 22 years minus the length of the initial phase.

Incremental production contracts provide for an executive committee that is responsible for making all decisions in order to approve, control and supervise all operations that take place during the duration of the contract. These contracts also provide for a steering committee, which is responsible for the supervision of the execution of the work programs, the 2025 Investment Plan, and other items.

Special Contracts

We are party to a joint venture for exploration and exploitation of “La Cira-Infantas” Area and of “Teca-Cocorná” Area.

These contracts between Ecopetrol S.A. and SierraCol Energy, formerly known as Occidental Andina LLC, which were executed on September 6, 2005, and June 24, 2014, respectively, have as their purpose, a joint collaboration between the parties with the goal of increasing the economic value of the La Cira-Infantas and the Teca-Cocorná fields, by means of hydrocarbon exploration and production activities, including, among others, an incremental production project to improve the recovery factor, process optimization, and exploratory activities.

Ecopetrol S.A. partially assigned its exploratory and production rights in the contracted areas to SierraCol Energy. Additionally, pursuant to these contracts, Ecopetrol S.A. provides financial resources and the preferential rights of use for the existing infrastructure in that zone and SierraCol Energy provides financial resources and the technical and operative experience in mature fields redevelopment projects and enhanced recovery technologies.

Ecopetrol S.A. is the operator under both joint ventures, and, on behalf of the parties, is responsible for the conduction, execution, and control, directly or via contractors, of the operational activities.

The La Cira-Infantas joint venture is divided into three phases. The first phase lasts 180 days, the second lasts 730 days, and the third phase lasts up to the date in which the field reaches its commercial viability.

The incremental production, after deduction of the royalties, is owned 52% by Ecopetrol S.A. and 48% by SierraCol Energy. These same percentages apply to the participation in the operational and direct expenses. Adjustments to the participations for the benefit of Ecopetrol S.A. are expected to occur if there are high production levels or high prices.

The Teca-Cocorná joint venture is divided into two phases. The first phase lasts three years and may be extended for up to an additional year; the second term is 20 years and could be reduced by the term of any extensions of the first phase.

The basic production is 100% owned by Ecopetrol S.A. The incremental production, after deduction of the royalties, is owned 60% by Ecopetrol S.A. and 40% by SierraCol Energy. These same percentages apply to the participation in the operational and direct expenses. Adjustments to the participations for the benefit of Ecopetrol S.A. is expected to occur if there are high production levels and high prices.

The National Hydrocarbons Agency (ANH) and its Contracts

The ANH was created by Decree Law 1760 of 2003 and was given the authority to administer all national hydrocarbon reserves under contracts executed since January 1, 2004. Pursuant to Decree Law 1760 of 2003, Empresa Colombiana de Petróleos, Ecopetrol, was split, and its organic structure was modified, to create two new entities: the Agencia Nacional de Hidrocarburos and the Sociedad Promotora de Energía de Colombia S.A. Prior to January 1, 2004, Ecopetrol S.A. had the authority to contract with third parties for the exploration and production of new areas.

However, the creation of the ANH did not modify our rights or obligations or the rights or obligations of other parties with respect to contracts in existence before January 1, 2004, when the ANH was created. Therefore, we have retained the authority to execute agreements with respect to all areas held by us prior to such date.

Below, we include a brief description of each type of contract that we have entered into with the ANH:

Technical Evaluation Agreements

This type of contract grants the contractor the exclusive right to develop technical evaluation operations with operational autonomy at its own cost and risk, seeking to appraise the hydrocarbon potential of an area under specific conditions, with the purpose of identifying the zones of prospective interest in the area by means of the execution of an exploratory program. The contractor has the option to request the conversion of a technical evaluation agreement (“TEA”) into one or more E&P contracts that cover the area of the TEA (or a portion thereof). The contractor will be subject to payment of rights for the use of the subsoil, other applicable economic compensations.

The contractor can conduct evaluation activities for terms that vary between 18, 24, and 36 months, depending on the terms of reference of the ANH’s bidding round.

E&P Contracts

The ANH enters into concession contracts pursuant to which the Nation grants exploration and production rights and receives royalties and taxes. In turn, the contractor provides 100% of the investment and expenses resources and receives 100% of the production after royalties and taxes. The ANH has named this contract an “Exploration and Production Contract” or an “E&P contract”.

The ANH only receives a percentage of oil revenues in two cases:

- (i) when the international oil prices rise beyond a specified price (high price fee), above which the ANH has a right to participate in a share of the increased revenues generated, or
- (ii) in the case of recognition of production rights in an extended contractual phase (additional production share).

Since the 2008 bidding round held by the ANH, the ANH receives a percentage of the production share from E&P contracts, from the commencement of the production phase (instead of solely from the extension phase of the contract (additional production share) as mentioned in the previous paragraph). In addition, the ANH acquires economic rights when the price of oil exceeds a reference price set in the contract (high price fee) as well as when the surface fee based on the hectares of the assigned area of the contract (both with and without production) exceeds the reference number set in the contract.

E&P contracts have three phases: (i) an exploration period of up to six years counted from the effective date, which may be extended for two additional years, (ii) an evaluation period of two years, assuming reserves are discovered, to determine the commercial potential of the discovered reserves, and (iii) a production period, with respect to each production field, which may last for up to 24 years plus extensions, counted from the date in which the commercial viability of the corresponding field is declared. The abovementioned terms were modified during ANH's 2014 bidding round for unconventional and offshore reservoirs, resulting in an exploration period of nine years and a production period of 30 years. On June 29, 2018, a new model E&P contract was published by the ANH. In accordance with the new model for E&P contracts, offshore contracts entered into in or after 2019 will have evaluation periods of three, five, or seven years, depending on the depth of the water where the discovered reserves are located. In 2021, for the fourth round of its Permanent Area Assignment Process (*Proceso Permanente para la Asignación de Acreaje* or "PPAA" for its acronym in Spanish), the ANH introduced to the model of the E&P contract, the concept of an "economic value for the exclusivity" of exploration and production of a specific area. Such value must be expressed in dollar amounts and must be offered by each bidder to the ANH, as remuneration for receiving the exclusive exploration and production rights and acts as a guarantee for the obligations of the contractor during the exploration phase of the executed E&P contract.

ANH and Ecopetrol Agreements (Convenios)

Decree-Law 1760 of 2003 established that the rights over the production area and over the personal and real property assets of (i) all fields that were directly operated by Ecopetrol S.A. as of December 31, 2003, and (ii) all fields in which there was an association contract before said date would continue to belong to Ecopetrol S.A.

Pursuant to Article 2 of Decree 2288 of 2004, which regulates Decree Law 1760 of 2003, Ecopetrol S.A. must execute an agreement with the ANH to regulate the exploration and exploitation terms and conditions of the relevant area, which was previously subject to an association contract.

Decree 2288 of 2004 also established that Ecopetrol S.A. would have to execute agreements with the ANH, covering fields directly operated by Ecopetrol S.A. Under these agreements, the ANH recognizes the exclusive right of Ecopetrol S.A. to explore and exploit the hydrocarbons which are property of the Nation and might be obtained in the areas covered by the corresponding agreements. Ecopetrol S.A.'s rights shall last until resources are depleted or Ecopetrol S.A. returns such areas to the Nation through the ANH.

These agreements also provide the conditions under which Ecopetrol S.A. may, either partially or completely, assign to third parties its rights and obligations thereunder.

CrownRock Negotiations

During 2024, Ecopetrol engaged in conversations with Occidental Petroleum Corp. ("OXY") for the potential acquisition of a certain percentage of assets owned by CrownRock, L.P., a company located in the United States. On July 31, 2024, the Company's board of directors decided not to acquire any assets of CrownRock, L.P. owned by OXY.

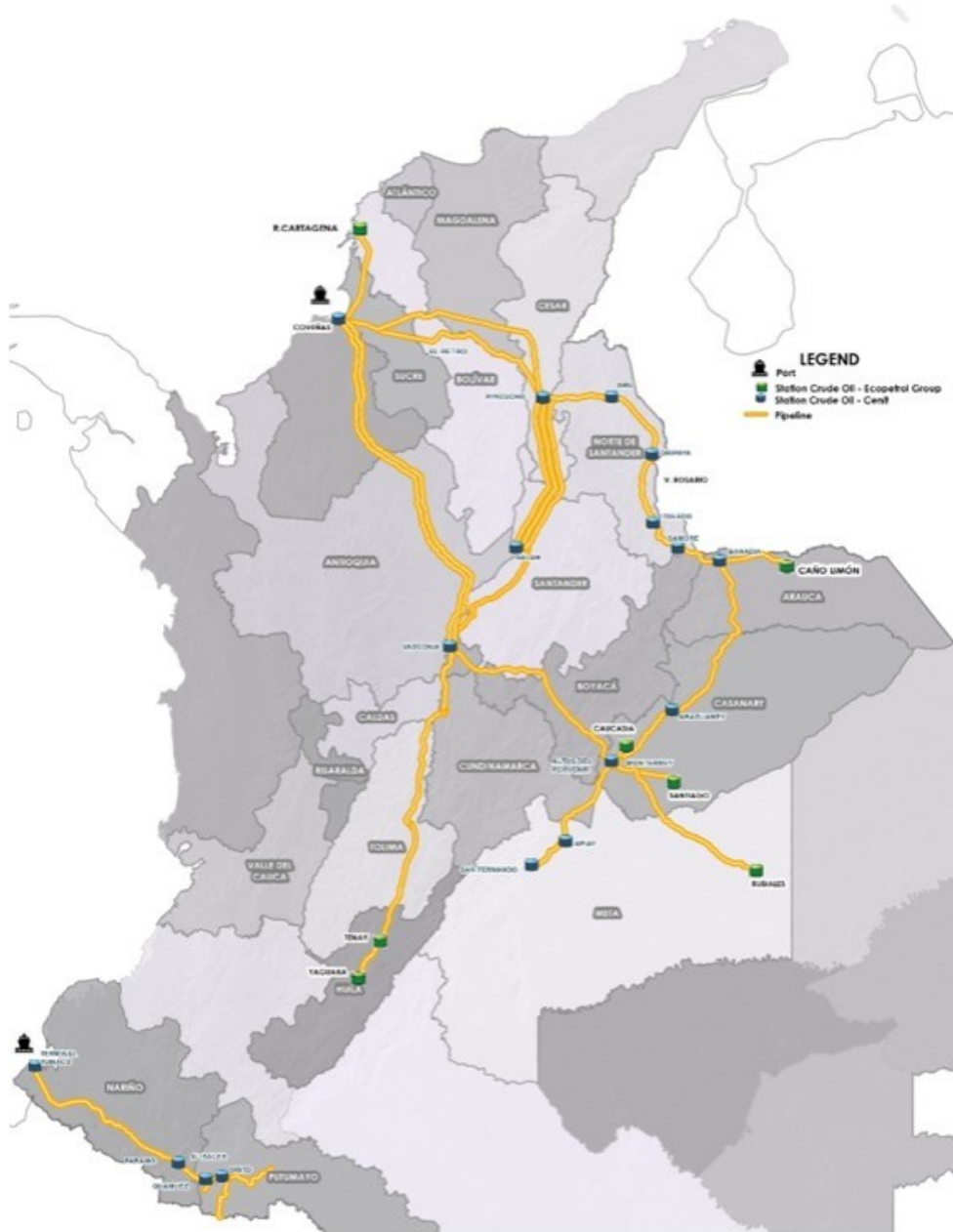
3.6 Transportation and Logistics

3.6.1 Transportation Activities

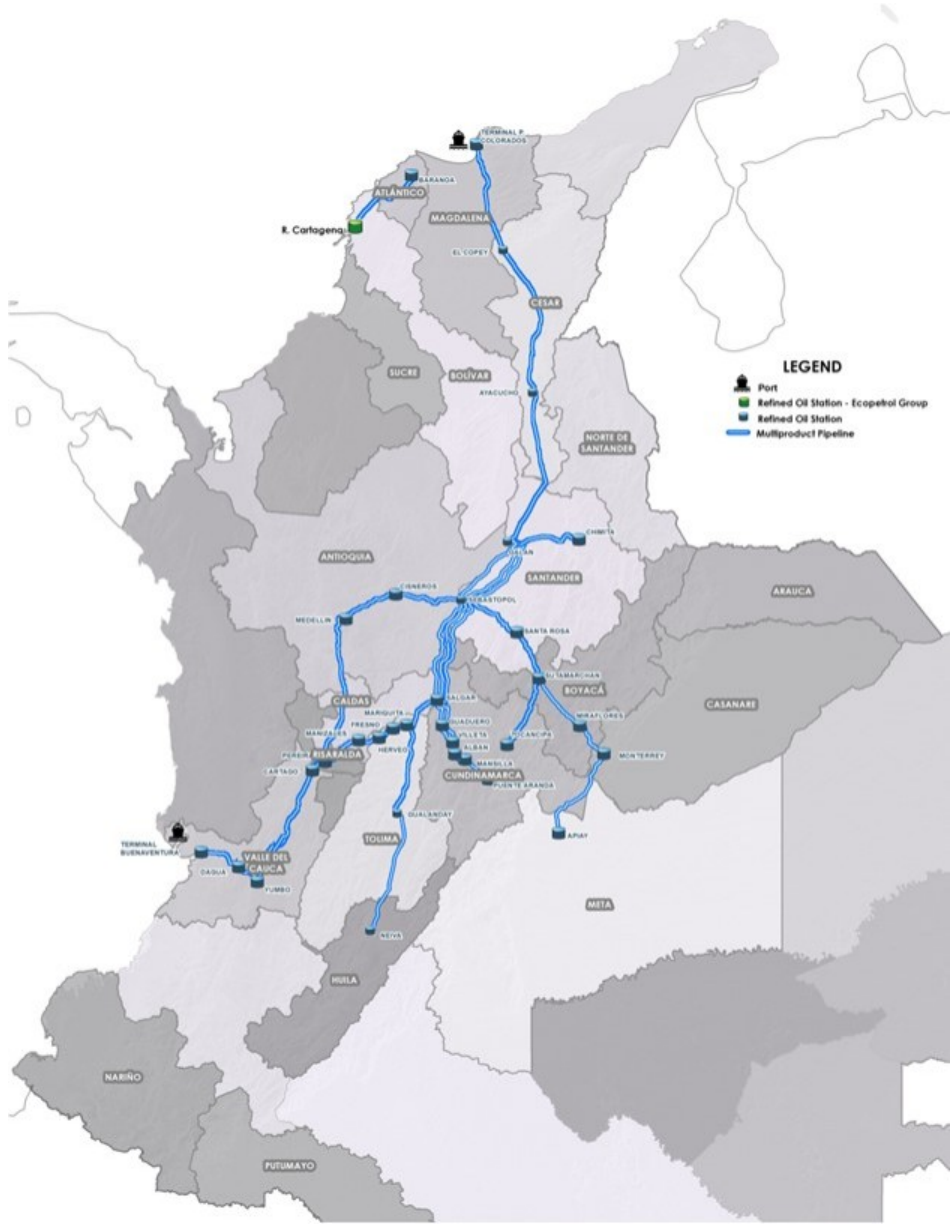
The transportation and logistics segment includes the transportation of crude oil, motor fuels, fuel oil, and other refined products including diesel, jet, and biofuels. We conduct most of these activities through our wholly owned subsidiary Cenit and its subsidiaries.

The map below shows the locations of the main transportation networks owned by our business partners and us.

Graph 7 – Map of Oil Pipelines



Graph 8 – Map of Multi-purpose Pipelines



The table below sets forth the volumes of crude oil and refined products transported through the crude oil pipelines and multi-purpose pipelines owned by us.

Table 37 – Volumes of Crude Oil and Refined Products Transported

	For the year ended December 31,		
	2024	2023 (Thousand bpd)	2022
Crude oil transport ⁽¹⁾	815.2	807.0	772.6
Refined products transport ⁽²⁾	303.5	305.9	298.1
Total	1,118.7	1,112.9	1,070.7

(1) The crude oil transported volumes correspond to the following systems: Ocesa Segment 3, ODC, Vasconia-Galan, Ayacucho-Galan, Ayacucho-Coveñas and Trasandino Pipeline.

(2) The pipelines transporting refined products include the following: Galan-Sebastopol, Galan-Salgar, Galan-Bucaramanga, Buenaventura-Yumbo, Cartagena-Baranoa and Sebastopol.

The volume of crude oil transported by Cenit's main systems and those of its subsidiaries increased by 1% in 2024, compared to the previous year, as a result of higher deliveries of Castilla Norte crude from the Barrancabermeja refinery, increased third-party production, and the capture of barrels outside the main network. Of the total volume of crude transported by oil pipelines, approximately 91.7% belonged to the Ecopetrol Group.

The volume of refined products transported by Cenit decreased by 0.8% in 2024 compared to the previous year, mainly due to lower domestic gasoline demand and a higher ethanol blending ratio, partially offset by increased transportation of naphtha and JET-A1 fuel to meet regional demand. Of the total volume of refined products transported by multi-purpose pipelines in 2024, 30.1% belonged to the Ecopetrol Group.

Transportation Capacity

Our main crude oil pipeline systems' operating capacity was 1,484 thousand barrels per day in 2024. Our main multi-purpose pipeline transportation capacity increased from 549 thousand barrels per day in 2023 to 588 thousand barrels per day in 2024.

References to our crude oil transportation capacity in this annual report refer to the capacity of the pipelines that belong to Cenit and its subsidiaries to transport crude oil volumes either to the refineries or to our export facilities. In addition, we have other feeder systems that transport oil volumes from producing facilities or other pumping stations to these main pipelines. References to our refined products transportation capacity refer to the capacity of pipelines that begin in the Galan station (Barrancabermeja refinery) and Cartagena station (Cartagena Refinery).

3.6.1.1 Pipelines

As of December 31, 2024, we, directly or indirectly with private partners, own, operate and maintain an extensive network of crude oil and multi-purpose pipelines. These pipelines connect our own and third-party production centers, import facilities and terminals to refineries, major distribution points, and export facilities in Colombia.

Cenit directly owns 45% of the total crude oil pipeline shipping capacity in Colombia. When aggregated with the crude oil pipelines in which Cenit owns an interest, Cenit owns 86% of the oil pipeline shipping capacity in Colombia. By December 31, 2024, our network of crude oil and multi-purpose pipelines was approximately 9,043 kilometers in length. The transportation network consists of approximately 5,337 kilometers of main crude terminals and oil pipeline networks connecting various fields to the Barrancabermeja refinery and Cartagena Refinery, as well as to our export facilities.

We also own 3,706 kilometers of multi-purpose pipelines for transportation of refined products from the Barrancabermeja and Cartagena refineries to major distribution points. Out of the approximately 5,337 kilometers of crude oil pipelines, owned by us, 3,355 kilometers of crude oil pipeline are wholly owned, and 1,982 kilometers of crude oil pipeline are owned through non-wholly owned subsidiaries.

The following table sets forth our main pipelines in which we own an indirect interest as of December 31, 2024.

Table 38 – Our Main Pipelines

Pipeline	Kilometers	Capacity (mbd)	Product Transported	Origin	Destination	Indirect Ownership Percentage
Caño Limón-Coveñas	773	250	Crude Oil	Caño Limón	Coveñas	100.00 %
Oleoducto de Alto Magdalena (OAM)	391	102	Crude Oil	Tenay	Vasconia	93.62 %
Oleoducto de Colombia (ODC)	483	231	Crude Oil	Vasconia	Coveñas	78.19 %
Oleoducto Central – Orensa	848	745 ⁽¹⁾	Crude Oil	Cupiagua	Coveñas	72.65 %
Oleoducto de los Llanos (ODL)	260	297 ⁽²⁾	Crude Oil	East fields	Monterrey Cusiana	65.00 %
Oleoducto Bicentenario de Colombia	229	143 ⁽³⁾	Crude Oil	Araguaney	Banadia	100.00 %

(1) Orensa has four segments with different capacities. 745 mbd refers to the capacity of segment two (El Porvenir-Vasconia). The capacity of the other segments are as follows:

- a. Cupiagua-Cusiana (segment zero): 198 mbd
- b. Cusiana-El Porvenir (segment one): 745 mbd
- c. Vasconia-Coveñas (segment three): 550 mbd

(2) Transportation capacity for this pipeline is measured by using crude oil viscosity of 1.350 cStk (30° C).

As of December 31, 2024, we owned 75 stations, 42 located in crude oil pipelines, 29 in refined products pipelines, two in crude oil ports and two in refined product ports.

As of December 31, 2024, we had a nominal storage capacity associated with the transportation network of 16.4 million barrels of crude oil and 5.9 million barrels of refined products. We do not own any tankers.

Pipeline Projects

Pozos Colorados Fuel Loading Dock

Seeking fuel supply flexibility in the area, the Fuel Loading Dock Project was developed in Pozos Colorados Terminal. As such, the scope of the project consists of enabling the facilities to deliver gasoline and load fuel trucks inside the station. The project was completed in December 2022 and is ready to use based on fuels demand in the area.

Vasconia Energy Recovery (RECVA)

In connection with Ecopetrol Group's focus on energy efficiency, we developed the Vasconia Energy Recovery ("RECVA") project, which seeks to capture energy dissipated in the transportation process. Such energy is captured and converted from hydraulic principles into electrical energy to be used in the operation of the station, which reduces the consumption of energy supplied by the Regional Transmission Systems (*Sistema de Transmisión Regional* or "STR" for its acronym in Spanish).

Given that the Vasconia station operates 24 hours a day, an opportunity was identified to recover energy from the system, converting hydraulic energy (flow and pressure) into electrical energy through the installation of a hydraulic power recovery turbine ("HPRT"). In 2019, the HPRT was purchased, manufacturing was completed, and the engineering development was concluded.

In 2021, once the inconveniences derived from the pandemic were overcome, (i) the execution phase continued; (ii) the construction contract was awarded; and (iii) the civil, mechanical, electrical, and instrumentation works began. During that same year, pre-commissioning activities, including the selection of vendors for the commissioning stage, took place. In April 2022, the construction phase and commissioning stage were completed, and, in July 2022, HPRT operating tests and stabilization process, along with the environmental program (energy recovery and the reduction of CO2 emissions) were commenced. Corrective maintenance in certain components and implementation of improvements to ensure a long and stable operation to meet the expected recovery efficiency were required once the operating tests were concluded and the HPRT started operations.

Operational Storage Program The operational storage program's objectives and scope includes ensuring a storage of more than one million barrels of refined products in five different stations. The program foresees the construction of more than 10 tanks distributed through four projects divided in this way: (i) one tank of 260,000 barrels for Nafta and one tank of 323,000 barrels (under construction) for Biodiesel Extra (B2E) or Gasoline (GM) in Pozos Colorados Terminal, (ii) two tanks of 100,000 barrels each in Sebastopol station and one tank of 62,000 barrels in Yumbo station (all this storage is for Biodiesel Extra (B2E) and Gasoline (GM)). We are currently evaluating the construction of: (i) two tanks of 70,000 barrels each, to storage B2E and GM in Cartago Station and (ii) four new tanks in Medellín that in total has 254,000 barrels of capacity to storage Jet (JA1), Gasoline Extra (GE) and B2E. The construction phase began in 2020 in Pozos Terminal and Sebastopol station and in 2021 in Yumbo station. According to the construction, startup phase and commissioning, the systems in Pozos Terminal, was completed in August 2022. Startup of the new tank at Yumbo took place in the first quarter of 2023, and the startup of the additional tank in Pozos Colorados Terminal is expected to take place in 2025.

Andina Reliability Project

The aim of the Andina project is to recover reliability of delivering of refined hydrocarbons to Bogotá and the center of Colombia, included Dorado Airport, by means of the reposition of twelve main updated pumping units in capacity, efficiency and technology for each of the pumping stations (Puerto Salgar, Guaduro, Villeta and Albán). The construction of the new facilities started in August 2022 and the system is currently operating with nine new pumping units for the stations of Puerto Salgar, Guaduro and Villeta. We expect to begin operations with the three pumping units for the Albán station by the end of the second quarter of 2025.

Replacement of the "La Valeria" Single Point Mooring in Pozos Colorados Terminal.

The "La Valeria" Single Point Mooring (SPM) operating in the Pozos Colorados Maritime Terminal had to be replaced in 2024, as the operational term specified in its safety certificate had come to an end, and at which point the asset reached its 30-year lifespan.

During the third quarter of 2024, the new Valeria SPM (Single Point Mooring) was put into operation. This unmanned unit plays a critical role in transferring refined hydrocarbons, such as gasoline, naphtha, and diesel, from ships to the Pozos Colorados Maritime Terminal in Santa Marta through an underwater pipeline.

The replacement required, among other things, (i) procuring the design and construction of the SPM, (ii) transportation and delivery of materials, (iii) obtaining permits, registrations, and authorizations for the new unit and decommissioning of the current one, (iv) dismantling and final disposal of the current SPM; (v) assembly, commissioning, and operational start-up of the new SPM; and (vi) stabilization of operations. The project represented an approximate investment of USD 27 million and involved 270 professionals for over more than two years.

Caño Sur Pipeline

The objective of this project is to enable the transportation of 100% of the production projection of the Caño Sur field owned by Ecopetrol, through a pipeline of approximately 20 kilometers long, between Caño Sur and the kilometer 30 of the Oleoducto de los Llanos Orientales - ODL transportation system. The producer could have benefits from an efficient transportation system, with a greater oil evacuation capacity updated to 47,840 bpd and with lower risks compared to the current transportation conditions. In 2024, the project completed the following milestones: (i) construction began on July 15, 2024, (ii) progress of Centauros station works, which consisted of location and excavation of the firefighting system pipeline, CCM construction and correspondent equipment placement, and installation of booster pumps, and (iii) pipeline progress, consisting of the completion of pipe welding, pending closure of ties, progress in river tunnel drilling, and progress in trenching, pipe lowering and covering activities. We expect the new pipeline segment to become operational in the first half of 2025.

Electric Interconnection of the Estación el Porvenir (ENERGEPO)

Ocensa established a strategic framework to reduce emissions by 51% by 2030. In connection with such goal, Ocensa's analyses indicate that the El Porvenir station is one of the plants with highest number of emissions, contributing 30% of the total tons of CO₂e from Ocensa.

The station's energy source is natural gas, which feeds a system of electricity generation turbines. An alternative for reducing CO₂e is the electrical connection to the National Interconnected System (*Sistema Interconectado Nacional* or "SIN" for its acronym in Spanish), which emission factor is lower than that of gas.

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Based on this strategic plan, Ocesa is developing projects that aim to guarantee safe, reliable, and eco-efficient operations such as the 115 kilo Volts (“KV”) electrical connection between the El Porvenir station and the SIN, which project started during the first quarter of 2022.

Currently, the ENERGEPO project is subject to the completion of the Alcaraván expansion project, which consists of expanding the 230 KV and 115 KV electrical networks between San Antonio in Nobsa Boyacá and the new Alcaraván electrical substation in Yopal, by the Mining and Energy Planning Unit (*Unidad de Planeación Minero-Energética* or “UPME” for its acronym in Spanish).

During 2022, the project achieved the following milestones: (i) a collaboration agreement was signed with Cenit to update the connection study with new information uploaded by UPME that allows the analysis of different scenarios regarding synergies with the Alcaraván project, (ii) companies and entities such as ISA, Grupo Energía Bogotá, Genersa S.A.S E.S.P, UPME, Empresa de Energía de Casanare S.A. E.S.P, Empresa de Energía de Boyacá S.A E.S.P, among others, were approached to analyze a connection alternative that does not depend on Alcaraván, and (iii) the preliminary analyses of additional alternatives, such as solar farms, wind energy, and carbon capture.

In 2023, we updated and defined the connection study and analysis regarding the importance of repowering the existing system with the execution of the Alcaraván project. In October 2023, OCENSA submitted a new request for connection to the STR. This request was based on analyzed connection and a pre-feasibility studies, considering a technical variant that removes the need for the Alcaraván project. Considering the time required to establish a reliable connection to the STR, efforts have been coordinated with subsidiary companies to identify efficient and beneficial solutions for the business group. Among the alternatives considered is the potential installation of solar farms. In November 2023, UPME officially awarded this project (Alcaraván) to Alupar Colombia SAS.

In 2024, we moved forward with the ENERGEPO project as we (i) held meetings with regional energy companies to validate their interest in building connection assets and explore third-party financing alternatives, (ii) conducted field sessions with different companies in the midstream sector to understand their energy needs and connections to the STR, (iii) concluded that the connection to the STR is essential, and (iv) explored options for electricity supply from solar farms and energy storage systems. The project is currently in its second phase of development: conceptualization.

Solar Energy Farms

The Ecopetrol Group aims to develop projects that help to achieve the energy transition to non-conventional renewable energies and that contribute to Colombia’s decarbonization strategic goals. For this reason, within the framework of the investment program in the energy category, Ocesa is developing two initiatives focused on the construction of solar farms at the Coveñas and Vasconia stations, which leverages current resources to achieve safe, reliable, eco-efficient and sustainable operations.

These solar farms are currently in the execution stage. The Miraflores solar farm (0.4 MW) came online in 2023. In 2024, the following goals were achieved: (i) Vasconia Solar farm (7 MW) completed 100% of its pre-operational stage, including the execution of a power purchase agreement, and (ii) Coveñas Solar farm (5 MW) started operations and completed its testing and stabilization phases.

We believe these projects have potential to create renewable energy sources to contribute to our 2030 decarbonization strategy, as we aim to include a 51% reduction in emissions compared to the baseline, the installation of 12 MW of renewable sources, optimization of the cost associated with the station’s energy consumption due to a reduction in the average kWh rate, and opportunity for synergies within the Ecopetrol Group through surplus energy.

Caucasia Main Units Replacement Project

With the objective of ensuring the reliability of the system and transport capacity while reducing CO₂ direct emissions, the Ecopetrol Group started the Caucasia Main Units Replacement Project, which consists of replacing the three internal combustion engines at the ODC Caucasia station with three new electric motors. The total investment estimated for the project is USD 19.2 million.

The project is divided into several stages. In 2021, investments were made in long-term procurement and project management. In 2022, construction began with detailed engineering, soil studies and equipment procurement. In 2023, construction was completed, with the project currently being fully operational.

As for the energization phases, temporary thermal generation with natural gas supply has been used since 2023 and is expected to be used until synchronization with the STR in 2025. In October 2024, Caucasia solar farm came into operation, with an installed capacity of 6.7 Megawatt peak (MWP). Due to a massive illegal occupation in Caucasia that includes some of the areas required for the construction of the transmission line, the energization phase in the synchronization stage with the STR is currently on hold. ODC is working on an alternative solution to guarantee the energy demand of the Caucasia station.

Installation of units in Salgar Gualanday

The scope of this project is to improve the reliability and availability of the Puerto Salgar – Gualanday – Neiva 10” oil pipeline to address the volumetric demand for refined products in the south of the country projected to 2040, through the replacement of five main pumping units in two stations (Puerto Salgar and Gualanday). Each new pumping package includes an electric motor, pump and variable speed drive, control and communications panels and shelter.

In 2024, the procurement and manufacturing of the packaged units for both Salgar and Gualanday were completed, along with the development of detailed engineering, enabling the contracting of installation works for 2025–2026.

Emissions Reduction at Monterrey Station

This project is part of our strategic pillar of Operational Efficiencies, aimed at improving the safety, reliability, and environmental performance of the Monterrey Station. The initiative involves replacing natural gas internal combustion engines with modern electric motors and optimizing operations to match pumping needs. These changes are expected to significantly reduce CO2 emissions and noise levels, improve coexistence with neighboring communities, and minimize operational risks associated with the use of combustion engines.

In 2024, the project achieved significant milestones, including the completion of the 34.5 KV electric line, installation of a 10 megavolt-amperes (MVA) transformer, and placement of critical equipment like switchgear and motor shelters. Maintenance on one of the main units was finalized, and construction of the primary electrical paths continues. The project remains on schedule, with the final commissioning planned for 2026, marking a significant step toward safer and more sustainable operations.

Replacement of units Galán Chimitá

The project to upgrade the Galán - Chimitá system aims to increase its transportation capacity to 42 thousand barrels per day (mbd) improving operational efficiency and reliability while reducing risks. Key achievements in 2024 included advancing the installation of new equipment, strengthening infrastructure, and ensuring the readiness of critical components to support the system's expansion. These upgrades also ensure smoother operations and reliable deliveries to key locations, including the Lizama station and Río Sogamoso. We expect to commission the new units in 2025.

3.6.1.2 Export and Import Facilities

We currently have concessions granted by the Colombian Government for four export/import docks for crude oil and refined products: Coveñas, Tumaco, Pozos Colorados, and Cartagena. Our export capacity reached 2.35 million barrels per day for crude oil. Our import capacity of refined products and crude oil reached 0.18 million barrels per day and 0.34 million barrels per day, respectively. Our crude oil loading facilities can load tankers of up to 350 thousand deadweight tonnage (DWT). Adjacent to these loading facilities we also have storage facilities with 9.98 million barrels of capacity. Our docks, used for import and export refined products, can load tankers of 55 thousand DWT. Additionally, these facilities have a storage capacity of up to 1.5 million barrels.

3.6.2 Other Transportation Facilities

We have entered into transportation agreements with tanker trucks and barge companies to transport crude oil from locations that do not have pipeline connections to refineries and export facilities. The volume of refined products that cannot be transported by pipelines or tanker trucks due to capacity limitation, is transported by barges. During 2024, 47.9 million barrels of crude oil and refined products were transported by tanker trucks, and 8.5 million barrels of refined products were transported by barges, particularly using the Magdalena River, connecting Barrancabermeja with Barranquilla and Cartagena.

3.6.3 Marketing of Transportation Services

Cenit and its subsidiaries main line of business is the crude oil pipeline transport (76 % of revenues), followed by the refined products pipeline transport (16% of revenues) and ports and related services (8% of revenues). Both crude and refined product pipeline transport are regulated activities; crude oil pipeline transport services are regulated by the Ministry of Mines and Energy, while refined product pipeline transport services are regulated by the Energy and Gas Regulatory Commission (Comisión de Regulación de Energía y Gas or “CREG” by its acronym in Spanish).

Transportation contracts of crude oil may take several forms: ship or pay (payment for the availability of a fixed capacity in the system), ship and pay (payment for volumes actually transported), or spot contracts. The main users for the crude oil transportation business are Ecopetrol S.A., Frontera Energy, Trafigura, Parex, Hocol, and Vitol, who collectively represented 76% of this business segment’s revenues in 2024. Transportation services for crude oil provided to Ecopetrol S.A. represented 91% of this business segment’s crude oil transport revenues in 2024.

Cenit also transports refined products, and its main client is Ecopetrol S.A., which accounted for 39% of refined products pipeline transport revenues in 2024, mainly due to the transport of naphtha, diesel, and gasoline. Cenit also has 31 other fuel wholesalers’ customers for whom it transports refined products. The most significant among them are Organización Terpel, Primax Colombia, Chevron Petroleum Company, Biocombustibles S.A.S., Terpel Exportaciones and Petrobras Colombia.

Deregulated businesses, such as ports and crude-loading facilities, represent a smaller portion of Cenit and its subsidiaries revenue 8% in 2024. Clients for these businesses include some of the same parties for which Cenit provides crude oil and refined products transportation services.

3.7 Refining and Petrochemicals

3.7.1 Refining

Our main refineries are the Barrancabermeja refinery, which Ecopetrol S.A. directly owns and operates, and a refinery in the Free Trade Zone in Cartagena owned by Refinería de Cartagena S.A.S., a wholly owned subsidiary of Ecopetrol S.A., who operates this refinery and two other minor refineries -Orito and Apiay-, but these are considered part of the upstream segment since most of the production is for self-consumption.

Our refineries produce a full range of refined products, including gasoline, diesel, jet fuel, LPG and heavy fuel oils, among others.

The following table sets forth our average daily installed and actual refinery capacity for each of the last three years:

Table 39 – Average Daily Installed and Actual Refinery Capacity

	For the year ended December 31,								
	2024			2023			2022		
	Capacity (bpd)	Throughput (bpd)	Use (%)	Capacity (bpd)	Throughput (bpd)	Use (%)	Capacity (bpd)	Throughput (bpd)	Use (%)
Barrancabermeja	250,000	221,609	89	250,000	221,810	89	250,000	217,720	87
Cartagena ⁽¹⁾	210,000	192,205	92	210,000	197,824	94	210,000	140,005	67
Apiay	2,500	1,658	66	2,500	1,290	52	2,500	1,253	50
Orito	2,200	1,407	64	2,300	1,699	74	2,300	1,372	60
Total	464,700	416,879	90	464,800	422,623	91	464,800	360,350	78

(1) Includes crudes and recirculated products.

3.7.1.1 *Barrancabermeja Refinery*

The Barrancabermeja refinery produced approximately 39.8% of the fuels consumed in Colombia in 2024, according to internal calculations made by us and Colombia's fuel consumption as reported by the Ministry of Mines and Energy.

The following table sets forth the production of refined products of the Barrancabermeja refinery for the periods indicated.

Table 40 – Production of Refined Products from the Barrancabermeja Refinery

	For the year ended December 31,		
	2024	2023 (bpd)	2022
LPG, Propylene and Butane	11,446	11,252	10,695
Gasoline Fuels and Naphtha	57,385	60,034	59,421
Diesel	57,931	58,143	55,272
Jet Fuel and Kerosene	23,526	25,548	24,413
Fuel Oil	23,260	26,490	28,454
Lube Base Oils and Waxes	1,087	883	782
Aromatics and Solvents	2,517	2,298	2,337
Asphalts and Aromatic Tar	44,958	40,645	36,396
Polyethylene, Sulphur and Sulphuric Acid	1,351	1,376	1,282
Total	223,461	226,669	219,052
Difference between Inventory of Intermediate Product	1,511	(1,286)	1,720
Total Production	224,972	225,383	220,772

In 2024, total production from the Barrancabermeja refinery decreased by 0.2% compared to 2023, mainly due to a lower delivery of Caño Limon crude oil to the refinery, which implied a reduction in gasoline, diesel and jet yields and an increase in the production of heavy intermediate products. Moreover, the production of bases and waxes and aromatics increased to serve the national and international market.

We own and operate four petrochemical plants and one paraffin and lube plant located within the Barrancabermeja refinery. In 2024, we produced 44,237 tons of low-density polyethylene, an increase of 2.1% compared to the production of 43,320 tons in 2023. This increase was primarily due to the operational availability of the units associated with the polyethylene chain. We produced 655 mboe of aromatics (benzene, toluene, xylene, orthoxylene, heavy aromatics, and cyclohexane), a 9.4% of increase as compared to the production of 598 mboe of aromatics in 2023, mainly due to an increase in exports to the international market and greater operational availability of the unit.

The gross refining margin decreased from USD 15.7/Bl in 2023 to USD 10.3/Bl in 2024, primarily due to a price decrease of refined products compared to crude, mainly in petrochemical and industrial prices and a generalized drop in international refining cracks. In addition, due to lower delivery of Caño Limon crude oil, which resulted in lower yields of valuable products. The average conversion index for the Barrancabermeja refinery was 91% in 2024 and 89.7% in 2023. This increase was primarily due to an increase in exports of asphalt and other industrial products to international market accompanied by greater operational availability of the unit.

3.7.1.2 *Cartagena Refinery*

The following table sets forth the production of refined products from the Cartagena Refinery for the periods indicated.

Table 41 – Production of Refined Products from the Cartagena Refinery

	For the year ended December 31,		
	2024	2023 (bpd)	2022
LPG, Propylene and Butane	3,430	3,962	3,011
Gasoline Fuels and Naphtha	54,511	61,861	46,914
Diesel	80,438	93,575	61,732
Jet Fuel and Kerosene	11,798	12,312	7,870
Fuel Oil	16,124	18,920	15,871
Sulphur	441	550	361
Total	166,742	191,180	135,759
Difference between Inventory of Intermediate Product	17,071	1,339	74
Total Production ⁽¹⁾	183,813	192,519	135,833
Petcoke (Metric Tons)	1,036,703	1,023,556	710,867

(1) Does not include petcoke.

The following tables set forth the imports and sales of refined products from the Cartagena Refinery for the periods indicated.

Table 42 – Imports and Sales of Refined Products from the Cartagena Refinery

	For the year ended December 31,		
	2024	2023 (bpd)	2022
Imports			
Motor Fuels	—	—	1,633
Jet Fuel and Kerosene	—	—	616
LPG and Butane	1,524	1,538	2,204
Total Imports	1,524	1,538	4,452
	For the year ended December 31,		
	2024	2023 (bpd)	2022
Sales			
Motor Fuels	33,208	35,626	36,747
Diesel	80,653	94,004	61,864
Jet Fuel and Kerosene	11,738	12,329	8,628
Fuel Oil	15,638	15,365	12,521
Other Products	58,224	52,143	30,666
Total Sales	199,461	209,467	150,427

During 2024, the Cartagena Refinery imported butane in order to achieve the planned feed of the Butamer Unit and to increase the production of alkylate.

Total sales decreased from USD 7,051 million in 2023 to USD 6,031 million in 2024. A total of 70 million barrels of crude were processed in 2024 compared to 72 million barrels of crude processed in 2023. Exports to international markets represented 21% of total sales (USD 1,265 million).

The gross refining margin decreased to USD 9.4/Bbl in 2024 from USD 19.7/Bbl in 2023, mainly due to weakening of refined products prices.

3.7.1.3 Esentia S.A.

In 2024, Esentia's production totaled 322.8 thousand tons of petrochemical products, a 25% decrease compared to the 441 thousand tons produced in 2023, primarily driven by the company's focus on addressing the increased oversupply of Asian products in the region by prioritizing sectors with higher value.

Table 43 – Operating Capacity of Esentia

	For the year ended December 31,		
	2024	2023 (Metric Tons)	2022
Average capacity	570,000	505,940	494,695
Throughput	332,862	440,783	467,765
% Use	58 %	87 %	95 %

3.7.1.4 Invercolsa

During 2024, Inversiones de Gases de Colombia S.A. ("Invercolsa"), registered 1.51 million users of natural gas, an increase of 4.5% compared to the 1.45 million users of natural gas in 2023. Additionally, non-controlled companies registered 2.59 million users of natural gas in 2024, an increase of 3.5% compared to the 2.50 million users of natural gas in 2023. Throughout 2022, Invercolsa completed the integration of its operations into the Ecopetrol Group, in connection with the increase in stake completed by Ecopetrol in November 2019. In May 2022, Ecopetrol reported that it had initiated the divestment of its participation in Invercolsa. As of the date of this annual report, this process is ongoing.

3.7.1.5 Biofuels

As of the date of this annual report, we have investments in the biofuel company Ecodiesel Colombia S.A., in which we own 50% of the shares, currently in operation with a capacity of 150 thousand tons of biodiesel per year.

In 2024, we faced certain challenges and reduced our production from 145 thousand tons in 2023 to 140 thousand tons in 2024. This represents a year-to-year decline of 3.46% and was due mainly to shortage of crude palm oil and a maintenance shutdown, which was partially offset by an increase in throughput, from 17.34 tons/hour in 2023 to 17.39 tons/hour in 2024.

3.7.2 Marketing and Supply of Refined Products

We are the main producer and supplier of refined products in Colombia. We market a full range of refined and feedstock products, including regular and high-octane gasoline, diesel fuel, jet fuel, LPG and petrochemical products, among others.

Domestic sales of refined products totaled 352.0 mboed and decreased by 7.9 mboed in 2024, 2% lower as compared to 2023. This decrease is primarily the result of the combined effects of a decrease in the demand for gasoline, partially offset by an increase in the demand of diesel fuel.

In 2024, 14.2 million barrels of diesel and 2.2 million barrels of gasoline produced by the Cartagena Refinery were allocated to complement the supply from the Barrancabermeja refinery and fulfill Colombia's demand, avoiding larger imports and allowing us to maintain the share of the national market. In the same way, 7.9 million barrels of diluent produced by the Cartagena Refinery were used to transport crude reducing diluent imports. In addition, we imported petrochemicals to complement the national supply, generating additional sales of lubricating bases, polyethylene, hexanes, and others.

Exports of products increased by 2% (2.3 mboed) in 2024 compared to 2023, explained by an increase of 13.6 mboed in exports of vacuum gas oil and 5.0 mboed in exports of propane that partially offset a decrease of 15.9 mboed in exports of middle distillates.

3.8 Electric Power Transmission and Toll Roads Concessions

Our electric power transmission and toll roads concessions segment includes the offering of services such as electricity transmission and the designing, building, operating, and maintaining toll road infrastructure in various countries in Latin America. We conduct these activities through ISA and its subsidiaries.

3.8.1 ISA

ISA was founded as a joint stock company in Bogotá, Colombia, in 1967. Since then, it has grown into a multi-Latin corporate group operating in Colombia, Brazil, Peru, Chile, Bolivia, Argentina, and Central America. ISA and its 50 subsidiaries operate and maintain electricity transmission networks, with the broadest presence of any Latin American electricity transmission company in terms of the number of countries where ISA operates. ISA is also involved in toll-road concessions, telecommunications, and information and communications technology (ICT) businesses.

ISA is organized as a Colombian stock corporation and as a mixed public services company. As of December 31, 2024, we owned 51.41% of ISA's capital stock and other shareholders (including Colombian pension funds, international and local institutional investors, and retail shareholders) owned the remaining 48.59% of ISA's capital stock.

The majority of ISA's consolidated revenues are derived from (i) contracts with customers, (ii) the regulated payments that ISA and its consolidated subsidiaries operating in the electricity transmission segment receive from making their electricity transmission assets available to the national interconnected systems of the countries where they operate, (iii) revenues related to interconnection charges, the dispatch and coordination of the National Dispatch Center (Centro Nacional de Despacho or "CND" for its acronym in Spanish) in Colombia and administration services of the Wholesale Energy Market (Mercado de Energía Mayorista or "MEM" for its acronym in Spanish) in Colombia, (iv) revenues recognized by reference to the stage of completion of contract activity in the electricity transmission business and in toll roads and (v) as concessionaire, with the right to retain most of the toll revenues derived from operation of the toll road for the term of the concession.

3.8.2 Electricity Transmission Activities

ISA is one of the largest international energy transmission companies in Latin America in terms of kilometers of electricity lines in operation, according to ISA's internal calculation of the total kilometers of high-voltage network circuits of the energy transmission segment in each country in which ISA operates. The energy transmission companies of ISA operate and maintain a high-voltage transmission network in Colombia, Brazil, Bolivia, Peru, and Chile, as well as some international interconnections that operate between Colombia–Ecuador and Ecuador–Peru. In Central America, the company holds a stake in *Empresa Propietaria de la Red* (EPR), a company incorporated under the laws of Panama and headquartered in San José, Costa Rica, which operates the Energy Interconnection System for the Countries of Central America (*Sistema de Interconexión Eléctrica de los Países de América Central* or "SIEPAC" for its acronym in Spanish).

The revenues associated with the provision of energy transmission services are regulated and are not affected by the supply or demand of electricity. Additionally, revenues are indexed to macroeconomic variables such as the Colombian peso to U.S. dollar exchange rate, the Producer Price Index (PPI), the Consumer Price Index ("CPI"), or the corresponding indexes in the different countries.

ISA owns 49,677 kilometers of high-voltage grid circuits, which support the supply of energy in Latin America. As of December 31, 2024, ISA is in the process of constructing an additional 8,200 kilometers of high-voltage grid circuits, which are expected to begin operations in the short term.

In Colombia, ISA's subsidiary, XM Compañía Expertos en Mercados S.A. E.S.P. ("XM"), exclusively operates, plans and coordinates the resources of the National Interconnected System (Sistema Interconectado Nacional or "SIN" for its acronym in Spanish), and also manages the Commercial Settlement System (Sistema de Intercambios Comerciales or "SIC" for its acronym in Spanish) in the MEM, the International Electricity Transactions (Transacciones Internacionales de Electricidad or "TIE" for its acronym in Spanish) with Ecuador, and carries out the settling and clearing of charges for use of the SIN's grids. XM also develops solutions and provides energy and information services. As the sole operator of the Colombian SIN, XM guarantees the balance between production and consumption of energy in the country. Also, based on energy demand estimates, XM carries out the coordinated real-time operation of the generation plants and the grid to ensure that power plants' generation continuously responds to consumers' demand in a cost-effective, reliable, and safe manner with quality standards.

The following table sets forth certain metrics related to ISA's energy transmission operations for the periods indicated:

Table 44 – Key Electricity Transmission Metrics

	For the year ended December 31,		
	2024	2023	2022
In Operation			
Km of Circuit	49,677	49,426	48,766
MVA Installed Capacity	113,365	109,258	104,438
In Construction			
Km of Circuit	8,200	6,897	4,928
MVA Capacity	15,306	16,321	16,451
Operational Results			
Reliability	99.99 %	99.99 %	99.99 %
Availability	99.83 %	99.72 %	99.82 %

3.8.2.1 *Electricity Transmission Activities in Colombia*

In 2024, ISA's subsidiaries electricity transmission activities in Colombia included 13,694 km of transmission lines. As of December 31, 2024, ISA owned and operated an aggregate transformation capacity of 23,471 MVA (Megavolt-Amperes), transforming high voltage electricity into low voltage electricity, and vice versa.

The following table sets forth ISA's transmission lines and transformation capacity relating to electricity transmission activities in Colombia, for the periods indicated.

Table 45 - Transmission Infrastructure in Colombia

	For the year ended December 31,					
	2024		2023		2022	
	Transmission Lines	Transformation Capacity	Transmission Lines	Transformation Capacity	Transmission Lines	Transformation Capacity
	(Km)	(MVA)	(Km)	(MVA)	(Km)	(MVA)
Colombia	13,694	23,471	13,635	23,371	13,569	22,721

3.8.2.2 *Electricity Transmission Activities Outside Colombia*

In 2024, ISA's subsidiaries electricity transmission activities outside Colombia included 35,983 km of controlled transmission lines, where Brazil represents 43% of the total transmission infrastructure.

The following table sets forth ISA's electricity transmission activities outside Colombia, for the periods indicated.

Table 46 - Transmission Infrastructure Outside Colombia

	For the year ended December 31,					
	2024		2023		2022	
	Transmission Lines	Transformation Capacity	Transmission Lines	Transformation Capacity	Transmission Lines	Transformation Capacity
	(Km)	(MVA)	(Km)	(MVA)	(Km)	(MVA)
Brazil	21,293	67,403	21,065	64,307	20,828	62,157
Peru	12,155	16,172	12,191	15,260	11,836	13,240
Chile	1,948	5,850	1,948	5,850	1,948	5,850
Bolivia	587	470	587	470	587	470
Total	35,983	89,895	35,791	85,887	35,199	81,717

3.8.3 ***Toll Roads Concessions Activities***

ISA designs, builds, operates, and maintains toll road infrastructure that connects millions of people in Chile, Colombia and Panamá. As of December 31, 2024, ISA was one of the largest intercity road operator and operated four concessions in Chile (Ruta del Maipo, Ruta de la Araucanía, Ruta de los Ríos and Ruta del Loa - A Sector), while in Colombia, it operated the Ruta Costera Concession. In total, it operated five toll roads concessions, which covered a total of 811 kilometers in these two countries and had 296 kilometers of new road infrastructure under construction in Ruta del Este in Panamá and Ruta Orbital Sur and Ruta del Loa - B Sector, in Chile. In the year ended December 31, 2024, 139 million vehicles traveled on roads operated by ISA.

The following tables set forth certain metrics related to ISA's toll road concession operations in Colombia and Chile for the periods indicated:

Table 47 - Total Traffic (Vehicles)

		For the year ended December 31,		
	Road Length (Km) ⁽¹⁾	2024	2023	2022
COLOMBIA				
Ruta Costera	146	8,685,033	9,032,156	7,453,152
CHILE				
Ruta del Maipo	237	95,877,049	95,492,117	100,780,722
Ruta del Bosque ⁽²⁾	—	—	—	21,874,196
Ruta de la Araucania	144	23,476,965	23,740,110	25,883,823
Ruta de los Ríos	172	10,079,544	10,471,290	11,255,310
Ruta del Loa	112	743,345	—	—
Total	811	138,861,936	138,735,673	167,247,203

(1) Road length for the year ended December 31, 2024.

(2) Expired in February, 2023.

In 2024, ISA subsidiaries in Panama and Chile were awarded road concession contracts. Both contracts are currently in the design phase. Also, 25 kilometers corresponding to the B Sector of Ruta del Loa remain under construction.

	Road Length (Km)
CHILE	
Proyecto Orbital Sur Santiago – Ruta Orbital Sur	25
PANAMÁ	
Carretera Panamericana Este – Ruta del Este	246
Total	271

3.8.4 ***Telecommunications and ICT***

Within the telecommunications segment, InterNexa provides connectivity solutions, especially in urban and interurban fiber optics, in a wholesale model, to provide network and data center infrastructure in Colombia and Peru, and with commercial presence in the United States. As of December 2024, InterNexa had over 30,000 kilometers of optical fiber and operated data centers in Medellín and Bogotá. Its strategy focuses on strengthening their position as a wholesale operator of fiber optic connectivity services and data center integration, while increasing its scale with attributes of reliability, proximity and agility to maximize efficiency and productivity, and on accompanying the evolution and growth of its clients.

In 2024, ISA sold Internexa Argentina, Internexa Brasil and Internexa Chile. These transactions are expected to allow Internexa to focus on the telecommunications business in locations where it has greater relevance.

Additionally, InterNexa is developing infrastructure businesses under the “InfraCo” model, focused on acquiring or building networks to lease them under long-term partnerships, enhancing its capacity to deliver high-value solutions to its clients.

In Colombia, InterNexa is working with the Ministry of Information and Communication Technologies (MinTIC) in the “*ConectiVIDad para Cambiar Vidas*” project, which aims to bring connectivity to remote areas of the country and contribute to closing the digital gap.

3.9 Research and Development; Intellectual Property

As a key lever of our TESG strategy, technology and innovation are essential to our efforts to add value to our business segments. Value generation is achieved through the development of proprietary technologies and competitive advantages and the adaptation of third-party technologies to our processes.

Our main innovation and technology development center is the Colombian Petroleum and Energies of the Transition Institute (*Instituto Colombiano del Petróleo* or “ICPET” for its acronym in Spanish), established in 1985 and located in Piedecuesta, Santander. The scope of the ICPET activities covers our entire value chain: exploration, production refining, transportation, trading, and marketing including asset integrity and environmental sustainability and energy transition technologies.

Ecopetrol has focused its research, technology development and innovation efforts in four main clusters and areas:

- (i) **Hydrocarbons cluster.** The main goal of this pillar is to support the results of the traditional business of Ecopetrol reaching differential goals in their exploration, production and refining activities with technology. It includes seismic processing technologies, geological modeling, enhance oil recovery methods, new additives for improving production/transport of oil and advance technologies and modeling of refining processes.
- (ii) **Energy transition cluster.** We support decarbonization and energy transition corporate plans through studies related to energy efficiency, and to the implementation of CCUS, sustainable fuels, renewables energies and the hydrogen value chain. We are incorporating multi-scale technological approaches to identify, quantify, characterize, and abate methane emissions to reduce our impact on climate. Furthermore, we are conducting studies to establish carbon stocks and fluxes associated to strategic ecosystems, to promote transparent carbon compensation projects related to nature-based solutions, and to reduce the risk of biodiversity loss in Colombia and we also work modeling and developing tools to optimize the energy value chain.
- (iii) **Circular Economy and Sustainability cluster.** In these clusters we are exploring opportunities to increase circularity in our operations, considering not only recycling and the safe disposal of residues, but also initiatives for reuse, remanufacturing, and repurposing. Since water represents a critical resource, this area includes a technology-enabled water management program that encompasses the conservation, recycling, reuse, and valuation of production water streams. The production and upscaling of high-performance materials from petroleum molecules, that could be the base for advanced, sustainable, reusable, non-combustion products, are also part of our research, development, and innovation efforts, aimed at reducing our scope 3 CO₂ emissions. We are working mainly in mechanical and chemical plastic recycling and biopolymer
- (iv) **Technology Services Management:** We lead the various strategies to ensure the delivery of laboratory work-based solutions as part of the technology support provided by ICPET to the corporate business plan covering both hydrocarbons and energy transition projects. Additionally, management aims to continuously improve the research and development facilities at ICPET’s location in Piedecuesta, Colombia. This includes specialized maintenance, updates, automation, robotization and the implementation of digital transformation solutions to ensure the sustainable and more efficient operation of our technology assets.

Each year we bring to the Colombian National Council for Tax Benefits (*Consejo Nacional de Beneficios Tributarios*, or “CNBT” for its acronym in Spanish) our research, technology development projects and innovation initiatives, to obtain certifications for its science and technology investments. The CNBT certifies eligible science and technology investments, which are deductible from income tax upon execution.

Our intangible assets are preserved through a technology valuation process and an intellectual property protection process, which include the consolidation of trade secrets, patents, copyrights, trademarks, industrial designs, publications in peer reviewed journals and presentations in prime level technical events. Ecopetrol has filed 330 patent applications in the last 19 years, that include innovative technologies such as (i) acrylic electrospun membranes doped with sulfonated petcoke and its application in cations removal in water, (ii) optimization of the cyclic steam stimulation process in heavy oil reservoirs through the use of metallic nanoparticles in solvents, (iii) procedure for the formulation of linseed oil in water emulsions stabilized with manganese oxide (MnO₂) to enhance the ignition in in-situ combustion processes and (iv) mist equipment for subsoil steam generation by means of mist injection for crude oil recovery.

As of December 31, 2024, we held 138 patents. In Colombia, we have been also granted new patents related to the following technologies, (i) acceleration nozzle system for generating preformed foam at the wellhead for self-selectivity of steam injection comprising two opposing nozzles, (ii) a diluent injection monitoring and control system for dehydration of heavy and extra-heavy crude oil, (iii) staged polymeric fluid injection control system and improved valve for positioning in mandrels and pipes, (iv) electrolytic reactor for polishing oilfield production water comprising a pressurized vessel with a geared agitator and deflectors, (v) device for coalescing oil droplets dispersed in industrial wastewater by magnetic fields, (vi) device for pressure and flow control in selective injection of polymeric solutions used in enhanced oil recovery, and (vii) industrial wastewater polishing process for removal of total oil hydrocarbons by means of a filtration train. We currently hold patents in Colombia, the United States, Mexico, Argentina, Peru, Venezuela, Brazil, Russia, Nigeria, Indonesia, India, and Malaysia.

As of December 31, 2024, 30 technologies have been commercialized, with different business and technology transfers models to Colombian and multinational companies, thus achieving their monetization and generating additional income for the Company for USD 1.58 million.

3.10 Applicable Laws and Regulations

3.10.1 Regulation of Exploration and Production Activities

3.10.1.1 Business Regulation

Pursuant to the Colombian Constitution, the State is the exclusive owner of minerals and non-renewable resources located in the subsoil and has full authority to determine the rights to be held and royalties or compensation to be paid by investors for the exploration and production of any hydrocarbon resources. The hydrocarbon industry is under governmental supervision and control. The MME and the ANH are the authorities responsible for regulating all activities related to the exploration and production of hydrocarbons in Colombia.

Decree Law 1056 of 1953 (the Petroleum Code, or *Código de Petróleos*) declares that the hydrocarbon industry and its activities of exploration, exploitation, refining, transportation, and distribution are of public interest, which means that, in the interest of the hydrocarbon industry, the Colombian Government may order, for example, necessary expropriations in order to develop such industry. The hydrocarbon industry is under governmental supervision and control, regulated mainly by the Ministry of Mines and Energy and the ANH.

Ministry of Mines and Energy Resolution 180742 of 2012, partially repealed by Resolution 90341 of 2014 and 40303 of 2022, includes a series of technical regulations for unconventional hydrocarbon resources, including the procedures for advancing the exploration and exploitation of unconventional reserves. It also establishes the types of wells and their classification, as well as the fulfillment of those minimum (drilling and abandoning) conditions necessary to initiate or perform E&P activities. Furthermore, it contemplates the applicable procedure to resolve disputes between the mining sector and the oil and gas sector, regarding the coexistence of their rights in some specific projects.

Decree 3004 of 2013, issued by the MME and compiled by the Regulatory Decree 1073 of 2015, sets forth guidelines regarding future regulation related to the exploration and exploitation of unconventional hydrocarbon resources in Colombia. Under Decree 3004, an unconventional field is defined as a rock formation with low primary permeability that requires stimulation in order to improve the conditions of mobility and recovery of hydrocarbons. This regulation contains a series of guidelines regarding the regulation for unconventional hydrocarbon resources, including a definition of unconventional reservoirs and the term in which the MME has to issue the specific technical regulation regarding the exploration and exploitation of unconventional hydrocarbons and the proceedings that interested actors have to follow in order to seek the exploration and exploitation of unconventional hydrocarbons in Colombia. Resolution 90341 was issued on March 27, 2014, by the MME in development of the mandate of Decree 3004 setting the technical conditions, requirements and procedures for the exploration and exploitation of unconventional fields.

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On May 26, 2015, Decree 1073 compiled the majority of Colombian decrees in force regarding the administrative sector of mines and energy.

Decree Law 4137 of 2011, which modified the legal nature of the ANH regulates what corresponds to the integral administration of the hydrocarbon reserves and resources owned by the nation of Colombia.

In accordance with the aforementioned Decree Law, it is the responsibility of the Board of Directors of the ANH to define the criteria for administration and allocation of the areas; approve model contracts for their exploration and exploitation, while establishing the rules and criteria for their management and monitoring the contribution to the economic and social development of the country through the promotion and sustainable use of reserves and resources.

The contracts for the exploration and exploitation of hydrocarbons signed with the ANH are regulated through “Agreements” (*Acuerdos* in Spanish) issued by the ANH. Notwithstanding the ongoing modifications to the area allocation regime established by the ANH, the rules and agreements under which the aforementioned contracts were originally executed or subsequently modified shall govern these contracts until their termination.

Agreement 004 of 2012, as issued by the ANH, repealed Agreement 008 of 2004 and sets forth the rules governing the award of exploration and production areas and the execution of contracts. As set forth below, Agreement 002 of 2017 replaces this *Acuerdo* and was amended by Agreement 009 of 2021 and Agreement 003 of 2022 (amended by Agreement 002 of 2023). Each agreement entered into with ANH is ruled by the *Acuerdo* that was in effect on the date of execution of the relevant agreement.

Agreement 003 of 2014, as issued by the ANH and modified by Agreement 005 of 2015, complements Agreement 004 of 2012 (which was replaced by Agreement 002 of 2017) by setting forth the contractual framework for the carrying out of activities in unconventional reservoirs, the procurement regulations for the exploration and exploitation of unconventional fields and the procurement process for the awarding of hydrocarbon exploration and exploitation areas.

Agreement 002 of 2015, as issued by the ANH, partially amends Agreement 004 of 2012 and sets forth the initial rules and measures the Government can take to mitigate the adverse effects of the decline of international oil prices.

Agreement 003 of 2015, as issued by the ANH, modifies and also partially amends Agreement 004 of 2012, and provides certain rules and measures the Government can take to mitigate the adverse effects of the decline of international oil prices. This agreement permits performance guarantees required under E&P contracts to be reduced in the same amount as the works actually performed during the term of the respective phase.

Agreement 004 of 2015, as issued by the ANH, also partially amends Agreement 004 of 2012, and provides certain rules and measures for the Government to mitigate the adverse effects of the decline of international oil prices. This agreement allows contractors to attribute additional activities carried out under a TEA to commitments under the first phase of an E&P contract.

Agreement 002 of 2017, modified by Annex I of Agreement 03 of 2022, replaces Agreement 004 of 2012, Agreement 003 of 2014, and Agreements 002, 003, 004 and 005 of 2015. It establishes the general structure of the New Regulation for Administration and Assignment of Areas and the general guidelines regarding future hydrocarbon contracts in Colombia. Seeking the interests of the Nation, the market conditions, the national hydrocarbon sector strategy, the competitive context of producer countries and the Nation’s social and environmental evolution.

Agreement 002 of 2017 adapts the existing regulations for the selection of contractors, and the applicable rules for the award, execution, termination, liquidation, monitoring, control and surveillance of the contracts signed with the ANH. Regarding unconventional reservoirs, this agreement also establishes the need to sign additional contracts and additional arrangements for the industry to exploit unconventional reservoirs in Colombia.

On November 8, 2018, the High Court for Administrative Matters (*Consejo de Estado*) analyzed the potential annulment of Decree 3004 of 2013 and Resolution 90341 of 2014 and issued an interim order to suspend their effects as of such date. However, the aforementioned Court established that, "... if the Colombian Government is interested in investigation, clarifying and exploring the feasibility of the hydraulic fracturing procedure for the exploration and exploitation of hydrocarbons in unconventional reservoirs, it could advance in the PPII to identify the risks of unconventional activity." On July 7, 2022, the High Court for Administrative Matters resolved the claim against the aforementioned regulations, denying the requested annulment claims. With this decision, the suspension of Decree 3004 of 2013 and Resolution 90341 of 2014 was lifted.

On February 4, 2019, the ANH published the new model contract for offshore exploration and production. The purpose of this new model contract is to foster and stimulate investments in exploration and the exploitation of offshore hydrocarbons, enhancing Colombia's competitiveness to attract and retain investments from large and experienced O&G operators.

On February 5, 2019, the ANH by implementing the *Acuerdo* No. 002 (Agreement No. 002 of 2017) opened a PPAA, which aims to select, among previously qualified proponents on equal terms, the most favorable offers to allocate the areas previously determined, marked and classified by the ANH. Several addendums have modified the terms of references of the PPAA, but, as to date, the applicable terms of reference of such bidding process are included in Addendum No. 25 of November 23, 2021.

On February 18, 2019, the ANH issued the Agreement 003 to clarify the moment in which contractors may withdraw from the contracts signed with the ANH and also presents another alternative for those interested in the PPAA when they belong to business groups, other than the issuance of a parent company guarantee.

Resolution 078 of 2019, as issued by the ANH, approved the final terms of reference and the model of the onshore and offshore contract for the PPAA. Pursuant to this procedure, the ANH will select areas over which proposals may be received at any time, without the need of launching specific bidding procedures for their allocation.

As a result, in 2019, the ANH issued terms of references for the PPAA and carried out two cycles both of which were divided into the following four stages: (i) submission of the proposals and selection of the initial proponent, (ii) submission of counterproposals and selection of the most favorable counterproposal, (iii) the exercise by the initial proponent of the option to improve the initial proposal, and (iv) allocation of areas, contract awards and execution of contracts. In 2020, a third cycle was carried out by the ANH.

As result of the first cycle of the PPAA, the ANH awarded 11 onshore areas and one offshore area. As part of the second cycle, the ANH allocated 14 onshore blocks. Finally, as a result of the third cycle, the ANH awarded four onshore areas.

Agreement 001 of March 27, 2020 of the ANH regulates the transfer of activities or investments between legal instruments signed with the ANH to promote exploratory investment in the country and to seek the incorporation of new reserves, repealing specific articles of Agreement 002 of 2017.

Agreement 006 of September 11, 2020 of the ANH, amended by Agreement 004 of 2021, added certain rules from Agreement 18 of 2004, Agreement 04 of 2005, Agreement 21 of 2006, and Agreement 02 of 2017 to the Contracting Regulations for the Exploration and Exploitation of Hydrocarbons, to allow entities to carry out PPII on hydrocarbons in unconventional reservoirs with the use of the Multistage Hydraulic Fracturing with Horizontal Drilling (*Fracturamiento Hidráulico Multietapa con Perforación Horizontal* or "FHPH" for its acronym in Spanish) technique. These terms and conditions were modified by Agreements 007, 008 and 009 of 2020 establishing the final terms and conditions for the selection of contractors by the ANH to perform the aforementioned hydrocarbons activities, as well as the final terms of the CEPI to be executed.

Through Resolution 0613 of September 14, 2020, the ANH opened a competitive process for the development of research projects in unconventional reservoirs using the FHPH technique.

Agreement 001 of February 5, 2021, issued by the ANH, established the requirements for the request of extension by mutual agreement to carry out additional exploratory activities in the exploration period, subsequent exploration program, and appraisal programs, as each of these phases are defined in the law. Furthermore, it regulated the requests and granting of term extensions to comply with contractual obligations.

Agreement 003 of February 11, 2021, issued by the ANH, approved the model agreement for the exploration and production of hydrocarbons.

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Agreement 004 of February 26, 2021, issued by the ANH, amended Agreement 006 of 2020 regarding the accreditation of commitments and counteroffer requirements applicable to the PPAA.

Considering the remaining impact caused by the COVID-19 pandemic, the ANH issued Agreement 005 of July 14, 2021, and established additional temporary measures to aid hydrocarbon companies in Colombia, including: (i) approving the transfer of activities or investments allowed under Agreement 001 of 2020 to areas included in the fourth cycle of the PPAA process undertaken in 2021; and (ii) extensions to comply with contractual obligations with the ANH.

Agreement 006 of July 14, 2021, issued by the ANH, established general PPAA guidelines, in addition to those listed in the ANH Agreement 002 of 2019.

Agreement 009 of October 12, 2021, issued by the ANH, amended Agreement 002 of 2017 and established the annex 1 with the compiled and updated rules to allocate and entitle areas to develop exploration and production of hydrocarbons in Colombia and the procedures to perform the contractual obligations agreed according to these rules.

Resolution 728 of October 14, 2021, issued by the ANH, provided the terms and conditions to carry out “Benefit Programs for the Communities” established in the geographic areas covered by E&P agreements. In accordance with this resolution, E&P contracts oblige operators to develop programs for the benefit of the communities where the E&P activities take place.

The ANH also issued Agreement 10 of November 12, 2021 and established the possibility to comply with exploratory obligations in E&P and TEA agreements, as well as in any *Convenios* by drilling A3 or A2 wells in any area of the Colombian territory that is included in the land map provided by the ANH. This possibility would apply for wells that were drilled in 2021 and 2022. If any company wants to use this possibility, its legal representative shall previously notify the ANH. Regarding CEPI contracts ruled by Agreement 06 of 2021, this Agreement, established specific procedures and alternatives that the contractor has for certification of compliance obligations under this type of special agreement including: effective investment performance criteria, obligation to deliver technical information to the Petroleum Information Bank of the Colombian Geological Service and allocation of the investment performed by the contractor. This Agreement was regulated by Resolution 10882 of 2021, issued by the ANH as well.

On December 1, 2021, the hearing for the presentation and opening of bids for the fourth round of the PPAA was held, according to the schedule of the terms of reference, in which Ecopetrol S.A. submitted four proposals corresponding to three areas offered at the initiative of the Company and one area offered at the initiative of the ANH.

Per the terms of reference and the declaration of initial bidder for the fourth round of the PPAA by the ANH, dated December 14, 2021, concerning the areas labeled “LLA 141,” “VMM 4-1,” “VMM 14-1,” and “VMM 65,” the ANH, through Resolution 20919 of December 20, 2021, awarded the four areas to Ecopetrol S.A.

As a result of the award, on January 18, 2022, the ANH and ECOPETROL S.A. signed the TEA contracts VMM 65, VMM 141 and VMM 41, and the E&P Llanos 141.

In 2022, several agreements were issued by ANH related to the modification of concessions awarding conditions and contractual terms as follows:

Agreement 001 of June 29, 2022, issued by the ANH, regulates the termination by mutual consent, of contracts and agreements for the evaluation, exploration, exploitation and production of hydrocarbons.

Agreement 003 of July 25, 2022, issued by the ANH and amended by Agreement 003 of 2024, by which the regulations for the selection of contractors and allocation of areas for exploration and exploitation of hydrocarbons are adopted and partially superseded Agreement 002 of 2017.

Agreement 004 of July 25, 2022, issued by the ANH, establishes the conditions for the nomination of areas returned to the ANH in the frame of PPAA process. This Agreement was repealed by Agreement 008 of 2024.

Agreement 005 of July 25, 2022, issued by the ANH, establishes new criteria for the administration of contracts and agreements for hydrocarbon exploration and production and extended the term provided by Agreement 10 of 2021 for drilling of A2 and A3 wells until the ANH’s council determines otherwise.

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Agreement 006 of August 5, 2022, issued by the ANH, by which the model minute for “shared production” was approved for areas which are under production and are being returned to the nation. This Agreement was repealed by Agreement 008 of 2024.

Agreement 007 of August 5, 2022, by which the ANH approved the definitive terms of reference for the Open Process for the Nomination of Areas (*Proceso Abierto de Nominación de Áreas* or “PANA” for its acronym in Spanish) and included the commitment to carbon management as a primary factor in the evaluation and qualification of bids for the award of E&P contracts.

Agreement 009 of November 4, 2022, that authorizes the ANH to enter into amendments to the CEPI with the contractors.

Agreement 002 of January 11, 2023, issued by the ANH, eliminated a phrase of Articles 17 and 18 of Agreement 003 of 2022, both related to the process of “Direct Allocation with Counteroffer”. Such process which requires the prior establishment of rules, capacity requirements, and conditions and terms required of the proponent, that have not yet been established by the ANH. In this regard, these amendments were made to avoid confusion among proponents, and to prevent the ANH from becoming involved in the initiation of “Direct Allocation with Counteroffer” procedures which rules and conditions have not been established.

Agreement 003 of July 19, 2023, issued by the ANH, allows the use of a three-month term SOFR (Secured Overnight Financing Rate) plus a spread equivalent to 4%, as a measure to mitigate the adverse effects caused by the change in the international reference interest rate for obligations denominated in U.S. dollars within contracts and other legal transactions administered by the ANH.

Agreement 006 of September 28, 2023, issued by the ANH, seeks to promote exploratory investment in hydrocarbons in the country to favor and ensure the maintenance and increase of oil and gas reserves, as well as to drive the national government’s policy of a “Just Energy Transition”. The agreement establishes the following four criteria, with the following application requirements:

- 1) Extension of deadlines for exploration periods or subsequent exploratory programs phases for additional exploratory activity.
- 2) Reduction of guarantees for additional exploratory activity.
- 3) Conversion of unconventional reservoir contracts.
- 4) Allocation of up to fifty percent (50%) of the remaining investment for power generation through sources of unconventional energy (*fuentes no convencionales de energía* or “FNCE” for its acronym in Spanish).

This Agreement is limited to existing hydrocarbon contracts and agreements, except for those signed under the fourth cycle of PPAAAs, as they do not align with the timelines of the Agreement.

Resolution 40622 of October 17, 2023, issued by the Ministry of Mines and Energy establishes the technical requirements for the temporary suspension, and the temporary and definitive abandonment of hydrocarbon exploration and production activities, and partially modified Resolution 181495 of 2009. This resolution clarified the possibility of temporarily abandoning offshore wells and is expected to have a positive impact on the development of deepwater projects in Colombia.

Agreement 002 of April 30, 2024, issued by the ANH, established that, in all cases involving E&P contracts and additional contracts for unconventional reservoirs, where an exploratory program with unconventional techniques was agreed, contractors may voluntarily adhere to the Agreement and choose one of the following alternatives: (i) modification of the Exploratory Program to restrict it to conventional techniques; (ii) suspension by mutual agreement of all obligations assumed by the contractor, including economic and financial obligations; or (iii) termination by mutual agreement. As of the ANH approves the contractor’s request to adhere to the Agreement, all obligations related to the contracts, including economic rights, will cease and will only resume when the exploratory program is modified, under the terms agreed in the respective amendment of the contracts.

Additionally, this Agreement sets forth the conditions under which contractors of unconventional reservoirs contracts or additional contract for unconventional reservoirs may request the modification of the agreed exploratory program to modify its execution toward the exploration and production of hydrocarbons using conventional techniques. In such cases, the obligations derived from the exploratory program for unconventional reservoirs will be terminated.

Finally, regarding the performance guarantees for the contracts under this Agreement, contractors may request a reduction to a minimum amount of USD 100,000 for the period during which the activities remain suspended or until the selected alternative becomes effective.

Agreement 003 of April 30, 2024, issued by the ANH, amended Agreement 003 of 2022 and established that the ANH may contract the operation and management of areas with productive assets that become property of the Nation due to termination of the production period, reversion of productive assets, or any other situation where the management of productive assets of the Nation is necessary. This Agreement was regulated through Agreement 008 of 2024 as explained below.

Agreement 004 of September 27, 2024, issued by the ANH, amended Agreement 002 of 2017, Agreement 009 of 2021, and Agreement 003 of 2022 and established guidelines (definition, scope, mechanisms, and methods of compliance) related to the obligations of contributions for training, institutional strengthening, and technology transfer under the contracts and agreements entered with the ANH.

Agreement 008 of December 2, 2024, issued by the ANH, repealed Agreement 004 of 2022 and Agreement 006 of 2022 and established the terms and conditions for contracting the operation and management of areas with productive assets owned by the Nation, due to events such as the end of the production period, reversion of productive assets, or, in general, when the management of the Nation's productive assets is necessary for production in discovered reservoirs.

Agreement 009 of December 2, 2024, issued by the ANH, approved the final terms of reference for the "Permanent Process for Selecting Contractors for the Operation and Management of Areas with Productive Assets" and the draft of the "Contract for the Operation and Management of Areas with Productive Assets". Additionally, it authorized the President of the ANH to direct and manage the "Permanent Process for Selecting Contractors for the Operation and Management of Areas with Productive Assets" until its conclusion and to issue the contract drafts necessary to incorporate new areas with productive assets.

Resolution 40537 of December 11, 2024, issued by the Ministry of Mines and Energy, repealed Resolution 181495 of 2009 and established new technical measures for the development of activities related to exploration and production of hydrocarbons in the national territory. Some measures established by the Resolution are: (i) the unification and updating of applicable technical and environmental regulations; (ii) the authorization of an initial production period under certain conditions while the definitive environmental license is being processed; (iii) the definition of criteria for classifying wells and procedures for drilling and exploitation; (iv) goals and measures regarding carbon neutrality and climate resilience are highlighted, encouraging the oil industry's plans and strategies for decarbonization and energy efficiency, among others.

Temporary regulation for the Comprehensive Research Pilot Projects (PPII)

We have actively participated in the formulation of specific regulation for the implementation of the PPII. The regulatory framework includes:

- Resolution 40185 of 2020, modified by Resolution 40011 of 2021, of the Ministry of Mines and Energy. Technical regulations for the development of PPII.
- Resolution 0904 of 2020 of the Ministry of Interior and the Ministry of Mines and Energy. Social Guidelines for the development of PPII.
- Resolution 304 of 2020 of the Colombian Geological Service. Guidelines for the monitoring of seismicity and the inclusion of a seismic traffic light for the PPII.
- Agreement 006 of 2020 of the ANH, modified by Agreements 007, 008 and 009 of 2020 and Agreement 004 of 2021. Regulations for the selection of contractors for CEPIS.
- Decree 328 of 2020 issued by the Ministry of Mines and Energy providing the general guidelines for developing PPII on unconventional reservoirs.
- In January 2021, the Colombian Geological Service office issued the third version of the technical guidelines for the laboratory sampling and analysis procedure of radioactive materials produced by the PPII.
- Resolution 1541 of 2021 of the Ministry of Health guidelines for the development of PPII.

3.10.1.1.1 Environmental Licensing and Prior Consultation

The ANLA, created by means of Decree 3573 of 2011 (modified by means of the Decree 376 of 2020), is the authority responsible for evaluating the applications and issuing the environmental licenses for O&G-related activities, as well as surveilling and overseeing all hydrocarbon projects and monitoring the environmental compliance of such activity.

If the projects or activities could have a direct impact over the territories or the interests of indigenous, Afro-Colombian or Raizal communities, the Colombian Constitution provides that the companies developing such projects or activities must conduct a consultation process with those communities before initiating such projects or activities. This consultation process is a prerequisite for obtaining the required environmental licenses.

Any person or company that intends to conduct projects, works and/or activities is required to file a request before the National Authority of Prior Consultation. The National Authority of Prior Consultation will consider the following factors in its decision: (i) the presence of ethnically differentiated communities within or nearby the area of the project, work and/or activity; (ii) the positive or negative impact over the social, economic, environmental or cultural conditions of said communities, and that could be derived from the project, work or activity. Presidential Directive 10 of 2013 (which was subsequently amended by Presidential Directive 8 of 2020), Decree 1066 of 2015, and the Constitutional Court case law have established the phases applicable to the prior consultation process. In August of 2023, the Constitutional Court declared the invalidity of certain provisions applicable to the prior consultation process.

In addition, the Colombian Constitution and laws establish that, as part of the public participation mechanisms, Colombian citizens may request information regarding the activities of the project and their potential impacts. They may also request to undertake an environmental hearing to obtain information of the project subject to environmental licensing.

On May 26, 2015, the Ministry of Environment and Sustainable Development (*Ministerio de Ambiente y Desarrollo Sostenible* or “MADS” for its acronym in Spanish) issued Decree 1076 of 2015, which compiles most of Colombian regulations in force regarding environment and sustainable development, including those applicable to environmental licenses.

The environmental license encompasses all the necessary permits, authorizations, concessions and other control instruments necessary under Colombian environmental law to undertake a project or activity that may result in the serious deterioration of renewable natural resources, or that has the capacity of materially modifying the physical environment. The license defines specific conditions under which the license holder shall undertake such project or activity. The procedure to obtain an environmental license begins when the company files an EIA related to the project before the ANLA. The licensing process includes an application for the use of natural renewable resources (water, soil, and air). When the project or activity requires permits for the use of forestry banned species, these should be included in the environmental license process, according to Decree 2106 of 2019. The EIA must be filed as well as a plan to prevent, mitigate, correct, and compensate for any activity that may harm the environment, known as the Environmental Management Plan (*Plan de Manejo Ambiental* or “PMA” for its acronym in Spanish).

The environmental licensing procedure in Colombia is included in Decree 1076 of 2015. According to the regulation currently in effect, the procedure to obtain an environmental license shall not take more than 90 business days. But, depending on the complexity of the information requested by the ANLA and administrative delays, including an oral hearing to request additional information for the EIA assessment, the procedure may take between 165 and 265 business days, depending on whether the applicant is required to file additional information.

The environmental licensing process for the PPII is established in Decree 1076 of 2015. However, the Ministry of Environment and Sustainable Development issued Resolution 0821 of September 24, 2020, which established the terms of reference for the preparation of the Environmental Impact Study of the PPII.

The MADS is also responsible for issuing regulation and establishing climate change policies for different sectors in Colombia. The Ecopetrol Group complies with all applicable regulations. MADS is responsible for issuing regulation regarding Law 1931 of 2018 (amended by Law 2294 of 2023) (also known as the “Climate Change Law”), which outlines provisions for the establishment of a National Program of Greenhouse Gas (“GHG”) Tradable Emission Quotas (*Programa Nacional de Cupos Transables de Emisión de Gases de Efecto Invernadero* or “PNCTE” for its acronym in Spanish). The PNCTE must be fully implemented by 2030. The MADS is also responsible for the National Emission Reductions Registry (*Registro Nacional de Reducción de Emisiones de Gases de Efecto Invernadero* or “RENARE” for its acronym in Spanish), in which companies must register verified GHG emission reductions (Article 175 of Law 1753 of 2015, modified by article 230 of Law 2294 of 2023, and partially regulated by Resolution 418 of 2024, issued by MADS) RENARE started operating in 2021. As part of our continuous monitoring of climate change requirements, we also participated in a regulatory process related to the issuance of Resolution 40066 of 2022 regarding the reduction of fugitive emissions and routine flaring, led by the Ministry of Mines and Energy. A company that does not comply with the applicable environmental laws and regulations, does not execute the corresponding PMAs approved by the environmental authority or ignores the requirements imposed by an environmental license may be subject to an administrative sanction proceeding initiated either by the ANLA or the regional environmental authorities established by Law 1333 of 2009, modified by Law 2387 of 2024, without disregard to the criminal actions that may take place in accordance with law 2111 of 2021. The proceeding may result in oral or written warnings, monetary penalties, fines, license revocation or the temporary or permanent suspension of the activity being undertaken. Besides administrative sanctions, the Colombian judiciary or other law enforcement authorities may also impose civil and even criminal sanctions if environmental damages are verified as a consequence of having breached the environmental laws and regulations applicable to the project.

The Escazú Agreement, which emerged from the 2012 United Nations Conference on Sustainable Development (Rio+20), was negotiated and approved in Escazú, Costa Rica in 2018. Civil society as well as human rights and environmental experts participated in this process and played an essential role in the adoption of this agreement.

This agreement provides for access to information, public participation and justice in environmental matters in Latin America and the Caribbean as well as regional environmental human rights to set forth a framework for environmental democracy, international cooperation and multilateralism in connection with efforts to build back better using a human rights-based approach.

Colombia is one of the 14 countries to approve the Escazú Agreement. Said agreement was adopted by means of Law 2273 of 2022. On August 28, 2024, the Colombian Constitutional Court confirmed the constitutionality of this law. In this sense, no significant changes are expected in its content that could affect the meaning or main objective of the Escazú Agreement, which is in line with Article 23 of the Escazú Agreement, which expressly establishes that deviations are not admitted. For more information see section *Risk Review—Risk Factors—Risks Related to Our Business—Our operations, including our activities in areas classified as indigenous reserves and Afro-Colombian lands, could be subject to opposition from members of various communities.*

New environmental regulations

Law No. 2327 dated September 13, 2023 (the “Environmental Liabilities Law”), issued by MADS. It contains provisions related to the definition of environmental liability, guidelines for its management, and, in general, provides for a general legal framework for environmental liabilities arising out of the development of projects and works, particularly concerning those environmental liabilities for which a responsible party cannot be easily determined. The law is particularly relevant in the context of hydrocarbon projects, which carry environmental contingencies that may result in environmental liabilities.

The National Government had one year as of the enactment date of the Environmental Liabilities Law to draft and release the environmental liability management public policy guidelines. MADS, in coordination with the Ministry of Finance and Public Credit, would establish the system and method for the financing and allocation of resources for environmental liabilities management. MADS had a term of six months as of the enactment date of Law No. 2327 to issue new regulations to structure the application of the Environmental Liabilities Law. As of the date of this annual report, the issuance of guidelines for the formulation, implementation and evaluation of public policy on the management of environmental liabilities by the National Government and the MADS is pending. Moreover, the Environmental Liabilities Information System was established in accordance with these new legal provisions, which must also include an Environmental Liabilities Registry (REPA, for its acronym in Spanish) as the information management tool.

Decree 0582 of July 5, 2024, MADS modified Decree 1076 of 2015 regarding environmental licenses grants for projects of exploration and use of virtually polluting alternative energy sources in Colombia. This new rule extends the definition of virtually polluting alternative energy sources to Non-Conventional Renewable Energy Sources (FNCER) defined in Decree 1715 of 2014. ANLA is the competent environmental authority to issue environmental licenses for exploitation projects of virtually polluting alternative energy sources with installed capacity equal to or greater than 50 MW. Prior to the issuance of this Decree, ANLA's competence covered projects with installed capacity equal to or higher than 100 MW. The Regional Authorities are granted competence to issue environmental licenses for projects of exploitation of virtually polluting alternative energy sources with installed capacity greater than 10 MW and less than 50 MW. Prior to the issuance of this Decree, CAR's competence covered projects with installed capacity higher than 10 MW and less than or equal to 100 MW. This Decree only applies to projects that file a license application after October 5, 2024.

On July 11, 2024, by means of ruling C-280 of 2024, the Constitutional Court of Colombia declared the conditional constitutionality of the second paragraph of Article 57 of Law 99 of 1993, under the understanding that there is a constitutional protection deficit and establishes the obligation to include an evaluation of climate change impacts in the Environmental Impact Assessments (EIA). This requirement is expected to be enforceable for environmental license applications or renewals submitted on or after August 1, 2025. However, to this date there is no update on the reference terms for environmental licensing to include the evaluation of climate change impacts in the EIA submission. As of the date hereof, the MADS has submitted a draft Resolution to set forth generic terms of reference for the preparation of environmental impact studies in relation to the evaluation of climate change impacts that may be produced by works or activities whose execution requires an environmental license.

Law 2387 dated July 25, 2024, issued by MADS, which modifies the environmental administrative sanctioning regime. The most relevant aspects of this regulation include the following: (i) the increase of the liability and the amount of pecuniary fines (the new law establishes that the fines will be of up to 100,000 minimum legal monthly salaries); (ii) the inclusion of stage of closing arguments in the environmental administrative investigation process, as established in Article 48 of Law 1437 of 2011 (this stage was previously granted by certain regional environmental authorities, but it was not standardized as a stage of the procedure at the national level); (iii) the possibility of suspension and early termination of the environmental administrative investigation process (this provision allows the environmental administrative investigation process to be suspended and eventually terminated if the infringer proposes and conducts corrective measures and/or compensation for the environmental damage caused); (vi) the definition of Environmental Damage, understood as the partial or total deterioration, alteration or destruction of the environment, and; (v) the event of liquidation, reorganization, or insolvency of a legal entity, according to which the legal counsel or liquidator must inform the environmental authority immediately and provide guarantees to ensure the payment of the obligations arising from the environmental administrative investigation. This new regulation is in force as of its enactment, repealing all contrary provisions. These modifications have direct effects on the ongoing environmental administrative investigations.

On August 28, 2024, the Colombian Constitutional Court issued its decision regarding the constitutionality of Law 2273 of 2022, which approves the Regional Agreement on Access to Information, Public Participation, and Access to Justice in Environmental Matters in Latin America and the Caribbean, commonly known as the Escazú Agreement. The primary objectives of Law 2273 of 2022 are to: (i) ensure access to environmental information, (ii) promote public participation in environmental decision-making processes, (iii) guarantee access to justice in environmental matters, and (iv) protect human rights defenders in environmental issues.

The Ministry of the Internal Affairs issued Decree 1094 dated August 28, 2024, which recognizes the mandate of the Territorial Economic and Environmental Authority (ATEA) as an instrument of law of the traditional authorities of the indigenous peoples of the Regional Indigenous Council of Cauca-CRIC. The aforementioned Decree establishes the powers of the ATEA, the operation and coordination mechanisms with the public authorities for its exercise in the territories that comprise it within the framework of autonomy and self-determination.

On October 15 of 2024, MADS issued Decree 1275, which established the measures required for the operation of the indigenous territories in environmental matters and the development of the environmental powers assigned to the indigenous authorities and their effective coordination with other administrative authorities and/or entities. The traditional indigenous authorities, the authorities of the indigenous territories, the indigenous cabildos and other similar self-government structures in their indigenous reserves, among others, will become part of the National Environmental System (“SINA” for its acronym in Spanish) and will perform its powers related to territorial environmental planning, determination of regulation, management and governance mechanisms for the preservation, conservation, restoration, protection, care, use and management of natural resources in accordance with Article 15 of OIT Convention 169. Said Decree 1275 does not indicate who will have the authority to authorize or deny procedures, permits and/or authorizations for projects whose area of influence includes Indigenous Territories, nor does it mention the implications on projects, works or activities with instruments in force, which are being executed in areas of Indigenous Territories. It is also important to note that according to the scope of application of said Decree, established in Article 4, Afro-descendant people were not included as part of the recognition as environmental authorities.

By means of Resolution 418 of 2024, MADS partially regulated article 175 of Law 1753 of 2015 (modified by article 230 of Law 2294 of 2023) regarding the definition of the administration of the National Greenhouse Gas Emissions Reduction and Removal Registry – RENARE.

3.10.1.1.2 *Royalties*

In Colombia, the State is the owner of minerals and non-renewable resources located in the subsurface, including hydrocarbons. Thus, companies engaged in exploration and production of hydrocarbons, such as us, must pay to the ANH, as representative of the Government of Colombia, a royalty on the production volume of each production field, as determined by the ANH.

Royalties may be paid in kind or in cash. Each production contract has its applicable royalty arrangement in accordance with applicable law. In 1999, a modification to the royalty regime established a sliding scale for royalty payments for crude oil and natural gas production fields discovered after July 29, 1999 and depending on the quality of the crude oil produced. Since 2002, as a result of the enactment of Law 756 of 2002, the royalty rate was fixed as a sliding scale depending on the produced volume from 8% for fields producing up to 5 mbd to 25% for fields producing in excess of 600 mbd. Notwithstanding the royalties for Incremental Production Contracts, Contracts for Undeveloped and Inactive Fields, and Incremental Production Projects defined in paragraph 3 of Article 16 of Law 756 of 2002, and Article 29 of Law 1753 of 2015, the changes in the royalty regime only apply to new discoveries and do not apply to fields already in the production stage as of July 29, 1999. Producing fields pay royalties in accordance with the royalty law in force at the time of the discovery.

With the issuance of Law 2056 of 2020 (“Through which the organization and operation of the general system of royalties is regulated”), the royalties’ regime applicable to the hydrocarbon fields on which there have been made additional investments aimed at increasing the recovery factor of existing deposits was established. Article 18 of this law established that all the volumes produced in these fields will be considered incremental.

For crude oil, the ANH issued Resolution 164 of 2015, modified by Resolutions 907 of 2016 and 855 of 2020 to determine the procedures and terms for liquidation of the royalties caused for crude oil production in Colombian territory.

Regarding natural gas, in accordance with Resolution 877 of 2013, as amended by Resolution 640 of 2014, and Resolution 351 of 2014, starting on January 1, 2014, the ANH has received royalties in cash rather than in kind. Thus, the producer may dispose of its gas production volumes corresponding to royalties paid in cash. Through Resolution 165 of 2015 modified by Resolution 436 of 2021, the ANH established the procedure to liquidate royalties of natural gas.

On September 23, 2021, the Ministry of the Interior issued Decree 1142 “Whereby Decree 1821 of 2020, Sole Regulatory Decree of the General Royalties System, is added and modified.” Article 3.1.1.2.1 of this Decree established that the total volume of hydrocarbons produced that is additional to that stipulated in the basic production curve of incremental production projects or incremental production contracts will enjoy the benefits provided in paragraph 3 of Article 16 of Law 756 of 2002.

Law 2294 of May 19, 2023 amended Article 50 of Law 2056 of 2020 to, among other matters, allow the distribution of royalty resources for the financing of projects related to the creation and updating of roadmaps for the management of environmentally protected areas.

3.10.2 Regulation of Transportation Activities

Hydrocarbon transportation activity is a public interest activity in Colombia and a public service. As such, it is under governmental supervision and control, regulated mainly by the Ministry of Mines and Energy and the Energy and Gas Regulatory Commission.

Transportation and distribution of crude oil, liquefied petroleum gas and refined products must comply with the Petroleum Code, the Code of Commerce and all governmental decrees and resolutions. However, liquefied petroleum gas-related activities are regulated by CREG. According to Law 681 of 2001, multi-purpose pipelines owned by Cenit (a company wholly owned by Ecopetrol S.A.) must be open to third-party use on the basis of equal access to all.

Moreover, the Ministry of Mines and Energy issued Resolution 40745 of 2023, which regulates (i) multiphase pipeline transportation, which consists of the transportation of a combination of hydrocarbons known as multiphase fluids, (ii) the conditions and requirements for requesting the reclassification of a common crude pipeline to a multiphase pipeline, (iii) the applicable guidelines to access multiphase pipelines, (iv) the transportation contracts and permitted tariffs for multiphase pipelines, and (v) defining the obligations of both, the shipper and the transporter; for this subject matter.

Notwithstanding the general rules for hydrocarbon transportation in Colombia, Law 142 of 1994 defines the regulatory framework for the provision of public utility services, including the provision of natural gas and liquefied petroleum gas. Moreover, natural gas transportation is subject to regulations specific to the natural gas industry as issued by CREG, due to the categorization of natural gas distribution as utility, and therefore, a public interest activity under Colombian laws.

According to Resolution CREG 057 of 1996, natural gas producers, such as us, are not allowed to have significant economic interests in gas transportation companies. Accordingly, we currently do not perform any natural gas transportation activities. On the other hand, and by virtue of the publication of Decree 1467 of 2024, where the Ministry of Mines and Energy incorporates the definition of Infrastructure Conversion and the possibility of using existing infrastructure from hydrocarbon transportation activities for natural gas transportation, analyses are currently being carried out to assess the technical adaptation of crude oil transportation infrastructure for natural gas transportation, as well as other regulatory adjustments that allow for its proper remuneration. In such cases, the Decree establishes that the transportation service provided through converted infrastructure must be provided by a Natural Gas Transporter agent.

Transportation systems, classified as crude oil pipelines and multi-purpose pipelines, may be owned by private parties. Pipeline construction, operation and maintenance must comply with environmental, social, technical, and economic requirements under national guidelines and international standards for the oil and gas industry.

Construction of transportation systems requires endorsements, licenses and local permits awarded by MME, ANLA and regional environmental authorities, respectively.

Crude oil transportation

Crude Oil Pipelines

According to Resolution 72145 of 2014, the regulatory framework relating to crude oil transportation accounts for both private use and public use pipelines. Private use pipelines are those built by the operating or refining entity for its own exclusive right and that of its affiliates. Public use pipelines are defined as pipelines built and operated by a public or private legal entity, for the purpose of publicly providing crude oil transportation services. The Colombian Government, through the ANH, has a preferential right to use up to 20% of the total capacity of any public or private access pipeline to transportation its crude oil royalties, as provided by Resolution 72145 of 2014. However, for both private and public access pipelines, the ANH must pay the tariff for the pipeline use to transportation its percentage of production.

The Ministry of Mines and Energy is responsible for reviewing and approving the design of and tracks for crude oil pipelines and establishing transportation rates based on information provided by the service providers. It also oversees the calculation and payment of hydrocarbon transport-related taxes and manages the information system for the oil product distribution chain.

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In 2014, MME updated the transportation regulation and the rate calculation method for this line of business. It introduced a framework for the secondary market and incentives for new pipeline construction and current pipeline capacity expansions. According to the Petroleum Code, rates must be revised every four years.

During the scheduled revision of 2019, MME, by means of Resolutions 31123 and 31132 of 2019, modified Resolution 72146 of 2014 and established the applicable rules for transportation and oil production companies to negotiate tariffs for the next four years. Once the negotiation period was over, MME issued a series of resolutions to set the applicable tariffs for transportation of crude oil through pipelines. Such resolutions were in line with the tariff methodology that has been in place since 2014, providing more regulatory stability to midstream companies until June 2023.

In August 2022, MME started a consultation process to review, adjust, and update the methodology for setting crude oil tariffs. The scope of the study required contractors to prepare a document proposing changes to the current methodology determined by Resolution No. 72146 of 2014. The main results of such study were published and analyzed, and the various stakeholders presented their comments to MME.

On March 30, 2023, MME published Resolution No. 279 of 2023, which determined that the tariffs set for the period of July 2019 to June 2023 would remain in force until new tariffs were set for the period of July 2023 to June 2027, according to a new methodology yet to be defined. Any tariff or methodology revision must always be developed under the premise of an adequate compensation for investments and incentives for access and proper provision of the service for all agents, for which the Ministry must publish the proposed resolution for comments from the agents before its final issuance.

On May 16, 2024, MME published a draft resolution to update the Pipeline Tariff Methodology but maintaining the essence of the current regulation, introducing modifications concerning contingency management and procedures that shippers must follow to certify the crude oils entering the system for transportation, and rules for volumetric compensation applicable to determine the tariff for this activity. The proposed tariff methodology promotes direct agreements between transporters and shippers. Additionally, compared to the current methodology established in Resolution MME 72146 of 2014, various adjustments were proposed, analyzed and commented on by Cenit and its subsidiary companies within the stipulated time frame.

On August 26, 2024, MME issued Resolution No. 895 of 2024 to (i) lift the suspension indicated in Resolution No. 279 of 2023 and allow transporters to carry out the annual update of pipeline tariffs starting on September 1, 2024; and (ii) maintain the suspension of negotiation period regulations established in articles 5A, 5B, 5C, and 5D of Resolution No. 72146 of 2014.

Hydrocarbon Ports

The Port Superintendence is the authority that oversees the port business for crude oil and refined products. Although this business is not highly regulated, market participants are required to report certain information to the Port Superintendence.

With the purpose of regulating the administrative management of the ports, Law 1 of 1991 was issued, which defines the Port Concession Contract. This document allows a port company to temporarily occupy and use the beach, low tide and accessory areas in exchange for a consideration paid to the nation.

As a result of the enactment of Decree 119 of 2015, operators of private use hydrocarbon ports are currently able to provide hydrocarbon transportation services to third parties pursuant to a mechanism established under that decree.

Decree 119 of 2015 was incorporated into Decree 1079 of 2015 issued by the Ministry of Transport, which compiles the majority of Colombian decrees and regulations in force regarding the administrative sector of transportation.

Refined products and liquefied petroleum gas transportation

In 2014, CREG assumed responsibility for regulating product pipeline transportation from the Ministry of Mines and Energy, in addition to its pre-existing regulatory responsibility for liquefied petroleum gas, natural gas, and electric energy transportation.

In February 2021, CREG issued Resolution 004 of 2021, partially modified by Resolutions 073 of 2021 and 105 003A of 2022 by which CREG defined the Weighted Average Cost of Capital (WACC) methodology applicable to the different activities that CREG regulates. The activities regulated by CREG include energy distribution and transmission, gas distribution and transportation and refined products transportation. The discount rate for transportation of refined products is calculated in accordance with the inputs defined by the resolution and will be applicable once the tariff methodology for this activity is updated and published.

In December 2021, CREG issued Resolution 208 of 2021, partially amended by Resolution 104 002 of 2022, which established the regulations for transportation by multi-purpose pipelines, including transportation of LPG. The main objectives of the regulation are: (i) to ensure access to the transportation system without discrimination; and (ii) to offer optimal conditions in the operation and provision of the public transportation service.

Also in December 2021, the MME published Resolution 40408 of 2021, which established the refined products pipelines expansion plan.

With draft Resolution CREG 705 002 of 2022, the Energy and Gas Regulatory Commission (CREG), proposed a tariff methodology for the remuneration of the transportation of liquid fuels and liquefied petroleum gas (LPG) through pipelines. This regulatory proposal aims to guarantee a fair and efficient tariff structure, promoting investment in infrastructure and improving service quality. Among the most relevant elements of the resolution are the integration of remuneration for liquid fuels and LPG, the consideration of the technical conditions of the transported products, and the inclusion of mechanisms for the remuneration of infrastructure defined by the central planner. The issuance process of the new methodology is expected to be completed during the first half of 2025.

3.10.3 Regulation of Refining and Petrochemical Activities

Article 58 of the Petroleum Code establishes that oil refining activities can be developed throughout the Colombian territory and are not reserved to the Nation. However, Article 4 establishes that such activities are considered of public interest subject to governmental regulation, and the development of those activities must comply with technical requirements established by regulation.

Law 1205 of 2008, further developed by Resolution 180689 of 2010, issued by the Ministry of Mines and Energy, has the main purpose of contributing to a cleaner environment. It established the minimum quality specifications for liquid fuels in Colombia. Since August 2010, we have been producing and selling diesel and gasoline that comply with the requirements of the aforementioned law.

Since 1995, under Resolution 898 of August 23, 1995, the Ministries of Environment and Sustainable Development and of Mines and Energy, have regulated the environmental criteria for liquid and solid fuels used in commercial and industrial furnaces and boilers, as well as automobile internal combustion engines. Resolution 898 has been subject to numerous modifications through the years, the most recent by Resolution 40444 of June 30, 2023, which states diesel quality requirements to protect the environment, health, and quality of liquid fuels in general.

Article 2.2.1.1.2.2.1.1. and following, Decree 1073 of 2015 establishes the general regulation related to buying and selling fuels in Colombia. With respect to refining activity, the aforementioned Decree provides the requirements and authorization procedures to develop this activity in Colombia. We are duly registered as a refining agent and therefore is authorized to sell fuels in Colombian territory to specific agents and use and acquire fuels as a large consumer, as well in specific oil plants as is published in the information system of liquid fuels of the Ministry of Mines and Energy.

3.10.3.1 Regulation of Liquefied Petroleum Gas (LPG) and Liquid Fuels

Wholesale marketing, transportation, distribution and retail marketing of LPG are mainly regulated by CREG Resolution 74 of 1996, and subsequent resolutions. LPG in Colombia is primarily obtained through our refineries, field production and imports. The LPG must meet minimum quality standards to be marketed. Our marketing activities are regulated by CREG Resolution 53 of 2011 (as amended by CREG Resolutions 108 of 2011, 154 of 2014, 19 of 2015, 18, 63, 64 of 2016, 171 of 2017 and 103 00-2 of 2022). The LPG price is regulated by CREG Resolutions 66 of 2007 (as amended by CREG Resolutions 59 of 2008, 002 of 2009, 123 of 2010, 95 of 2011, and 65 and 129 of 2016) as well as by CREG Resolution 80 of 2017 which sets forth that the price of LPG imported by us, which is meant to be marketed for the provision of public utilities, shall be the result of competitive procedures. In Resolution 108 of 2021, issued by CREG, was established the “*opción tarifaria*” mechanism or “rate option”, which was a temporary mechanism that deferred on time the impact of the international rate hikes on the selling price of LPG to the final user.

According to Article 4 and 212 of the Petroleum Code and Law 39 of 1987 (added by Law 26 of 1989 and as amended by Law 812 of 2003), the distribution of crude oil and its derivatives has a public purpose (*utilidad pública*), and the distribution of fuel oil and crude oil by-products is considered a public utility activity. Consequently, individuals or entities engaged in these activities are subject to regulations issued by the Colombian Government. The Government has the power to determine quality standards, measurement, and control of liquid fuels, and establish penalties that may apply to dealers who do not operate in compliance therewith.

The Ministry of Mines and Energy is the entity that controls and exercises technical supervision over the distribution of liquid fuels derived from petroleum, including the refining, import, storage, transportation, and distribution in the country. Article 61 of Law 812 of 2003 (whose validity was extended by Law 1955 of 2019 and Law 2294 of 2023) identified the agents of the supply chain of petroleum-based liquid fuels.

The distribution of liquid fuels, except LPG, is governed by Decree 1073 of 2015 (as amended), which establishes the requirements, obligations, and penalties applicable to supply agents in the distribution, refining, import, storage, wholesale, transportation, retail sale and consumption of liquid fuels.

Decree 1073 of 2015 establishes the minimum technical requirements for the construction of storage plants and service stations. This Decree also regulates the distribution of liquid fuels, except LPG establishing the minimum requirements for distributors and the activities and types of agreements permitted for these agents. The Ministry of Mines and Energy also regulates the types of liquid fuels that can be sold and purchased and the penalties for noncompliance with governmental regulations. Decree 1310 of 2024 amended Decree 1073 of 2015, including some rules regarding the strategic storage of GLP and liquid fuels in the border areas.

Pursuant to Law 1430 of 2010, modified by Article 220 of Law 1819 of 2016, the distribution of fuels in areas near Colombian borders is the responsibility of the Ministry of Mines and Energy and is subject to specific regulations that impose strong control procedures and requirements. The Ministry of Mines and Energy establishes the safety standards for LPG, storage equipment, maintenance, and distribution of LPG.

Pursuant to Law 2294 of 2023, National Congress approved article 245 to assign the volume of fuels with tax and economic benefits to the final consumers of the municipalities. During the fourth quarter of 2025, the National Government is expected to define the methodology for applying tax benefits and mechanisms to control market saturation in the wholesale and retail distribution segment of liquid petroleum fuels in border areas.

The Superintendence of Public Domestic Utilities also oversees the liquefied petroleum gas transportation business.

3.10.3.2 Regulation Concerning Production and Prices

According to the Decree - Law 4130 of 2011 and Decree 1260 of 2013, CREG is responsible for setting the prices of petroleum by-products throughout the entire chain of production and distribution, except for gasoline, diesel and biofuels. On the other hand, by Decree 381 of 2012, as amended by Decree 1617 of 2013, and Decree 2881 of 2013, the Ministry of Mines and Energy is in charge of setting the methodology to determine the reference price of gasoline, diesel, biofuels and mixtures thereof.

Since May 2012, CREG sets the prices for most crude oil by-products, except for gasoline, diesel, and biofuels. CREG determines the methodology to calculate their price while the Ministry of Mines and Energy sets the relevant prices in accordance with said methodology. The ANH does not intervene in the definition of prices of gasoline and diesel fuel. In addition, under Resolution 007 of 2017, CREG determined the basis for the methodology of compensation of terrestrial transportation of liquid fuel-oil, including gasoline, diesel and biofuels between the storage plant and the fuel service station.

The methodology for calculating jet fuel prices is set out in Law 1450 of 2011, and jet fuel prices are set by the CREG according to Resolution 40193 of 2021, issued by MME and the Ministry of Finance and Public Credit.

The ANH determines the formula that is used to calculate royalty payments corresponding to the production of crude oil.

Decree 381 of 2012 and 1617 of 2013, as amended by Decree 2881 of 2013, as compiled in Decree 1073 of 2015, restructured the Ministry of Mines and Energy and gave it the responsibility to study industry problems and implement short and long-term refining planning policies. The Ministry is also responsible for establishing the governmental policies and goals to ensure the reliability, stability, and continuity for the production of liquid fuels, biofuels and others.

Pursuant to Article 58 of the Petroleum Code, if there is a fuel shortage, any refining company operating in Colombia must offer to sell a portion or, if needed, the total of its production to supply local demand prior to exporting any production.

Fuel Price Stabilization Fund (FEPC)

The Fuel Price Stabilization Fund was created by Law 1151 of 2007. It is a fund assigned and administered by the Ministry of Finance and Public Credit. Its function is to attenuate, in the domestic market, the impact of fluctuations on fuel prices in international markets.

Article 35 of the National Development Plan 2018-2022 (Law 1955 of 2019) established that the Ministry of Finance and Public Credit and the Ministry of Mines and Energy would define the methodology for calculating the producer's income value of liquid fuels and biofuels, as well as the rates and margins associated with the remuneration of the entire chain of transportation, logistics, marketing, and distribution of such fuels that are part of the regulated market.

Article 244 of the National Development Plan 2022-2026 (Law 2294 of 2023) amended the aforementioned Article 35, adding that the Ministry of Finance and Public Credit and the Ministry of Mines and Energy may determine differential stabilization mechanisms for the structure of reference prices for the public sale of regulated fuels, considering the principles of efficiency and progressiveness.

According to Article 2.3.4.1.3 of Decree 1068 of 2015, amended by Decree 1451 of 2018, the resources for the functioning of the FEPC come from the following sources: (a) financial returns of resources of the Fund; (b) extraordinary credit resources received from the National Treasury; (c) funds allocated to the FEPC in the national general budget; (d) fuel taxes and; (e) bonds or other public debt securities issued by the Nation in favor of the FEPC, in order to cover the obligations of the Fund.

The operation of the FEPC is governed by Decree 1068 of 2015, amended by Decree 1451 of 2018, Chapter 1, and Title 4 (compilation decree regarding treasury public sector). First, refiners and/or importers of regular gasoline and diesel must report to the Ministry of Mines and Energy the volume of regular gasoline and diesel sold in the previous month and such reports must be made within the next 35 calendar days of each month.

The report must also contain, among other matters: information corresponding to each fuel disaggregated daily; the discrimination of the volumes sold, and the origin national or imported of the gasoline and diesel sold. If regular gasoline or diesel is of national origin, the refiner/importer must inform from which refinery they come. Secondly, the Ministry of Mines and Energy calculates and liquidates, by resolution, the net position of each refiner/importer and each fuel to be stabilized by the FEPC.

Decree 1068 of 2015, amended by Decree 1451 of 2018, provides that the FEPC will pay in Colombian pesos the value corresponding to the calculation and settlement of the Net Position of each refiner and/or importer within the term defined by the Ministry of Mines and Energy and based on availability of FEPC resources.

Law 1819 of 2016 as amended created a tax, related contribution to finance the FEPC. This contribution is caused when the sum of the Differentials of Participation (difference between the Producer Revenue and the International Parity Price, when the first is greater than the second on the date of issuance of the sales invoice, multiplied by the volume of fuel sold) is greater than the sum of the Differentials of Compensation (the difference presented between the Producer Revenue and the International Parity Price, when the second is greater than the first on the date of issuance of the sales invoice, multiplied by the volume of fuel sold).

The event that generates the contribution is the sale in Colombia of gasoline or diesel by the refiners and/or importers to the wholesale distributor of fuels, according to the price set by the Ministry of Mines and Energy, however, if the importer is at the same time a wholesale distributor, the triggering event shall be the withdrawal of the product to be sold. The taxpayer responsible for the contribution is the refiner and/or importer and the active subject is the Nation. The tax base corresponds to the positive difference between the sum of the Differentials of Participation and the sum of the Differentials of Compensation.

The Ministry of Mines and Energy calculates the contribution through the liquidation of the Net Position of each refiner or importer with respect to the FEPC based on the report that the refiners and/or importers submit. If the sum of the Differentials of Participation is greater than the sum of the Differentials of Compensation and the contribution is caused, the Ministry of Mines and Energy will order the refiner or the importer to pay the contribution to the National Treasury within the 30 days following the execution of the liquidation resolution.

Subsequently, Law 1837 of 2017 (Article 16) provided that the remaining resources that were in our accounts as of December 2014, as a result of the collection of the Differential Contribution from the FEPC, would be transferred to the General Direction of Public Credit and Treasury of the Ministry of Finance and Public Credit (DGCPTN for its acronym in Spanish). In addition, Law 1955 of 2019 (Article 33) authorizes the Ministry of Finance and Public Credit to enter into hedging agreements and establishes the conditions thereof, for purposes of guaranteeing the sustainability and the functioning of the FEPC. Law 1955 of 2019 authorizes the Ministry of Finance and Public Credit, as administrator of the FEPC, among others, to carry out, directly or indirectly, the design, management, acquisition and/or execution of hedges on the Ministry of Finance's direct exposure to (i) crude oil and liquid fuel oils prices in the international market or (ii) the exchange rate of the Colombian Peso. This law also authorizes the Ministry of Finance to set stabilization mechanisms of the reference recommended retail prices of regulated fuel oil, as well as the subsidies to such regulated fuel oils to be executed through the FEPC. Law 2342 of 2023, which sets forth the 2024 national general budget, gave the MHCP the ability to utilize different budgetary tools to address the debts relating to the FEPC, and to even to set-off these debts against dividends that it would be entitled to receive from Ecopetrol as its major shareholder.

On May 31, 2022, we reached an agreement with the MHCP for the payment and compensation of the COP 14.2 trillion account receivable due to us from the FEPC as of the first quarter of 2022. The accrued FEPC subsidy for the second quarter of 2022 due to us amounts to COP 10.6 trillion, which, by virtue of the provisions of the Government's Medium-Term Fiscal Framework, are expected to be partially paid from fiscal surpluses during 2022 or with resources approved by Congress as part of the 2023 Budget for such purpose.

Resolution 1071 of 2022 establishes the amount due by FEPC to Ecopetrol S.A for the first quarter of 2022, which has been determined to be equal to COP 11,428,163,784,638.38 pesos. Resolution 00608 of 2023 establishes the amount due by FEPC to Ecopetrol S.A for the second quarter of 2022, which has been determined to be equal to COP 8,368,631,424,061.11. Resolution 01029 of 2023 establishes the amount due by FEPC to Ecopetrol S.A for the third quarter of 2022, which has been determined to be equal to an COP 8,047,275,278,508.68. Resolution 01585 of 2023 establishes the amount due to by FEPC to Ecopetrol S.A for the fourth quarter of 2022, which has been determined to be equal to COP 8,036,420,988,549.93.

As of December 31, 2023, Ecopetrol S.A. recorded COP 16.4 trillion in accounts receivable due from FEPC and Cartagena Refinery recorded COP 4.1 trillion in accounts receivable due from FEPC.

On April 1, 2024, the Ministry of Mines and Energy settled its net position corresponding to the first quarter of 2023 in favor of (i) Ecopetrol S.A., for an amount of COP 6,305,038,090,159.81, by means of Resolution 00297, and (ii) Refinería de Cartagena S.A.S., for an amount of COP 1,534,914,852,627.40, by means of Resolution 00296. See section *Financial Review—Factors Affecting Our Operating Results—Fuel Price Stabilization Fund (FEPC)*.

On June 8, 2024, the Ministry of Mines and Energy settled its net position corresponding to the second quarter of 2023 in favor of (i) Ecopetrol S.A., for an amount of COP 4,109,054,714,024.82, by means of Resolution 0540, and (ii) Refinería de Cartagena S.A.S., for an amount of COP 1,008,291,095,755.84, by means of Resolution 00541.

On September 10, 2024, the Ministry of Mines and Energy settled its net position corresponding to the third quarter of 2023 in favor of (i) Ecopetrol S.A., for an amount of COP 3,749,512,065,086.77, by means of Resolution 01012, and (ii) Refinería de Cartagena S.A.S., for an amount of COP 965,950,525,099.75, by means of Resolution 01011.

On November 15, 2024, the Ministry of Mines and Energy settled its net position corresponding to the fourth quarter of 2023 in favor of (i) Ecopetrol S.A., for an amount of COP 2,286,216,138,799.36, by means of Resolution 01507, and (ii) Refinería de Cartagena S.A.S., for an amount of COP 555,059,027,840.35, by means of Resolution 01508.

On June 18, 2024, the MHCP issued Decree 0763, establishing that the income for fossil fuel producers of regular motor gasoline and ACPM-Diesel acquired by (i) agents authorized as large consumers; or (ii) those final consumers with an average annual consumption exceeding 20,000 gallons per month, regardless of their consumption per facility or delivery point, must be at least the international parity price. This means that the fuel acquired by these entities will not be stabilized or subsidized by the FEPC.

Resolution 40304 of August 2, 2024, established the procedure for determining the international parity price to be used as producer income within the price stabilization differential mechanism. It is the obligation of the refining or importing agent to calculate the producer income, publish it on their official website, and communicate it to their wholesale distributor clients and maritime service stations. Subsequently, wholesale distributors must communicate the resulting prices to retail distributors acting as industrial marketers, who, in turn, must communicate them to their large consumer and final consumer clients subject to the differential mechanism.

Resolution 40305 of August 2, 2024, established that, twice a year, the MME will publish on the SICOM platform and its website a list of large consumers and final consumers to whom the price stabilization differential mechanism applies. To determine inclusion on this list, the MME will use data on the volume of liquid fuels dispatched by refining agents, importers, wholesale distributors, and retail distributors acting as industrial marketers or maritime service stations over the last twelve (12) months as of each cutoff date.

On March 28, 2025, the Ministry of Mines and Energy settled its net position corresponding to the first quarter of 2024 in favor of (i) Ecopetrol S.A., for an amount of COP 1,727,183,344,199.28 by means of Resolution 299, and (ii) Refinería de Cartagena S.A.S., for an amount of COP 501,867,931,397.22 by means of Resolution 300.

Payments received from FEPC in 2024 and 2025 are made in cash or through Colombian Government treasury securities, which remain in Ecopetrol's treasury until they are sold.

3.10.3.3 Regulation of Biofuels, Biogas and Related Activities

The sale and distribution of biofuels and biogas is regulated by the Ministry of Mines and Energy. Regulations establish the quality and pricing standards for biofuels and impose minimum requirements for mixing ethanol with gasoline and biodiesel with diesel. Resolution 40447 of October 31, 2022, amended by Resolution 40391 of 2023 and 40431 of 2024, orders retail distributors, such as fuel service stations, and wholesale or large distributors of fuel, to only commercialize blended fuels with a specific percentage of biofuel or fuel alcohol per gallon, depending on the month and year of the commercialization.

The sale and distribution of biogas is provided under CREG Resolution 240 of 2016, which particularly regulates: a) the sorts of market that will be served with biogas and biomethane; b) the quality and safety conditions; and c) the tariff regime. Pursuant to Article 4 of the foregoing Resolution, biogas supply through isolated networks to serve non-regulated users and natural gas vehicles (GNV as per its acronym in Spanish), shall be incorporated as a public utility company. Furthermore, Article 5 provides that biomethane supply through isolated networks or interconnected networks to the National Transportation System shall also be incorporated as a public utility company. Finally, Article 12 states that biogas suppliers may develop the production, transportation, distribution, and commercialization activities through integrated structures, provided that they keep separate accounts for each activity and grant free access to the networks to both regulated and non-regulated users. To the same extent, production, distribution, and commercialization of biomethane through interconnected networks to the National Transportation System may be developed through integrated structures, as long as the supplier keeps separate accounts for each activity and grants free access to the networks to both regulated and non-regulated users.

In May 2023, the National Congress approved National Development Plan 2022-2026 through Law 2294 of 2023. In connection with biofuels, biogas and related activities provides that the Ministry of Agriculture and Rural Development, the MADS and the MME regulate the proportion of biofuels present in the mix of liquid fuels, due to the relationship between biofuels and the agricultural sector. It also established the framework to intervene in the FEPC regulation prices methodology as well as regulation related to strategic storage of fuels, biofuels, LPG and others.

3.10.4 Regulation of the Natural Gas Market

Decree 1073 of 2015, Part 2, Title 2, Chapter 2, modified by Decree 1467 of 2024, established that all producers have to issue a production statement that includes the volumes of natural gas available for sale for a period of ten years. This decree established the regime for the selling and marketing of natural gas in Colombia, including specific procedures that regulate the Colombian market in order to manage the remaining natural gas reserves owned by the Nation, and to protect domestic consumers, especially residential consumers, by prioritizing delivery of gas to residential consumers, regulating the export of natural gas and setting forth the export restrictions applicable during an internal shortage of natural gas.

Currently in Colombia the price of natural gas is determined freely by the market. CREG issued Resolutions 185 (for transportation) and 186 (for supply) of 2020, which jointly replaced Resolution 114 of 2017 and its amendments (Resolutions 102 009 and 102 013 of 2024 with some temporary measures), related to commercial aspects of the wholesale natural gas market in Colombia.

Resolution 102009 of 2024 issued by the CREG, introduces key modifications to Resolution CREG 186 of 2020. Among others, it (i) established the possibility for parties to agree specific firm supply contract conditions for natural gas produced in fields that have not reached commercial viability; (ii) included specific default grounds for imported natural gas firm supply contracts for special protection demand (public utility demand); (iii) included new regulations for C1 and C2 contracts, defining fixed and variable percentages and execution conditions; (iv) added new obligatory grounds for exemption from liability in firm supply contracts (national supply and importation); and (v) update the publication and transparency obligations of the market agents regarding the declared and available natural gas offer quantities,

Pursuant to Decree 1073 of 2015 and article 19 Resolution CREG 186 of 2020, the commercialization procedures do not apply to the following activities: a) natural gas exports; b) natural gas as raw material in petrochemical production; c) natural gas commercialization from minor fields (production capacity under 30 million SCFD); d) natural gas commercialization from hydrocarbon fields under testing phase or which have not yet been declared commercially viable; e) natural gas commercialization from unconventional reservoirs; and f) internal consumption from natural gas producers. In 2024, Colombia faced a potential natural gas deficit due to several factors, including the El Niño phenomenon (which significantly increased demand for natural gas for thermal energy production), a decline in natural gas reserves, and a reduction in exploration contracts. These circumstances culminated in the issuance of MME Resolution 40444 of 2024, declaring a scheduled natural gas rationing. In response, the Energy and Gas Regulatory Commission (CREG) issued Resolutions 102 007 and 102 009 of 2024, aimed at adjusting natural gas commercialization rules to enhance efficiency in the allocation and distribution of natural gas. CREG Resolution 102 007 of 2024 introduced temporary measures, while CREG Resolution 102 009 of 2024 established more permanent regulations. Notably, CREG Resolution 102 009 of 2024: (i) introduces greater flexibility for negotiations in the primary market to maximize the contracting and utilization of natural gas volumes produced at maximum levels in national fields at the most efficient price, (ii) improves primary market contracting conditions to reduce purchasing surpluses, (iii) establishes mechanisms to prioritize the satisfaction of essential demand by primary market sellers, (iv) aligns commercialization regulations with the provisions of Presidential Decree 484 of 2024 (regarding exceptions to the commercialization mechanisms established by CREG), and (v) facilitates the negotiation of gas volumes that may require importation.

CREG determines which agents can participate in the primary and secondary markets. We are authorized to participate as a seller in the primary market as a natural gas producer and as a buyer to acquire natural gas for our operation. We can also participate in the secondary market when we require natural gas from other producers for our own needs. CREG regulations provide that a natural gas producer cannot participate as a merchant of natural gas in the secondary market, except for the purchase of gas to meet its existing contractual obligations. We are also able to resell available natural gas transportation capacity into the secondary market as a non-regulated consumer.

On February 16, 2023, President Gustavo Petro issued Presidential Decree 227 of 2023 by means of which he “reassumed” (as stated in such Presidential Decree) the powers to regulate the natural gas market that were delegated to the CREG, in accordance with article 68 of Law 142 of 1994. Nonetheless, Presidential Decree 227 of 2023 was suspended by the High Court for Administrative Matters (*Consejo de Estado*) via writ 00045 of 2023, in response to an annulment action filed before said organism. On July 7, 2023, the High Court for Administrative Matters (*Consejo de Estado*) confirmed the initial decision to suspend the aforementioned Presidential Decree after the appeal presented by the National Government. As of the date of this annual report, Presidential Decree 227 of 2023 is suspended until the High Court for Administrative Matters (*Consejo de Estado*) issues a final decision on the annulment action.

Decree 1467 of December 10, 2024 amended Decree 1073 of 2015 to adopt public policy measures aimed at enabling offshore natural gas sources and natural gas imports. Among these measures Decree 1467: (i) regulated the priority in the supply of natural gas; (ii) established that producers must declare their disaggregated production on a monthly and long-term basis, and import gas marketers must declare the quantities available for sale during the year; (iii) set forth certain exceptions to commercialization mechanisms; and (iv) regulated commercialization mechanisms for firm contracts subject to certain conditions.

Priority for the Supply of Natural Gas

The export of natural gas, in contrast, is not considered a public utility activity under Colombian law and therefore is not subject to Law 142 of 1994. Nevertheless, the domestic supply of natural gas is a priority for the Colombian Government and therefore, extends such priority and commitment to all agents working within the natural gas market (producers, producers-retailers, retailers, transporting and exporting agents - article 2.2.2.2.15 of Decree 1073 of 2015) and is considered a public utility complementary activity, and therefore public utility regulations apply to the internal supply of natural gas.

Decree 1073 of 2015 (amended by Decree 2345 of 2015) provides that in the event the supply of natural gas is reduced or halted as a result of a shortage, the Colombian Government has the right to suspend the supply of natural gas for export. If such export contracts are suspended by the Colombian Government, the export agents are entitled to receive compensation in accordance with Article 2.2.2.2.15 and 2.2.2.2.38 of Decree 1073, 2015. Notwithstanding the foregoing, Decree 1073 of 2015 establishes freedom to export natural gas under normal gas-reserve conditions. Producers of natural gas may enter into natural gas export contracts if the ratio of proved reserves to consumption exceeds seven years, as determined by the Colombian Energy Planning Authority (or UPME for its acronym in Spanish).

Decree 1073 of 2015 (amended by Decree 1467 of 2024) establishes a mandatory order of supply when restrictions are placed on the supply of natural gas or serious emergency situations arise that preclude the continued provision of certain services, as follows: (i) essential demand, as established in Decree 1073 of 2015, (ii) non-essential demand under an existing firm agreement, and (iii) firm exports delivery.

The order of priority for the supply of natural gas is as follows: (i) the operation of the compressor stations of the National Transportation System, (ii) residential users and small business users engaged in the distribution network, (iii) vehicular compressed natural gas and (iv) gas refineries, excluding those destined for self-generation of electricity that can be replaced with energy from National Transportation System, which has priority. The Ministry of Mines and Energy also establishes distribution priorities in the event of a natural gas shortfall derived from supply or infrastructure issues. This order of priority is based on the type of contract, with firm supply contracts having priority over interruptible supply contracts.

Natural gas waste restrictions

The Ministry of Mines and Energy issued Resolution 40066 of 2022 as amended by Resolution 40317 of 2023 by means of which it regulates the use of natural gas, establishing the obligation for hydrocarbon producers to carry out the necessary studies for its efficient use. It also establishes that natural gas waste is prohibited in Colombia and provides certain examples of what it considers could constitute natural gas waste during hydrocarbon exploration and exploitation activities.

The Resolution establishes the scenarios in which burning and venting of gas is allowed in the stages of exploration and exploitation of hydrocarbons, as well as the technical parameters to efficiently and responsibly execute these activities, when expressly authorized. This Resolution also sets standards for natural gas leaks detection, quantification, repair, and control in respect of the activities performed on natural gas exploration and exploitation fields. This Resolution regulates the detection and repair programs to prevent leaks, the elements included therein, as well as the reports that must be delivered to Colombian authorities.

For the Company's progress in complying with this Resolution, see section *Risk Review—Legal and Regulatory Risks—Our operations might be affected by rising climate change and energy transition regulatory developments.*

3.10.5 Regulation of the Electric Energy Commercialization Activity

As determined by article 11 of Law 143 of 1994, commercialization activities, which are developed by commercialization agents, consist of the purchase of electricity in the MEM and the subsequent resale to other participants of the wholesale market such as commercialization agents, generation agents, or to end-customers, both regulated and non-regulated. Ecopetrol Energía S.A.S E.S.P. ("Ecopetrol Energía"), a subsidiary of Ecopetrol S.A., was registered as a commercialization agent before the manager of the commercial exchanges systems and performs commercialization activities within the MEM. However, explained below, Ecopetrol Energía faced winding up procedures due to a possible interpretation of competition rules which could prohibit Ecopetrol's participation in other complementary activities of the energy sector other than transmission, due to its acquisition of ISA Intercolombia S.A. E.S.P. (ISA) in 2021.

Commercialization activity is regulated by CREG Resolution 156 of 2011, which establishes regulations, rights and duties of agents. The main income of commercialization agents is derived from the variable and fixed components of the unit cost tariff formula described in CREG Resolution 119 of 2007, as modified by CREG Resolutions 156 of 2009, 173 of 2011, 191 of 2014, 30 of 2018, 101-03 of 2022, 101-18 of 2022, and 101-28 of 2023. The variable component considers:

- the costs of commercialization services, as determined by article 12 of CREG Resolution 180 of 2014,
- the amount that these agents must pay to the manager of the commercial exchanges system, calculated by the Trade Exchange System Administrator ("ASIC," for its acronym in Spanish) based on the mathematic methodology set forth by CREG Resolution 174 of 2013 (as modified by CREG Resolutions 175 of 2016 and 100 of 2015) and which is paid monthly,
- the amount that these agents must pay to the Public Utilities Superintendence and to CREG, which is defined every year by CREG following the rules set in article 85 of Law 142 of 1994. These payments must be made each year,
- the cost of the guarantees that the agent must provide to participate in the MEM by following the rules of CREG Resolution 024 of 1995 (as modified, among others, by CREG Resolutions 116 of 1998, 068 of 1999, 066 of 2000, 019 of 2006, 089 of 2009, 011 of 2010, 038 of 2010, 073 of 2010, 157 of 2011, 110 of 2014, 184 of 2015, 060 of 2019, 044 of 2020, 031 of 2021, 101-028 of 2022, 101-12 of 2023, 101-18 of 2023, 101 040 of 2024 and 101 051 of 2024), this shall be calculated considering article 19 of CREG Resolution 180 of 2014,
- the total sales to users of the commercialization agent, regulated and non-regulated, and
- regarding the markets that commercialization agents attend, Law 143 of 1994 divides the market into two segments: regulated market ("Regulated Market") and the non-regulated market ("Non-Regulated Market").

The Regulated Market is comprised of individual and industrial customers, residential or commercial, with electricity demands below 0.10 MW or monthly consumption lower than 55 megawatt-hours ("MWh"). Regulated Customers are free to select any service provider. However, tariffs are subject to a regulated freedom of choice regime, whereby commercialization agents are required to follow the criteria and methodology set forth by the CREG, which establishes the parameters that must be used by electric energy agents in setting forth the maximum applicable charges for the services they provide. Purchases of electricity in the Regulated Market are made through public bids in order to ensure open and free access; however, during 2024, due to the impact of the "El Niño" phenomenon, CREG issued CREG Resolution 101 057 of 2024 implementing a transitory rule. The transition consisted of contracts with a maximum performance term until December 31, 2025. Under this provision, retail agents serving the demand of regulated users were authorized to execute contracts under the pay-as-contracted modality directly, without the requirement to conduct an auction.

The Non-Regulated Market is comprised of electricity consumers that either have a peak demand greater than 0.10 MW or a minimum monthly consumption greater than 55.0 MWh. This segment is attended by companies carrying out the generation and commercialization activities. Purchases of electricity in this segment can be freely agreed among participants at freely negotiated prices for the commercialization and generation components of the tariff's unitary price.

Resolution CREG 015 of 2018 establishes the obligations for Network Operators (owner of the physical networks) and commercialization agents for the transportation and distribution of energy. It also regulates the quality standards for the delivery of energy at the point of consumption, and the applicable methodology for calculating the distribution charges of each Network Operator.

As determined by article 74 of Law 143 of 1994, as modified by article 298 of Law 1955 of 2019, any utility company that makes part of the SIN can generate electricity (which consists of the production of electricity through any generation plant connected to the National Interconnected System (SIN as for its acronym in Spanish), activity performed by generation agents, who participate in the MEM by selling electric energy to other generation and commercialization agents, or to Non-Regulated Users), distribution (which consists of transporting and delivering electric energy to end users through the STR, and the Local Distribution Systems (SDL for its acronym in Spanish) deploying tension levels under 220 kV; agents in charge of providing the distribution utility are called Distribution Agents or Grid Operators (OR for its acronym in Spanish)), and commercialization activities in an integrated manner. Nevertheless, these companies are not allowed to perform transmission activities, as it will be explained below.

This provision described above, also applies to companies having the same controlling party or between those where there is a situation of control, which encompasses the real beneficiary rationale applicable under Colombian electric energy regulation (for reference see article 74 of 1994, as amended by Law 1955 of 2019. A situation of control is defined by article 260 of the Code of Commerce, as follows: *“a company will be subordinated or under a situation of control when its decision-making power is subject to the will of another or other persons who will be deemed its parent or controlling company (...)”*. On the other hand, transmission companies are prevented by law from holding market shares in generation, commercialization, or distribution companies (see CREG Resolution 001 of 2006).

In relation with transmission, (which comprises the transportation of electrical energy in the Colombian National Transmission System (STN for its acronym in Spanish), deploying tension levels of 220 kV or higher, guaranteeing the required quality standards and the availability of the transmission assets; the owners of the transmission assets must ensure free access to the transmission networks to the users and to generation agents.) companies carrying out this activity are not able to perform commercialization, distribution or generation activities. However, commercialization, distribution and generation companies are allowed to hold shares, quotas, or equity stakes of transmission companies, as long as they represent no more than 15% of the company's capital. Please note that, in this case, neither the transmission company nor the other companies may have a control situation over the other.

Exceptionally, commercialization, distribution and generation companies may own more than 15% of a transmission company if the income of the transmission company does not represent more than 2% of the total transmission income from the SIN. If the company engaged in the transmission activity, with a cut-off date of December 31 of each year, exceeds this limit, the commercialization, generation, or distribution company who has shares, quotas or interest shares in the capital of the company must sell, within six months following the occurrence of this fact, the shares, quotas or interest shares that exceed 15% of the capital stock of the transmission company. This, unless within the same period, the transmission company sells the assets that makes it exceed the 2% limit of the total income. (see CREG Resolution 95 of 2007).

As presented above, Ecopetrol Energía and, since August 2021, ISA, were subsidiaries of Ecopetrol S.A. Ecopetrol Energía was a commercialization company and ISA has a significant percentage of the market share of the national transmission activity. Therefore, and considering the competition rules mentioned above, the CREG established that we shall divest from Ecopetrol Energía or cease any commercialization activity as soon as reasonably practicable.

Accordingly, on August 15, 2022, we entered into an electric energy commercialization agreement with Gecelca S.A. E.S.P. to meet the non-regulated energy demand of the Ecopetrol Group. The contract, which term extends until December 31, 2036, is to ensure a service structure for the supply of electric energy through the SIN for the Ecopetrol Group in order to provide the necessary coverage while optimizing costs. Gecelca S.A. E.S.P. was selected through a competitive process to which 17 agents among generators and retailers of the Wholesale Energy Market were invited.

Law 142 and 143 establish specific rules that apply to ISA regarding its participation in certain activities. Articles 167 of Law 142 and 32 of Law 143 establish that ISA is not allowed to participate in any generation, commercialization, or distribution activity. However, the National Development Plan issued by Law 2294 of May 2023, removed these specific restrictions to ISA. The Constitutional Court admitted a lawsuit against this provision and its final decision is pending. In any case, limitations set forth by article 74 of Law 142 of 1994 described above, may prevent Ecopetrol or any of its subsidiaries from carrying out generation, commercialization, or distribution activities.

3.10.6 Regulation of the Electricity Self-Generation Activity

Law 1715 of 2014 (amended by Law 2099 of 2021) regulates the integration of non-conventional and renewable energies to the SIN. Among other aspects, this law obliges the Colombian Government and the CREG to develop the regulatory framework for the promotion of the electricity self-generating activity from non-conventional renewable energy sources and the sale of self-generation surpluses.

The self-generation activity is defined as the activity carried out by either persons or legal entities to produce electricity mainly to meet their own needs. In case that there is a surplus of energy, not consumed by the self-generator, such surplus may be delivered to the grid on the terms established by the CREG (See CREG Resolutions 024 of 2015 and 174 of 2021, which application depends on whether the self-generator is a large-scale or a small-scale self-generator, as explained below).

Based on Law 1715 of 2014, Decree 2469 of 2014, as compiled by Section 4 of Decree 1073 of 2015, which established energy policy guidelines regarding the delivery of self-generation surpluses through the SIN. In addition, this decree sets forth the parameters for a person to be considered as an electricity self-generator. Specifically, it states that in order to be considered a self-generator a person must (a) receive electricity for its consumption without it being necessary to use assets of the SIN, (b) the electricity surpluses may be higher in any measure, and without any regulatory limit or restrictions, than the value of its own consumption, (c) for the delivery of surpluses to the SIN it will be necessary for the self-generator to submit itself to the regulation of the CREG, case in which large-scale self-generators must be represented before the wholesale energy market, and (d) the generation assets may be owned by the self-generator and may be owned and operated by third parties.

Decree 348 of 2017, as currently compiled by Section 4A of Decree 1073 of 2015, establishes public policy guidelines on efficient energy management and delivery of small-scale electricity self-generation surpluses. In addition, this regulation establishes the conditions for the connection of small-scale self-generators (AGPE for its acronym in Spanish) to the SIN, the parameters to be an AGPE, the reporting of surpluses to the UPME and the remuneration of surplus energy. Note that, as determined by Resolution UPME 281 of 2015, the maximum electricity generation limit to be considered an AGPE is one (1) MW and will correspond to the installed capacity of the self-generator's generation system. Above that limit, an electricity self-generator will be considered a big-scale electricity self-generator ("AGGE" as per its acronym in Spanish).

The specific regulation for AGGE is currently determined by CREG Resolution 024 of 2015, whereas the specific regulation for AGPE is currently set by CREG Resolution 174 of 2021.

CREG Resolution 024 of 2015 (modified by CREG Resolution 140 of 2017) sets conditions for surplus sales of an AGGE, connection and metering conditions, and back-up and energy supply conditions. Specifically, this resolution determines that AGGE must follow the general connection rules to the SIN for a generation plant, that they must have a remote telemetry system, and that they must have a back-up power purchase agreement, among others.

CREG Resolution 174 of 2021 establishes the connection conditions for AGPE, and for the AGGE with a capacity under 5 MW surplus sales conditions, metering conditions and energy commercialization rules for AGPE.

The Ecopetrol Group has invested in several projects that are considered projects from AGGE, which means that CREG Resolution 024 of 2015 is the main regulation that applies to our self-generation projects, notwithstanding the rules applicable pursuant CREG Resolution 174 of 2021. As of the date of this annual report, we comply with all regulations, as set forth in the above-mentioned resolution and Decree 2469 of 2014 regarding the delivering of electricity surpluses to the SIN and to its subsidiaries or controlled parties.

In July 2021, Congress issued Law 2099 of 2021, modified by Law 2294 of 2023. These pieces of legislation regulate aspects related to energy transition and updated provisions with respect to the development and promotion of unconventional sources of energy, energy efficiency and clean hydrogen.

Listed below are certain relevant aspects of Law 2099 of 2021 as amended:

- (i) the new law brought amendments to Law 1715 of 2014 on the declaration of public and social interest, which consists in the promotion, stimulation and incentive to the development of generation activities, use, storage, administration, operation and maintenance of non-conventional energy sources, mainly those of renewable sources (“FNCER” for its acronym in Spanish). The qualification of public utility or social interest will have positive impacts in such projects and grant them preference rights in issues related to land use, planning and environmental planning, economic promotion, positive valuation in administrative procedures and forced expropriation. The new regulation includes those projects related to storage within those that can be part of the declaration of public and social interest, which is a nod to the development of such projects for the purposes of energy efficiency and energy transition;
- (ii) green hydrogen was added as a FNCER and blue hydrogen as FNCE. Green hydrogen is that produced from FNCER such as biomass, wind energy, geothermic energy, solar energy, tidal energy and small hydropower. Nevertheless, Law 2294 of 2023 establishes that green hydrogen can be produced by energy coming from the SIN. On the other hand, blue hydrogen is produced from fossil fuels, especially by the decomposition of methane and its production process has a system of carbon capture, use and storage. Finally, white hydrogen was added as a FNCER through Law 2294 of 2023. White hydrogen is *“associated with geological processes in the earth’s crust and found in its natural form as free gas in different geological environments either in layers of the continental crust, in the oceanic crust, in volcanic gases, and in hydrothermal systems, such as geysers”* (definition introduced by Law 2294 of 2023);
- (iii) the Ministry of Mines and Energy, or the entity designated by it, was appointed as the entity to establish guidelines for the development of geothermal energy in Colombia and must create a geothermal registry in which all projects intended to explore and exploit geothermal energy to generate electricity will be registered. The Ministry of Mines and Energy may establish special registration conditions for already existing projects of co-production of electric energy and hydrocarbons, in order to avoid the overlapping of projects, define the areas that will not be subject to registration and determine conditions, terms, requirements and obligations;
- (iv) the law states that the Colombian Government will develop the necessary regulations for the promotion and development of carbon capture, use and storage systems (CCUS) technologies. CCUS should be understood as the set of technological processes the purpose of which is to reduce carbon emissions in the atmosphere, capturing the CO₂ generated on a large scale from fixed sources to store it under earth in a safe and permanent manner. Under the same logic, the Colombian Government will design a public policy to promote research and local development of technologies for the production, storage, conditioning, distribution, reelectrification, energy and non-energy uses of hydrogen and other low-emission technologies within six months after the entry into force of this law. Furthermore, the Ministry of Mines and Energy will promote the reconversion of mining and hydrocarbon projects that contribute to the energy transition. For this purpose, the ANH and the National Mining Agency may design mechanisms and agree on conditions in current and future contracts that encourage the generation of energy through FNCE, the use of alternative energy sources, and the capture, storage and use of carbon;
- (v) the policy for the development of electric energy services in the so-called non-interconnected zones is strengthened through: (i) service reliability, (ii) transfer of resources for lower tariffs, (iii) transfer of assets, and (iv) hybrid solutions.

In July 2022, the Colombian Government published Decree 1318 of 2022 setting out the general terms and definitions of exploration and production of electric energy from geothermal activities. The provisions of this decree were further developed through CREG Resolution 40302 of 2022. Decree 1598 of 2024, issued by the Colombian MME, amends Decree 1073 of 2015 to establish a regulatory framework aimed at fostering the exploration and utilization of geothermal energy. This initiative is part of Colombia’s broader energy transition strategy to diversify its energy matrix and promote non-conventional renewable energy sources (FNCER), including geothermal energy.

In August 2022 the Colombian Government issued Decree 1476 of 2022 regulating articles 21 and 23 of Law 2099 of 2021 and adding a new chapter to promote innovation, research, production, storage, distribution and use of low-emission hydrogen. Decree 1598 of 2024, issued by the MME, amends Decree 1073 of 2015 to establish a regulatory framework aimed at fostering the exploration and utilization of geothermal energy. This initiative is part of Colombia's broader energy transition strategy to diversify its energy matrix and promote non-conventional renewable energy sources (FNCER), including geothermal energy. Among others: (i) it introduced a system to certify the origin of hydrogen, ensuring traceability for both domestic consumption and export markets; (ii) enhanced the Ecosystem H2 Colombia, a national information system to promote and manage the hydrogen value chain and (iii) set forth several regulations regarding Colombia's commitment to achieve carbon neutrality in 2050 by incentivizing the production and use of low-emission hydrogen.

By means of Resolution MME 40284 of 2022, as amended by Resolution MME 40712 of 2023 and further updated by Resolution MME 40368 of 2024, the Ministry of Mines and Energy established the general terms for granting temporary occupation permits for maritime areas, as well as the granting of maritime concessions intended for the development of offshore wind energy projects. These permits will be awarded through a competitive process to be carried out by the ANH, which began on December 4, 2023. During 2024, the prequalification process was initiated for the first round, qualifying companies such as Parque Eólico Offshore Vientos Alisios SAS ESP, CI GMF III COOPERATIEF UA, JAN DE NUL NV, Ecopetrol SA, Powerchina International Group Limited, CTG Colombia Holding SAS, Duna Energy Latinmerica, Seynekun ESG Solutions SAS, Enterprize Energy (UK Limited), Celsia Colombia SA ESP and DEME Concessions Wind. The successful bidders must form a consortium, temporary association or partnership with a public or mixed company of the oil & gas or energy sector (first paragraph of article 18 of MME Resolution 40284 of 2022 as amended by MME Resolution 40368 of 2024).

In November 2024, the MME issued Decree 1403 titled Amending Decree 1073 of 2015 on Energy Policy Guidelines for Self-Generation and Marginal Production of Electricity. This decree allows self-generators and marginal producers to utilize the National Interconnected System (SIN) to consume electricity at locations different from where it is produced, eliminating previous regulatory barriers. These changes aim to foster the use of non-conventional renewable energy sources, supporting Colombia's transition to a more sustainable energy landscape. For companies engaged in self-generation and potentially entering into distributed marginal production (such as Ecopetrol), Decree 1403 presents significant opportunities to expand operations and optimize energy distribution across various locations, aligning with the country's commitment to renewable energy integration.

3.10.7 Regulatory Framework for Energy Transmission

In the countries in which ISA operates, energy transport is a regulated and independent activity within the electricity sector's production chain and is considered a natural monopoly, although there are different business models in the electricity industry in those countries. In particular, in Colombia and Chile, the transmission companies own the assets and infrastructure. In Peru and Brazil, companies obtain concessions to operate assets and infrastructure and revert ownership to governments once the concessions expire. In each of those models, the companies must provide the service with the quality standards defined by the regulation and, by virtue of this, receive the corresponding remuneration. The revenues are not affected by the supply and demand for electricity or the volume of electricity actually consumed by the end users.

In general, the revenues of transmission companies are comprised of two components: the first remunerates the investment at a regulated revenue, while the second remunerates the administration, operation and maintenance expenses required to provide the service with quality and efficiency. The revenues are adjusted on an annual, semiannual or monthly basis, based on inflation, as measured by the relevant consumer and producer price indexes or in some cases by the PPI or the WPI.

Colombia

Electricity transmission is defined by article 1 of CREG Resolution 24 of 1995 and article 3 of CREG Resolution 11 of 2009, applicable CREG regulations, as the transportation of electricity through national electricity transmission systems at a tension level equal to or greater than 220 kV and is remunerated through usage charges for constructive units that comprise the National Transmission System (STN).

Colombian regulations establish the responsibility of the State, through Mining and Energy Planning Unit (UPME), to prepare the Reference Generation Transmission Expansion Plan. The projects proposed in the STN expansion plans must be technically and economically feasible and must have the approval of the relevant environmental authorities mentioned above. The STN expansion procedure, as provided in applicable regulations including CREG Resolution 022 of 2001, guarantees a competitive bidding process summoned by UPME with respect to the construction, operation and maintenance of new electricity transmission expansion projects.

Pursuant to number IV of section a of article 4 of Resolution CREG 22 of 2001, ISA must present a proposal to participate in every bidding process summoned by UPME. Such bidding processes are awarded to the investor or bidder who offers the lowest present value to be received as expected annual income (IAE) for a period of 25 years. Once the 25-year payment period elapses, the successful bidder is expected to be compensated through the regulated revenue tariff methodology established by Resolution CREG 011 of 2009 (or the transmission activity methodology that is in effect at that time), for agents who operate existing transmission assets.

The remuneration applicable to existing assets is regulated by CREG Resolution 011 of 2009 by means of a regulated revenue tariff methodology, which establishes usage charges for constructive units, taking into account the reposition value; the administration, operation and maintenance costs; and some asset availability and quality indexes. Thus, the quality of the transmission service is defined according to asset availability and Energy Not Supplied (ENS). Transmission companies may be liable for deductions from their regulated revenue, when they are unable to provide a good service.

In September 2022, the CREG, through Resolutions 101 027 and 101 031, adjusted the indexation scheme for income established in Resolution 011 of 2009. This adjustment was proposed for a transition period of one year and has been voluntarily adopted by companies. The transition period began in November 2022 and ended in October 2023.

On February 16, 2023, President Gustavo Petro issued Presidential Decree 227 of 2023 by means of which he “reassumed” (as stated in such Presidential Decree) the powers to regulate the energy market that were delegated to the CREG, in accordance with article 68 of Law 142 of 1994. Nonetheless, as of the date of this annual report, Presidential Decree 227 of 2023 has been suspended by the High Court for Administrative Matters (*Consejo de Estado*). For a more detailed description and status of such Presidential Decree, see section [Regulation of the Natural Gas Market](#).

Brazil

The public electricity transmission service of the SIN comprises the facilities of the Basic Grid (“RB”), Other Transmission Installations and International Interconnection Installations. In accordance with Regulatory Resolution No. 67 of July 8, 2004, the RB comprises the SIN facilities with voltage level equal to or higher than 230 kV, while the RBF comprises the SIN power transformer units with voltage level higher than or equal to 230 kV on the high voltage side and lower than or equal to 230 kV on the low voltage side. Transmission services are operated exclusively through concessions, in which the Brazilian government grants private agents, through bids, the right to build, operate and maintain the facilities.

The planning for the sector is centralized and conducted by Energy Research Company and National Electric System Operator, which, with the support of the other agents of the sector, evaluate the need for expansion or reinforcement of the transmission system, identifying the necessary works that will be indicated to the Brazilian Ministry of Mines and Energy to compose the concession plan that National Electric Energy Agency (*Agencia Nacional de Energia Eléctrica* or “ANEEL”) intends to use to issue reinforcement authorizations or bidding notices. It is ANEEL’s responsibility, based on the indications and definitions of the electricity transmission subsidy plan, to proceed with the concession process of the indicated works, promoting transmission tendering or authorizing existing transmission companies to implement the indicated works in their facilities.

As defined in module 4 of the Transmission Standards in Brazil, the quality of the transmission service is measured by the availability and operational capacity of the Transmission Function. When the Transmission Function is available or operates with capacity restrictions, the transmission company suffers a reduction of its Allowed Annual Revenue proportionate to this unavailability.

Peru

Transmission lines belong to four national systems: Guaranteed, Complimentary, Principal and Secondary, with this last one being the largest one.

There are basically three transmission plans that allow the expansion of the transmission network: (i) the Transmission Plan that is designed by Committee of Economic Operation of the Electrical System every two years and subject to the approval of MME, (ii) the Investment Plan approved by Energy and Mining Supervisory Authority and (iii) the expansion plan of the network subject to REP's concession which must be filed by REP before the MME.

Once the TP (Transmission Plan) is approved, the Binding Plan projects (facilities that are part of the Guaranteed system) must be tendered through international public bidding for the granting of new concessions through the signing of a contract under the build-own-operate-transfer (BOOT) modality. The bidding processes have been entrusted by the Peruvian Energy and Mines Ministry (MINEM) to the Peruvian Private Investment Promotion Agency (PROINVERSIÓN). The tender is awarded to the investor who offers the lowest investment cost. The works defined as expansions or reinforcements can be granted to those concessionaires who express their right of preference if such expansions or reinforcements involve their facilities.

The quality of the electricity service is governed by the Technical Standard for the Quality of Electricity Services, approved by Supreme Decree 020-97-EM of 1997. This standard establishes the minimum quality levels of the electrical services with regard to the quality of the product, supply, commercial and public lighting; as well as the obligations of the electricity companies and the clients that operate under the regime of the Electricity Concessions Law, Decree Law 25844.

Chile

The public electricity transmission service provided in the National Electric System ("SEN") includes the installations of the following segments: (i) the National Transmission System, (ii) the Local Transmission System, (iii) the Dedicated Transmission System and (iv) the Transmission Systems for Development Poles.

Regarding the process of planning investments in transmission, the General Law of Electric Services establishes centralized planning directed by the National Energy Commission for the National, Local and Development Poles Transmission Systems. This process is for a term of at least 20 years and is intended to result in the expansion plan which defines new and expansion works will be mandatory. The regulation then defines two types of works, which are remunerated differently: (i) new work is a transmission line or electrical substation that does not exist and is projected to increase the capacity or safety or quality of service of the SEN and (ii) extension work is one that increases the capacity or the safety and quality of service of existing electrical lines and substations.

For new works, the investor is selected through public tenders organized by the National Electric Coordinator (NEC). If the bids exceed the maximum allowed value, the tender is repeated. For expansions/reinforcements, the investor with the lowest bid is awarded. The project is developed under the EPC modality; that is, the awardee must take care of the detailed engineering, the supply of materials, and the construction of the work, and payment is made by milestones during execution.

The conditions of safety and quality of service are contained in the Technical Standard of Safety and Quality of Service. The quality of supply of generation and transmission services is evaluated through the index of unavailability of the transmission facilities.

3.10.8 Regulation of the Toll Roads Concessions

Colombia

Beginning in the early 1990s, Colombia adopted modernization and economic liberalization policies, and implemented structural, institutional and industry specific reforms. These have included the expansion and promotion of infrastructure and public utilities in conjunction with the private sector. Different regulatory reforms have been implemented, such as Law 80, Law 105 and Law 1508 of 2012 (the Public Private Partnerships Law, "PPP Law").

The PPP Law is one of the most representative in this sector, by implementing the regulatory framework for the development of public and private partnerships ("PPP") for different types of infrastructure, including transportation.

Likewise, some laws related to PPP projects and the public procurement regime in general have been enacted, such as Law 1150 of 2007, Law 1474 of 2011, Law 1682 of 2013, Decree 1082 of 2015, Law 1778 of 2016, Law 1882 of 2018, Decree 438 of 2021, Law 2195 of 2022, Law 2294 of 2023 oriented to introduce different mechanisms and procedures to strengthen and streamline the development of PPP projects. Also, Decrees 050 and 2287 of 2023 were issued as means of reducing high inflation by controlling when toll rates/tariffs could be increased.

Regulation of Public Private Partnerships (PPP)

The PPP Law allows the execution of concession contracts for different types of infrastructure, including transportation infrastructure (i.e. roads & highways, airports, seaports, rails, etc.). Under this law, payments to concessionaires are subject to meeting and maintaining key performance indicators (KPIs) defined in any given contract.

PPP contracts assign risks to the party in the best position to control and mitigate its effects. Likewise, it must contain formulas for recognition of economic compensations to the concessionaire for the early termination of the contract and the constitution of a trust fund to manage the project's resources.

The PPP Law introduced a distinction between public and private initiatives for PPP Projects. Public initiatives are defined by the granting authority and a qualified concessionaire is selected through a competitive bidding process. On the other hand, private initiatives have been introduced to allow the private sector to structure and propose to the granting authority a specific project or service.

The implementing legislation of the PPP Law is compiled by Decree 1082 of 2015 and was modified by Decree 438 of 2021, through which, some definitions associated with PPP were implemented, in order to align rules between projects and national and territorial prioritization, define liquidity mechanisms to avoid early termination of contracts in Private Initiative PPPs, promote competition and establish requirements for the presentation of private initiatives, among others. Decree 1082 of 2015 was also modified by Decree 142 of 2023 to promote access to the Public Procurement system for medium and small size companies (Mipymes), Cooperatives, and other entities of the solidarity economy. It incorporates social and environmental criteria in the contracting processes of State entities and includes the title of communal entrepreneurship.

Furthermore, Law 1682 of 2013 provides tools to overcome common bottlenecks that usually affect the feasibility of transport infrastructure projects. The main contributions of Law 1682 of 2013 are:

- *Improved planning.* Requiring the public entities and persons responsible for planning transportation infrastructure projects to consider the impact the project will have on utility networks, cultural and archeological heritage sites, protected areas, communities and land acquisition, among other things, during the structuring phase.
- *Land acquisition.* Authorizing both administrative and judicial expropriation procedures. Real estate owners are allowed to grant a voluntary irrevocable permission to access and perform the required works in the property and if such permission is not granted within 15 days following the administrative expropriation order, the granting authority may request the eviction of the owner. Judges may seize the property on the grounds of public interest within ten business days following the request of the corresponding granting authority.
- *Utility Networks.* Providing guidelines for the relocation of utility networks, in particular regarding the allocation of costs between the infrastructure project and the public utilities suppliers.
- *Environmental licenses.* Not requiring environmental licenses for works or activities related to maintenance, rehabilitation and improvement of transportation infrastructure projects. Instead, the concessionaire may prepare an adaptation plan for the environmental guide (Plan de Adaptación de la Guía Ambiental or “PAGA” for its acronym in Spanish). Decree 769 of 2014 provides which works and activities are considered “improvement” of transportation infrastructure projects and do not require an environmental license.
- *PAGA.* Pursuant to Decree 769 of 2014, PAGA is an environmental plan that provides, among other things, an identification and evaluation of the environmental impacts that could be caused by the relevant project, activity or work, the related environmental management program, a list of the required environmental permits and a contingency plan. Unlike the environmental licenses, PAGAs do not need to be approved by the environmental authorities. The concessionaire submits PAGAs to the National Agency of Infrastructure (Agencia Nacional de Infraestructura or “ANI”, for its acronym in Spanish) and the intervenor for their approval or non-objection. However, any environmental permits listed on the PAGAs must be requested from and granted by the applicable environmental authorities prior to commencing construction of the respective functional unit.

4G – 5G Highway Concessions

In Colombia, five generations of road concessions have been developed since 1994, which have had as a differentiating aspect the allocation of risks between the contracting agency of the State and the private partner, as well as the complexity of the transactions.

The 4G Program, which includes Public and Private Initiative Projects, aims to reduce Colombia's infrastructure deficit, and consolidate the national road network by creating continuous and efficient connectivity between production centers, the country's main ports and country boundaries.

Since 2019, some modifications to the 4G program have been promoted, giving rise to the creation of the 5G Program, which was launched through the document CONPES 4060 "Bicentennial Concessions" and seeks to regulate some key aspects for the development of infrastructure, under the premises of project sustainability based on four pillars: institutional, social, environmental, and financial. This 5G Program implements contractual modifications aimed at improving property management, risks associated with natural disasters, climate change, economic compensation for commercial risk, among others. As a characteristic feature, the 5G program comprises not only toll roads concessions, but also river dredging and navigation concessions, airport concessions and railway concessions.

In January 2023, the Ministry of Transportation of Colombia signed Decree 050 of 2023, prohibiting an increase in toll rates based on the 2022 CPI, as defined in the PPP contracts. This decision is based on the government's effort to control inflation, which led CPI to experience a 13,12% increase in 2022. However, the concession agreements provide mechanisms that compensate the difference between (i) the toll rates structure foreseen when the concessionaire submitted its bid, and (ii) the effects that the Decree 050 of 2023 has on the income of the toll rates; since the risk associated to toll rates increases is contractually assigned to the grantor.

During 2023, the CPI dropped. Thus, on December 29, 2023, the Ministry of Transportation issued Decree 2287 establishing that such entity will issue resolutions regulating toll rates increase beginning in January 2024, for toll stations under the purview of the National Institute of Roads (Instituto Nacional de Vías or "INVIAS" for its acronym in Spanish) and ANI. According to such Decree, toll rates will be adjusted in January in accordance with 2022 CPI. On January 15, 2024, the Ministry of Transportation issued Decree 20243040001125, to increase the toll rates for the INVIAS and ANI stations.

Pursuant to Decree 050 of 2023, the Ministry of Transport, the National Institute of Roads (Invías), and the National Infrastructure Agency (ANI) have been designing mechanisms to restore the toll rates before December 31, 2024, in order to normalize the system. In this regard, they have published a resolution mandating the gradual normalization of toll rates in two phases: the first on January 1, 2025, and the second on April 1, 2025. This aims to implement a gradual transition of toll costs, minimizing the immediate impact on users.

Chile

In order to improve the level of maintenance of the Chilean road infrastructure and reduce the demands on public finances, starting in the early 1990s, the Chilean government began to grant concessions, with a pre-assigned model of obligations and rights between the public and private sectors.

The execution, repair and conservation of public works are governed by the Statute of the Public Works Concessions Law, originally contained in Decree with Force of Law No. 164 of 1991, which allows persons and entities, to exploit the works and services of said public works that are the object of a concession.

Likewise, the following laws and decrees have been promoted in relation to Public and Private Partnerships (PPP) projects: Law No. 19,252 of 1993 Supreme Decree No. 900 of the Ministry of Public Works (MOP), Supreme Decree No. 956 of 1997 of the MOP, Law No. 20,128 of 2006, Law No. 20,190 of 2007 and Law No. 20,410 of 2010, all of which are aimed at facilitating the execution of projects under the PPP scheme.

The provisions of the concession contracts generally govern the term and termination of the concessions, the works to be carried out, the operation and maintenance obligations, government supervision, the maintenance reserve funds, certain fees payable to the government and the fees for toll that can be charged.

The concessionaire is responsible for the construction, financing, operation, and maintenance of the infrastructure in accordance with the standards, specifications, and designs established by the Ministry of Public Works or, failing that, in the bidding conditions, and is obliged to correct any defect in the road that arises during the term of the concession. In exchange for developing these activities, the concessionaire is entitled to retain substantially all toll revenues derived from the operation of the toll road during the term of the concession. The road itself and the accessories related to its operation remain the property of the government during the term of the concession.

Each concession establishes a schedule of tolls by vehicle category. Most concessions allow concessionaires to increase tolls annually in accordance with Chile's CPI. Such toll increases can be made without government approval, although supporting documentation must be submitted to the MOP. All other toll rate increases must be approved by the MOP. The MOP has the right to terminate a concession without compensation before the expiration of its term in the event of the occurrence of specified events. Furthermore, the government has the legal right to seize any concession and claim all assets related to it.

Panamá

Panamá developed PPP legislation for long-term contracts between public and private entities, allowing private companies to finance, build, operate, and maintain infrastructure projects or provide public services in exchange for fees.

Law 93 of September 19, 2019 establishes the framework for PPPs in Panama, aiming to promote private investment, social development, and job creation. Furthermore, Executive Decree No. 840 of December 31, 2020, partially modified by Executive Decree No 119 of May 4, 2020, implemented Law 93, providing detailed regulations and guidelines for the execution of PPP projects.

The provisions of the concession contracts generally govern the term and termination of the concessions, the works to be carried out, the operation and maintenance obligations, government supervision and the yearly provisions on Panama's budget to cover the project costs.

3.11 Technology, Environment, Social and Governance (TESG)

The TESG pillar of the Strategy 2040: Energy that Transforms, integrates technological innovation to environmental, social, economic and governance issues, enabling the exploration of innovative solutions which accelerate implementation and enhance scalability. Thus, Ecopetrol has a long-standing commitment to make positive economic, social, and environmental contributions, grounding its behavior on a solid corporate governance, and a business conduct based on values and ethical principles, with transparency at the core. For this reason, Ecopetrol has strengthened its metrics and reporting of environmental, social and governance ("ESG") issues, in line with national regulation and international standards, such as GRI, SASB, TCFD, among others. The company discloses clear short, medium, and long term targets, while also measuring its performance against targets, and trends.

Ecopetrol's sustainability performance was evaluated through S&P Global's Corporate Sustainability Assessment to participate in the 2024 Dow Jones Sustainability Index ("DJSI"). Initially, on October 10, 2024, Ecopetrol scored 79 points, placing it in the top 5% of peer companies in the Oil & Gas Upstream & Integrated (OGX) sector. However, on April 16, 2025, DJSI updated the score to 62 points after having carried out a Media and Stakeholder Analysis (MSA), which forms part of the S&P Global Corporate Sustainability Assessment (CSA).

In 2023, the Company updated its materiality assessment, which is the basis of the TESG pillar of our corporate strategy, following the double materiality approach, engaging various internal and external stakeholders. This approach provides a comprehensive view of sustainability management by considering (i) the impact Ecopetrol has or may have on its environment, and (ii) the impact ESG issues have or may have on the Company's financial performance, strategic objectives and reputation, while promoting transparency and accountability with the stakeholders.

As a result, 14 TESG issues were prioritized, and four elements were identified as cross-cutting issues: (i) just transition, (ii) human rights, (iii) corporate governance, and (iv) circularity. These four elements were not considered as issues to be managed, but rather acquired a strategic and enabling character for the material issues, all of which are regarded with equal importance in Ecopetrol's management. The 14 material issues have a significant impact (positive or negative) on the ability to generate value in the short, medium, and long term and/or a significant relevance to stakeholders.

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The 14 prioritized material issues are:

- Climate change
- Water
- Biodiversity and ecosystem services
- Air quality
- Materials and waste
- Occupational health
- Industrial and process safety
- Human talent
- Sustainable territories
- Responsible supply chain
- Financial sustainability
- Cybersecurity and information security
- Innovation, science and technology
- Ethics and transparency

In 2024, the Company formulated corresponding roadmaps for new material issues and revised those for existing material issues to date.

The identification and prioritization of Ecopetrol's stakeholders was also updated in 2023. This exercise allows the Company to establish more effective relationships based on the generation of trust and mutual benefit. As a result of this identification, the Company went from seven to eleven stakeholders: (i) state, (ii) employees, (iii) communities, (iv) partners, (v) suppliers and their workers, (vi) controlled companies, (vii) shareholders and investors, (viii) media and opinion leaders, (ix) clients, (x) civil society and cooperation organizations, and (xi) scientific and academic community. Corporate Responsibility, which is overseen by Ecopetrol's Secretary General, is the area responsible for consulting stakeholders' perceptions and expectations regarding TSEG material issues and the Company's attributes as a corporate citizen.

In 2024, the percentage of respondents who answered "very satisfied" or "satisfied" regarding their relationship with Ecopetrol were as follows: scientific and academic community*: 100%, employees: 93%, suppliers and their workers: 89%, partners*: 86%, clients: 80%, state*: 79%, controlled companies: 75%, communities: 73%, civil society and cooperation organizations*: 70%, media and opinion leaders*: 63%, and shareholders and investors*: 36%. The Company's annual stakeholder survey collected opinions and perceptions on our sustainability and material issues management, the relationship with Ecopetrol (i.e relevance and satisfaction with the value promises), and prioritization of ESG issues, among other topics. Stakeholders' perceptions and expectations, along with the results of the annual consultation, are essential inputs that help us update and maintain a current materiality assessment.

* The number of responses required for the data to be statistically significant was not reached.

Human Rights

Throughout 2024, Ecopetrol worked on taking concrete steps to implement its human rights strategy. As a result of this exercise, we achieved the strengthening of public commitment to respect human rights by updating internal guidelines (Human Rights Commitment, Commitment to respect human rights defenders), on the identification and management of human rights risks, as well as on value chain management (both with suppliers and partners). Ecopetrol carried out two human rights risks assessments at a regional level (Andina Oriente and Piedemonte) and followed up on the risk assessments of Orinoquía Regional and of its security process. These due diligence exercises allow the Company to identify, prevent, mitigate and, if applicable, remedy impacts on human rights. As a result, Ecopetrol established actions that counteract the risks and impacts identified. The Company's human rights management has undergone scrutiny by the Dow Jones Sustainability Index (DJSI), which highlights that Ecopetrol's performance in this area has steadily improved over the years. This improvement is evident in its alignment with the UNGPs, as well as in the prevention and mitigation of human rights risks at the operational level, in communities, and with other stakeholder groups. It is noteworthy that, in the last measurement conducted in 2024 for the period 2023, the Company demonstrated the best performance in the human rights category with a score of 100/100, surpassing the industry average of 73 in the Oil & Gas sector. A perfect score of 100/100 was achieved in four out of the four categories: commitment, due diligence, evaluation and remediation.

Environmental Planning and Compliance

Based on the mitigation hierarchy principle, Ecopetrol S.A. undertakes a robust field baseline environmental and social sensitivity information within the project's area of influence and conducts EIAs to identify potential environmental and social impacts at the early stages of project planning and design. Environmental Studies and diagnosis are developed to comply with regulatory requirements for environmental licenses and permits and environmental and social management plans are developed to minimize, mitigate, or compensate impacts.

In 2024, 62 total authorizations were granted, of which 2 were granted by the National Authority for Environmental Licenses (ANLA for its acronym in Spanish) and 60 were granted by the Regional Autonomous Corporations (CAR for its acronym in Spanish). These include environmental licenses and modifications and permits for the use and exploitation of natural resources. Moreover, 53 environmental permits were submitted for local and national authorities' evaluation, and 20 archaeological programs were developed on site, based on the archaeological permits granted by the Anthropology and History Colombian Institute (ICANH, for its acronym in Spanish).

Climate Change

As part of our efforts to contribute to the Sustainable Development Goals, the Paris Agreement and Colombia's Nationally Determined Contribution (NDC), on March 25, 2021, we announced our plan to achieve net-zero GHG emissions by 2050 (scopes 1 and 2), in line with our commitment to mitigate climate change and further the energy transition and the TESG agenda.

By 2030, we seek to reduce our CO₂e emissions by 25% as compared to the 2019 baseline for scopes 1 and 2, which correspond to direct and indirect emissions associated with the purchase of energy. In addition, we intend to reduce 50% of our total emissions (scopes 1, 2, and 3) associated with our value chain, which includes the use of our products, by 2050. However, we cannot offer any assurance on our ability to meet these goals by such dates.

In 2023, Ecopetrol S.A. announced a methane emissions reduction target of (i) 45% by 2025 and (ii) 55% by 2030, with respect to a 2019 baseline. This target applies to direct operations in the upstream. Also, in 2023, Ecopetrol joined the sectorial initiative "Aiming for Zero Methane Initiative" led by the Oil and Gas Climate Initiative (OGCI) and confirmed its commitment to action on climate change by adhering to the Oil & Gas Decarbonization Charter (OGDC).

To achieve GHG reduction targets, we launched a decarbonization program focusing on five components: (i) management of GHG emissions information, ensuring the quality, integrity, consistency and transparency of the information reported; (ii) reduction of GHG emissions, identifying and implementing initiatives associated with the optimization of energy consumption, renewable energies, reduction of flaring, fugitive emissions and venting (methane), and development of emerging low-emission technologies; (iii) strategic portfolio management; (iv) emissions offsetting of residual emissions; and (v) climate risk management of physical and transition risks to define adaptation actions and assess business resilience.

In 2024, we verified our scope 1 and 2 GHG emissions inventory for the 2021 – 2023 period through a third-party, SGS. Also, we verified for the first time the most relevant categories of our scope 3 GHG emissions inventory for 2023. The next third-party verification is expected to be carried out in 2025. In 2024, we reduced 462,074 tCO₂e from new projects implemented during that year, exceeding the established annual target by 71%. The accumulated reduction for the 2020-2024 period is 2,248,846 tCO₂e. In addition to the efforts on decarbonizing our operations, we took additional measures to manage our climate-related risks and opportunities, through the following actions:

- (i) Climate related risks: physical risks have been evaluated in 95 strategic locations of our assets in Colombia, to identify and implement adaptation measures in the comprehensive management of water, ecosystems and biodiversity, infrastructure and to increase the capacity and resilience to extreme weather events. The analysis has considered seven physical risks related to chronic hazards (drought and heat stress) and acute hazards (precipitation, coastal flooding, river flooding, wildfire, and wind speed) under three climate scenarios presented by the Intergovernmental Panel on Climate Change ("IPCC"): (i) SSP 1- RCP 2.6°C, (ii) SSP 2- RCP 4.5, and (iii) SSP 5- RCP 8.5. To assess the resilience of Ecopetrol's infrastructure to the impacts derived from physical risks, since 2024 we have been developing and applying a methodology that allows a local analysis and the definition of adaptation actions for prioritized assets, which can be considered in the long-term investment plan.

- (ii) For transition risks, in 2024, Ecopetrol developed energy transition scenarios, based on S&P Global Market Energy and Climate Scenarios, for monitoring trends in each of the three business lines, which aims to be a solid and unified reference framework that allows the Ecopetrol Group (EG) to anticipate and understand the challenges and opportunities of the energy transition, through the presentation and comparison of three scenarios:
 - Climate Alignment (1.7° - 1.8°C),
 - Energy Balance (1.9° - 2.3°C), and
 - Climate Divergence (2.5° - 2.8°C).

While the first and third scenarios do not represent the group's core vision, assessing different perspectives on the global energy transition remains necessary. According to the 2040 Strategy, Ecopetrol considers the second scenario the most likely, aligning with a gradual energy transition.
- (iii) Innovation, research, and development: we advanced in further exploring opportunities to implement emerging low-carbon technologies like CCUS, and hydrogen and renewable energy projects, in testing top-down and bottom-up technologies for the detection and measurement of fugitive emissions and vents in the upstream and downstream segments, and natural carbon sinks.
- (iv) Participation in public policy discussions: the company articulates its climate ambition with government plans and strategies and participates in the construction of climate change regulations.

In 2024, Esentia and the midstream segment companies (Cenit, ODL, ODC, Oleoducto Central Ocesa), ISA, and Ecodiesel, continued with their commitment to be carbon neutral. To maintain this goal, the companies implemented a work plan under three focus areas: (i) a GHG emissions inventory, which estimates the total tons of CO₂e emitted by the companies on an annual basis, (ii) an emissions reduction portfolio in energy efficiency and renewable energies, and (iii) applying the Natural Climate Solutions (NCS) as an offsetting alternative, identifying opportunities to restore strategic ecosystems, protect biodiversity, improve ecosystem services and contribute to the construction of more sustainable economies in the regions where they operate.

In 2024, Ecopetrol's Carbon Trading Desk continued strengthening its strategy for trading carbon offset products.

The company sold more than one million barrels of carbon compensated premium gasoline to wholesale distributors and 32,800 tons of carbon compensated asphalt in Colombia. Ecopetrol's carbon offset strategy covers direct GHG emissions generated throughout the product's lifecycle, from its production process to its transportation to the Coveñas terminal in the Colombian Caribbean or to the destination port agreed with our customers.

In 2024, ISA defined an annual consolidated goal relating to the company's reduction of CO₂e emissions. This goal integrated potential CO₂e emissions reductions from the "Conexión Jaguar" program and emissions reductions generated from voluntary actions of eco-efficiency for the management of SF₆, energy and water consumption, generation of waste, and other emissions reductions relating to remote work. The specific goals of CO₂e emissions reductions associated with SF₆ and energy consumption were 6,699 tCO₂e and 85 tCO₂e. By the end of 2024, the consolidated performance of CO₂ emissions reduction by SF₆ was 11,671 tCO₂e, which represents 174% of the goal, and the reduction of CO₂ by energy consumption was 312 tCO₂e which represents a fulfillment of 367% of the established goal.

In order to achieve these results, ISA has implemented several practices such as the use of real-time meters to identify SF₆, preventive maintenance or refurbishing of high voltage circuit breakers to avoid gas leaks, development of a prototype to capture of SF₆ before it is released into the atmosphere, reusing this kind of gas when the conditions allow it and appropriating final disposal of it. Moreover, some companies have been implementing different actions to reduce the consumption of energy, such as the installation of solar panels in some of ISA's locations and electrical substations, the implementation of LED technology, the purchase of international renewable energy certificates I-REC.

Water Neutrality

Ecopetrol S.A. aims to improve water use efficiency to reduce water-related impacts and potential associated conflicts, as well as promoting water security within the operation's areas of influence. Water use is optimized also, to ensure production sustainability due to the operation's dependence on water resources.

In 2023, Ecopetrol ratified its commitment to be water neutral by 2045. The objective is to achieve a balance between the water required to operate, and the actions that reduce the direct water footprint, as much as economically and technically feasible, as well as to replenish the remaining water consumption through conservation, and water, sanitation and hygiene (WASH) actions. To achieve this goal, Ecopetrol has undertaken proactive actions, beyond environmental compliance, which have enabled it to manage water risks in the physical, regulatory, and reputational components, and generate social and environmental benefits.

During 2024, 164 million cubic meters of water were recycled, that is, 81% of the total water required to operate, which means a 7% increase compared to 2023. In addition, 39.4 million cubic meters of freshwater were withdrawn, which account for 19% of the total water required to operate, resulting in a 4.5% decrease compared to 2023, mainly due to an increase in the recycling of industrial waters in the Barrancabermeja and Cartagena Refineries, as well as lower demand for secondary oil recovery in Casabe, Yarigui, and Tren Nare.

These figures indicate a net increase in water efficiency, not only by the increase in water recycling and reuse (the highest in Ecopetrol's history) but also in terms of freshwater intensity which was reduced to 1.19 barrel of water/barrel of oil (Bbl-water/Bbl-oil) in the Downstream segment (a decrease of 6% compared to 2023) and slightly increased to 0.33 Bbl-water/Bbl-oil in the Upstream segment. These results were leveraged by the fulfillment of the water management efficiency targets for 2024 and allow us to continue on the path towards water neutrality by 2045.

In 2024, Ecopetrol received an "A-" score in CDP Water Security 2024 for the second consecutive year, which ratifies us in the "Leadership" band as one the best company in the oil & gas sector in water stewardship practices. In terms of water footprint certifications, in 2024, eight assets were successfully verified by a third-party, based on the NTC-ISO 14046 standard.

Sustainable Production System and Biodiversity

Our biodiversity strategy is based on two components: (i) prevention and mitigation of biodiversity impacts and (ii) implementation of nature-based solutions, to offset residual impacts and actively respond to challenges related to climate change, water resources, and biodiversity management, food security, or disaster risks, among others. Each of these themes is described below.

(i) Prevention and mitigation of biodiversity impacts:

- Enhancing Biodiversity Information for Decision-Making and Resilience Analysis
- Incorporate the mitigation hierarchy in the planning and implementation of projects and operations.

(ii) Implementation of nature-based solutions:

- Large-scale interventions in priority areas to capture GHG emissions through NCS and generate additional biodiversity and social co-benefits.
- Conservation efforts aim to improve biodiversity and protect ecosystem services.

Results related to positive impacts on biodiversity:

- We have designated 20 company-owned areas for conservation, collectively known as "Ecoreserves." These areas serve as habitats for over 2,426 species, including amphibians, birds, insects, mammals, fish, plants, and reptiles. Among these, 162 species are endemic, and 23 are classified under various threat categories according to the IUCN.
- We have 290,396 hectares under restoration and/or conservation actions, supported by 1,915 active conservation agreements with local stakeholders. These initiatives include both voluntary and mandatory restoration actions, as well as the registration of civil society nature reserves and Ecoreserves. Additionally, we have developed sustainable cattle grazing systems covering 504.05 hectares and implemented agroforestry practices on 281.56 hectares across different ecosystems.

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- Through the Wildlife Project, we implemented measures to protect 17 threatened flora and fauna species across three key Colombian ecosystems. These species include palms, fish, monkeys, alligators, manatees, and birds. Our commitment to biodiversity conservation was recognized with the Boscar Award, presented by Reforestamos México during COP16 in acknowledgment of our efforts to preserve forests.

As early adopters of the Taskforce on Nature-related Financial Disclosures (TNFD), we aim to publish our first biodiversity-related financial report covering 2024, in 2025.

In 2023 we also implemented two pilots to assess impacts, dependencies, risks, and opportunities associated with natural capital, in line with the TNFD – Taskforce on Nature financial disclosure framework.

Circular Economy

The double materiality exercise highlighted circular economy as a transversal issue within the group. Under this approach, the circular economy model was updated.

Our circular economy model is a key driver that contributes to advance in the energy transition, achieve the net-zero emissions and water neutrality targets, and advance in achieving closed-loop cycles of materials and waste, and diversification of new businesses. Specifically, the adoption of a circular economy model allows us to:

- further promote the efficiency in the use of materials, waste and resources like water and increase the recovery capacity of ecosystems,
- foster the identification of new business models that generate economic, environmental, and social benefits, and
- increase innovation, technological advances and research and development of new products and services.

Over the course of recent years, Ecopetrol has renewed its commitment to environmental sustainability through the implementation of circular economy strategies, focusing on the optimization of resources and the minimization of environmental impacts.

The First Circular Economy Forum was held in 2024, where the circular economy model was presented, as well as circular initiatives developed and an academic agenda on different topics where 320 people participated, 1,000 digital connections per day were made, and 82 speakers and 42 organizations attended. Likewise, through the circularity training program, more than 470 employees were trained during 2024. Moreover, through the Colombian Institute of Petroleum and Energy for the Transition (ICPET), different research projects are being carried out to strengthen circularity in the areas of water, renewable energies, materials and waste. Finally, the level of maturity in circularity was measured, which is carried out around four dimensions: materials, waste, water and emissions. The result places the company at a “2-eco-conscious” level, which means that it is an organization that develops first circularity initiatives and that begins to perceive the first impacts of circularity on its EBITDA, mainly through cost savings by extending the useful life of materials and reusing resources. To date, Ecopetrol has 223 circular initiatives which are in different stages of maturity; 80 of which have been implemented and another 94 are currently in execution.

Sustainable Territories - Social Investment for Territorial Transformation

In 2024, we allocated resources for the execution of the sustainable territorial development portfolio amounting to COP 606,237 million. This figure includes both strategic and mandatory social, environmental, and relationship investments. Ecopetrol contributed COP 789 billion to the regional GDP in 2024 through the execution of projects, job creation and economic impact of the projects. Moreover, more than 21,081 direct and indirect jobs were generated as a result of the social investment projects.

The Company’s social investment projects are grouped into three strategic options: (i) access to public services, (ii) education improvement, and (iii) dynamization of local economies. The Company contributes comprehensively to the agenda and goals of the United Nations’ Sustainable Development Goals (“SDG”), with SDG 7 (Affordable and Clean Energy), SDG 6 (Clean Water and Sanitation), SDG 4 (Quality Education), and SDG 10 (Reduced Inequalities) being the most impacted, as follows:

- Access to Public Services: With the purpose of improving access and coverage in basic care of essential public services for vulnerable communities in the areas of influence, in 2024 we obtained the following results:

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- Energy and Gas: Connection of 20,113 new households to gas service in the departments of Meta, Arauca, Casanare, La Guajira, Huila, Cesar, Magdalena, Cundinamarca, Atlántico, Caquetá, Putumayo, Nariño, Valle del Cauca and others.
- Potable Water and Basic Sanitation: 247,107 people benefited from access to potable water in Norte de Santander, Meta, Santander, Atlántico, Cesar, Córdoba, Magdalena, Tolima and Guajira.
- Health: 41,224 people benefited from health sessions and promotion and prevention programs for the most vulnerable population.
- ii. Education: During 2024, we developed various programs and projects focused on achieving greater school permanence and coverage in education, as well as improving educational quality, by which 290,742 children and young people benefited from, equivalent to 4.5% of the 2024 enrollment of public basic and secondary education institutions in the country. This includes interventions such as provision of school kits, school furniture, training for energy transition, teacher training, higher education scholarships, and improvement of educational infrastructure.
- iii. Dynamization of Local Economies: In 2024, we focused efforts on diversifying and dynamizing local economies, promoting programs to encourage productive vocations, job creation, entrepreneurship, and innovation. We also contributed to improving land connectivity and public community infrastructure with the following results:
 - Inclusive Rural Development: Ecopetrol benefited 3,142 families with strengthening of productive capacities and connection with markets in the departments of Arauca, Boyacá, Casanare, Cundinamarca, La Guajira, Magdalena, Meta, Norte de Santander, Putumayo and Santander.
 - Entrepreneurship and Business Development: Ecopetrol benefited 4,862 entrepreneurs, Micro, Small, and Medium-sized Enterprises (MSMEs), and young people with business strengthening and skills development programs.
 - Road Infrastructure: We contributed on 93.10 kilometers of roads in the departments of Cesar, Cundinamarca, Meta, Casanare, Arauca, Atlántico and Tolima.
 - Public Infrastructure of Community Interest: We assisted on 53 infrastructures, including spaces for education, sports, recreation, and culture, promoting meetings for coexistence and citizen participation.

Works in lieu for Taxes: In 2024, the Ecopetrol Group continued leading the implementation of Colombia's "Works for Taxes" program, obtaining the highest participation in the country, with 41 new projects assigned by the Territory Renewal Agency (ART) in this period, worth COP 387,127 million pesos, which is expected to benefit more than 230,428 Colombians. With the assignment of these projects, since the program's creation in 2017, the Ecopetrol Group has accumulated a total assignment of 132 projects, worth COP 1.1 trillion pesos, corresponding to 38.7% of the total assigned.

During 2024, the Ecopetrol Group completed 21 projects for an amount of COP 92,452 million pesos, benefiting more than 146,696 inhabitants in 37 municipalities across nine departments. The Works for Taxes projects include the improvement of 10.5 km of road in Tame (Arauca), Lérída and Venadillo (Tolima), the delivery of equipment to 837 educational centers in the departments of Antioquia, Bolívar, Cesar, Santander, Tolima and Valle del Cauca; as well as the comprehensive equipping of the SENA Agroindustrial Center in Monterrey, Casanare and the equipping of ten Child Development Centers (CDIs) of the Colombian Institute of Family Welfare (ICBF) in Meta.

Social Dialogue Processes: Social dialogue is established as the main tool to promote trust relationships, strengthen the social fabric, and build shared visions of territory within a framework of respect and promotion of human rights. During 2024, Ecopetrol carried out 26 social dialogue processes and 122 dialogue spaces with communities and local institutions. Additionally, Esentia, S.A., developed 108 new meetings with community leaders from Community Action Boards, ethnic communities, local governments, and beneficiaries of social projects, which brought together 1,326 people in 2024.

Ethnic Relations: In 2024, we carried out the following ethnic relationship activities:

- Ecopetrol maintained the relationship with the new Board of Directors of the Asouwa indigenous community for the period of 2022 to 2025, in order to give continuity to intercultural dialogue.
- Ecopetrol held the traditional ethnocultural encounter of the Alto Unuma Meta - Yalaki Reserve to strengthen the knowledge of the cultural identity of the Sikuani people (an indigenous community) of the Alto Unuma Meta reserve and the respectful interaction between cultures that recognize themselves as different and find a common language to communicate, highlighting respect and appreciation for difference and peaceful coexistence.
- Hocol concluded the consultation process that began in 2018 for the GUA 2 exploratory drilling area with 132 Wayuu ethnic communities in the municipality of Maicao.

Dialogue and Participation Initiatives: During 2024, 99 initiatives were developed by Ecopetrol in the different territories of influence where we have a presence, which allowed direct and timely knowledge of the social, economic, cultural, institutional, political, and environmental realities of the territory, fostering participatory and inclusive spaces for rapprochement, ensuring transparent and timely information, managing to interact with more than 84,635 people in 434 spaces. Additionally, within the framework of developing participation scenarios, 341 participation spaces were held with 6,422 people, with Office of Citizen Participation (OPC) Brigades standing out with 1,463 attendees, the “Protecting My Planet” project with 1,631 participants, and Office of Citizen Participation (OPC) talks with 1,388 attendees.

Clean Air and Quality of Fuels

Ecopetrol seeks to promote prevention and mitigation actions for reducing air quality impacts, through a clean air roadmap which aims to reduce emissions of criteria pollutants, and to ensure environmental compliance based on operational practices.

Air quality was identified as a material issue in the 2023 materiality analysis. In the past three years, specific actions have been defined to improve operational discipline and to identify synergies for reduction of criteria pollutants based on ongoing decarbonization initiatives as well as energy transition and clean fuels agendas.

Actions undertaken include verifying internally the criteria pollutants emissions inventory for the 2021-2024 period and the evaluation of key initiatives in accordance with the best practices related to air quality management. As a result, in 2024, Ecopetrol reduced the emission of 1,745 tons of VOC (Volatile Organic Compound) and NOX (Gases Nitric Oxide). Moreover, 2024-2027 targets were defined for the upstream and downstream segments, aiming to gradually reduce nitrogen oxide, sulfur oxide and volatile organic compound emissions, which are expected to be reviewed and updated on yearly basis.

Ecopetrol is also committed to improving fuels quality to contribute to better air quality across the whole country and comply with and exceed fuel quality regulations. Taking advantage of being an integrated company, after April 2018, we have been significantly reducing the sulfur content in our diesel B2 (98% fossil and 2% biodiesel). In 2024, the diesel and the gasoline that we distributed in Colombia had an average of 11 ppm and 43 ppm of sulfur, respectively, below the current local regulations of 15 ppm in diesel and 50 ppm in gasoline. Moreover, in 2024, Ecopetrol started the distribution of premium gasoline with less than 15 ppm of Sulfur to make the introduction of vehicles with cutting edge emissions control technologies viable.

Waste Management

Ecopetrol aims to substantially act on waste prevention, reduction and reuse, based on a circular economy framework. The waste management strategic pillar has three main objectives: (i) source reduction (ii) material recovery, and (iii) implementation of new technologies.

During 2024 a total of 537,060, tons of waste were generated, this represents a decrease in total waste generation compared to 2023 mainly due to (i) the decrease in the generation of metal scrap, (ii) in the generation of oily sludge due to less periodic maintenance, (iii) less soil contaminated with hydrocarbons due to the decrease in the number of barrels spilled in incidents affecting the environment, among others. Additionally, in 2024, the waste recovery rate was 36%, compared to 34% in 2023.

Prevention and Remediation of Environmental Impacts caused by Operational Incidents

During 2024, 25.57 total barrels of oil were spilled due to operational causes in operated assets. From these, two incidents were greater than one barrel with 7.83 barrels spilled, representing a 48.8% decrease compared to 2023. The total value was below the maximum internal threshold of 35.6 total barrels that was set for 2024, achieving the Company's best performance in the last five years. This is the result of the systematic execution of integrity and reliability plans, where more than 200 km of pipes have been replaced between 2022 and 2023, and 80.5 in 2024. Moreover, the following actions were implemented: (i) maintaining line inventory updating, (ii) ensuring coverage of lines' criticality and risk assessments including environmental sensitivity, as well as the preparation of preventive inspection and maintenance plans, (iii) assurance of compliance with the execution of these plans and reliability-based maintenance actions, and (iv) monitoring the health status of high-impact lines.

3.11.1 Energy Initiatives

We have been undertaking significant efforts to make efficient and rational use of energy resources in our production processes and to reduce energy consumption, costs, and carbon dioxide emissions. Our pillars are efficiency, reliability, optimization, and energy diversification.

By 2024, the Ecopetrol Group accumulated an incorporation of 610 MW from non-conventional renewable energy sources into its energy portfolio, 108 MW in construction, 99 MW in execution and the remaining 403 MW in operation, including renewable energy purchases.

Production

During 2024, our production segment had an energy consumption of 5.4 TWh (Terawatts per hour) for its direct operation, of which 53% was provided through self-generation and the remaining 47% with non-regulated energy purchased from the National Transmission System.

In renewable energy:

La Cira Solar farm, located in the municipality of Barrancabermeja, incorporated 44 MW in operation since September 2024 and 12 MW in construction, and Quifa solar project in Puerto Gaitan, Meta with an installed capacity of 50 MW under construction by the end of 2024.

Transport

During 2024, our transport segment had an energy consumption of 1.18 TWh (Terawatts per hour) for its direct operation, from which 60% was provided through self-generation and the remaining 40% was provided by non-regulated energy purchased from the National Transmission System.

In renewable energy:

- CENIT had thirteen solar farms in operation, a small hydroelectric power plant and a solar farm under construction for a total of 82 MW;
- OCENSA had two solar farms in operation for 12 MW; and
- ODC had one solar farm in operation for 7 MW.

Refining

During 2024, Barrancabermeja and Cartagena refinery's average energy consumption was 1.68TWh (Terawatts per hour), provided through self-generation.

In renewable energy:

The Cartagena Refinery Solar farm, located in the municipality of Cartagena, was under construction with an installed capacity of 18 MW. Its commercial operation date is intended to be in the first half of 2025.

La Iguana Solar farm, located in the municipality of Barrancabermeja with an installed capacity of 26 MW, started construction in 2024 and is expected to start its commercial operation in 2025.

3.11.2 HSE

This section describes the health, safety and environmental (HSE) practices of Ecopetrol S.A. Subsidiaries guidelines must be consistent with those established by Ecopetrol S.A.

3.11.2.1 Ecopetrol S.A.

One of the principles that guides Ecopetrol S.A. is the commitment to our employees and the development of the communities in which we operate. For that reason, Ecopetrol S.A. is devoted to improving our health, safety and environmental practices.

The results of the HSE performance in 2024, compared to the prior year, were as follows:

- The severity of occupational incidents decreased in 2024 compared to 2023, with zero fatalities recorded in 2024, as opposed to two fatalities in 2023;
- The Total Recordable Injuries Frequency (TRIF) was 0.28 in 2024, compared to 0.27 in 2023. The TRIF represents the number of employee or contractor injuries that require minimum medical treatment for every million hours worked, including fatalities, days away from work, restricted work and medical treatment cases;
- The incidence of road accidents decreased to two road accidents in 2024, as opposed to five accidents in 2023. Ecopetrol has focused its efforts on technology for the control of vehicles and drivers, implementation of a corporate campaign on road safety focused on controlling driver habits.
- Five Tier 1 process safety incidents in 2024 compared to three incidents in 2023;
- A decreased of 30.65% in the amount of total barrels of oil spilled due to operational incidents with an impact on the environment. In 2024, 25.57 barrels were spilled as compared to 36.9 barrels in 2023, and
- A decrease of 48.8% in barrels of oil spilled due to operational incidents greater than one barrel. In 2024, 7.83 barrels were spilled as compared to 15.29 barrels in 2023

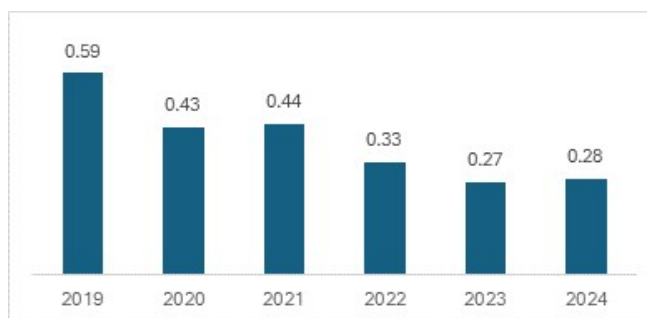
We have several programs in place aimed at increasing the safety of our industrial processes and minimizing the number of occupational accidents and other major incidents. Our HSE management model is based on key focus areas that are aligned with our integrated management system.

Total Recordable Injuries Frequency – Employees and Contractors

Ecopetrol S.A. places an important emphasis on understanding, monitoring, and controlling the health and safety impacts on workers and contractors.

In 2024, 34 recordable injuries occurred, where 20.58% led to restricted work, 14.71% required medical treatment, 64.71% led to lost days, and none of which were fatal incidents. Additionally, we had a 3% increase in the number of recordable injuries compared to 33 injuries in 2023, primarily because of an assurance of high risk activities, improvement of risk analysis in operational activities, prior assurance of HSE risks and skills development, and strengthening HSE skills in refining.

Graph 7 – Total Recordable Injuries Frequency – Employees and Contractors (*) ()**



* Number of employee or contractor injuries requiring minimum medical treatment for every million hours worked.

** Includes data for Ecopetrol S.A. but does not include data for subsidiaries of Ecopetrol.

Contingency Plans and Environmental Remediation

To protect and minimize potential damage to people, the environment, or assets, due to contingencies, Ecopetrol has developed emergency and contingency plans to guarantee immediate, timely and effective intervention in the event of emergencies or contingencies that may occur in our facilities and operations. These plans have been appropriately documented, updated, and distributed internally, with our professionals that oversee these plans having been trained to do so.

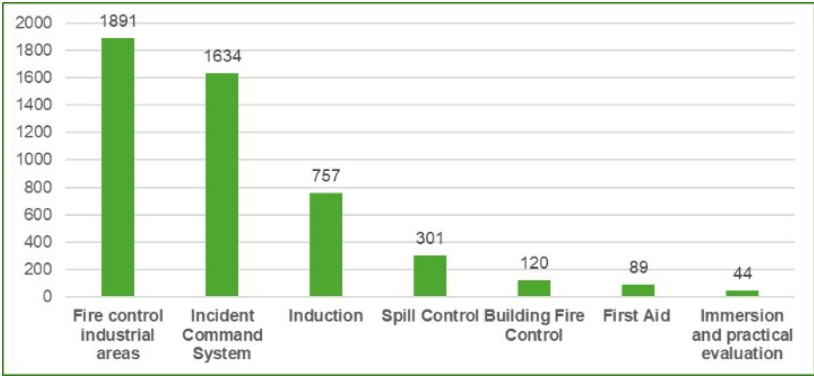
Emergency and contingency response plans are prepared in accordance with Colombian legal requirements and considering internal emergency guidelines. These plans, which have the approval of the ANLA, are articulated with municipal emergency response strategies and risk management procedures of the territories where we operate.

The main results obtained in the implementation of the emergency and contingency plans for 2024 by Ecopetrol S.A. are presented below:

- 41 updated emergency and contingency plans that include identifying emergency and disaster scenarios, strategies, and procedures to respond to emergencies of a technological origin (spills, fires, explosions, events involving hazardous materials, emergencies of natural origin, socio-natural, anthropic, of electrical origin, events that affect people, among others) caused by other types of operational or environmental risks.
- Definition and implementation of resources, equipment, and tools. Planning and management of emergencies under the “Incident Command System” model adopted in 2011 under the USAID – BHA (United States Agency for International Development – Bureau for Humanitarian Assistance) methodology.
- Execution of 19 drill plans in 2024 where all types of emergency scenarios were tested.
- Definition of mechanisms for activation, notification, reporting to entities and authorities, and early warning system to communities.
- Signing of seven mutual assistance schemes with formalized cooperation and coordination schemes in various regions of the country signed with other oil and gas companies located in the geographic area of influence of the Company’s facilities.
- Consolidation and management of geographic, thematic, operational and situational information of emergencies supported by technological enablers such as the OGI (opportunity, geo-positioning and innovation) and COBRA (Ecopetrol’s tool for the creation and operation of an emergency brigade) software.

Ecopetrol S.A. continuously implements training programs for all personnel involved in emergency or contingency response plans. In 2024, 4,836 trainings took place to improve our employees’ skills.

Graph 8 – Trained Personnel 2024



Frequency of Process Safety Incidents

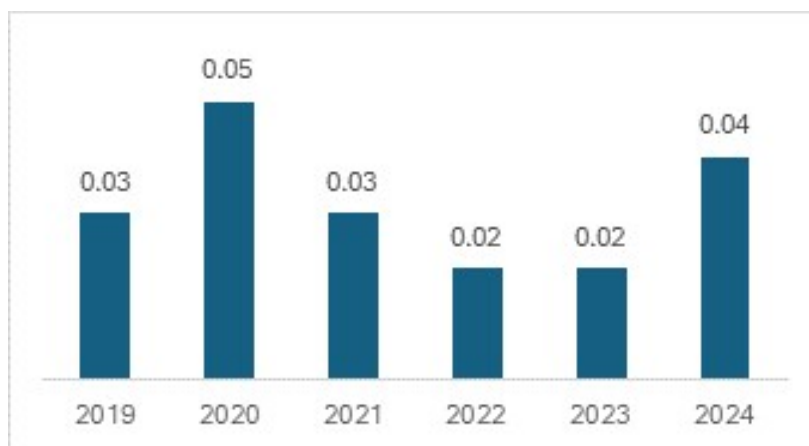
Process safety is designed to achieve the best operational performance by intervening in the highest technological risk and implementing the necessary measures and actions to prevent and mitigate the release of dangerous substances or energy. The impact of these measures is focused on the reduction of operational and occupational accidents with the potential of causing major accidents or disasters, providing an effective management framework for Ecopetrol’s operations, and demonstrating commitment to the first principle of the Company’s cultural statement, “Life First”.

Ecopetrol’s ambition is to become a global benchmark in industrial safety, adopting best practices and undertaking operations under tolerable risk levels for process safety. To this end, the Company works on three fronts: (i) comprehensive risk management (include onsite/ offsite risk, notch risk management, risk management high consequence scenarios), (ii) risk awareness (process safety competency management) (iii) efficient and simple HSE management system (contractor management with process safety focus).

We report Tier 1 process safety events per million hours worked, which are the losses of primary containment of greatest consequence causing harm to a member of the workforce, costly damage to equipment or exceeding defined quantities according to API754. The reporting thresholds for API754 Tier 1 is an unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials, from a process that results in one or more health, safety or environmental consequences set forth under those guidelines. In 2024, there were 0.04 Tier 1 process safety incidents per million hours worked an increase from the 0.02 recorded in 2023.

Frequency of Tier 1 process safety incidents per hours worked (per million hours worked):

Graph 9 – Tier 1 Process Safety Incidents (*) ()**



* Tier 1 process safety incidents per million hours worked (API-754).

** Includes data for Ecopetrol S.A. classified according to the criteria in API-754 Tier 1 but does not include Ecopetrol S.A.'s subsidiaries.

Incidents with an impact on the environment

In 2024, we reported five incidents with hydrocarbon spills greater than one barrel, which affected the environment, with a total spilled volume of 161.49 barrels of hydrocarbon.

Of these five incidents, two were due to operational causes, with a total volume of 7.83 barrels. This represents a 48.8% decrease compared to 2023 (15.29 barrels), an 87.7% decrease compared to 2022 (63.7 barrels), and 95% decrease compared to 2021 (157.76 barrels). The reduction in spilled volume from operational incidents is directly attributed to the implementation of the integrity strategy. The strategy focuses on maintaining an up-to-date pipeline inventory, ensuring adequate coverage of criticality and risk assessments, developing and adhering to preventive inspection and maintenance plans, and monitoring the health of high-impact pipelines. Furthermore, over 200 kilometers of pipelines were replaced between 2022 and 2024 (128 km in 2022 and 2023, and 80.5 km in 2024). The remaining three incidents with spills greater than one barrel were due to attacks and theft by third parties, totaling 153.66 barrels. This represents a 58.67% decrease compared to 371.74 barrels in 2023.

Ecopetrol S.A. monitors performance using the IOGP index for oil spills (>1 barrel) per unit of hydrocarbon production. In 2023, the global Onshore index was 5.39, while Ecopetrol's value was 0.08—reflecting a 98.5% improvement. The 2024 index will be published in Q4 2025.

As of December 31, 2023, reported spills greater than one barrel, whether of operational origin or caused by third parties, are as follows:

- 2022: 141.7 barrels of hydrocarbon
- 2023: 387.03 barrels of hydrocarbon

Corrective and mitigation actions implemented by Ecopetrol S.A.

In due course, Ecopetrol S.A. carried out all the social, environmental, and technical actions to fully attend the event and mitigate potential damages and manage the incident, in compliance with corporate practices, contingency plans and national requirements established in Law 1523 of 2012 and the Decree 1868 of 2021.

Investigations and legal claims

Investigations

As of the date of this annual report the following investigations are being conducted by environmental authorities and control agencies in respect of the incident:

On January 20, 2020, Ecopetrol S.A. was informed that the ANLA, in the course of the administrative process initiated by said authority as a consequence of the events occurred during the Lisama 158 well spill, decided to impose a fine on Ecopetrol S.A. in an amount of COP 5,155 million. In the course of said administrative process, the ANLA exonerated Ecopetrol S.A. from liability for some charges, due to the fact that ANLA evidenced that Ecopetrol S.A. had activated its contingency plan and implemented the corresponding actions. It also mentioned that Ecopetrol S.A.'s environmental control actions were taken in an appropriate manner. Nonetheless, it decided to impose the fine, because the ANLA considered that the actions were not taken in a timely manner and because, it considered that Ecopetrol S.A. did not adopt and implement the necessary actions to correct the mechanic failures in the well, in order to prevent the environmental damage. On February 11, 2020, Ecopetrol S.A. filed a reconsideration appeal before ANLA requesting the reversal of this decision. On February 9, 2021, through Resolution 290, the decision of the ANLA was announced and reduced the fine to approximately COP 3.864 million. The proceeding was closed by the environmental authority.

Ecopetrol S.A. complied with ANLA'S decision and paid the penalty on February 17, 2021. However, Ecopetrol S.A. requested the annulment of the sanction before the High Administrative Court on June 9, 2021. The lawsuit was admitted by the court on February 18, 2022. As of the date of this annual report, the process is ongoing and Ecopetrol S.A. is awaiting the start of the evidence gathering stage.

Ecopetrol S.A. has completed most of the tasks related to the Environmental Recovery Plan for the well Lisama 158 spill, which occurred in 2018. The plan is expected to be fully executed by 2026. The National Specialized Unit against Human Rights Violations – Environmental Crimes Subunit of the Office of The Attorney General opened a criminal investigation into the possible environmental contamination caused by the oil well exploitation, following a request from the Minister of Environment. The case was registered under the file number 110016099043201800044. In August 2021, the prosecutor in charge agreed to grant a conditional suspension of the prosecution, based on a deal with Ecopetrol. We promised to compensate the local fishermen affected by the spill with COP 6,500 million (about 1.4 million dollars) and to restore the environment according to an environmental reparation plan, which consisted of 11 major actions, under the supervision of the ANLA. The first hearing to partially approve the conditional suspension took place on July 28, 2021 before a judge in Barrancabermeja, and the decision was confirmed on November 19, 2021 and March 25, 2022. Later, on May 9 and August 18, 2023, the Sixth Criminal Municipal Judge with Mixed Duties and the Third Criminal Circuit Judge with Knowledge Duties, both from Barrancabermeja, verified in the first and second instance, respectively, that we had fulfilled 100% of the monetary obligations and most of the environmental obligations. The case is currently on hold until we complete the remaining environmental tasks.

Agreement with fishermen and fish traders reviewed by the Prosecutor's Office

On July 28, 2021, Ecopetrol S.A. and a fishermen group certified by the Fishing and Aquaculture National Authority ("AUNAP" for its acronym in Spanish), made an arrangement for an economic recognition regarding the effects of the Lisama 158 event. Ecopetrol S.A. reached an arrangement with AUNAP, as well with the local fish traders associations from Barrancabermeja ASOCORAMB (Asociación De Comerciantes Del Sector La Rampa De La Ciudad De Barrancabermeja) and ASOCOPROPAL (Asociación de Comerciantes de Pescado). Due to these arrangements, 940 fishermen and 118 fish traders received compensation of COP 8,426,680,523. The Prosecutor's Office reviewed and approved such agreement in the application of the discretionary prosecution principle ("*Principio de Oportunidad*" in Spanish). Additionally, two criminal judges have also reviewed and approved the agreement and have monitored and verified its full compliance to the present day. The last of these decisions was issued on August 18, 2023 by the Third Criminal Judge of Barrancabermeja Circuit.

Ecopetrol S.A. simultaneously agreed to continue with the actions contained in the Environmental Recovery Plan (PRA for its acronym in Spanish), which were accepted by the ANLA as environmental recovery of the area affected by the event.

Legal Claims

As of the date of this annual report:

There are two more actions that have been filed before the Administrative Court of Santander, related to the Lisama 158 incident:

Approximately 600 people, members of the community and fishermen who live in the vicinity of where the incident took place, filed a class action in the amount of COP 614,503,232,689, seeking compensation for damages allegedly suffered as consequence of the incident. On September 25, 2020, Ecopetrol S.A. informed Mapfre Seguros Generales de Colombia S.A. that it was seeking to invoke guarantee coverage by the guarantors. As of the date of this annual report the court has not scheduled a hearing date.

Senator Antonio Eresmid Sanguino filed a class action, seeking protection of collective rights (no compensation or indemnification petitions), arguing that the incident led to the destruction of (i) people's health and (ii) damages to the environment caused by the incident.

On October 2, 2018, the Administrative Court of Santander (competent judge) issued an interim measure whereby the latter ordered different authorities and Ecopetrol S.A. to perform various activities to prevent any additional environmental damage to occur.

On January 16, 2020, the High Court for Administrative Matters (Consejo de Estado) revoked the interim measure imposed by the Administrative Court of Santander, considering that with the abandonment of the well "the risk that caused the production of the spill has been surpassed". In its ruling, the High Court for Administrative Matters also mentioned that Ecopetrol S.A. has been taking the necessary actions to solve the damages produced by the incident, and also implemented the actions to repair the alleged damage. As of the date of this annual report, both complaints were properly answered, and we are still awaiting for the commencement of the evidentiary stage.

On March 22, 2018, Ecopetrol S.A. made a claim to Mapfre Seguros Generales de Colombia S.A., based on its Control of Well Policy and received the USD 19 million in October 2019. Thereafter, as a result of the third-party liability policy claim objection, Ecopetrol S.A. has taken the relevant actions to obtain the guaranteed coverage of guarantors. On February 27, 2020, Ecopetrol S.A. filed a lawsuit against Mapfre Seguros Generales de Colombia S.A. to obtain recognition and payment of COP 128,807,833,685 based on civil liability. The court admitted the lawsuit on January 20, 2022, but as of the date of this annual report the court has not scheduled a hearing date.

3.11.2.2 Cenit

Cenit incorporates the Occupational Health and Safety Management System through its "Commitment to Life and Process Safety" element, which defines a set of principles, actions, tools and documentation, articulated among themselves to manage industrial safety risks, health at work, environment and process safety in the Company. The "Commitment to Life and Process Safety" element is based on HSE regulatory compliance, as well as the best practices in the industry, which allows us to protect the integrity of our staff, the environment and infrastructure.

The scope of coverage of the Occupational Health and Safety Management System under its Element Commitment to Life and Safety of Processes, applies to all Cenit workers directly linked, by temporary mission or other type of connection established by law, and/or those who carry out their work in any of the facilities, pipeline network, polyduct network and/or under the control Cenit operation. In addition, it applies to all Cenit processes, activities and tasks carried out by our own personnel, contractors, subcontractors and visitors.

The objective of SG SST Cenit is to define a strategy to achieve results and demonstrating actions that prioritize people's safety, care for the environment and assurance of the operations, with generation of healthy work environments.

The following table covers CENIT's TRIF for 2022, 2023 and 2024, which includes direct employees and subcontractors. The table presents statistics related to the maintenance, operation and execution of projects in the transportation of hydrocarbons.

Table 48 – Performance Indicators⁽¹⁾

Metric	For the year ended December 31,		
	2024	2023	2022
Man-hours	22,324,197	25,144,351	22,682,665
Recordable accidents	12	3	4
Total recordable incidents frequency (TRIF)	0.54	0.12	0.18

(1) Includes data for CENIT but does not include data for subsidiaries of CENIT

3.11.2.3 *Cartagena Refinery*

In 2024, approximately 5,845,318.01 million man-hours were employed conducting Cartagena Refinery's business activities. Our HSE performance indicators for Total Recordable Incidents Frequency (TRIF), Process Safety Incident (PSI), and Environmental Incident (EI) were well within our established expectations.

The following table covers Cartagena Refinery's TRIF for 2022, 2023, and 2024 which includes Ecopetrol Operation and Maintenance (O&M), Cartagena Refinery and subcontractors. The table presents statistics related to operating and maintenance activities. Cartagena Refinery has not reported fatalities during the period 2022 – 2024.

Table 49 – Performance Indicators

Metric	For the year ended December 31,		
	2024	2023	2022
Man-hours	5,845,318.01	4,990,444	7,254,166
Recordable accidents	4	4	2
Total recordable incidents frequency (TRIF)	0.68	0.80	0.28
Environmental Incidents (EI*)	1	—	—
Process Safety Incidents (PSI)	1	—	—

*Incident with hydrocarbon spill greater than 1-barrel due operational causes

3.11.2.4 *ISA*

For ISA and its subsidiaries and affiliates, it is important to protect and preserve the health and safety of workers, regardless of the type of contractual relationship, guaranteeing safe work environments, self-care, and the application of good prevention practices. This high commitment to people is expressed in the occupational health and safety policy, which seeks to offer safe working environments and healthy lifestyles.

ISA monitors two main indicators that contain its goals in terms of safety and health at work and that are part of the comprehensive management chart and variable compensation: (i) reduce events with a high potential for seriousness and (ii) Total Recordable Injury Frequency (TRIF), which is calculated as: the number of injuries from all workplace incidents or illnesses that either took place at work or were the result of work-related activities divided by the numbers of hours worked, multiplied by 1,000,000.

There is a process of continuous improvement of the occupational health and safety management system in ISA's subsidiaries with high-risk activities, whose purpose is to manage occupational hazards and contemplate the execution of activities aimed at protecting the lives of people and that is maintained through the health and safety management systems certified under quality management systems and complying with the provisions of the legislation of each of the countries in which ISA is present.

Accident Management

During 2024, exposure to occupational risk decreased by 1.03%, with 458,222 less man-hours of work compared to 2023, primarily as a result of the implementation of the “Conectados con la vida” (Connected to Life) program, new controls and the implementation of the cultural transformation model. Also, in 2024, the integrated accident frequency rate (own personnel and contractors) decreased by 35.10% with the new TRIF methodology specified below compared to 2023. Throughout the year, the number of work accidents per 1,000,000 hours of work has been lower, as set forth in the table below:

Table 50 – Integrated Frequency Index for Employees and Contractors

Metric	For the year ended December 31,		
	2024	2023	2022
Man-hours worked	43,962,050	44,400,342	48,602,913
Total accidents	88	137	347
TRIF (1)	2.0	3.09	5.66

(1) Before 2022 the calculation method used was the frequency rate.

Fatal Accidents

During 2024, ISA did not have any fatal accidents. However, during 2024, one of ISA’s contractors had a fatal accident.

3.12 Related Party and Intercompany Transactions

Set forth below is a description of material related-party transactions. For additional information about transactions with related parties, see Note 30 to our consolidated financial statements.

Oleoducto Central S.A.S. (Ocensa)

Ecopetrol S.A. has entered into several agreements with its 72.65%-owned subsidiary, Ocensa, of which the following are the most significant:

In March 1995, Ecopetrol S.A. entered into an agreement for the transportation of crude oil through the Ocensa pipeline. Pursuant to the terms of this agreement, Ecopetrol S.A. was required to make monthly payments that varied, depending on both the volume of crude oil transported through the pipeline and a tariff imposed by Ocensa based on Ocensa’s financial projections and their expected volumes of crude oil. On January 17, 2013, this agreement was amended as a result of Ocensa’s new business model. Among other changes, this amendment to the transportation agreement establishes the payment of the tariff, calculated according to resolutions issued by the Ministry of Mines and Energy. In 2013, another amendment was executed that modified the terms by which the payments of invoices should be made. In 2020, an amendment including security standards for the supply chain was executed. On July 29, 2014, after Ocensa implemented and carried out an open process to receive offers to enter into transportation agreements for an extended capacity of approximately 135,000 barrels per day in Ocensa’s pipeline (the P135 Project), Ocensa accepted the proposal made by Ecopetrol S.A. to enter into a ship-or-pay transportation agreement for 70,000 barrels per day of crude.

On November 20, 2014, after a total and definitive assignment agreement that was notified to Ocensa on December 15, 2016, Ecopetrol S.A. became the successor of Hocol, of a ship-or-pay transportation agreement for 17,500 barrels per day, thus increasing our contracted capacity in the P135 Project to 87,500 barrels per day. On July 1, 2017, with the consent of Ecopetrol S.A. and Ocensa, and as contemplated in the Act of Commencement of Operations issued by the Ministry of Mines and Energy (Resolution 31344 dated April 27, 2017), Ocensa started supplying increased capacity in the P135 Project.

On July 17, 2018, Ecopetrol S.A. and Ocesa entered into an amendment to the P135 Project ship-or-pay transportation agreements mentioned above (consisting of a capacity of 87,500 barrels of crude per day) in order to adjust the standard tariff and monetary conditions. This followed Ocesa having entered into a settlement agreement as approved by an arbitration panel with Frontera Energy Colombia and executed on May 15, 2018, pursuant to which the transportation tariff and monetary conditions in Ocesa's ship-or-pay transportation agreement with Frontera Energy Colombia in respect of the P135 Project were adjusted. Therefore, in application of regulatory principles, Ocesa offered similar terms to the remaining shippers of the P135 Project, including Ecopetrol S.A., and executed (i) settlement agreements with those who accepted Ocesa's offer and (ii) the corresponding amendments to the transportation agreements. In 2024, the transportation services provided by Ocesa to Ecopetrol S.A. under these two agreements amounted to USD 1,235.72 million.

On October 28, 2013, Ecopetrol entered into a natural gas supply contract in force until November 30, 2018, pursuant to which Ecopetrol S.A. supplies gas to Ocesa and receives a fixed price per MBTU (Million British Thermal Units). This agreement replaced the contract for natural gas supply in Cusiana entered into in December of 2004, under which Ocesa paid a variable rate to Ecopetrol. Since December 1, 2018, the parties have agreed to extend the term of the agreements for one-year terms, most recently on November 25, 2022, when the term of the agreement was again extended for another one-year term until November 24, 2023. In January 2022, Ecopetrol and Ocesa entered into a crude oil supply contract, pursuant to which Ecopetrol is required to supply blending and light mixing crude oils for the operation of Ocesa's pumping equipment. The price of the contract is determined by a formula for each type of crude oil. The term of the contract is one year, renewable for an additional one-year term. In 2024, Ecopetrol S.A. received an aggregate sum of USD 21.74 million, with taxes included.

Ecopetrol and Ocesa also have a gas supply agreement for the electricity generation of the Cusiana pump station. The term of the contract is one year, renewable for an additional one-year term. In 2024, Ecopetrol S.A. received an aggregate sum of USD 4.97 million.

Ocesa has entered into the following agreements, among others, with some of our other subsidiaries:

In March 1995, Equion and Santiago Oil Company entered into agreements for the transportation of crude oil through the Oleoducto Central S.A. (Ocesa) pipeline. Equion and Santiago Oil Company held 5% of transportation rights in Ocesa. In 2014, the transportation fees billed by Ocesa were: Equion (USD 44.4 million), Santiago Oil Company (USD 3.8 million) and Hocol (USD 30.8 million). On January 17, 2013, this agreement was amended as a result of Ocesa's new business model. Among other changes, the amendment to the transportation agreement establishes that tariff payments are to be calculated according to resolutions issued by the Ministry of Mines and Energy, and that the transportation capacity is expressed as a number of barrels for each segment of the pipeline. On May 23, 2013, another amendment was executed that modified the terms by which the payments of invoices should be made. On October 26, 2022, Equion and Santiago Oil Company made a total and definitive assignment of their transportation agreements with Ocesa, to J Energy Colombia SAS. In 2024, Ocesa provided transportation services to Hocol, as assignee of transportation rights from original shippers and was paid USD 23.47 million for such services.

Oleoducto de Colombia S.A. (ODC)

Ecopetrol S.A. entered into the following agreements with its 78.19%-owned subsidiary, ODC: In July 1992, a ship-and-pay agreement was signed for the transportation of hydrocarbons. Pursuant to this agreement, Ecopetrol S.A. must pay a previously agreed tariff for the volume of hydrocarbons transported. The duration of this agreement is indefinite; however, the contract is intended to remain in force as long as Ecopetrol S.A. holds shares in Oleoducto de Colombia S.A., whether directly, or through an affiliate. As of January 2013, the parties agreed that the applicable tariff would be the one set by the Ministry of Mines and Energy (the MME Tariff). The tariff was updated by the MME in September 2024, valid until June 2025. In 2024, payments made by Ecopetrol S.A. under this agreement amounted to USD 168.41 million.

ODC has entered into the following agreements with some of our other subsidiaries:

Between March 1992 and January 1993, Hocol, Equion and Santiago Oil Company each entered into agreements with ODC for the transportation of crude oil through the Vasconia-Coveñas pipeline. The term of each of these agreements is indefinite. As of January 2013, the applicable tariff is the one set by the Ministry of Mines and Energy. In 2024, the transportation fees billed by ODC were: Equion (USD 0.03 million) and Hocol (USD 2.67 million). On December 23, 2022, ODC entered into a crude oil transportation contract with Equion. The term of this agreement is one year, effective as of January 1, 2023. The agreement applies the current tariff established by the Ministry of Mines and Energy. On December 26, 2023, an amendment to the agreement was executed to extend its term for an additional year. On December 26, 2024, another amendment to the agreement was executed to extend its term for an additional year. As of December 31, 2023, the advance payment balance is USD 0.004 million.

Oleoducto de los Llanos Orientales (ODL)

Ecopetrol S.A. has entered into the following agreements, among others, with its 65%-owned subsidiary, ODL:

In December 2009, Ecopetrol S.A. entered into a service agreement with ODL to transport crude oil. This agreement was subsequently replaced in January 2014 by a new agreement that expired in December 2020. The contract stipulated a ship-or-pay clause for the transportation of 167,000 barrels per day (bpd) in 2014, 149,000 bpd in 2015 and 139,000 bpd until 2020. In January 2017, the agreement was amended to maintain the economic and commercial balance for the parties, based on changes to the system's standard condition of the system (to transport crude oil with a 690 cStk viscosity), reducing the "ship-or-pay" capacity from 139,000 bpd to 129,139 bpd until December 2020. On March 5, 2021, Ecopetrol S.A. and ODL entered into an amendment that adjusted terms and definitions, allowing for the transportation of barrels that had been paid but not transported. On November 25, 2021, an amendment was made to adjust terms and definitions of the applicable TRM and to extend the term for providing ship-and-pay transportation services until November 2026. Payments by Ecopetrol S.A. under this contract were COP 1,096.31 billion in 2024.

On August 1, 2015, ODL entered into an indefinite management agreement with Oleoducto Bicentenario by means of which ODL receives legal representation and provides management services to Oleoducto Bicentenario. On August 1, 2017, the agreement was amended in order to change the way ODL is remunerated by this service, improving the structure of the agreement. Pursuant to the terms of this agreement, Cenit paid to ODL COP 4.84 billion plus applicable taxes in 2024, as a result of the merger between Oleoducto Bicentenario and Cenit.

Ecodiesel

Ecopetrol S.A. entered into a supply agreement for the Barrancabermeja refinery, with Ecodiesel Colombia S.A. ("Ecodiesel"), a company in which Ecopetrol S.A. has a 50% equity interest. The current agreement began on February 1, 2021 ("renewed agreement") and expires on January 31, 2026. Pursuant to the terms of the renewed agreement, Ecodiesel must deliver to Ecopetrol S.A. and Ecopetrol S.A. must, in turn, purchase a minimum of 50,880 barrels of Ecodiesel's biodiesel production each month. Payments vary depending on the purchased volumes and the prices of biodiesel. In 2024, Ecopetrol S.A. paid a total of COP 516.34 billion under the current agreement.

Additionally, Ecopetrol S.A., as Cartagena Refinery's legal agent, signed another supply agreement with Ecodiesel on October 1, 2020, that is valid until September 30, 2023 and on October 4, 2023, Ecopetrol S.A. as Cartagena Refinery's legal agent, signed a new supply agreement with Ecodiesel, that is in effect until March 31, 2025. On March 31, 2025, Ecopetrol S.A. as Cartagena Refinery's legal agent, signed a new supply agreement with Ecodiesel, that is in effect until March 31, 2028. Pursuant to the terms of the first this agreement, Ecodiesel must deliver to Cartagena Refinery, and Cartagena Refinery must in turn purchase a minimum of 10,400 barrels of Ecodiesel's biodiesel production each month. In 2023, Cartagena Refinery paid a total of COP 100.2 billion to Ecodiesel under this agreement. Under the terms of the new agreement, Cartagena Refinery must purchase a minimum of 12,000 barrels of Ecodiesel's biodiesel production on a monthly basis. In 2024, Cartagena Refinery paid a total of COP 120.42 billion to Ecodiesel under this agreement.

In 2024, Ecopetrol S.A. bought COP 516.34 billion worth of biodiesel from Ecodiesel for its own consumption and COP 120.42 billion worth of biodiesel for Cartagena Refinery's consumption.

Savia Perú S.A.

On February 19, 2016, Ecopetrol S.A., as lender and shareholder of 50%, and Savia Perú S.A., as borrower, entered into a five-year loan agreement for an aggregate principal amount not to exceed USD 70 million. The proceeds of the facility were used to (i) repay short term loans and (ii) pay shortfalls related to final judgments (in case they materialize). The loan agreement accrues interest at an annual rate of 4.99%, which can be adjusted on an annual basis, with semi-annual interest payments and principal payments beginning on the 21st month following the disbursement date. Total disbursement was USD 57 million through the disbursement period ended on December 31, 2017. On December 11, 2019, Ecopetrol S.A. and Savia Perú agreed on an amendment to the terms of the loan agreement, in order to revise the payment schedule of the loan, without changing the original maturity, nor the interest rate. As of December 2020, the outstanding balance of the obligation with Ecopetrol S.A. is USD 28.3 million under the loan agreement. KNOC, as shareholder of the other 50% of Savia Perú S.A., signed a facility under the same terms and conditions as described above.

On January 19, 2021, Ecopetrol S.A. signed a Share Purchase Agreement with De Jong Capital LLC, through one of its subsidiaries as buyer, pursuant to which Ecopetrol S.A. sold its 50% ownership interest in Offshore International Group Inc. (OIG; Savia Perú's parent company). KNOC also sold its participation on OIG (the remaining 50%) to De Jong Capital LLC, under the same terms and conditions as Ecopetrol S.A.

On the same date, Ecopetrol S.A. and Savia Perú agreed on an amendment to the terms of the loan agreement described above, in order to revise the payment schedule of the loan and its maturity, with the interest rate remaining unchanged.

After the occurrence of an event of default due to failure to make a principal repayment by Savia Perú S.A. on September 2021, a restructuring process began in coordination with KNOC which sought to maximize the possibility of recovering the outstanding loan. The process concluded in February 2022 with the execution of a new set of documentation that incorporates: (i) an increase in the interest rate to 6.5%, (ii) the creation of a pledge over 100% of the shares of Procesadora de Gas Pariñas S.A.C. (a subsidiary of OIG), (iii) the creation of a trust structure holding the collection rights of Savia Perú S.A. derived from its sales to PetroPeru with Ecopetrol and KNOC as beneficiaries, (iv) monthly interest and principal payments, (v) mandatory prepayments under certain specific circumstances, and (vi) the obligation by Savia Perú S.A. to apply commercially reasonable efforts to prepay all the loans with any excess cash. The final maturity of the loan was December 2023.

As of the date of this annual report, Savia Perú has no pending or outstanding obligations to Ecopetrol S.A., under this loan agreement. Savia Perú is no longer a related party to the Ecopetrol Group.

Transactions with Other State-Controlled Entities

In the ordinary course of business, we enter into transactions with other state-owned enterprises that include but are not limited to the following:

- Selling and purchasing goods, including crude oil purchases of ANH royalties (see below);
- Selling and purchasing properties and other assets;
- Rendering and receiving services;
- Leasing assets;
- Depositing and borrowing money; and
- Using public utilities.

We have an agreement with the ANH by which we purchase all crude oil delivered to the ANH as royalties and economic rights by us and by third parties. The purchase price is calculated according to a formula set forth in a contract between Ecopetrol S.A. and the ANH that reflects our crude export sales prices, a quality adjustment for API gravity and sulfur content, transportation rates from the wellhead to the export ports or internal refineries, marketing fee and diluent cost. We export and incorporate into Ecopetrol's refining segment the physical product purchased from the ANH as part of our ordinary business.

For the period between January 2024 and December 2024, we purchased 35.5 million barrels of crude oil from the ANH corresponding to royalties and economic rights paid in kind by oil producers in Colombia. The previous agreement between the ANH and us ended on June 30, 2023, and a new agreement was then executed by ANH and us for a term of July 2023 to June 2026. See section [Business Overview—Applicable Laws and Regulations—Regulation of Exploration and Production Activities—Business Regulation—Royalties](#) for a description of the current royalty scheme.

The ANH is a state agency responsible for the administration and regulation of the nation's hydrocarbon resources and therefore it is controlled by the State. The State's control of the ANH arises from the fact that it is a state agency and hence a part of the Colombian Government. On the other hand, Ecopetrol S.A. is a state-owned enterprise and the Nation's control of Ecopetrol S.A. results from the fact that it is one of our shareholders and owns more than a majority of our common shares. Neither Ecopetrol S.A. nor the ANH have the ability to control each other's actions. Notwithstanding that as a matter of Colombian law neither entity can influence the other, as a matter of U.S. regulation, they are considered to be under common control.

In addition, as an importer and refiner of hydrocarbons in Colombia, Ecopetrol S.A. and Cartagena Refinery are counterparties of the FEPC. See section [Business Overview—Applicable Laws and Regulations—Regulation of Refining and Petrochemical Activities—Regulation Concerning Production and Prices—Fuel Price Stabilization Fund \(FEPC\)](#). Pursuant to that regulatory framework, for the year ended December 31, 2024, Ecopetrol S.A. recorded COP 5.96 trillion in accounts receivable due from FEPC, while Cartagena Refinery recorded COP 1.66 trillion in accounts receivable due from FEPC.

3.13 Insurance

As part of the risk retention and transfer strategy, the Ecopetrol Group has insurance programs that seek local and international coverage for assets, operations and personnel in the upstream, midstream and downstream segments for hydrocarbons and electric power transmission and toll roads concessions, as summarized below.

Also, as part our insurance strategy, Ecopetrol has a wholly owned subsidiary denominated Black Gold Re Limited (BGRé), which is a Captive Reinsurance company that began operations on August 24, 2006 and is in charge of overseeing and optimizing the management of the Ecopetrol Group's Corporate insurance program. BGRé meets its objectives by adjusting the levels of transfer and retention of risk, with the goal of protecting the Ecopetrol Group's assets and operations, strengthening negotiation capabilities in the insurance market and minimizing adverse effects from market cycles.

BGRé designs and implements retention and risk transfer strategies, according to the needs of each business segment, optimizing the placement of the corporate insurance program, generating technical and economic efficiencies for the Ecopetrol Group.

In 2024, BGRé increased its level of retention from USD 145 million to USD 185 million, supported by a retention capacity study, which was carried out in 2024.

As of the date of this annual report, the policies in which retention has been successful are Property All Risk, Sabotage & Terrorism (S&T), Crime, Cyber, as well as deductible differences (DID Multi).

The Ecopetrol Group also has a directors' and officers' (D&O) liability insurance policy.

Finally, ISA also has a robust underwriting strategy that provides coverage for the main risks and complies with its risk retention and transfer guidelines. Below you will also find the detailed scope of its program.

3.13.1 Upstream, Midstream and Downstream

We have a clear and defined corporate policy based on risk financing guidelines that summarizes the Company's risk transfer and retention alternatives and provides support and guidance for all the insurance-related issues of all our affiliated and subsidiary companies.

As a proactive strategy to deal with the hardening conditions of the worldwide reinsurance market until 2019, in July 2020, Ecopetrol S.A. became a member of the Everen, which is an energy industry mutual insurance company based in Hamilton, Bermuda, established since 1972. This organization operates based on the concept of mutualization, in which several companies threatened by similar risks and with comparable exposure profiles decide to constitute a common fund, based on the individual contribution of each one, depending on the size of their operation and the estimated losses they may suffer as a result of the materialization of such risks. Everen is insuring almost USD 4 trillion of global energy assets. Its credit rating is A (S&P) and A2 (Moody's). Currently, 72 companies in the world are members of Everen. Ecopetrol Group, as a member of Everen, has access to cost-effective insurance capacity with a minimum deductible of USD 10 million and up to USD 450 million per occurrence for all owned assets.

Under the model described above, the corporate insurance program has been consolidated in two main categories:

- (i) Category A: Coverage through Everen and reinsurance market that includes the risks of physical damage, control of wells and leakage, pollution or contamination (which for the purposes of this annual report, are included in the limit of the third-party liability coverage).
- (ii) Category B: Coverage only through the traditional insurance and reinsurance market that includes third party liability, directors and officers, cargo, crime, charterers' liability, and cyber-attack insurance.

These structures provide coverage for our consolidated downstream, upstream, and midstream operations in excess of our local insurance programs (when applicable).

In the tables below, we set forth our insurance program for our downstream, upstream and midstream operations and the companies covered, along with related limits and coverage details.

Table 51 – Category A: Coverages through the Everen and Reinsurance and Insurance Market for the Downstream Segment

USD Millions Policies	Limit (eel / agg) ⁽¹⁾		Deductible		Ecopetrol	Cartagena Refinery	Esenttia
	Onshore	Offshore	Onshore	Offshore	Downstream		
Property all risk	2,300	N/A	5.0	N/A	X	X	X
Sabotage and terrorism	600	N/A	0.5	N/A	X	X	X

(1) Eel: each and every loss. Agg: Aggregate.

Table 52 – Category A: Coverages through the Everen and Reinsurance and Insurance market for the Upstream segment

USD Millions Policies	Limit (eel / agg) ⁽¹⁾		Deductible		Ecopetrol	Hocol	ECP America	Permian
	Onshore	Offshore	Onshore	Offshore	Upstream			
Property all risk ⁽²⁾	650	650	1.0	1.0	X	X	X	X
Sabotage and terrorism	450	450	0.5	0.5	X	X	N/A	N/A
Control of wells ⁽³⁾	800	800	1.0	5.0/6.0	X	X	X	X

(1) Eel: each and every loss. Agg: Aggregate.

(2) USD 200 million Property All Risk but USD 350 million Maximum Loss limit and in the aggregate in respect of earthquake. Everen limit of USD 450 million applies as primary layer of those limits.

(3) USD 350 million Control of Wells Maximum Loss limit. Everen limit of USD 450 million applies as primary layer of those limits.

Table 53 – Category B: Transversal Coverages through the Traditional Insurance and Reinsurance Market for the Downstream, Upstream and Midstream Segments

USD Millions	Limit (eel / agg) ⁽¹⁾	Deductible	Ecopetrol	Cartagena Refinery	Esentia	Esentia MB	Equión	Hocol	Santiago Oil	ECP America	Permian	Brazil	Cenit	Ocensa	ODL	OBC	ODC	Invercols	ECP Trading Asia	ECP Trading LLC
Policies																				
Third party liability ⁽²⁾	500	10.0	X	X	X	X	N/A	X	N/A	X	X	N/A	X	X	X	N/A	X	N/A	X	X
Crime	60 / 120	0.5	X	X	X	X	X	X	N/A	X	X	X	N/A	N/A	N/A	N/A	N/A	X	X	X
Directors & Officers	161	Various	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Cargo	50 / 120	3% dispatch	X	X	N/A	N/A	N/A	X	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X	X
Charterers	750	0.02	X	X	N/A	N/A	N/A	X	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X	X
Cyber ⁽³⁾	85 / 150	Various	X	X	X	X	X	X	X	X	X	X	X	X	X	N/A	X	X	X	X

(1) Eel: each and every loss. Agg: Aggregate.

(2) Ecopetrol Permian's limit is USD 175 million.

(3) Coverage through the Everen and reinsurance and insurance market. Coverage under section 1 (buyback for property) does not apply to midstream subsidiaries.

Our third-party liability insurance policy covers Ecopetrol S.A., our subsidiaries and affiliates in excess of local underlying policy limits for claims made against them by third parties. Our commercial general liability coverage will pay on behalf of or indemnify amounts for which an insured becomes legally obligated to pay, including damages in respect of bodily injury, property, pollution, and product liability. Coverage of bodily injury and property damage is subject to coverage territory during the policy period. The Ecopetrol Group also has a directors' and officers' (D&O) liability insurance policy.

Ecopetrol S.A.'s midstream subsidiaries continue having an independent program for their oil transportation companies (including crime and D&O policies).

Table 54 – Midstream's Program

USD Millions	Limit (eel / agg) ⁽¹⁾		Deductible		Cenit	Ocensa	ODL	OBC ⁽⁷⁾	ODC
	Onshore	Offshore	Onshore	Offshore					
Policies									
Property all risk ⁽²⁾	200	200	0.5	0.5	X	X	X	X	X
Sabotage and terrorism ⁽³⁾	70/25	30	0.075	0.15	X	X	X	X	X
Third party liability	100	100	0.1/0.5	0.5	X	X	X	X	X
Environmental Liability ⁽⁴⁾	20	N/A	1.0	N/A	X	X	X	X	X
Directors & Officers ⁽⁵⁾	100	N/A	N/A	N/A	X	X	X	X	X
Crime	50	N/A	0.175	N/A	X	X	X	X	X
Cyber ⁽⁶⁾	15	15	0.5	0.5	X	X	X	X	X

(1) Eel: each and every loss. Agg: Aggregate.

(2) USD 200 million each company and an aggregated excess shared limit of USD 750 million (aggregate for the policy period 18 months).

(3) Does not include Caño Limón – Coveñas (CLC) and Oleoducto Transandino (OTA) systems owned by Cenit.

(4) Environmental liability gradual pollution coverage, which consists of two different policies; one for pipelines and one for stations.

(5) Aggregate limit increased to USD 100 million worldwide coverage. Deductible only for coverage No.2 in the USA.

(6) Cyber Risk. Property damage exclusion which includes buy-back coverage.

(7) All insurance coverages were transferred to Cenit, as a result of the merger between Oleoducto Bicentenario and Cenit on December 28, 2023.

(8) Onshore deductible of USD 0.1 million, except for seepage and pollution of USD 0.5 million.

Regarding the offshore operations in the U.S. Gulf Coast, Ecopetrol America LLC is party to Operating Agreements, or OAs, that include customary conditions, and which contain similar terms and provisions to those in the Model Form of Offshore Deepwater Operating Agreement of the American Association of Professional Landmen. In general, pursuant to these OAs, the obligations, duties, and liabilities of the contract parties are several, and not joint or collective, for all operations covered by the OAs.

Regarding the onshore operations in the U.S., Permian has been included since its beginning in the Control of Wells, D&O, and cyber and crime policies. In 2020, we obtained a stand-alone policy for the third-party liability coverage. Ecopetrol S.A. has a contract with an insurance broker for local policies related to domestic operations. The local policies relate to transit, accidents, mandatory policies, liability mandatory policies, and personal accidents policies, among others.

Our corporate insurance program is focused on addressing insurance needs related to operating a hydrocarbons-oriented business, however, the “Risk Retention and Transfer” strategy is currently designing and reviewing our current insurance needs in order to get coverage for the new energy transition projects. We are constantly monitoring the international insurance markets to analyze and review alternatives solutions and assure proper coverage for future projects. In 2025, we intend to continue our review of different coverage alternatives for the energy transition segment, seeking to start implementing as soon as the Company gets ready to begin the low emission projects.

3.13.2 *Electric Power Transmission and Toll Roads Concessions*

ISA and its subsidiaries have a robust insurance program, which sets basic guidelines for its risk retention and transfer policy. Consistent with its insurance guidelines, ISA transfers risk to the traditional market under regional and local insurance programs. We are currently assessing the potential for efficiencies to optimize ISA’s risk retention and transfer strategy.

In order to strengthen its insurance program, in 2014, ISA registered Linear Systems Re as the captive insurance company for the group. As of the date of this annual report, Linear Systems Re has USD 11.5 million as shareholder equity and participated in the placement and risk retention of property damage, sabotage & terrorism policies allowing direct access to the commercial reinsurance markets. In 2024, Linear Systems Re increased its level of retention to USD 1 million annually, according to the retention capacity study carried out during 2024.

Likewise, along with the corporate risk team and its brokers, on an annual basis, ISA examines the need to conduct various analyses, such as Probable Maximum Loss studies, Estimated Maximum Losses, to support and/or define coverages, limits and deductibles among others.

The insurance program responds to high placement standards, which include, among many others: (i) hiring policies with reinsurers with a minimum rating standard of A- or higher, and (ii) contracting with insurance companies and brokers that are present across all the countries in which ISA operates.

According to the above, the main policies of the corporate insurance program correspond to the following:

Table 55 – ISA’s Program

USD Millions	Limit (eel / agg) ⁽¹⁾	Deductible	ISA & Colombia	Perú	Chile	Bolivia	Brazil	Argentina
Policies								
Property all risk ⁽²⁾	80	Various	X	70	80	10	22	N/A
Sabotage and terrorism (S&T)	50	Various	X	20	20	10	N/A	N/A
Equipment Electric (EE) ⁽³⁾	172	10 %	X	48	15	N/A	N/A	N/A
Construction All Risk	75	10 %	X	X	X	N/A	X	N/A
Directors & Officers	60	N/A	X	X	X	X	10	N/A
Cyber ⁽⁴⁾	35	Various	X	X	X	X	X	N/A
Crime	15/30	0.20	X	X	X	1	N/A	N/A

(1) Eel: each and every loss. Agg: Aggregate.

(2) The deductible of 2% loss and a minimum that depends on the sum insured for machinery and equipment in each country.

(3) A 10% deductible applies on each and every loss above USD 250. Deductible applies 10% each and every loss with a minimum of USD 250.

(4) The policy is composed of two limits: (i) Traditional Cyber, with a limit of USD 35 million, and (ii) cyber damage, with a limit of USD 25 million, excess of 2% insurable value of the asset. The program is placed as a master program in Brazil for regulatory purposes.

Note: Different coverages and conditions may apply in each country for each subsidiary.

The policies detailed above for Ecopetrol Group, are subject to particular conditions, limits, sub-limits, deductibles, guarantees and exclusions applying for each line of insurance and each coverage. For purposes of this annual report, only the main limits and deductibles were mentioned in each group.

3.14 Human Resources/Labor Relations

3.14.1 Employees

As of December 31, 2024, the Ecopetrol Group had 19,581 employees, a decrease of 0.4% compared to 2023, equivalent to 76 employees, primarily due to a staffing change aligned with the retirement plan and number of retirees.

The table below presents the breakdown of our employees according to the business segments where they work, and the personnel of our subsidiaries for the years ended December 31, 2024, 2023 and 2022.

Table 56 – Ecopetrol Group’s Employees

	For the year ended December 31,		
	2024	2023	2022
	(Number of employees)		
Ecopetrol S.A.			
Hydrocarbons			
Upstream			
Exploration	205	211	191
Production	2,563	2,624	2,334
Others	1,273	1,268	1,391
Total Upstream	4,041	4,103	3,916
Downstream			
Refining	2,522	2,576	2,532
Marketing	—	—	—
Others	—	—	—
Total Downstream	2,522	2,576	2,532
Transport	—	—	—
Others	123	—	—
Marketing*	157	162	142
Total Hydrocarbons	6,843	6,841	6,590
Low-Emissions Solutions	138	108	95
Total Operations	6,981	6,949	6,685
Corporate	2,684	2,901	2,811
Total Ecopetrol S.A.	9,665	9,850	9,496
Ecopetrol America LLC.	20	22	36
Ecopetrol Permian LLC.	47	54	54
Ecopetrol USA	37	37	36
Ecopetrol US Trading	6	3	—
Capital AG	1	1	—
Bioenergy S.A.S.	—	—	—
Bioenergy Zona Franca S.A.S.	—	—	—
Hocol S.A.	397	400	367
Equion Energía Limited	18	24	23
Oleoducto Central S.A.	281	277	272
Oleoducto de Colombia S.A.	40	28	26
Oleoducto de los Llanos S.A.	69	77	75
Oleoducto Bicentenario de Colombia S.A.S.*	—	—	—
Refinería de Cartagena S.A.S.	43	43	47
Ecopetrol Óleo e Gás do Brasil Ltda.	34	38	37
Esentia S.A.	406	422	416
Esentia MB	39	41	41
Cenit Transporte y Logística de Hidrocarburos S.A.S.	1,142	1,140	1,107
Invercolsa	2,226	2,181	2,153
Ecopetrol Energía S.A. E.S.P	—	—	—
Ecopetrol Asia Trading	9	8	4
Electric Power Transmission and Toll Roads Concessions			
Interconexión Eléctrica S.A. E.S.P	5,101	5,011	4,713
TOTAL	19,581	19,657	18,903

*On December 28, 2023, Oleoducto Bicentenario merged with Cenit Transporte y Logística de Hidrocarburos S.A.S., with Oleoducto Bicentenario ceasing to exist and all of its assets and liabilities, rights and obligations being assumed by Cenit Transporte y Logística de Hidrocarburos S.A.S.

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As of December 31, 2024, Kalixpan Servicios Técnicos, S. de R.L. de C.V. was in liquidation, and Topili Servicios Administrativos S. de R.L. de C.V. was acquired by Esenttia and did not have direct employees. Additionally, Ecopetrol Global Energy and Black Gold RE did not have direct employees.

During 2024, 568 employees left Ecopetrol due to voluntary or dismissal retirement at the professional-technical, operative and management level. Therefore, as of December 31, 2024, the Ecopetrol's employee turnover rate was 5.88%. We calculate the employee turnover rate by dividing the number of employees who left the company by the total number of employees at the end of the period.

Ecopetrol is implementing a new operating model, referred to as project “Átomo”, designed to support the delivery of its long-term corporate strategy. This group-wide effort focuses on adapting the organization to the differentiated nature of each of its business lines (Hydrocarbons, Energies for the Transition and Transmission), allowing them to be more autonomous, agile, and specialized. This redesigned model is intended to strengthen synergies across our businesses and provide the appropriate level of guidance from the corporate center to the business lines —enabling speed of execution, efficiencies, and value capture.

Loans and investment in training and development for our employees

To improve the quality of life of our employees, Ecopetrol S.A. extends various types of loans to its employees, including housing loans and general-purpose loans and the amount depends on the applicant's position level and payment capacity. Ecopetrol S.A. does not guarantee any loans made by third parties. In 2024, Ecopetrol S.A. extended 1,662 housing loans for a total of COP 734.95 billion, education loans for a total of COP 2.28 billion and 3,035 general-purpose loans for a total of COP 75.77 billion. In 2024, Ecopetrol S.A. also provided on-site and external training and development, which totaled to COP 34.12 billion, and it extended a total of COP 269.6 billion in subsidies for education.

We have not provided loans (including housing loans), extended, or maintained credit lines, arranged for the extension of credit by third parties, materially modified or renewed an extension of credit lines, in the form of a personal loan to or for any of our executive officers since our ADSs were registered under the Exchange Act.

We do not offer loans to any of our executive officers.

Labor Regulation

In accordance with Article 123 of the Colombian Political Constitution and Article 7 of the Law 1118 of 2006, our employees are considered “public servants,” even though they are subject to the common labor law. As such, their conduct is subject to the rules of those who manage public goods and assets and can be considered responsible for their illegal actions and omissions in accordance with the following regimes: (i) disciplinary (Law 1952 of 2019), (ii) criminal or (iii) civil.

Principles of the Culture Statement

The Ecopetrol Group has made progress in consolidating the Principles of the Corporate Culture Statement: (i) life first, (ii) ethics and transparency, (iii) excellence, (iv) leadership, (v) innovation and (vi) collaboration.

According to the results of the Culture and Work Environment 2024 survey, made with the support of the Great Place to Work® Institute, with 11,697 persons, 97% (favorability) of the workers affirmed ‘knowing and promoting the six principles of the Ecopetrol Group's Cultural Statement’.

This survey, of international standard, included questions related to three main topics: (i) “Culture”, focused on the extent to which employees behave in a manner consistent with the “Culture Statement”; (ii) “Leadership”, focused on how people in leadership positions in the Company encourage the behaviors expected of employees and create positive work environments; and (iii) “Work environment”, focused on the experience employees and their satisfied:

- 77.8 is the Ecopetrol Group's Bonding Index which positions it in an ‘outstanding’ stage according to the valuation scale established by Great Place to Work®. This index summarizes the strength of the bond that unites the employee to the organization, based on the joint consideration of transactional and affective aspects.

- 64.9 is the Work Environment Index of the Ecopetrol Group, which places it in a 'Very Satisfactory' stage according to the valuation scale established by Great Place to Work®. This synthesizes the achievement reached by the organization in all aspects that summarize the employee's experience.

Diversity and Inclusion

We are committed to adding value to diversity, embracing differences, and fostering the development of increasingly inclusive environments where all individuals feel welcomed, appreciated, treated with fairness and respect, and where they receive equal opportunities to contribute their best. The Company develops workplace practices aligned with this framework, applicable to the Board of Directors, senior executives, and all individuals working in Grupo Ecopetrol (GE). In 2024, Ecopetrol updated its Diversity, Equity, Inclusion and Belonging Strategy (DEI&P), called Human Wealth. The purpose of the strategy is to incorporate the DEI&P in the culture of the Ecopetrol Group, through products and services that allow territorial dialogue, safe environments for all people and the generation of alliances with actors that value human wealth.

This purpose is leveraged by four strategic lines:

- Human Wealth Approach in the regions: incorporation of relationship models with all stakeholders.
- Vanguard pedagogy: implementing a pedagogical model in line with the needs of the people in the organization.
- Reasonable Adjustments for Human Wealth in all processes.
- Strategic, sensitive and empathetic relationships with communities and group companies.

Also, our strategy is comprised of 6 perspectives, which include: Ethnicity, Gender, Disability and caregiving practices, Generations, Reconciliation y Socio-cultural groups.

We made progress in our objective of providing a more inclusive experience for all our stakeholders and achieving high standards of diversity and inclusion:

- Inclusive environment: people evaluate their experience in terms of diversity and inclusion with a 92% favorability.
- Ecopetrol was awarded the third ranking company in the practice of Diversity, Equity and Inclusion in Latin America by the CNC (*Centro Nacional de Consultoría*) and received recognition for its progress in the gender perspective from peer companies that participated in the Ranking of Inclusive Companies.
- Ecopetrol reaffirmed its commitment to gender equity by implementing the Equipares Gold Seal, an initiative of the Ministry of Labor and the United Nations Development Program UNDP.

3.14.2 Collective Bargaining Arrangements

Ecopetrol S.A.

The collective bargaining agreement was signed with the Workers Union of the Petroleum Industry – USO, ADECO, SINDISPETROL, ASINTRAHC, SINTRAMEN, ASOPETROGAS, SUP, ASTECO and UTIPEC, and is valid from January 1, 2023 to December 31, 2026. The agreements reached include improvements in the working conditions of its workers, the commitment to continue promoting diversity, equity and inclusion with a gender focus, new hiring of personnel to strengthen the company's operation, among other aspects, with criteria of reasonableness, austerity, and efficiency. There are 33 industry unions and 17 company-specific unions, for a total of 50 coexisting unions within Ecopetrol S.A. During 2024, the Company has fully complied with the agreements and commitments derived from the collective bargaining agreements.

The Company manages compliance with union rights regarding the deduction of union dues, permits and union guarantees. Likewise, it fully observes the rules that regulate aspects such as trade union rights and other rights related to freedom of association. As of December 31, 2024, Ecopetrol S.A. had a workforce of 9,665 active workers of which, and in accordance with current legal provisions, 93.24% received benefits from the application of the collective bargaining agreements. In addition, 64.26% of the active workforce of Ecopetrol S.A. was affiliated with at least one of the 50 recognized unions. Moreover, the Company held a total of 571 meetings with union organizations in 2024.

Interconexión Eléctrica S.A.

There are 22 labor unions within ISA and its subsidiaries with a total of 1,549 members are covered by 23 collective bargaining agreements that also benefit, per extension, 1,360 additional syndicate members. Additionally, there are two collective bargaining agreements that cover 454 employees (or 8.9% of ISA's total workforce). The collective bargaining agreements establish certain terms and conditions of employment and are subscribed to on an individual, voluntary basis by employees. Collective bargaining agreements are not negotiated by unions or other representative bodies on behalf of our employees, but rather are developed through informal discussions between management and employees.

Cenit Transporte y Logística de Hidrocarburos S.A.S.

There are fourteen industrial labor unions that coexist within Cenit's workforce, to which 27.6% of Cenit's employees are affiliated. In October 2019, Cenit signed a collective bargaining agreement with the Unión Sindical Obrera de la Industria del Petróleo-USO for a term of four years ending on August 30, 2023. The collective bargaining agreement awards union protections and benefits which exceed those established by law. The Agreement was denounced by the Unión Sindical Obrera de la Industria del Petróleo-USO on August 30, 2023. As of the date of this annual report, the union has not delivered a list of demands to Cenit.

4. Financial Review

Our consolidated financial statements for the years ended December 31, 2024, 2023 and 2022 were prepared in accordance with IFRS as issued by the IASB.

IFRS differs in certain significant aspects from the current Colombian IFRS (which is the accounting standard we use for local statutory reporting purposes). As a result, our financial information presented under IFRS is not directly comparable to certain of our financial information presented under Colombian IFRS. A description of the differences between Colombian IFRS and IFRS is presented under *Financial Review - Summary of Differences between Internal Reporting (Colombian IFRS) and IFRS* below.

Our consolidated financial statements were consolidated line by line and all transactions and - balances between subsidiaries have been eliminated. These financial statements include the financial results of all subsidiaries companies controlled, directly or indirectly, by Ecopetrol S.A. See *Exhibit 1—Consolidated subsidiaries, associates and joint ventures, to our consolidated financial statements* included in this annual report.

4.1 Factors Affecting Our Operating Results

Our operating results were affected mainly by: (i) international prices of crude oil, international prices for refined products and local prices for natural gas, (ii) volumes, product mix, and our operational performance, (iii) specific macroeconomics factors, such as inflation, particularly in Latin America, higher interest rates, and the COP/USD exchange rate, (iv) public order situations, (v) regulatory changes, including higher taxes, and (vi) local regulation in Colombia for consumer gasoline and diesel prices and their impact in the Fuel Price Stabilization Fund. Crude oil prices and volumes are particularly important to the results of our exploration and production segments. This is because as export volumes or export prices of crude oil and products decrease or increase, our revenues also do. Results from our refining activities are also affected by the price of crude oil used as raw material, changes in international prices for refined products, drastic changes in demand due to market factors, conversion ratios and utilization rates and refining capacity, all of which affect our refining margins. In the Midstream segment, terrorist attacks by guerillas against our pipelines, illegal valves used to siphon off crude, and other facilities or social unrest can lead to loss of revenues by restricting the availability of transport systems for exports or sales of crude oil and products and/or production activities, in addition to the direct costs of repairing and cleaning.

The inflation rate and the GDP corresponding to countries such as Brazil, Colombia, and Chile, where ISA provides energy transmission services, have a direct effect on the financial results of the Electric Power Transmission and Toll Roads Concessions segment. Results from our electric power transmission and toll roads activities are also affected by availability and competitiveness of alternative energy sources in the markets served by us, expiration or termination of significant contracts or concessions, the operational availability of the electricity transmission systems of other electricity transmission companies that are interconnected with our electricity transmission systems, interest rate fluctuations, changes in regulation and economic policies of the countries where we operate and changes in availability or demand of electricity.

Finally, changes in the value of foreign currencies, particularly the U.S. dollar against the Colombian Peso, can also have a significant effect on our financial statements. See section *[Financial Review—Trend Analysis and Sensitivity Analysis](#)* for further information.

Sales volumes and prices

Our results from the exploration and production segment depend mainly on our sales volumes and average local and international prices for crude oil and natural gas. Additionally, sales volumes also reflect the purchase of crude oil that we make from third parties and the ANH.

We sell crude oil and natural gas in the local and international markets. We also process crude oil at the Barrancabermeja and Cartagena refineries and sell refined and other petrochemical products in the local and international markets.

Local sales and prices

We have a number of crude oil short-term commercial agreements with local customers, and natural gas short and long-term supply contracts with gas-fired power plants and local natural gas distribution companies. Local sale prices are determined in accordance with existing regulations, contractual arrangements, and the spot market, in turn, linked to international benchmarks. Local sales represented 49.8% of our total revenues, on average, for the past three years.

International sales and prices

Our international sales represented 50.2% of our total revenues, on average, for the past three years.

International sale prices are determined in accordance with contractual arrangements and the spot market, in turn, linked to international benchmarks primarily the ICE Brent benchmark.

A market diversification strategy has allowed us to capture markets where we have been able to obtain higher prices for our crudes and refined products. We sell our crudes and refined products in various regions, such as the U.S., Central America and the Caribbean, Asia and Europe. In our negotiations with potential customers, we seek to use the most liquid benchmark reference prices in each region.

Exploration costs

We account for exploratory drilling costs using the successful efforts method, whereby all costs associated with the exploration and drilling of productive wells are initially capitalized. Costs incurred in exploring and drilling dry or unsuccessful wells are expensed in the period in which the well is determined to be a dry or unsuccessful well and are accounted for under “Exploration and Project expenses.” Consequently, an increase in the number of exploratory wells we declare as dry or unsuccessful are expected to negatively affect our results and may cause volatility in our operating expenses. See Note 4.7 to our consolidated financial statements for a summary of our accounting policy for exploration costs.

Royalties

Each of our production contracts has its own royalty arrangement in accordance with applicable law. Law 141 of 1994 established a royalty fixed rate equivalent to 20% of total production. In 1999, a modification to the royalty system established a sliding scale for royalty percentage linked to the production level of crude oil and natural gas to fields discovered after July 29, 1999, depending on whether the production is crude oil or natural gas, and on the quality of the crude oil produced. Since 2002, as a result of the enactment of Law 756 of 2002, the royalty percentage has ranged from 8% for fields producing up to five mbd to 25% for fields producing more than 600 mbd. Producing fields pay royalties in accordance with the applicable royalty rate at the time of the discovery. Also, Law 756 of 2002 establishes that in the fields of the association contracts that terminate or revert an additional royalty rate of 12% of the basic production applies.

Since January 2014, the ANH has collected natural gas production royalties from producers settled in cash based on a formula, regardless of whether a producer has sold the gas. As a result, we no longer commercialize this gas on behalf of the ANH. In addition, since royalties are now payable to the ANH in cash, all of the gas that we produce is considered part of our reserves and production, without any deduction for royalties. The cost of natural gas royalties totaled COP 995,254 million in 2024.

On September 30, 2020, Law 2056 of 2020 was issued, (“Whereby the organization and operation of the general system of royalties is regulated”), under which the definition of incremental production was extended to all production from fields in which additional investments have been made to increase the recovery factor. According to above, the total production of these fields of the association contracts benefits from the variable royalty established in article 16 of Law 756 of 2002, and therefore, the additional 12% royalty referred to in article 39 of Law 756 of 2002 does not apply to these fields.

On September 23, 2021, the Ministry of the Interior issued Decree 1142 (“Whereby Decree 1821 of 2020, Sole Regulatory Decree of the General Royalties System, is incorporated and modified”), Article 3.1.1.2.1 of Decree 1142 established that the total volume of hydrocarbons produced that is in excess to that stipulated in the basic production curve of incremental production projects or incremental production contracts will also enjoy the benefits of Article 16 of Law 756 of 2002. On September 2, 2022, Ecopetrol sued for the annulment of Article 3.1.1.2.1 of this Decree, citing legal grounds. The lawsuit against Decree 1142 of 2021 was filed by Ecopetrol on September 2, 2022, before the contentious administrative courts. On January 16, 2024, the lawsuit was admitted and is currently ongoing.

On December 13, 2022, Law 2277 of 2022 was adopted. Law 2277 of 2022 adopted amendments to the Colombian tax system, including the non-deductibility of crude oil and gas royalties. On November 16, 2023, the Constitutional Court in Colombia issued ruling C-489, in which it determined that royalties are a deductible cost of income tax. In December of 2023, the Ministry of Mines and Energy and the Ministry of Finance and Public Credit requested the review of the ruling to the Constitutional Court, alleging a fiscal impact and nullity, respectively. Law 2277 of 2022 came into force on January 1, 2023 and resulted in the payment of higher income taxes and higher effective tax rates by Colombian companies such as Ecopetrol S.A. and Hocol. In March 2024, the Constitutional Court rejected the request for nullity filed by the Ministry of Mines and Energy. With respect to the fiscal impact argument filed by the Ministry of Finance and Public Credit, such ministry filed related correspondence on March 11, 2024.

The Constitutional Court rejected the case of fiscal impact filed by the Minister of Finance and Public Credit, stating that the arguments presented did not meet the constitutional threshold. See section Financial Review—Effect of Taxes, Exchange Rate Variation, Inflation and the Price of Oil on our Results—Taxes and section Risk Review—Risk Factors—Risks Related to Our Business—New or higher taxes resulting from changes in tax regulations or the interpretation thereof in Colombia could adversely affect our results of operations and financial condition.

Purchases of hydrocarbons

We purchase all crude oil delivered to the ANH as royalties by us and by third parties. The purchase price is calculated according to a formula set forth in a contract between Ecopetrol S.A. and the ANH that reflects our export sales prices, a quality adjustment for API gravity and sulfur content, a marketing fee, and transportation rates from the wellhead to ports and refineries. We sell the physical product purchased from the ANH as part of our ordinary business. The contract between the ANH and Ecopetrol S.A. was extended until June 30, 2026.

We import crude oil for Cartagena and Barranca refineries’ feedstock when such imports result in the better operational or economic performance of the Ecopetrol Group.

Electricity transmission rates

Electricity transmission is a regulated activity in all jurisdictions where ISA operates. We must maintain certain quality, safety, and maintenance standards with respect to our businesses. Periodic adjustment of transmission rates or reviews of the methodologies established by applicable regulations for the calculation of such rates may result in a decrease of the revenues of the Electric Power Transmission and Toll Roads Concessions segment and may have a material adverse effect on our consolidated results of operations and financial condition. Regulatory agencies could penalize ISA if we fail to comply with the terms of the rules and regulations applicable to our ISA’s businesses.

Conflict between Russia and Ukraine

On February 24, 2022, Russia launched its military invasion of Ukraine, with strong ramifications for global crude and oil product supply and a surge in prices. Brent crude average prices surged from USD 70.9/Bbl in 2021 to USD 82.2/Bbl in 2023, peaking at USD 96.6/Bbl in September 2023.

In 2022, the increase in prices had both, positive and negative impacts on our Group. On one hand, the rise in the average price of ICE Brent increased revenues from the sale of our crudes, and higher prices of diesel, gasoline, jet fuel and other refined products were favorable for the 2022 financial results of our Cartagena and Barrancabermeja refineries. However, the increase in prices also had a negative effect on our Group, including the weakening of our crude oil differential versus Brent. To mitigate this, Ecopetrol worked to improve the positioning of our crude oil and diversify destination markets. In addition, the high prices affected our purchases of crude oil and oil products, which are used as inputs and raw materials for our production processes as well as to meet the growing national demand for fuels. Lastly, higher energy costs, coupled with the international logistics crisis, generated pressures on our operating costs and project execution timelines.

In 2023 and 2024, we maintained constant monitoring of various Russia-Ukraine related factors that could impact our financial performance. These factors include the ongoing conflict, interruptions in the export of Russian energy due to sanctions, disruptions in supply chain, price volatility and others. In addition, we continue to monitor potential changes in demand, geopolitical risks, and regulatory changes that could affect its operations. However, despite the conflict persisting throughout 2024, the market corrected the prices downwards.

Fuel Price Stabilization Fund (FEPC)

The Fuel Price Stabilization Fund – FEPC – is a mechanism designed to react to drastic and sudden changes in hydrocarbon prices and prevent substantial increases or decreases in gasoline and diesel prices for Colombian consumers. In this way, the Fund prevents substantial increases or decreases in prices for national consumers by using the difference between the local producer’s income and the parity (market) price, should there be drastic and sudden changes in hydrocarbon prices.

In 2023, the FEPC balance was COP 20.5 trillion due to the difference between the international market prices of regular motor gasoline and diesel, and the regulated prices in Colombia, however, the balance of this account was reduced by COP 12.9 trillion in 2024, resulting in a final balance of COP 7.6 trillion in accounts receivable as of December 31, 2024.

The reduction is partly attributed to the series of gasoline price increases started by the Colombian government in September 2022. In 2022, the gasoline price increased by COP 600 per gallon; in 2023, the gasoline price increased by COP 4,850 per gallon; in 2024, the gasoline price increased by COP 600 per gallon and; in 2024, the diesel price increased by COP 800 per gallon. These price increases were also necessary to mitigate the impact of rising international prices and maintain a stable domestic market.

The FEPC accounts receivable represent 37.3% of Ecopetrol’s total short-term accounts receivable as of December 31, 2024, and created a strain on working capital needs, including payment obligations to suppliers, taxes, payroll, and other short-term expenses. The balance of the FEPC account also impacts the comparison of solvency and liquidity levels against industry peers. Nevertheless, the Government of Colombia has outlined potential ways to manage the payment of outstanding accounts receivable balances and finding structural solutions to close the current gaps in the fund. See section Regulation Concerning Production and Prices - Fuel Price Stabilization Fund (FEPC).

4.2 [Reserved]

4.3 Effect of Taxes, Exchange Rate Variation, Inflation and the Price of Oil on our Results

4.3.1 Taxes

In December 2016, the Colombian Congress adopted Law 1819, which introduced changes to the Colombian tax system, applicable beginning in 2017.

The 2016 Tax Reform included two tax benefits that are expected to improve the operations of the oil and gas industry:

Certificado de Reembolso Tributario (“CERT”) incentive:

For exploration activities, the CERT incentive was approved, consisting of the reimbursement of part of the investment made in the exploration phase.

The CERT is granted when the income tax return is filed.

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The CERT can only be redeemed to pay taxes at the national level and its effective maturity date is two years after it is issued. Nevertheless, Decree 2253 of 2017 establishes that a CERT redemption can be made from year two to year five, as from the date of the granting of the incentive. The CERT can also be sold and traded in fixed income market.

For production activities, the CERT reimbursement is granted exclusively to investments that increase the recovery factor, i.e., investments that increase the reserves that are currently proved in certain wells.

On December 29, 2017, the Colombian Government issued Decree 2253, which establishes that companies who (i) qualify as operators of association agreements entered into with Ecopetrol S.A., (ii) have exploration and production of hydrocarbons agreements and (iii) are currently involved in the exploration and production of hydrocarbons, among others, can also qualify for the CERT. Additionally, the CERT will not qualify as taxable income or capital gain for the taxpayer receiving or acquiring such incentive.

On March 23, 2018, the following Resolutions were issued in order to regulate the procedures and requirements that companies must comply to claim the CERT: 0860 of Ministry of Finance and Public Credit, 108 of ANH and 40284 and 40285 of Ministry of Mines and Energy.

On December 20, 2019, the Ministry of Finance and Public Credit informed the Company that the PGN includes the resources of CERT. By virtue of Law 2277 of 2022, CERTs ceased to exist as of January 1, 2023.

Refundable VAT on oil and gas exploration:

Taxpayers in the oil and gas industry are entitled to refund VAT paid in the exploration phase for offshore projects. Taxpayers can request for this VAT as of the next fiscal year in which the investment was made. VAT that is reimbursed cannot be used as a higher cost or expense for income tax purposes.

Additionally, in December 2018, the Colombian Congress adopted Law 1943, which introduced the following key changes to the Colombian tax system, applicable beginning in 2019, including the following aspects:

The corporate income tax rates were set to be reduced gradually from 33% to 30% as follows: 33% in 2019, 32% in 2020, 31% in 2021 and 30% from 2022 onward. However, in September 2021, the Colombian Congress adopted Law 2155, which changed the corporate income tax rates to 35% from 2022 onward.

The presumptive income tax rate was reduced to 0% from fiscal year 2021 onward.

Taxpayers must calculate their taxable income taking as initial base the year and result under Colombian IFRS. Accounting profit is reconciled to obtain the net income tax, which is the basis to calculate the income tax.

For fiscal years 2022, 2023, and 2024 the dividends tax applied as follows:

- i. In accordance with Article 245 of the Colombian Tax Code, the dividends tax applicable to non-resident shareholders is as follows: (i) a 10% dividend tax for dividends paid out of profits that were accrued as of January 1, 2017 and were taxed at the corporate level, which was increased to a tax rate of 20% for the fiscal year 2023 and 2024; (ii) no dividend tax on dividends paid out of profits that accrued until December 31, 2016 and were taxed at the corporate level; (iii) a withholding tax at the statutory corporate income tax rate (35% as from 2022) on dividends distributed from profits not taxed at the corporate level if the dividend is paid out of profits that accrued as of January 1, 2017, plus an additional, 10% or 20% dividend tax, as applicable, after applying the initial corporate income withholding tax rate.
- ii. In accordance with Article 242 of the Colombian Tax Code, for Colombian individuals: for fiscal years 2021 and 2022, dividends paid greater than 300 UVT (Spanish acronym for *Unidad de Valor Tributario*) were taxed at 10%. For fiscal year 2023 and 2024, dividends paid greater than 1,090 UVT were taxed at rate of 15%.
- iii. In accordance with Article 242-1 of the Colombian Tax Code, dividends distributed from taxed profits to local corporations for fiscal years 2021 and 2022 are taxed at 7.5%, or a 31% withholding tax for 2021 and 35% as from 2022 on dividends distributed from untaxed profits, plus an additional 7.5% dividend tax after applying the initial corporate income withholding tax rate. For fiscal year 2023 and 2024, the tax rate increased to 10%.

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Tax losses accrued as of fiscal year 2017 may be offset against ordinary net income obtained in the following 12 taxable years.

Depreciation and amortization methods and annual percentages must be determined in accordance with accounting rules and are limited to those established in the tax rule and depend on the type of asset. For example, machinery and equipment depreciate at an annual rate of 10%, infrastructure (including pipelines) at 2.22%, vehicles at 10% and computers at 20%, among others.

Income tax for free trade zone users increased from 15% to 20% as of fiscal year 2017. The tax rate for free trade zone users with a legal stability agreement (in which the income tax rate was stabilized) remains at 15% during the term of said agreement.

The general value added tax (VAT) rate increased to 19% and a differential rate of 5% for certain goods and services is maintained. The modification of the general VAT rate is effective from January 1, 2017.

The charge on financial transactions is 0.4%, with half of the tax liability being deductible.

In accordance with Resolutions No. 019 of 2022 and 012 of 2023, issued by the tax authority, the carbon tax accrues on the carbon content of fossil fuels used for combustion. The rate was COP 18,829 and COP 23,394.60 per ton of CO₂, for fiscal years 2022 and 2023, respectively.

For additional information related to BEPS (Base Erosion and Profit Shifting), see Note 10 of our consolidated financial statements.

In October 2019, the Constitutional Court declared Law 1943 of 2018 (the Financing Law) unconstitutional effective January 1, 2020. Therefore, the Financing Law continued to have full effect for the full fiscal year 2019.

In December 2019, the Colombian Congress adopted Law 2010, which introduced changes to the Colombian tax system, which became effective in 2020.

The cited law also created a “normalization tax” for 2020 to enable taxpayers to regularize certain omissions of information about their assets and/or incorrect information about their liabilities, subject to the payment of a 15% tax on the value of the amount of the incorrect information.

As of 2020, in accordance with Article 115 of the Colombian Tax Code, taxes are fully deductible if they are effectively paid during the fiscal year, except for: (i) income tax, equity tax and normalization tax are non-deductible; (ii) only 50% of the financial transactions tax is deductible; and (iii) only 50% of the industry and commerce tax can be taken as a discount (tax credit) to income tax.

VAT paid on the acquisition, import, creation or construction of tangible fixed assets used in income generating activities may be treated as discount (tax credit) for income tax purposes, in the same year or in future years.

On September 14, 2021, the Colombian Congress passed Law 2155 which introduced, among others, the following key changes to the Colombian tax system:

- i. The Corporate Income Tax rate will be 35% as from 2022 onward.
- ii. The alternative to credit 100% of the Turnover Tax (“ICA” for its acronym in Spanish) against Corporate Income Tax as from 2022 was eliminated (Article 65). However, the current alternative to credit 50% of the ICA remains going forward.
- iii. A “normalization tax” was re-introduced for taxpayers to declare omitted assets or reject nonexistent liabilities subject to the payment of a 17% tax. This tax applies only for 2022 and a 50% prepayment is to be remitted in 2021.
- iv. A new definition of final (effective) beneficiary for tax purposes was created (Article 16).

On August 8, 2022, the MHCP submitted a tax reform bill to Congress proposing several changes to the Colombian tax regime. The Colombian Congress adopted Law 2277 of 2022, which introduced the following modifications to the Colombian tax system, applicable from January 1st, 2023: (i) a new permanent equity tax applicable to Colombian individuals and non-residents, at rates ranging from 0.5% to 1.5% based on the level of net equity at January 1st every year, (ii) an increase in the dividend tax rate for local and foreign shareholders (0% to 39% progressive marginal rates for Colombian individuals, and 20% flat withholding for non-resident shareholders), (iii) an increase in the long-term capital gains tax rate (increases from 10% to 15%), (iv) the elimination of specific tax benefits and exemptions, (v) a minimum corporate income tax based on effective tax rate (effective rate calculated on book profit should be at least 15%, considering certain adjustments to accounting profits and certain exempted companies), (vi) the application of taxes based on significant economic presence (primarily for non-resident persons and entities that provide digital services, but including other services and commercial activities), (vii) the elimination of the ability to claim 50% of the ICA as an income tax credit, (viii) an additional percentage points to the nominal tax rate for companies engaged in the extraction of crude oil and coal of 0%, 5%, 10% or 15% and based on international prices. For fiscal year 2023 and 2024, additional percentage points will be applied to the nominal of 10% and 5%, given that the Brent price was USD 80.32 and USD 78.76, according to ANH Resolutions No. 0061 and No. 0044 from January 31, 2024 and 2025, respectively. Note that the revenues from the sale of natural gas are not subject to these additional percentage points to the nominal tax rate, (ix) non-deductibility of royalties, and (x) the modification of section 221 of Law 1819 of 2016, with an adjustment to the taxable event and establishing that the national carbon tax will be levied on the carbon equivalent content (CO₂eq) of all fossil fuels, including all petroleum derivatives, fossil gas and solids used for combustion.

Concerning the non-deductibility of royalties, the Colombian Constitutional Court deemed the limiting rule is unconstitutional and inapplicable. In a final effort to mitigate the effect of this ruling to the public finances, the Government recently requested to adjust, modify or defer its decision to the Constitutional Court. As of the date of this annual report, it is uncertain whether the Constitutional Court will amend its ruling.

On November 16, 2023, the Constitutional Court in Colombia issued ruling C-489, in which it determined that royalties are a deductible cost of income tax. In December of 2023, the Ministry of Mines and Energy and the Ministry of Finance and Public Credit requested the review of the ruling to the Constitutional Court, alleging a fiscal impact and nullity, respectively. In March of 2024, the Constitutional Court rejected the request for nullity filed by the Ministry of Mines and Energy. The Constitutional Court rejected the case of fiscal impact filed by the Minister of Finance and Public Credit and granted a term of five business days to correct the written statement and provide additional information. In May 2024, the Constitutional Court rejected the case of fiscal impact filed by the Minister of Finance and Public Credit, stating that the arguments presented did not meet the constitutional threshold. In July 2024, the Constitutional Court rejected the request for insistence filed by the Ministry of Mines and Energy.

On February 22, 2025, the National Government issued Decree 0175, which creates the Catatumbo special tax for the first sales and exports of oil. The rate of this tax is 1%. Additionally, it increases the stamp tax from 0% to 1%. The Decree is valid until December 31, 2025.

Part A: Applicable Taxpayers for the Equity Tax (2023 and onwards)

- Resident individuals with assets located in Colombia and abroad.
- Non-resident individuals with respect to assets located in Colombia (including assets held indirectly through permanent establishments).
- Non-residents with non-cash assets in Colombia.
- Foreign entities that are not income taxpayers in Colombia but who possess assets located in Colombia, other than shares of Colombian companies, accounts receivables sourced in Colombian (i.e., with Colombian debtors), portfolio investments (i.e., investing through a foreign funds administration account (FFAA)), provided that these entities have complied with the foreign exchange regime in respect of such excluded assets. Additionally, non-residents with financial leasing agreements with Colombian borrowers (lessees) are also not liable for the tax (arguably in connection with that specific asset).

Part B: Tax Accrual Rules

The equity tax will accrue at a rate of 0.5%, 1% and 1.5% every year on January 1 of each fiscal year. The taxable base is the taxpayer's net equity on each of the accrual dates (gross assets less liabilities and certain exclusions, including a portion of the value of the dwelling house). Note that equity tax will only apply on taxable net equity exceeding 72,000 tax value units (UVTs, per the acronym in Spanish).

Thin capitalization: A 2:1 debt-to-equity ratio determines the amount of deductible interests on loans with related parties.

Laws 2010, 2155 and 2277 maintain the tax regime for profits derived from indirect transfer of Colombian assets.

A special regime (the Mega Investments Regime) was created for taxpayers who (i) generate at least 400 direct jobs and (ii) make new investments in Colombia in an amount equal to or greater than 30,000,000 UVT (COP 1,140,120,000,000) by 2022, with a view for them to calculate and settle their income tax liability for the next 20 years using the following metrics and/or policies:

- i. 27% income tax rate;
- ii. Two-year term for the depreciation for fixed assets;
- iii. Exclusion from the presumptive income regime;
- iv. Exclusion from the wealth tax; and
- v. 0.75% premium over the investment value to be paid on an annual basis.

In addition, legal taxpayers who qualify for this Mega Investment Regime are required to enter into agreements with the tax authority.

These rules do not apply to taxpayers engaged in the exploration of non-renewable natural resources.

Law 2277 of 2022 repealed the Mega Investments Regime, which ceased to apply on January 1, 2023. However, taxpayers who met the eligibility requirements or obtained approval under the Mega Investments Regime before January 1, 2023, will maintain the rights acquired under such regime.

4.3.2 Exchange Rate Variation

The functional currency of each of the companies of Ecopetrol Group is determined in relation to the main economic environment where each company operates; however, our consolidated financial results are reported in Colombian Pesos, which is the Ecopetrol Group's functional and presentation currency. A substantial part of our consolidated revenues comes from the Ecopetrol Group's companies whose functional currency is the Colombian Peso. The conversion effect from U.S. dollar to Colombian Peso is mainly due to local sales and exports of crude oil, natural gas, and refined products, whose prices are based on benchmarks quoted in U.S. dollars. Therefore, they are exposed to foreign currency exchange risk on revenues, capital expenditures and financial instruments that are denominated in a currency other than its functional currency.

Fluctuations in the U.S. dollar-Colombian Peso exchange rate have effects on our consolidated financial statements. As crude oil is priced in U.S. dollars, fluctuations in the exchange rate of the Colombian Peso against the U.S. dollar may have a significant impact on revenues, cost, monetary assets, and liabilities held in foreign currency.

An appreciation of the Colombian Peso has a negative impact on our results of operations because our revenues from exports of crude oil, natural gas, and refined products are primarily expressed in U.S. dollars. Costs of imported products and contracted services expressed in U.S. dollars will also be lower when expressed in Colombian Pesos, but on balance, our operating income in Colombian Pesos tends to decline when the Colombian Peso appreciates, other factors being equal. The appreciation of the Colombian Peso against the U.S. dollar will also decrease the debt service requirements of our Companies with the Colombian Peso as their functional currency and with indebtedness in U.S. dollars, as the amount of the Colombian pesos necessary to pay principal and interest on foreign currency debt decreases with the appreciation of the Colombian Peso.

Conversely, when the Colombian Peso depreciates against the U.S. dollar, our reported revenues, costs related to imported products and services, operating income, and debt service requirements of foreign-denominated debt all tend to increase.

With the acquisition of ISA, an amount of our revenues started being generated in currencies other than the Colombian peso, and some of the operating and other expenses we incur are paid in the local currency of the countries where ISA operates. As a result, we may be exposed to foreign exchange and translation risk when local currency financial statements are translated to Colombian pesos. In addition, around 82% of ISA's debt is denominated in foreign currency. Therefore, our consolidated financial results could be affected by an increase in financial costs due to the devaluation of the currencies in the jurisdictions where ISA operates. As a result, the devaluation of the Colombian peso would lead to the recognition of currency conversion losses due to the increase in the affected debt balance upon the translation of U.S. dollar-denominated debt or other currencies to Colombian pesos.

During 2024, the Colombian Peso appreciated on average 5.87% against the U.S. dollar. During 2023 and 2022, the Colombian Peso depreciated on average 1.64% and 13.69%, respectively, against the U.S. dollar. Additionally, on December 31, 2024, the Colombian Peso/U.S. dollar exchange rate depreciated 15.36% as compared to the same date in 2023, while the Colombian Peso/U.S. dollar exchange rate had appreciated 20.54% in 2023 as of December 31, 2023, and depreciated 20.82% as of December 31, 2022, in relation to the rate on the same date of the immediately preceding year.

In 2024, our consolidated debt in foreign currency decreased by a total of USD 331 million, due to the repayment of principal at maturity. In 2023, our consolidated debt in foreign currency increased by a total of USD 2,684 million, due to new debt acquired during the year, mainly from the issuance of international bonds. In 2022, our consolidated debt in foreign currency increased by a total of USD 378 million, mainly due to the execution of short-term treasury lines of credit by Ecopetrol S.A.

As of December 31, 2024, our U.S. dollar denominated total debt was USD 24,629 million, recognized in our financial statements at its amortized cost, which corresponds to the present value of cash flows, discounted at the effective interest rate of each loan. Out of the total U.S. dollar denominated debt, USD 18,346 million are in Ecopetrol S.A.'s balance sheet, whose functional currency is the Colombian Peso. Therefore, when the Colombian Peso depreciates against the U.S. dollar, Ecopetrol S.A. is exposed to an exchange rate loss. In contrast, when the Colombian Peso appreciates against the U.S. dollar, Ecopetrol S.A. has an exchange rate gain. Some of the Ecopetrol Group's companies have the U.S. dollar as their functional currency and are not exposed to a material exchange rate risk resulting from fluctuations in the Colombian Peso against the U.S. dollar. When the financial statements of the Ecopetrol Group are consolidated, the exchange rate differential of the subsidiaries' assets and liabilities whose functional currency is the U.S. dollar is recognized directly in equity, as part of other comprehensive income.

Since 2015, Ecopetrol adopted hedge accounting, using two types of natural hedges with its U.S. dollar debt as a financial instrument: (i) a cash flow hedge for exports of crude oil, and (ii) a hedge of the net investment in foreign operations. As a result of the implementation of both hedges, 94% (USD 17,224 million) of Ecopetrol S.A.'s debt in U.S. dollars, as of December 31, 2024, was designated as a hedge. Similarly, since 2022, ISA adopted hedge accounting of the net investment in foreign operations. As a result, USD 388 million of ISA's debt was designated as a hedge as of December 31, 2024. The total debt of foreign currency designated as a hedge as of December 31, 2024, was USD 17,612 million. With the adoption of hedge accounting, the effect of the volatility of the foreign exchange rate on the hedged portion of the debt is recognized directly in equity, as part of other comprehensive income.

The remaining portion of Ecopetrol S.A.'s U.S. dollar-denominated debt, as well as the financial assets and liabilities denominated in foreign currency, continues to be exposed to the fluctuation in the exchange rate, which means that an appreciation of the Colombian Peso against the U.S. dollar could generate a loss for companies whose functional currency is the Colombian Peso that have a net asset position in U.S. dollars or a gain if they have a net liability position in U.S. dollars. Conversely, a depreciation of the Colombian Peso against the U.S. dollar could generate a gain for companies whose functional currency is the Colombian peso that have a net asset position in U.S. dollars or a loss if they have a net liability position in U.S. dollars.

As of December 31, 2024, the Ecopetrol Group's companies have the equivalent of a net U.S. dollar liability position of USD 299 million after the implementation of the accounting hedges previously mentioned above, minimizing the effect of exchange rate fluctuations in their results for the year.

4.3.3 Effects of Inflation

The average annual rate of inflation in Colombia for the past ten years is 5.84%. As measured by the general consumer price index, the annual inflation rate in Colombia for the years ended December 31, 2024, 2023 and 2022 was 5.2%, 9.28%, and 13.12%, respectively. The decrease in inflation in 2024 is mainly driven by (i) a core inflation that continued its downward trajectory, gradually converging toward lower and more stable levels, and (ii) by lower increases in the prices of regulated goods and services, such as public utilities and fuels, reinforcing the effectiveness of economic policies in guiding inflation toward long-term targets.

Inflation has had a positive and a negative effect on the Group. On one hand, it has increased revenues for the transmission and roads segment, given that the rates are indexed to inflation, and has also produced higher yields from our investment portfolio. On the other hand, it has increased costs, expenses and capital expenditures mainly due to the rising cost of inputs, higher tariffs in contracts, as well as a higher financial cost of the debt with floating rates (28.9% of the total financial obligations on December 31, 2024). The effects of inflation vary over time and between each market segment.

4.3.4 Effects of Crude Oil and Refined Product Prices

The average price of ICE Brent crude in 2024 was USD 79.9 per barrel as compared to USD 82.2 per barrel in 2023 and USD 99.0 per barrel in 2022. See section Strategy and Market Overview.

Our average crude oil basket price was USD 73.4 per barrel in 2024, as compared to USD 73.5 per barrel in 2023 and USD 90.9 per barrel in 2022. There are no significant changes between 2024 compared to 2023 due to the loss of the refined products differential and lower Brent reference price, partially offset by the strengthening of the negotiated crude oil differential. In addition, our average product basket price was USD 86.8 in 2024, USD 96.1 in 2023, and USD 118.2 in 2022. The decrease in 2024 as compared to 2023 was primarily due to weakening ICE Brent benchmark prices, coupled with lower international price indicators, particularly for diesel and jet fuel due to the increase in supply in the Atlantic basin and a diesel market with greater trade flows due to the arrival of Russian product to South America.

In the Operating Results section below, we present the impact of the price decrease on our revenue and cost of sales. Additionally, fluctuations in the price of oil had an impact on the value of our oil and gas reserves. Reserves' valuation is made in accordance with SEC price regulations. Volatility in hydrocarbon prices, refining margins and reserves, as well as changes in environmental regulations may lead to the recognition of impairment or recovery of non-current assets.

For additional information about impairment charges and reversals, see sections *Financial Review—Operating Results—Consolidated Results of Operations—Impairment of Non-Current assets*, *Segment Performance and Analysis* and Note 18 to our consolidated financial statements.

4.4 Accounting Policies

Our consolidated financial statements for the years ended December 31, 2024, 2023, and 2022 were prepared in accordance with IFRS. The detail of the accounting policies is described in Note 4 to our consolidated financial statements.

The main accounting regulatory change for 2023 was the adoption of IFRS 17 Insurance Contracts that provides a new general model for accounting for contracts by combining a measurement of the current balance of insurance contracts with the recognition of earnings during the period in which the services are rendered. The standard's general model requires that insurance contract liabilities be measured using current weighted probability estimates of future cash flows, a risk adjustment, and a contractual service margin that represents the expected gain from fulfilling the contracts. The effects of changes in the estimates of future cash flows and the risk adjustment related to future services are recognized during the period in which the services are rendered and not immediately in profit loss statement. The change did not have any material impact.

There are no new or amended standards or interpretations adopted as of January 1, 2024 that have a significant impact on the consolidated financial statements for 2024. See Note 5 to our consolidated financial statements included in this annual report.

4.5 Critical Accounting Judgments and Estimates

Critical accounting policies are those policies that require us to exercise judgment or involve a higher degree of complexity in the application of the accounting policies that currently affect our financial condition and results of operations. The accounting judgments and estimates we make in these contexts require us to calculate variables and make assumptions about matters that are highly uncertain. In each case, if we had made other estimates, or if changes in the estimates occur from period to period, our financial condition and results of operations could be materially affected.

See Note 4 to our consolidated financial statements for a summary of the critical accounting judgments and estimates applicable to us. There are many other areas in which we use estimates about uncertain matters, but we believe the reasonably likely effect of changes or differences within critical accounting judgments and estimates would not have a material impact on our financial statements.

4.6 Operating Results

The following discussion is based on information contained in our audited consolidated financial statements and should be read in conjunction therewith.

4.6.1 Consolidated Results of Operations

The following table sets forth components of our income statement for the years ended December 31, 2024, 2023, and 2022.

Table 57 – Consolidated Income Statement

<i>Income Statement (COP Million)</i>	For the year ended December 31,			% Change	
	2024	2023	2022	2024/2023	2023/2022
Revenue	133,330,428	143,189,602	159,611,078	(6.9)	(10.3)
Cost of sales	86,481,154	88,178,198	89,458,148	(1.9)	(1.4)
Gross Profit	46,849,274	55,011,404	70,152,930	(14.8)	(21.6)
Operating expenses	9,253,705	11,154,090	9,635,178	(17.0)	15.8
Impairment of non-current assets, net	(867,428)	2,098,333	287,999	(141.3)	628.6
Operating Income	38,462,997	41,758,981	60,229,753	(7.9)	(30.7)
Finance results, net	(8,519,948)	(5,665,384)	(6,834,757)	50.4	(17.1)
Share of profit of companies	764,366	805,349	768,422	(5.1)	4.8
Income before income tax	30,707,415	36,898,946	54,163,418	(16.8)	(31.9)
Income tax	(12,208,540)	(11,515,875)	(18,963,938)	6.0	(39.3)
Net Income	18,498,875	25,383,071	35,199,480	(27.1)	(27.9)
Net income attributable to:					
Company's shareholders	13,841,153	21,060,798	31,604,781	(34.3)	(33.4)
Non-controlling interest	4,657,722	4,322,273	3,594,699	7.8	20.2
Net Income	18,498,875	25,383,071	35,199,480	(27.1)	(27.9)

4.6.1.1 Total Revenues

The following table sets forth our principal sources of third-party revenues by business segment for the years ended December 31, 2024, 2023, and 2022. An explanation of how we classify our operations into business segments is included in section 4.6.1.8 below.

Table 58 – Third-Party Revenues by Business Segment

Revenue by segment	2024			2023			2022			% change sales revenues	
	Volume (barrels equivalent)	Average price US dollars / Barrels	Sales revenues (COPS Million)	Volume (barrels equivalent)	Average price US dollars / Barrels	Sales revenues (COPS Million)	Volume (barrels equivalent)	Average price US dollars / Barrels	Sales revenues (COPS Million)	2024/2023	2023/2022
Local Crude oil	1,151	65.4	301.7	433,524	65.4	129,157	1,137,432	75.5	375,790	(99.8)	(65.6)
Forcing Crude oil ⁽¹⁾	159,096,981	73.4	47,516,575.9	151,460,951	73.2	47,650,996	145,916,897	91.0	56,155,120	(0.3)	(15.1)
Natural gas local	31,071,560	32.1	4,096,126.4	33,432,168	30.7	4,358,266	35,032,930	27.6	4,162,876	(6.0)	4.7
Forcing natural gas	5,146,252	2.0	43,539.1	3,629,325	6.7	105,413	2,121,931	27.7	254,054	(58.7)	(58.5)
Other income ⁽²⁾	9,984,441	—	903,308	9,005,330	—	185,670	7,211,899	—	(227,937)	386.5	(180.0)
Exploration and production sales	205,300,385	—	52,559,851	197,961,298	—	52,429,502	191,421,089	—	60,719,903	0.3	(13.7)
Local refined products ⁽¹⁾	125,038,118	97.4	49,543,812	126,731,492	108.5	59,318,743	128,369,639	129.8	70,911,613	(16.5)	(16.3)
Forcing refined products ⁽¹⁾	35,813,033	68.1	9,967,516	36,672,668	70.9	11,166,887	27,956,878	86.4	10,113,351	(10.7)	10.4
Forcing Crude oil	4,087,113	77.1	1,281,956	5,776,131	79.9	2,027,551	200,332	105.1	92,147	(36.8)	2,100.3
Other income ⁽²⁾	—	—	1,458,056	2,516	—	1,103,460	—	—	1,611,764	32.1	(31.5)
Refining and petrochemicals	164,938,264	—	62,251,340	169,177,775	—	73,616,641	156,526,849	—	82,728,875	(15.4)	(11.0)
Transportation services	—	—	2,716,164	—	—	2,978,937	—	—	2,807,031	(8.8)	6.1
Other income ⁽²⁾	—	—	—	—	—	—	—	—	—	—	—
Transportation and logistics	—	—	2,716,164	—	—	2,978,937	—	—	2,807,031	(8.8)	6.1
Electric Power Transmission and Toll Roads services	—	—	15,803,073	—	—	14,164,522	—	—	13,355,269	11.6	6.1
Electric Power Transmission and Toll Road⁽³⁾	—	—	15,803,073	—	—	14,164,522	—	—	13,355,269	11.6	6.1
Total sales	370,238,649	—	133,330,428	367,139,073	—	143,189,602	347,947,938	—	159,611,078	(6.9)	(10.3)
Crude Oil	163,185,245	73.5	48,798,834	157,670,606	73.4	49,807,704	147,254,661	90.9	56,623,056	(2.0)	(12.0)
Natural gas	36,217,812	27.8	4,139,665	37,061,493	28.4	4,463,679	37,154,861	27.6	4,416,930	(7.3)	1.1
Refined products	170,835,592	86.8	60,414,636	172,409,490	96.1	70,671,300	163,538,416	118.2	80,797,027	(14.5)	(12.5)
Other	—	—	19,977,293	2,516	—	18,246,919	—	—	17,774,064	9.5	2.7
Total sales	370,238,649	—	133,330,428	367,139,073	—	143,189,602	347,947,938	—	159,611,078	(6.9)	(10.3)

- (1) Includes strategic and tactical hedges, which are related to crude oil, fuel oil and Diesel.
- (2) In the case of the exploration and production segment, other income corresponds mostly to natural hedges, services and sales of refined products (mainly LPG and asphalt). In the case of the refining and petrochemicals segment, other income corresponds mostly to industrial services.
- (3) The electric power transmission and toll roads concessions segment's revenues mainly include: (i) electricity transmission services, (ii) designing, building, operating and maintaining road concessions infrastructure roads, and (iii) telecommunications services.

In 2024, total revenues decreased by 6.9% as compared to 2023, primarily as a result of a COP 6,125,045 million decrease in revenues mainly due to (i) 9.3%, or USD 9.4 per barrel decrease of our average refined products basket price and a 0.1 %, or USD 0.1 per barrel decrease of our average crude oil basket price, which in turn was primarily due to a lower Brent benchmark price and narrower spreads against Brent for refined products partially offset by the strengthening of the negotiated crude oil differential., (ii) a COP 5,340,766 million decrease in revenues resulting from a 5.87% appreciation of the Colombian Peso against the U.S. dollar, from an average exchange rate of COP 4,325.05 / USD 1.00 in 2023 to an average exchange rate of COP 4,071.35 /USD 1.00 in 2024, resulting in a decrease in revenue from exports. This decrease was partially offset by (i) a COP 1,515,600 million increase in service revenue, primarily due to enhanced results in energy transmission due to the recognition of non-recurring income from the tariff review of ISA Subsidiaries in Brazil, toll roads, transport, the positive impact of contractual escalators and the entry into operation of projects, and (ii) a COP 88,498 million increase in revenues attributable to an increase in our sales volume (as further explained below).

The increase of our sales volume in 2024 as compared to 2023 was the result of a 3.5%, or 5.5 mmboe increase in our crude sales, primarily associated with higher crude oil production. This increase was partially offset by (i) a 0.9% or 1.6 mmboe in refined products volumes due to scheduled major maintenance of the Hydro-cracking unit the effect of the electrical failure in the Cartagena Refinery, and (ii) a 2.3%, or 0.8 mmboe decrease in our natural gas sales associated with the natural decline of the Guajira, Floreña and Cusiana fields.

In 2023, total revenues decreased by 10.3% as compared to 2022, primarily as a result of a COP 26,900,952 million decrease in revenues mainly due to a 19.1%, or USD 17.4 per barrel decrease of our average crude oil basket price and a 18.7%, or USD 22.1 per barrel decrease of our average refined products basket price, which in turn was primarily due to a lower Brent benchmark price and narrower spreads against Brent, primarily for refined products. This decrease was partially offset by (i) a COP 1,851,149 million increase in revenues resulting from a 1.64% depreciation of the Colombian Peso against the U.S. dollar, from an average exchange rate of COP 4,257.12/USD 1.00 in 2022 to an average exchange rate of COP 4,325.05/USD 1.00 in 2023, resulting in an increase in revenue from exports, (ii) a COP 1,098,169 million increase in service revenue, primarily due to enhanced results in energy transmission, toll roads, transport, and other services, and (iii) a COP 7,530,157 million increase in revenues attributable to an increase in our sales volume (as further explained below).

The increase of our sales volume in 2023 as compared to 2022 was the result of: (i) a 4.7%, or 19.8 mmbob increase in refined products volumes, which in turn was primarily due to the recovery in domestic demand and a higher operational performance of Reficar, and (ii) a 6.9% or 27.6 mmbob increase in our crude sales, primarily associated with an increase in the production of crude oil and products and higher trading operations.

4.6.1.2 Cost of Sales

Our cost of sales was principally affected by the factors described below. See Note 26 to our consolidated financial statements for more detail.

Cost of sales in 2024 was COP 86,481,154 million, representing a COP 1,697,044 million or 1.9 % decrease as compared to 2023, primarily as a result of the following factors:

- A COP 4,640,226 million decrease in the purchase costs of crude oil, natural gas and refined products, which were purchased for sales or for refining, resulting primarily from (i) lower average purchase prices by COP 2,520,925 million, which in turn was primarily due to the decrease in international benchmark prices for crude oil and refined products, (ii) a COP 2,692,030 million decrease in costs of the Colombian Peso terms due to the appreciation of the average exchange rate of the Colombian Peso against the U.S. dollar, mentioned above, and (iii) an increase in crude oil and gas volumes purchased by COP 1,114,804 highlighting the decrease in crude oil import requirements resulting from lower trading operations. This was partially offset by a COP 1,687,532 million increase in volumes purchased of refined products given the programmed maintenance and operational events of Reficar.
- A COP 329,021 million decrease in inventory fluctuation primarily due to the realization of 100% of inventories in transit by the end of 2024.

The decrease in cost of sales was partially offset by a COP 3,272,203 million increase as a result of:

- (a) A COP 1,440,744 million increase in depreciation, amortization, and depletion expenses primarily due to: (i) a higher level of capital investment, and (ii) the increase in production of Permian. The above was partially offset by a lower depreciation rate associated with the mitigating effect of the higher incorporation of reserves during 2023 and the exchange rate effect in appreciation for the Group's subsidiaries, which use the U.S. dollar as a functional currency, given the revaluation of the Colombian peso against the U.S. dollar.
- (b) A COP 985,147 million increase in construction services mainly explained by: (i) increase in construction activity of ISA in Brazil, and (ii) the inflationary effect on the contracts.
- (c) A COP 322,504 million increase in labor cost primarily related to higher salary increase in 2024 as compared to 2023.
- (d) A COP 243,698 million increase in maintenance activities, contracted services, operation supplies and other operational activity costs, as a result to the net effect between: (i) greater execution of operational support activities, (ii) the inflation effect on costs, and (iii) lower average exchange rate for costs.
- (e) A COP 227,972 million increase in transportation costs primarily related to: (i) higher volume of crude oil transported for tanker trucks due to an increase in the production from Caño Sur in Colombia, and (ii) higher transportation tariffs impacted by the inflationary effect.
- (f) A COP 52,138 million increase in other minor items, including higher taxes and contributions, and general costs.

Cost of sales in 2023 was COP 88,178,198 million, representing a COP 1,279,950 million or 1.4% decrease as compared to 2022, primarily as a result of the following factors:

- A COP 10,603,976 million decrease in the purchase costs of crude oil, natural gas and refined products, which were purchased for sales or for refining, resulting primarily from (i) lower average purchase prices by COP 11,000,671 million, which in turn was primarily due to the decrease in international benchmark prices for crude oil and refined products, and (ii) a COP 7,425,831 million decrease in volumes purchased of refined products given the higher operational availability of Reficar. Decreases in purchase prices and volumes purchased of refined products were partially offset by (i) an increase in crude oil and gas volumes purchased by COP 6,597,552 highlighting the increase in crude oil import requirements resulting from additional operational capacity of Reficar and higher trading operations, and (ii) a COP 1,157,335 million increase in costs of the Colombian Peso terms due to the appreciation of the average exchange rate of the Colombian Peso against the U.S. dollar, mentioned above.
- The decrease in cost of sales was partially offset by a COP 9,324,026 million increase as a result of:
 - (a) A COP 3,577,654 million increase in inventory fluctuation primarily due to: (i) a lower valuation in line with the decrease in benchmark prices in 2023 versus 2022; (ii) higher crude throughputs required to cover the enhanced refinery operations; and (iii) an increase in the use of refined products resulting from higher production levels.
 - (b) A COP 2,650,981 million increase in contracted services, maintenance activities, operation supplies and other operational activity costs, as a result of an increase in operating activities, higher average exchange rate and the inflation effect in contracts.
 - (c) A COP 1,794,711 million increase in depreciation, amortization, and depletion expenses primarily due to: (i) a higher level of capital investment, (ii) the exchange rate effect in depreciation for the Group's subsidiaries, which use the U.S. dollar as a functional currency, given the revaluation of the Colombian peso against the U.S. dollar, and (iii) the increase in production of Ecopetrol S.A. and Permian. The above was partially offset by a lower depreciation rate associated with the mitigating effect of the higher incorporation of reserves during 2022.
 - (d) A COP 540,203 million increase in labor cost related to higher salary increase in 2023 as compared to 2022.
 - (e) A COP 437,067 million increase in transportation costs primarily related to: (i) higher volume of crude oil and products transported for cabotage and tanker trucks due to an increase in economic activity during 2023 and (ii) higher transportation tariffs impacted by the inflationary effect.
 - (f) A COP 323,410 million increase in other minor items, including higher payments of royalties, taxes and contributions, and construction service.

4.6.1.3 Operating Expenses, net of other income before Impairment of Non-Current Assets Effects

Operating expenses, net of other income include selling, general and administrative expenses and other income before impairment or recovery of non-current assets. For 2024 amounted to COP 9,253,705 million, a COP 1,900,385 million or 17% decrease as compared to 2023, mainly as a result of the following factors (see Notes 27 and 28 to our consolidated financial statements for more detail):

- A COP 1,727,130 million income mainly from the profit of the transaction with Repsol Colombia Oil & Gas Limited to acquire the remaining 45% of its participation in the CPO-09 Block, with economic effects as of December 31, 2024 that generated a positive effect on the year-end 2024 results due to the market prices valuation of both the acquired portion and Ecopetrol S.A.'s existing 55% participation interest, in compliance with International Financial Reporting Standards for Business Combinations.
- A COP 173,255 million decrease in exploration expenses and other operational expenses in 2024 as compared to 2023.

For 2023, operating expenses, net of other income amounted to COP 11,154,090 million in 2023, a COP 1,518,912 million or 15.8% increase as compared to 2022, mainly as a result of the following factors (see Notes 27 and 28 to our consolidated financial statements for more detail):

- A COP 576,654 million increase in exploration expenses mainly due to the write-off of exploratory assets in the Cusiana Subthrust, Cupiagua XD, and Cusiana deep, and that of unconventional reservoirs, such as La Luna and Kalé.
- A COP 395,403 million increase in labor expenses, mainly due to a 14.6% salary increase in 2023 as compared to 2022.

- A COP 356,418 million increase in commissions, fees and services, mainly due to effect of the inflation and additional operations, primarily in subsidiaries such as ISA and Permian.
- A COP 337,833 million increase in general operating expenses mainly due to customs operation expenses primarily because of the higher sales volumes under the DAP (Delivery at Place) modality.

The increase in operating expenses in 2023 was partially offset by a COP 147,396 million decrease in other minor items, which mainly includes depreciation, amortization, and depletion expenses, tax and provisions and contingencies.

Each of our operating segments bears the costs and expenses incurred for product use and marketing and each segment assumes administrative expenses and all non-operational transactions related to its activity. Discussion of operating expenses by business segment is included in the section *Financial Review—Operating Results—Consolidated Results of Operations—Segment Performance and Analysis*.

4.6.1.4 Impairment of Non-Current Assets

The impairment of our non-current assets includes losses (or recovery) of impairment of property, plant and equipment and natural resources, investments in companies, goodwill, and other non-current assets. The Company is exposed to future risks derived mainly from variations in: (i) oil prices outlook, (ii) refining margins and profitability, (iii) cost profile, (iv) investment and maintenance expenses, (v) amount of recoverable reserves, (vi) market and country risk assessments reflected in the discount rate, and (vii) changes of local and international regulations, among others.

Any change in the foregoing variables used to calculate the recoverable amount of a non-current asset can have a material effect on the recognition of either losses or recovery of impairment charges in the profit or loss statement in any given fiscal year. In our business segments highly sensitive variables can include, among others: (i) in the exploration and production segment, variations of hydrocarbon prices, (ii) in the refining segment, changes in finished products and crude oil prices, the discount rate, refining margins, (iii) in the transport and logistics segment, transported volumes and exchange rate, and (iv) in electric power transmission and toll roads concessions, internal and external factors that affect the recoverable value of the assets versus the book value of the assets, such as currency devaluation, network capacity, modest economic growth, among others.

In 2024, we recognized impairment recovery of non-current assets of COP 867,428 million, as compared to impairment losses of COP 2,098,333 million in 2023 and COP 287,999 million in 2022. These impairments are a non-cash accounting effect and consequently do not involve any disbursement or cash inflow. Further, any cumulative impairment amount of non-current assets, except for goodwill, is susceptible to reversion when the fair value of the asset exceeds its book value. On the contrary, in the event that the book value exceeds the fair value of the asset, an additional impairment expense could be recognized.

The 2024 impairment gains, net of non-current assets of COP 867,428 million, corresponds to the net result of:

- A recovery of impairment in the Cartagena Refinery of COP 1,271,120 million, due to (i) improvement in the price differentials of refined products in the medium and long term due to market conditions, (ii) prioritization of local crude oils for the Cartagena Refinery, (iii) lower discount rate versus 2023 and (iv) a lower net book value of fixed assets due to the partial recovery of the cost of the modernization project as a result of the recognition of McDermott's financial instrument settled in the arbitration with CB&I (see section *Legal Proceedings—Reficar Investigations* for information on the arbitration with CB&I).
- A recovery in the transportation and logistics segment of COP 127,206 million mainly due to (i) the effect of the higher exchange rate by year-end 2024 compared to year-end 2023 that impacts revenues from oil pipelines that have rates in dollars and (ii) the positive adjustment in the oil pipeline rate due to macroeconomic effects given the resolution of the Ministry of Mines and Energy of September 2024.
- An impairment in the Exploration and production segment of COP 480,180 million mainly in Ecopetrol America LLC given the lower short- and long-term prices.
- An impairment of non-current assets in the electric power transmission and toll roads concessions segment of COP 45,351 million primarily in ISA Bolivia due to an increase in WACC from country risk and the effect of exchange rate differences on the dollar-denominated cash flow.

The 2023 impairment losses, net of non-current assets of COP 2,098,333 million, corresponds to the net result of:

- i. An impairment of non-current assets in the exploration and production segment of COP 2,741,092 million, mainly due to (i) capital expenditure variables, operational expenditure effects and prices mainly in cash-generating units (“CGU”) such as Casabe, Llanito, Suria, and Tibú; (ii) a recovery mainly in the Piedemonte unit, which was the subject of unification of the Floreña, Cupiagua and Cusiana assets during 2023, considering that these fields share facilities with each other, possess synergies, and jointly manage the surface fluids across the three large infrastructures, (iii) impairment losses were recognized in Hocol S.A. in the Cicuco, Toldado, La Hocha, Espinal, and Chenche CGUs and a recovery in Upía CGU, and (iv) in the CGUs abroad, an impairment loss was recognized in K2 CGU of Ecopetrol America LLC.
- ii. An impairment of non-current assets in the transportation and logistics segment of COP 630,134 million, primarily due (i) the decrease in the exchange rate for year-end 2023 versus 2022, (ii) the tariffs regulated by the Ministry of Mines and Energy and the Energy and Gas Regulation Commission (CREG, for its acronyms in Spanish), (iii) an increase in discount rates; and (iv) volumetric projection based on the financial plan and the long-term volumetric balance.
- iii. An impairment of non-current assets in the electric power transmission and toll roads concessions segment of COP 209,551 million mainly due to: (i) an impairment of COP 85,168 million in Consorcio Transmantaro due to lower fair market value in Yaros project, (ii) an impairment of COP 85,568 million in Internexa Brazil and COP 12,593 million in Intenexa Argentina, considering the update of the business plan that reflected a decrease in revenues and operating margins.

This impairment loss was partially offset by an impairment recovery in Refining and Petrochemicals Segment of COP 1,482,444 million, primarily due to an impairment recovery in Cartagena Refinery, which in turn is due to (i) higher price differentials in middle distillates in the medium and long-term projection, (ii) imported crude oils more discounted on the Brent marker, and (iii) operational improvements executed in 2023, which together with energy efficiency initiatives, have managed to optimize the operational costs of the refinery and reduce energy consumption.

The 2022 impairment losses, net of non-current assets of COP 287,999 million, corresponds to the net result of:

- i. An impairment of non-current assets in the exploration and production segment of COP 890,248 million, mainly due to: (i) a decline in the reserves of Ecopetrol’s Cusiana and Llanito fields, (ii) lower prospects in Hocol’s Upía and Cicuco fields, (iii) an increase in the discount rate, and (iv) the impact of the tax reform.
- ii. A recovery of impairment in the Cartagena Refinery of COP 1,096,021 million, primarily as a result a better operating performance and higher refining margins captured in the short and medium term, which have partially offset the increase of the discount rate.
- iii. An impairment of non-current assets in the transportation and logistics segment of COP 406,229 million, primarily due to a lower volume outlook, which results in a decrease of the utilization of the Southern Cash Generating Unit (Puerto Tumaco and TransAndino pipeline) and the Northern Cash Generating Unit (Caño Limón).
- iv. An impairment of non-current assets in the electric power transmission and toll roads concessions segment of COP 87,543 million mainly due to lower margins and decreased performance of Internexa Brazil.

For more information regarding impairment by segment, see section *Financial Review—Operating Results—Consolidated Results of Operations—Segment Performance and Analysis*.

4.6.1.5 Finance Results, Net

Finance results, net, mainly includes exchange rate gains or losses, interest expense, yields and interest from our investments and non-current liabilities financial costs (asset retirement obligation and post-benefits plan).

Finance results, net, amounted to a loss of COP 8,519,948 million in 2024, as compared to a loss of COP 5,665,384 million in 2023. This increase in loss was mainly due to:

- (i) A COP 2,346,145 million decrease in foreign exchange gain primarily driven by the lower exposure presented in 2024, managed through natural accounting exchange rate hedges. In 2024, our exchange rate gain was COP 51,567 million, as compared to a gain of COP 2,397,712 million in 2023.

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- (ii) A COP 453,255 million increase in financial expenses related to long term obligations, primarily due to higher interest rates in refinancing operations during 2024.
- (iii) A COP 297,109 million decrease in financial income related primarily to valuation and yields of the investment portfolio and bank accounts derived from a decrease in market yield rates.
- (iv) A COP 268,664 million increase in financial update of long-term liability mainly due to the liability for cost of retirement obligation and the net interest on post-employment benefits and other long-term employee benefits.

The decrease in foreign exchange gain and increase in financial expense were partially offset by a COP 510,609 million decrease in other minor items expenses, primarily due to the recognition of interests from a tax litigation ruling against Ecopetrol.

Finance results, net, amounted to a loss of COP 5,665,384 million in 2023 as compared to a loss of COP 6,834,757 million in 2022. This decrease in loss was mainly due to:

- i. A COP 2,522,362 million increase in foreign exchange gain primarily driven by the positive impact that the appreciation of the Colombian Peso against the U.S. dollar in 2023 had on our U.S. dollar net liability position. In 2023, our exchange rate gain was COP 2,397,712 million, as compared to a loss of COP 124,650 million in 2022.
- ii. A COP 975,542 million increase in financial income related to valuation and yields of the investment portfolio and bank accounts derived from an increase in market yield rates.

The increase in foreign exchange gain and financial income were partially offset by:

- iii. A COP 1,406,414 million increase in financial expenses related to long term obligations, primarily due to (i) higher indebtedness levels by the Ecopetrol Group; and (ii) higher interest rates.
- iv. A COP 922,117 million increase in other minor items expenses, primarily due to the recognition of interests from a tax litigation ruling against Ecopetrol.

For more details on our financial income and expenses see Note 29 to our consolidated financial statements.

4.6.1.6 Income Tax

Income taxes amounted to COP 12,208,540 million in 2024, COP 11,515,875 million in 2023, and COP 18,963,938 million in 2022. The above is equivalent to an effective tax rate of 39.8%, 31.2%, and 35.0% in 2024, 2023, and 2022, respectively.

The increase in the effective tax rate from 2023 to 2024 was mainly due to lower profits generated by lower average prices for the basket of crude oil, natural gas and refined products, the effect of the exchange rate on companies with a dollar functional currency in Colombia, the adjustment in the projections for the calculation of the surcharge for the following years and the effect of the acquisition of 45% participation interest of CPO-09 Block by Ecopetrol S.A., from Repsol Colombia Oil & Gas Limited, among others.

The decrease in the effective tax rate from 2022 to 2023 was mainly due to: (i) the effect Ecopetrol Group's subsidiaries with profit that have a nominal tax rate different from the parent company COP 841,937 million for Refineria de Cartagena, COP 39,489 million for Ecopetrol Capital AG, COP 47,781 million for Esentia MB, COP 133,579 million for Ecopetrol USA, COP 179,955 million for Ecopetrol Permian, and COP 183,485 million for the other subsidiaries, and (ii) the decrease in results obtained in the year in Ecopetrol S.A and Hocol, generated by the decrease in revenues given the lower average prices of the crude basket oil, natural gas, and products, and, (iii) the adjustment IAS 12.41 due to decrease the 20.5% in the exchange rate, among others.

See Note 10 to our consolidated financial statements for more details.

4.6.1.7 Net Income (Loss) Attributable to Owners of Ecopetrol

As a result of the foregoing, in 2024, net income attributable to owners of Ecopetrol was COP 13,841,153 million. In 2023, net income attributable to owners of Ecopetrol was COP 21,060,798 million, whereas in 2022, net income attributable to owners of Ecopetrol was COP 31,604,781 million.

4.6.1.8 Segment Performance and Analysis

In this section, including the tables below, we present our financial information by segment: Exploration and Production, Refining and Petrochemicals, Transportation and Logistics, and Electric Power Transmission and Toll Roads Concessions. See section Business Overview for a description of each segment.

The following tables present our revenues and net income by business segment for the years ended December 31, 2024, 2023 and 2022:

Table 59 – Revenues by Business Segment

	For the year ended December 31,			% Change	
	2024	2023	2022	2024/2023	2023/2022
	(COP Million)				
Exploration and Production	81,087,523	81,514,915	91,020,464	(0.5)	(10.4)
Third parties	52,559,851	52,429,502	60,719,903	0.2	(13.7)
Local crude oil	302	129,157	375,790	(99.8)	(65.6)
Foreign crude oil	47,516,576	47,650,996	56,155,120	(0.3)	(15.1)
Local natural gas	4,096,126	4,358,266	4,162,876	(6.0)	4.7
Foreign natural gas	43,539	105,413	254,054	(58.7)	(58.5)
Other income ⁽²⁾	903,308	185,670	(227,937)	386.5	(181.5)
Inter-segment net operating revenues	28,527,672	29,085,413	30,300,562	(1.9)	(4.0)
Refining and Petrochemicals	69,220,206	82,147,926	89,178,947	(15.7)	(7.9)
Third parties	62,251,340	73,616,641	82,728,875	(15.4)	(11.0)
Local refined products	49,543,812	59,319,485	70,911,613	(16.5)	(16.3)
Foreign refined products	9,967,516	11,166,887	10,113,351	(10.7)	10.4
Foreign crude oil	1,281,956	2,027,551	92,147	(36.8)	2,100.4
Other income	1,458,056	1,102,718	1,611,764	32.2	(31.6)
Inter-segment net operating revenues	6,968,866	8,531,285	6,450,072	(18.3)	32.3
Transportation and Logistics	15,133,721	15,509,732	13,955,992	(2.4)	11.1
Third parties	2,716,164	2,978,937	2,807,031	(8.8)	6.1
Inter-segment net operating revenues	12,417,557	12,530,795	11,148,961	(0.9)	12.4
Electric Power Transmission and Toll Roads Concessions⁽¹⁾	15,805,647	14,168,266	13,357,506	11.6	6.1
Third parties	15,803,073	14,164,522	13,355,269	11.6	6.1
Inter-segment net operating revenues	2,574	3,744	2,238	(31.2)	67.3
Eliminations of consolidations	(47,916,669)	(50,151,237)	(47,901,832)	(4.5)	4.7
Net Income	133,330,428	143,189,602	159,611,078	(6.9)	(10.3)

(1) The electric power transmission and toll roads concessions segment's revenues mainly include: (i) electricity transmission services, (ii) designing, building, operating and maintaining road concessions infrastructure roads, and (iii) telecommunications services.

(2) mostly to industrial services.

Table 60 – Operating and Net Income by Business Segment

	For year ended December 31			% Change	
	2024	2023	2022	2024/2023	2023/2022
	(COP Million)				
Exploration and Production					
Operating Income	20,818,745	20,090,025	37,358,934	4	(46)
Net income	9,162,709	10,208,130	21,761,164	(10)	(53)
Refining and Petrochemicals					
Operating Income	373,796	5,455,703	7,694,598	(93)	(29)
Net income	(1,407,810)	5,352,446	4,686,009	(126)	14
Transportation and Logistics					
Operating Income	9,594,762	9,486,076	8,732,561	1	9
Net income	5,112,271	4,829,051	4,483,060	6	8
Electric Power Transmission and Toll Roads Concessions					
Operating Income	7,655,571	6,646,289	6,345,153	15	5
Net income	966,738	674,968	673,688	43	0
Eliminations of consolidations					
Operating Income	20,123	80,888	98,507	(75)	(18)
Net income	7,245	(3,797)	860	(291)	(542)
TOTAL					
Operating Income	38,462,997	41,758,981	60,229,753	(8)	(31)
Net income	<u>13,841,153</u>	<u>21,060,798</u>	<u>31,604,781</u>	<u>(34)</u>	<u>(33)</u>

We are currently organized into three corporate business lines: (A) Hydrocarbons, which includes four operational divisions: (i) Exploration and Production, (ii) Transportation and Logistics, (iii) Refining Petrochemicals and Biofuels, (iv) and Sales and Marketing; (B) Energies for the Transition, which includes natural gas, biogas, LPG, power, renewables, hydrogen and CCUS; and (C) Transmission and Toll Roads. However, as discussed above in Our Corporate Strategy—2025 Investment Plan, given the transformation of our Company with the ISA acquisition and in line with our 2040 Strategy, in 2022, we started a process to align our current segments more closely to the vision of the 2040 Strategy for the Ecopetrol Group and such process is undergoing.

However, for purposes of this annual report, the financial information included in this annual report is organized by the following segments: (i) exploration and production, (ii) transportation and logistics, (iii) refining and petrochemicals, and (iv) energy transmission and roads, which is consistent with previous Company annual reports. The Company's management is currently reviewing different options to update the operating and financial reporting model of the Company to be better aligned with the 2040 Strategy.

4.6.1.9 Exploration and Production Segment Results

In 2024, exploration and production segment sales were COP 81,087,523 million, compared to COP 81,514,915 million in 2023. In 2024, our segment sales decreased by 0.5 % as compared to 2023, mainly as a result of:

- (i) A 1.9 % decrease in inter-segment revenues in 2024 as compared to 2023 mainly due to: (i) the decrease in Brent reference prices partially offset by the strengthening of the negotiated crude oil differential, and (ii) the depreciation of the Colombian Peso against the U.S. dollar.
- (ii) A 0.3% increase in sales of crude oil to third parties in 2024 as compared to 2023 primarily due to: (i) higher sales volumes of 19.7 mbd, due to an increase in the production from Permian and Caño Sur in Colombia, and (ii) higher price of our crude oil basket of USD 0.1 per barrel; partially offset by (iii) the appreciation of the Colombian Peso against the U.S dollar.

In 2023, our segment sales decreased by 10.4% as compared to 2022, mainly as a result of:

(i) A 13.7% decreased in sales of crude oil to third parties in 2023 as compared to 2022 primarily due to: (i) a decrease in the price of our crude oil basket of USD 17.4 per barrel, and (ii) the appreciation of the Colombian Peso against the U.S dollar, resulting in a decrease in sales revenue recorded in U.S. dollars; and offset by higher sales volumes of 17.9 mbd, due to (i) an increase in the production from Rubiales and Caño Sur in Colombia, as well as increased production of Permian, and (ii) higher trading operations.

(ii) A 4.0% decrease in inter-segment revenues in 2023 as compared to 2022 mainly due to: (i) the decrease in Brent reference prices, and (ii) the appreciation of the Colombian Peso against the U.S. dollar.

Cost of sales affecting our exploration and production segment are mainly related to: (i) the amortization and depletion of our production assets, (ii) contracted services and (iii) costs related to maintenance, operational services, electric power, projects, and labor cost. In addition, this segment's costs are impacted by the purchases of crude oil from ANH and third parties, naphtha for dilution and transportation services.

In 2024, the cost of sales for this segment increased by 5.9% as compared to 2023 due to the net effect of:

(i) Fixed costs increasing by 2.5%, or COP 352,125 million in 2024 as compared to 2023, mainly due to: (i) higher activity including well interventions, maintenance and contracted services to support the production including the preparation and operational support for the start-up of the Orotoy station and the new Caño Sur facilities, as well as the specific maintenance required in the Gunflint and K2 fields of Ecopetrol America LLC; and (ii) an increase in depreciation, amortization and depletion, associated with higher production and Capex.

(ii) Variable costs increasing by 7.1%, or COP 2,683,039 million in 2024 as compared to 2023, as a result of (i) higher energy consumption, chemical treatment and transportation costs associated with production increase, (ii) inflationary effect on the rates of materials needed for well interventions and chemical treatment; (iii) transportation costs associated with the execution of reversal cycles in the Bicentenario Pipeline, resulting from fewer days of operation of the Caño Limón Pipeline, and (vi) higher purchased volumes from third parties. These increases were partially offset by lower average exchange rate on cost denominated in dollar.

In 2023, the cost of sales for this segment increased by 10.9% as compared to 2022 due to the net effect of:

(i) Fixed costs increasing by 17.2%, or COP 2,084,693 million in 2023 as compared to 2022, mainly due to: (i) an increase in transportation tariffs in pipeline as a result of the appreciation of the Colombian Peso against the U.S dollar, (ii) higher activity including well interventions, maintenance and contracted services to support the operation and improvements in wells with production decline; and (iii) higher in labor expenses aligned with inflation effect.

(ii) Variable costs increasing by 8.6%, or COP 2,993,771 million in 2023 as compared to 2022, as a result of (i) higher electricity fees impact associated with the El Niño phenomenon; (ii) inflationary effect on the rates of materials needed for well interventions and chemical treatment; (iii) higher consumption of electricity and chemical treatment associated with production increases, (iv) higher transportation costs due also to an increase in production, (v) costs associated with the execution of reversal cycles in the Bicentenario Pipeline, resulting from fewer days of operation of the Caño Limón Pipeline, and (vi) higher purchased volumes from the ANH and third parties. These increases were partially offset by a lower purchase costs due to: (i) lower purchase prices and volumes of diluents; and (ii) decreases in domestic purchases due to lower prices.

In 2024, operating expenses, net of other income before impairment of non-current assets decreased by 28.2% as compared to 2023 primarily as a result of: (i) profit of the transaction with Repsol Colombia Oil & Gas Limited to acquire the remaining 45% of its participation in the CPO-09 Block, due to the market prices valuation of both the acquired portion and Ecopetrol S.A.'s existing 55% participation interest in compliance with International Financial Reporting Standards for Business Combinations, (ii) lower updating of provisions and contingencies, and (iii) lower write-off of exploration assets in 2024 versus 2023.

In 2023, operating expenses before impairment of non - current assets increased by 13.9% as compared to 2022 primarily as a result of: (i) higher exploratory expenses mainly as a result of the recognition exploratory and seismic activity of Ecopetrol S.A., (ii) the implementation of new environmental legal provisions and addressing contingencies, (iii) higher sales volumes under the Delivery at Place (DAP) modality by subsidiaries dedicated to commercialization activities, (iv) higher expenses capitalized due to an incremental execution of investment projects, and (v) increase in labor expenses due to inflation. This increase was partially offset by write - off of investments in Ecopetrol America LLC's Rydberg asset registered in 2022.

In 2022, operating expenses before impairment of non-current assets increase by 34.2% as compared to 2021 primarily as a result of: (i) higher exploratory expenses in 2022 mainly as a result of the recognition of spending on exploratory and seismic activity in Brazil, (ii) increase in asset write-off after the completion of a viability analysis in the Saturno and Rydberg fields, (iii) increase in freight costs for exports to America, Europe and Asia under the “delivery at place” model, (iv) increase in maintenance of external roads and facilities and attention to operational contingencies, (v) increase in labor expenses due to salary increases, and (vi) loss of crude due to damages by third parties to our infrastructure. This increase was partially offset by (i) lower expenses related to the updating of processes, resulting from new legal, tax and environmental provisions, and (ii) the profit from the sale of the Casanare, Estero, Garcero, Orocué and Corocora fields in 2022.

The impairment of non-current assets recognized in the exploration and production segment in 2024 was COP 480,180 as compared to COP 2,741,092 million recognized in 2023. The impairment in this segment in 2024 was mainly in Ecopetrol America LLC due to lower short- and long-term prices as well as the reclassification of reserves.

The impairment of non-current assets recognized in the exploration and production segment in 2023 was COP 2,741,092 as compared to COP 890,248 million recognized in 2022. This impairment loss was mainly due to (i) capital expenditure variables, operational expenditure effects and prices mainly in CGUs such as Casabe, Llanito, Suria, and Tibú; (ii) a recovery mainly in the Piedemonte unit, which was the subject of unification of the Floreña, Cupiagua and Cusiana assets during 2023, considering that these fields share facilities with each other, possess synergies, and jointly manage the surface fluids across the three large infrastructures; (iii) impairment losses were recognized in Hocol S.A. in the Cicuco, Toldado, La Hocha, Espinal, and Chenche CGUs and a recovery in Upía CGU; and (iv) in the CGUs abroad, an impairment loss was recognized in K2 CGU of Ecopetrol America LLC.

There was an impairment of non-current assets recognized in the exploration and production segment in 2022, totaling COP 890,248 million in 2022 as compared to a recovery of COP 438,020 million in 2021. The impairment loss in this segment in 2022 was mainly due to: (i) the decline in reserves of the Cusiana and Llanito fields, (ii) lower prospectivity in the Upia and Cicuco fields in Hocol, (iii) the increase in discount rates, and (iv) the impact of the tax reform in terms of non-deductibility of royalties and higher tax rate.

The segment recorded a net income attributable to owners of Ecopetrol of COP 9,162,709 million in 2024 as compared to net income attributable to owners of Ecopetrol of COP 10,208,130 million in 2023 and net income attributable to owners of Ecopetrol of COP 21,761,164 million in 2022.

Lifting and Production Costs

The aggregate average production cost, on a Colombian Peso basis, increased from COP 50,098 per boe during 2023 to COP 54,274 per boe during 2024. Moreover, this indicator increased from USD 11.58 per boe in 2023 to USD 13.33 per boe in 2024.

The aggregate average lifting cost, on a Colombian Peso basis, increased from COP 47,204 per boe during 2023 to COP 50,833 per boe during 2024. On a dollar basis, the cost increased from USD 10.91 per boe in 2023 to USD 12.49 per boe in 2024, partially offset by a 6.2% appreciation of the Colombian Peso against the U.S. dollar in 2023.

In 2024, both the aggregate average production cost and the aggregate average lifting cost increased compared to 2023, mainly due to:

- (i) Increased number of surface maintenance operations as well as number of well interventions to recover base production.
- (ii) Growth of surface facilities due to development of new production fields (CPO-09 and Caño Sur).
- (iii) Increase of power energy consumption due to greater production oil in the fields and consequently of water production (BSW - Basic Sediment and Water)
- (iv) Rise of liquid fuels prices required for self-generation of electricity in non-interconnected production fields.
- (v) Increase in contractual rates associated with chemical treatment in the extraction and treatment of fluids processes (crude oil, water and gas).

The difference between the production and lifting costs is that first one additionally includes the production cost of the refineries and natural gas liquid plants located in the production fields.

The following table sets forth crude oil and natural gas average sales prices, the average lifting cost and the average production cost for the years ended December 31, 2022, 2023 and 2024.

Table 61 – Crude Oil and Natural Gas Average Prices and Costs

	2024	2023	2022
Crude Oil Average Sales Price (USD per barrel) ⁽¹⁾	73.5	73.4	90.9
Crude Oil Average Sales Price (COP per barrel) ⁽¹⁾	299,040	315,947	384,525
Natural Gas Average Sales Price (USD per barrel equivalent)	27.8	28.4	27.6
Natural Gas Average Sales Price (COP per barrel equivalent)	114,299	130,361	118,828
Aggregate Average Unit Production Costs (USD per boe) ⁽²⁾	13.33	11.58	9.83
Aggregate Average Unit Production Cost (COP per boe) ⁽²⁾	54,274	50,098	41,841
Aggregate Average Lifting Costs (USD per boe) ⁽³⁾⁽⁴⁾⁽⁵⁾	12.49	10.91	9.21
Aggregate Average Lifting Costs (COP per boe) ⁽³⁾⁽⁴⁾⁽⁵⁾	50,833	47,204	39,187

(1) Corresponds to our average sales price on a consolidated basis.

(2) Unit production costs correspond to consolidated average costs on total production volumes net of royalties. Production costs do not include costs related to transport, commercialization and administrative expenses.

(3) Lifting costs per barrel are calculated based on total production (excluding production tests and discovered undeveloped fields), which are net of royalties, and correspond to our lifting costs on a consolidated basis.

(4) The cost indicator is calculated by using the cost of production (does not include costs related to hydrocarbons consumption by Ecopetrol in the production process, such as by our refineries and natural gas liquid plants) and dividing by the net produced volume (excluding royalties) as the denominator.

(5) As a result of the evaluation of control over companies under IFRS, Ecopetrol does not consolidate Equion.

4.6.1.10 Transportation and Logistics Segment Results

In 2024, our transportation and logistics segment sales were COP 15,133,721 million compared to COP 15,509,732 million in 2023. The 2.4% decrease in 2024 as compared to 2023 was mainly due to: (i) lower average COP/USD exchange rate, and (ii) completion in September 2023 of the “ship or pay” contract with Oleoducto Bicentenario. This decrease was partially offset by: (i) the tariff update on oil pipelines, (ii) higher incomes from contingent operation, and (iii) the increase in industrial services.

In 2023, our transportation and logistics segment sales were COP 15,509,732 million compared to COP 13,955,992 million in 2022. The 11.1% increase in 2023 as compared to 2022 was mainly due to: (i) higher volumes transported due to the increase in production of crude oil and refined products, along with operational efficiencies in the transportation systems; (ii) higher average COP/USD exchange rate; (iii) annual fees update; and (iv) the execution of 13 contingent reversal cycles in the Bicentenario pipeline, versus only one cycle executed in the previous year.

The cost of sales for our transportation and logistics segment is mainly related to: (i) project costs associated with the maintenance of transportation networks, and (ii) operating costs related to these systems, including the costs of labor, energy, fuels and lubricants and others.

The cost of sales amounted to COP 4,377,897 million in 2024 as compared to COP 4,380,195 million in 2023. The cost of sales for this segment decreased by 0.1% in 2024 as compared to 2023 mainly due to lower depreciation derived from the update of the useful life of the Bicentenario Pipeline; offset by: inflationary effect on maintenance contract fees, operating support area costs, and personnel costs, among others.

The cost of sales amounted to COP 4,380,195 million in 2023 as compared to COP 3,893,210 million in 2022. The cost of sales for this segment increased by 12.5% in 2023 as compared to 2022 mainly due to: (i) the inflationary effect on maintenance contract fees, operating support area costs, and personnel costs, among others, (ii) higher operation and maintenance activities, and (iii) the increase in variable costs of materials and electricity, mainly associated with higher volumes transported and increases in energy prices, consistent with market conditions.

In 2024, operating expenses before the impairment of non-current assets increased by 27.1% as compared to 2023 mainly due to (i) higher emergency response, social investment activities and technology expenses, (ii) inflationary effect, and (iii) impairment of materials inventories.

In 2023, operating expenses before the impairment of non-current assets increased by 9.7% as compared to 2022 mainly due to (i) higher emergency response and social investment activities expenses, and (ii) an increase in personnel expenses and insurance policies.

The recovery of impairment loss of non-current assets recognized in the segment in 2024 was COP 127,206 million, compared to the impairment loss of non-current assets of COP 630,134 million in 2023. This recovery of impairment was primarily due to (i) the increase in the exchange rate for year-end 2024 versus 2023; (ii) the new tariffs for oil pipes regulated by the Ministry of Mines and Energy; and (iii) volumetric projection based on the financial plan and the long-term volumetric balance.

The impairment loss of non-current assets recognized in the segment in 2023 was COP 630,134 million, compared to the impairment loss of non-current assets of COP 406,229 million in 2022. This impairment loss was primarily due to (i) the decrease in the exchange rate for year-end 2023 versus 2022; (ii) the tariffs regulated by the Ministry of Mines and Energy and the Energy and Gas Regulation Commission - CREG; and (iii) volumetric projection based on the financial plan and the long-term volumetric balance.

The segment recorded net income attributable to owners of Ecopetrol of COP 5,112,271 million in 2024, as compared to a net income of COP 4,829,051 million in 2023 and COP 4,483,060 million in 2022.

4.6.1.11 Refining and Petrochemicals Segment Results

In 2024, the refining and petrochemical segment sales were COP 69,220,206 million compared to COP 82,147,926 million in 2023. In 2024, sales of refined products and petrochemicals decreased by 15.7% as compared to 2023, mainly due to: (i) lower prices of middle distillate products and gasoline, and a decrease of refined product spreads, in both cases associated with market factors, (ii) scheduled major maintenance of the hydrocracking unit and the effect of the electrical failure at Cartagena Refinery, and (iii) lower average COP/USD exchange rate. Invercolsa's revenues increased as a result of the higher commercialization of natural gas volumes. Esenttia's sales volume decreased 108 tons, due to a strategy based on pursuing sales with higher margins instead of pursuing the target volume, increasing year-on-year sales results and total margin of USD 85.9 per ton in 2023 to USD 177.6 per ton in 2024.

In 2023, the refining and petrochemical segment sales were COP 82,147,926 million compared to COP 89,178,947 million in 2022. In 2023, sales of refined products and petrochemicals decreased by 7.9% as compared to 2022, mainly due to: (i) lower prices of middle distillate products and gasoline, and (ii) decrease of refined product spreads, in both cases associated with market factors. Invercolsa's revenues increased as a result of the higher commercialization of natural gas volumes. Esenttia's sales volume decreased 32,000 tons due to an increase in polypropylene (PP) prices due to moderating demand and high inventories, reducing year-on-year sales results and total margin of USD 214.9 per ton in 2022 to USD 85.9 per ton in 2023.

The cost of sales for our refined products and petrochemicals segment is mainly related to the purchase of crude oil and natural gas for our refineries, imported crude oil and products to supply local demand, feedstock transportation services, services contracted for maintenance of the refineries and the amortization and depreciation of refining assets.

Cost of sales amounted to COP 67,717,757 million in 2024, compared to COP 75,716,453 million in 2023 and COP 80,331,998 million in 2022. In 2024, the cost of sales for this segment decreased 10.6% as compared to 2023, mainly due to (i) lower crude feedstock cost, (ii) higher savings associated with the cost optimization strategy, and (iii) lower crude oil purchases associated with inventory management at the refineries.

Cost of sales amounted to COP 75,716,453 million in 2023, compared to COP 80,331,998 million in 2022 and COP 48,535,388 million in 2021. In 2023, the cost of sales for this segment decreased 5.7% as compared to 2022, mainly due to (i) lower crude feedstock cost, and (ii) decrease in refined product spreads, associated with market factors, partially offset by (i) cost associated with the higher cargo volumes; and (ii) the higher average COP/USD exchange rate.

In 2024, operating expenses, net of other income and before the impairment reversal of non-current assets decreased by 2.6% as compared to 2023, mainly due to the incorporation of efficiencies and optimizations in administrative expenses.

In 2023, operating expenses, net of other income and before the impairment reversal of non-current assets increased by 9.3% as compared to 2022, mainly due to higher sales and marketing expenses due to the increase in volumes sold abroad.

In 2024, we recognized an impairment recovery of non-current assets in this segment totaling COP 1,265,753 million, as compared to an impairment recovery of COP 1,482,444 million in 2023. The recovery recorded in 2024 was generated primarily due to an impairment recovery in Cartagena Refinery due to (i) higher price differentials in middle distillates in the medium and long-term projection, (ii) prioritization of local crudes, and (iii) lower discount rate versus 2023, according to market conditions.

In 2023, we recognized an impairment recovery of non-current assets in this segment totaling COP 1,482,444 million, as compared to an impairment recovery of COP 1,096,021 million in 2022. The recovery recorded in 2023 was generated primarily due to an impairment recovery in Cartagena Refinery due to (i) higher price differentials in middle distillates in the medium and long-term projection, (ii) imported crude oils more discounted on the Brent marker, and (iii) operational improvements executed in 2023, which together with energy efficiency initiatives have managed to optimize the operational costs of the refinery and reduce energy consumption.

In 2022, we recognized an impairment recovery of non-current assets in this segment totaling COP 1,096,021 million, as compared to an impairment loss of COP 305,466 million in 2021. The recovery recorded in 2022 was generated for the Cartagena Refinery, mainly due to better operating performance and the capture of higher refining margins in the short and medium term. The above was partially offset by the effect of the increase in the discount rate.

As mentioned earlier, the refining segment is highly sensitive to changes in product prices and feedstock in the international market, discount rate and refining margins, among others.

The refining and petrochemicals segment recorded net loss attributable to owners of Ecopetrol of COP 1,407,810 million in 2024, compared to a net income of COP 5,352,446 million in 2023 and a net income of COP 4,686,009 million in 2022.

4.6.1.12 Electric Power Transmission and Toll Roads Concessions Segment Results

In 2024, the electric power transmission and toll roads segment revenues from contracts with customers were COP 15,805,647 million, which included COP 12,998,524 million for electricity transmission, COP 2,352,336 million for toll road concessions and COP 454,787 million for telecommunication technologies and other operating revenues.

In 2024, income increased mainly due to the energy business due to the one-off recognition of the Periodic Tariff Review ("RTP") in Brazil. Additionally, new operative projects, the positive impact of contractual escalator clauses and the end of the provisions applied by the CREG associated with the voluntary decrease in fees, resuming the use of the PPI as a revenue escalator in Colombia. Likewise, the telecommunications business increased its revenues mainly due to the "National Connectivity Plan" at Internexa Colombia.

In 2023, the electric power transmission and toll roads segment revenues from contracts with customers were COP 14,168,266 million, which included COP 10,940,721 million for electricity transmission, COP 2,752,383 million for toll road concessions and COP 475,162 million for telecommunication technologies and other operating revenues.

In 2023, income increased mainly due to the energy business with projects that began operations, the positive impact of contractual escalator clauses, and higher returns on contractual assets. Additionally, adjustments to construction margins, along with new energizing improvements and reinforcement in Brazil projects, contributed positively, and the end of the provisions applied by the CREG associated with the voluntary decrease in fees, resuming the use of the PPI as a revenue escalator in Colombia. These effects were partially offset by (i) the revenue decreases in the toll road business due to the financial impact in the valuation of financial assets in Chile changed from UF (Unidad de Fomento) to CLP (Chilean pesos) in 2022, along with the end of the Ruta del Bosque concession; and (ii) in the telecommunications business, due to lower customer acquisitions, disconnections, reduced capacities, and loss of internet service users in Brazil, Colombia, and Peru.

In 2022, the electric power transmission and toll roads segment revenues from contracts with customers were COP 13,357,506 million, which included COP 10,004,902 million for electricity transmission, COP 2,867,499 million for toll road concessions and COP 485,105 million for telecommunication technologies and other operating revenues.

In 2022, electricity transmission revenues were positively affected by the completion of projects under construction that enabled a cleaner energy matrix in the region. Seven power transmission projects, one battery project, and 76 expansions and reinforcements were activated. Together, these projects are expected to generate annual revenues of USD 167 million and add more than 2,200 km of circuit to the transmission network. Toll road concession revenues were positively affected by the change in the treatment of financial assets from Chilean pesos to UF, together with higher revenues associated with the operation and management of road infrastructure. Telecommunication technologies were positively affected by higher sales of connectivity, sales of capacity, Internet and Ethernet services and other telecommunications services in Colombia and Peru, and the growth of the over the top operators segment in Colombia.

In 2024, the cost of sales amounted to COP 6,952,104 million, compared to COP 5,928,905 million for 2023. These costs primarily encompass construction expenses associated with concession contracts, as well as operation and maintenance costs within our electric power transmission and toll roads concessions segment.

The operating costs for our electric power transmission and toll roads concessions segment, which is mainly related to construction costs of concession contracts, operation and maintenance costs, amounted to COP 6,769,380 million for 2024, compared to COP 5,741,590 million for 2023

Administrative expenses amounted to COP 1,150,596 million in 2024, compared to COP 1,182,380 million for 2023. The administrative expenses include depreciation, personnel services, commissions, fees expenses and services.

The increase in cost of sales and administrative expenses are mainly due to (i) in the energy business, inflationary pressures on costs, higher maintenance and conservation services for transmission lines and substations, personnel services and fees expenses, and (ii) in the telecommunications business, higher costs mainly due to the “National Connectivity Plan” at Internexa Colombia, these effects were offset mainly by lower costs in the telecommunications business due to the sale of subsidiaries in Brazil, Argentina and Chile. The above was partially offset by the effect of the lower DD&A cost due to the lower depreciation during 2024 due to the closure of operations in Brazil, Argentina and Chile in the telecommunications business.

The electric power transmission and toll roads segment and its companies continue to implement initiatives aimed at controlling these expenses by monitoring productivity indicators and designing a cost model based on the asset’s life cycle.

In 2024, the share of profit of associates and joint ventures caused a positive effect in our results of COP 540,102 million, which corresponded to the participation in the results mainly of *Transmissora Aliança de Energia Elétrica, Interligação Elétrica do Madeira and Interligação Elétrica Ivaí*, energy transport companies in Brazil.

In 2023, the share of profit of associates and joint ventures caused a positive effect in our results of COP 529,536 million, which corresponded to the participation in the results mainly of *Transmissora Aliança de Energia Elétrica, Interligação Elétrica do Madeira and Interligação Elétrica Garanhuns*, energy transport companies in Brazil.

In 2022, the share of profit of associates and joint ventures caused a positive effect in our results of COP 515,746 million, which corresponded to the participation in the results mainly of *Transmissora Aliança de Energia Elétrica, Interligação Elétrica do Madeira and Interligação Elétrica Garanhuns*, energy transport companies in Brazil.

The impairment of non-current assets recognized in the segment in 2024 was COP 45,351 million. This impairment was primarily due to: (i) impairment COP 26,606 million in ISA Bolivia due to an increase in WACC from country risk and the effect of exchange rate differences on the dollar-denominated cash flow, (ii) impairment COP 16,255 in Internexa Colombia due to in the right to submarine capacity, as a consequence of price erosion in the market due to the substantial increase in supply.

In 2023, we recognized an impairment loss of non-current assets in this segment totaling COP 209,551 million mainly due to: (i) impairment COP 85,168 million in Consorcio Transmantaro due to a lower fair market value in Yaros project, (ii) impairment of COP 96,593 million in Internexa Brazil, COP 11,248 in Internexa Colombia, and COP 14,592 million in Intenexa Argentina, considering the update of the business plan that reflected decrease in revenues and operating margins to the South Cash Generating Unit.

The electric power transmission and toll roads concessions segment recorded net income attributable to owners of Ecopetrol of COP 966,738 million in 2024, as compared to net income attributable to owners of Ecopetrol of COP 674,968 million in 2023 and a net income of COP 673,688 million in 2022.

4.7 Liquidity and Capital Resources

Our principal sources of liquidity in 2024 were: (i) cash flows amounting to COP 45,127,516 million from our operations and payments received from the FEPC for balances receivable at the end of 2023, (ii) cash flows from our investing activities mainly due to interest received amounting to COP 1,627,135 million and (iii) cash flow from dividends amounting to COP 425,191 million.

Our main uses of cash in 2024 were: (i) 21,807,981 million in capital expenditures, which included investments in property, plant and equipment, natural and environmental resources and intangibles, (ii) dividend payments amounting to COP 15,565,064 million, which included dividends of COP 12,802,893 million to Ecopetrol’s shareholders, including minority shareholders, and dividends paid to the non-controlling shareholders of our subsidiaries totaling COP 2,762,171 million, and (iii) COP 6,528,891 related to net effect of proceeds and payments of principal and payments of interest. For more information regarding our debt, see section *Financial Review—Financial Indebtedness and Other Contractual Obligations*.

4.7.1 Review of Cash Flows

Cash from operating activities

Net cash provided by operating activities increase by 127.9% in 2024 as compared to 2023, mainly as a result of:

- (i) Largest source of cash generation through working capital management by COP 32,201,352 million mainly due to the payment received from FEPC and lower tax payments between 2024 and 2023.
- (ii) A COP 6,575,711 million decrease in our operating income before depreciation, depletion and amortization (DD&A) and impairment of non-current assets primarily due to: i) lower market prices for refined products, ii) lower average exchange rate, iii) the effect of inflation on costs and expenses, factors that were offset by better operational performance reflected in increased production and sales given commercial management and iv) new businesses integrated into the consolidated results of the Ecopetrol Group, mainly the impact of increased participation in the CPO-09 Block.

Net cash provided by operating activities decreased by 45.4% in 2023 as compared to 2022, mainly as a result of:

- (i) A COP 14,977,042 million decrease in our operating income before depreciation, depletion and amortization (DD&A) and impairment of non-current assets primarily due to: (i) unfavorable crude and refined product prices in the international, Asian and European markets, and (ii) inflation and the exchange rate effect on operating costs and expenses. The above was partially offset by higher sales volumes by 5.5% as compared to 2022, associated with increases in production, a positive performance by the refineries, and higher volumes transported.
- (ii) Higher working capital needs by COP 4,071,109 million due to an increase in tax payments between 2023 and 2022 which corresponds mainly to the better results obtained by Ecopetrol S.A. in 2022, generated by the growth of revenue given the increase in the average prices of the crude basket oil, natural gas.

Cash used in investing activities

In 2024, net cash used in investing activities increased by 10.1% as compared to 2023, mainly resulting from a 9.5% increase in capital expenditures due to: (i) development wells in Rubiales, Caño Sur, Castilla, Floreña, (ii) acquisition of CPO09, (iii) higher investment in Permian, (iv) investments focused on operational continuity in the midstream and downstream segments, among others.

In 2023, net cash used in investing activities increased by 10.6% as compared to 2022, mainly resulting from a 10.1% increase in capital expenditures mainly in development wells in Rubiales, Caño Sur, Castilla, Casabe, and Permian in the upstream segment, investments focused on operational continuity in the midstream and downstream segments, investments in the construction of power lines, and investments to increase the reliability of the grid and comply with regulation.

Cash used in financing activities

Net cash used in financing activities increased by 6,298% in 2024, as compared to 2023, from 354,609 million used in financing activities in 2023 to 22,687,122 million used in financing activities in 2024. The difference was mainly due to (i) a COP 12,323,566 million increase from borrowings, net of related repayments of principal and payments of interest, as compared to 2023 due mainly to the devaluation of the Colombian peso against the dollar, and (ii) a COP 9,994,188 million increase in dividend payments in 2024 as compared to 2023 is mainly explained by the partial offset of the 2023 payment to the majority shareholder against accounts receivable from the Nation under the Fuel Price Stabilization Fund (FEPC), which reduced the cash outflow during that year.

Net cash used in financing activities decreased by 98.1% in 2023, as compared to 2022, mainly due to: (i) a COP 7,786,071 million decrease in cash dividend payments in 2023 as compared to 2022, and (ii) a COP 10,852,391 million increase from borrowings, net of related repayments of principal and payments of interest, as compared to 2022.

4.7.2 Capital Expenditures

Our consolidated capital expenditures in 2024, 2023, and 2022 were COP 22,917,280 million, COP 24,090,916 million, and COP 21,877,770 million, respectively. These investments were distributed by business segment on average, for the past three years as follows 76.8% for the exploration and production segment, 10.7% for the transportation and logistics segment, 4.6% for the electric power transmission and toll roads concessions segment, and 7.4% for refining and petrochemicals, mainly in development wells in Rubiales, Caño Sur, Castilla, Floreña, and Permian in the upstream segment, investments focused on operational continuity in the midstream and downstream segments, investments in the construction of power lines, and investments to increase the reliability of the grid and comply with regulation. See Note 33.3 to our consolidated financial statements for more detail about capital expenditures by segment.

The amount of our investment plan approved for 2024-2026 is USD 20.2 billion. See section *Strategy and Market Overview—Our Corporate Strategy—2025 Investment Plan* for further information and implicit Brent prices.

The resources required for the investment plan can be funded through internal cash generation, collection of the accounts receivable from the FEPC and loans.

4.7.3 Dividends

In the General Assembly of Shareholders held on March 28, 2025, a distribution of ordinary dividends for the fiscal year ended December 31, 2024, was approved as follows: COP 8,798,972,663,702, or COP 214 per share, based on the number of outstanding shares as of December 31, 2024. The total dividends approved corresponds to an ordinary dividend pursuant to our current dividend policy. The payment is expected to be made in two installments on April 4, 2024 and April 29, 2024 to our minority shareholders. The payment to the majority shareholder is expected to be made in three installments as follows: i) COP 2,200,000 on April 4, 2025, ii) COP 2,300,000,000,000 on April 29, 2025, and iii) the total of COP 3,286,344,378,880 on June 27, 2025., taking into account the payment schedule of the balance of the Fuel Price Stabilization Fund (FEPC) corresponding to its 2024 accumulation.

In 2024, we paid dividends of COP 12,802,893 million to our shareholders, including the Nation, and dividends paid to non-controlling shareholders of our subsidiaries totaling COP 2,762,171 million. COP 7,352,053 million in dividends corresponding to the Nation were offset against the FEPC accounts receivable owed to Ecopetrol.

In 2023, we paid dividends of COP 24,323,410 million to our shareholders, including the Nation, and dividends paid to non-controlling shareholders of our subsidiaries totaling COP 2,806,020 million. COP 21,576,179 million in dividends corresponding to the Nation were offset against the FEPC accounts receivable owed to Ecopetrol.

In 2022, we paid dividends of COP 11,622,778 million to our shareholders, including the Nation, and dividends paid to non-controlling shareholders of our subsidiaries totaling COP 1,734,169 million. COP 6,788,385 million in dividends corresponding to the Nation were offset against the FEPC accounts receivable owed to Ecopetrol.

4.8 Summary of Differences between Internal Reporting Policies (Colombian IFRS) and IFRS

We prepare our interim and annual statutory financial information in accordance with our internal reporting policies, which follow Colombian IFRS and differ in certain significant aspects from IFRS. The following table sets forth our consolidated net income and equity for years ended December 31, 2024, 2023 and 2022, in accordance with Colombian IFRS and IFRS:

Table 62 – Consolidated Net Income and Equity

	For the year ended December 31,			% Change	
	2024	2023	2022	2024/2023	2023/2022
	(COP Million)				
Net income attributable to owners of Ecopetrol (IFRS)	13,841,153	21,060,798	31,604,781	(34.3)	(33.4)
Cash flow hedge for future company exports	—	(54,174)	(104,567)	(100.0)	(48.2)
Exchange rate effects on tax bases – Deferred tax	1,096,090	(1,940,770)	1,906,077	(156.5)	(201.8)
Insurance Contracts IFRS 17	(2,538)	(3,763)	—	(32.6)	—
Net income Attributable to owners of Ecopetrol (Colombian IFRS)	14,934,705	19,062,091	33,406,291	(21.7)	(42.9)
Net Equity (IFRS)	105,913,439	100,252,480	113,903,089	5.6	(12.0)
Exchange rate effects on tax bases – Deferred tax	4,062,556	2,845,139	5,183,961	42.8	(45.1)
Insurance Contracts IFRS 17	—	1,185	—	(100.0)	—
Net Equity (Colombian IFRS)	109,975,995	103,098,804	119,087,050	6.7	(13.4)

As noted above, certain differences exist between our net income and equity as determined in accordance with our internal reporting policies, which follow Colombian IFRS, which are used for management reporting purposes, as presented in the business segment information, and our net income and equity as determined under IFRS, as presented in our consolidated financial statements.

The primary differences between Colombian IFRS and IFRS as they apply to our results of operations are summarized below:

Cash flow hedge for future company exports. In September 2015, in order to hedge the effect of exchange rate volatility on our foreign currency debt, Ecopetrol S.A.'s Board of Directors approved a cash flow hedge for future crude oil exports. According to IAS 39 – Financial Instruments, we implemented this hedge beginning on October 1, 2015, the date on which we formally completed the related hedging documentation.

Under Colombian IFRS, the General Accounting Office of the Nation (CGN for its acronym in Spanish) issued Resolution 509, which allows companies to apply hedge accounting for non-derivative financial instruments from any date within the transition period or the first period of application of International Accounting Standards in Colombia, even if such company has not yet formally documented the hedging relationship, the objective or the risk management strategy. Under these rules, we applied cash flow hedge accounting from January 1, 2015, in our financial statements under Colombian IFRS.

For the year ended December 31, 2024, there is no adjustment in cash flow hedge for future company exports, considering that the hedging operation related to exports till 2024 was settled.

Exchange rate effects on tax bases – Deferred tax. According to IAS 12.41, companies with a U.S. dollar functional currency and profit or tax loss in Colombian Pesos are required to recognize deferred taxes attributable to the difference between the carrying amounts of non-monetary assets in their financial statements and their respective tax bases converted from Colombian Pesos to U.S. dollars using the exchange rate on the closing date. The effect of the temporary difference is charged to profit and losses without a cash outflow expected in the future. Under local accounting principles (The General Accounting Office opinion No. 20162000000781 dated January 18, 2016), the result attributable to the aforementioned difference in accounting policies does not generate any deferred taxes.

Our functional currency is the Colombian Peso and it consolidates some subsidiaries whose functional currency is the U.S. dollar but who settled their taxes in Colombian Pesos. As a result of the application of paragraph 41 – IAS 12, such subsidiaries are required to calculate deferred taxes under IFRS.

As a result of this accounting policy difference, for the year ended December 31, 2024, our net income loss attributable to owners of Ecopetrol as reported under IFRS was COP 1,096,090 million lower than our net income attributable to owners of Ecopetrol as reported under Colombian IFRS.

In May 2017, the International Accounting Standards Board issued IFRS 17 which replaced IFRS 4 that was issued in 2005. IFRS 17 applies to all types of insurance and reinsurance contracts, regardless of the type of entities issuing them, as well as certain guarantees and financial instruments with discretionary participation features. The standard should be applied as of January 1, 2023. This standard applies specifically to our subsidiary Black Gold Re, domiciled in Bermuda. That entity provides, through a dual insurance program structure (World General Package (WUP) program and Global Energy Package (GEP) program), reinsurance to the Ecopetrol group. Since this standard has not been introduced in Colombian regulations by decree, the accounting policy based on IFRS 4 continues to be applied in the Financial Statements of the Business Group disclosed under the standards of the local accounting regulatory entities. As a result of this accounting policy difference, for the year ended December 31, 2024, our net income attributable to owners of Ecopetrol as reported under IFRS was COP 2,538 million higher than our net income attributable to owners of Ecopetrol as reported under Colombian IFRS.

As a result of these accounting policy differences described above, for the year ended December 31, 2024, we reported net income attributable to the owners of Ecopetrol under IFRS of COP 13,841,153 million as opposed to a net income attributable to the owners of Ecopetrol of COP 14,934,705 million reported under Colombian IFRS for the same period. For the year ended December 31, 2023, we reported net income attributable to the owners of Ecopetrol under IFRS of COP 21,060,798 million as opposed to a net income attributable to the owners of Ecopetrol of COP 19,062,091 million reported under Colombian IFRS for the same period. For the year ended December 31, 2022, we reported net income attributable to the owners of Ecopetrol under IFRS of COP 31,604,781 million as opposed to a net income attributable to the owners of Ecopetrol of COP 33,406,291 million reported under Colombian IFRS for the same period.

4.9 Financial Indebtedness and Other Contractual Obligations

As of December 31, 2024, we had outstanding consolidated indebtedness of USD 26.85 billion, which corresponded primarily to the following long-term transactions:

Table 63 – Consolidated Financial Indebtedness

Company	Type	Initial Date	Original Amount	Maturity	Interest Rate	Amortization	Outstanding Balance as of Dec. 31, 2024 (in nominal values)
Ecopetrol S.A.	Bonds	September 18, 2013	USD 850 million	September 18, 2043	7,375 %	Bullet	USD 850 million
		May 28, 2014	USD 2,000 million	May 28, 2045	5,875 %	Bullet	USD 2,000 million
		April 29, 2020	USD 2,000 million	April 29, 2030	6,875 %	Bullet	USD 2,000 million
		October 27, 2021	USD 1,250 million	November 2, 2031	4,625 %	Bullet	USD 1,250 million
		October 27, 2021	USD 750 million	November 2, 2051	5,875 %	Bullet	USD 750 million
		January 13, 2023	USD 1,528 million	January 13, 2033	8,875 %	Bullet	USD 1,528 million
		January 13, 2023	USD 472 million	January 13, 2033	8,875 %	Bullet	USD 472 million
		July 6, 2023*	USD 300 million	January 13, 2033	8,875 %	Bullet	USD 300 million
		July 6, 2023	USD 1,200 million	January 19, 2029	8,625 %	Bullet	USD 1,200 million
		January 19, 2024	USD 1,850 million	January 19, 2036	8,375 %	Bullet	USD 1,850 million
		October 21, 2024	USD 1,750 million	February 1, 2032	7,750 %	Bullet	USD 1,750 million
		August 27, 2013	COP 347,500 million	August 27, 2028	Floating	Bullet	COP 347,500 million
		August 27, 2013	COP 262,950 million	August 27, 2043	Floating	Bullet	COP 262,950 million
		December 1, 2010	COP 284,300 million	December 1, 2040	Floating	Bullet	COP 284,300 million
	Bank Loans	December 30, 2011**	USD 440 million	December 20, 2025	Floating	Semi-annual	USD 114 million
		December 20, 2022	USD 576 million	December 20, 2027	Floating	Bullet	USD 576 million
		December 20, 2022	USD 247 million	December 20, 2027	Floating	Bullet	USD 247 million
		May 16, 2023	USD 250 million	May 15, 2028	Floating	Bullet	USD 250 million
		May 16, 2023	USD 150 million	May 15, 2028	Floating	Bullet	USD 150 million
		June 20, 2023	USD 124 million	December 20, 2027	Floating	Bullet	USD 124 million
		June 20, 2023	USD 53 million	December 20, 2027	Floating	Bullet	USD 53 million
		July 2, 2024	USD 1,200 million	April 12, 2029	Floating	Bullet	USD 1,200 million
		October 7, 2024	USD 250 million	October 5, 2029	Floating	Bullet	USD 250 million
		July 10, 2024	USD 160 million	July 9, 2025	Floating	Bullet	USD 160 million
		June 16, 2023	COP 1,000,000 million	June 16, 2028	Floating	Bullet	COP 1,000,000 million
		July 26, 2024	COP 642,478 million	July 26, 2031	Floating	Semi-annual	COP 642,478 million
		July 26, 2024	COP 207,523 million	July 26, 2031	Floating	Semi-annual	COP 207,523 million
		July 26, 2024	COP 150,000 million	July 26, 2031	Floating	Semi-annual	COP 150,000 million
	ECAs	December 30, 2011**	USD 2,650 million	December 20, 2027	Fixed	Semi-annual	USD 311 million
		December 30, 2011**	USD 100 million	December 20, 2027	Floating	Semi-annual	USD 12 million
		December 30, 2011**	USD 97 million	December 20, 2027	Fixed	Semi-annual	USD 11 million
		December 30, 2011**	USD 210 million	December 20, 2027	Floating	Semi-annual	USD 25 million
Invercolsa & Subsidiaries	Bank Loans	Various	COP 1,063,829 million	Various	Various	Various	COP 562,982 million
Ocensa	Bond	July 14, 2020	USD 500 million	July 14, 2027	4.000 %	Bullet	USD 400 million
ODL	Lease	November 5, 2015	COP 308,221 million	November 4, 2032	Floating	Monthly	COP 157,445 million
ISA & Subsidiaries	Bonds	Various	USD 2,859 million	Various	Various	Various	USD 2,707 million
		Various	USD 2,986 million†	Various	Various	Various	USD 3,083 million†
		Various	COP 3,980,000 million	Various	Various	Various	COP 3,604,220 million
	Bank Loans	Various	USD 359 million	Various	Various	Various	USD 261 million
		Various	USD 612 million†	Various	Various	Various	USD 401 million†
Ecopetrol USA	Bank Loans	Various	COP 3,324,799 million	Various	Various	Various	COP 2,434,036 million
Total			USD 370 million	Various	Various	Bullet	USD 371 million
							COP 118.37 billion

* Reopening of Notes due 2033

** Debt originally obtained by Cartagena Refinery for the refinery modernization and voluntarily assumed by Ecopetrol.

*** For the total outstanding balance as of Dec. 31, 2024, in amortized values, please refer to page F-73 of the notes to our financial statements.

† Equivalent USD amount of debt issued/acquired in other currencies, except COP.

The Financial Superintendence of Colombia (*Superintendencia Financiera de Colombia* or “SFC” for its acronym in Spanish), through Resolution 1654 of November 18, 2022, authorized the renewal of the term of the Issuance and Placement Program of Internal Debt Bonds and Commercial Papers of the Company for five (5) additional years, until December 22, 2027. This authorization itself does not constitute an approval for the issuance of securities or any financing transaction.

The short and long-term debt transactions executed in 2024 were as follows:

- On January 19, 2024, Ecopetrol issued 8.375% Notes due in 2036 in an aggregate amount of USD 1,850,000,000 (COP 7.1 trillion according to the COP/USD exchange rate as of December 31, 2023); in a SEC-registered transaction. The notes were listed on the NYSE. In addition, on January 9, 2024, the Company announced a tender offer for any and all of the outstanding 4.125% notes due 2025.
- On March 20, 2024, the Ministry of Finance and Public Credit authorized the execution of a loan agreement for up to USD 1,200 million. The loan agreement was executed among Banco Bilbao Vizcaya Argentaria, S.A, Itaú Chile New York Branch, Bank of America, N.A, JP Morgan Chase Bank, N.A, New York Branch, Banco Santander S.A, JP Morgan Chase Bank, N.A, The Bank of Nova Scotia and Standard Chartered Bank (Hong Kong) Limited, as lenders.
- On June 14, 2024, Ecopetrol received the authorization of the Ministry of Finance and Public Credit to enter into a one billion Colombian pesos (COP) credit with Banco de Bogotá, Banco de Occidente and Banco Popular.
- On August 20, 2024, Ecopetrol received the authorization of the Ministry of Finance and Public Credit to enter into a USD 250 million credit with SMBC.
- On September 5, 2024, the Company redeemed USD 250 million of its 5.375% senior notes due 2026.
- On October 8, 2024, the Company announced a tender offer for any and all of the outstanding 5.375% senior notes due 2026.
- On October 21, 2024, Ecopetrol issued 7.750% Notes due in 2032 in an aggregate amount of USD 1,750,000,000 (COP 7.7 billion according to the COP/USD exchange rate as of December 31, 2024); in a SEC-registered transaction. The notes were listed on the NYSE.
- On October 18 and 28, 2024, the Company prepaid the USD 1 billion loan with Deutsche Bank due 2030.
- On November 21, 2024, the Company redeemed the remaining amount of USD 450,579,892 of its 5.375% senior notes due 2026.

For more detail on these transactions, see *Financial Statements - Subsequent and relevant events*.

The short and long - term debt transactions executed in 2023 were as follows:

- On January 10, 2023, Ecopetrol priced a 10 - year, 8.875% coupon note, due on January 13, 2033. In addition, on January 17, 2023, the Company announced a tender offer for up to USD 1 billion nominal amount of its notes due on September 18, 2023; offers for an aggregated amount of USD 976 million were received.
- On March 16, 2023, Ecopetrol received the authorization of the Ministry of Finance and Public Credit to enter into a one trillion Colombian pesos (COP) committed line of credit with Bancolombia.
- On May 10, 2023, the Ministry of Finance and Public Credit authorized the execution of a loan agreement for up to USD 400 million. The loan agreement was executed among Banco Bilbao Vizcaya Argentaria, S.A. New York Branch and MUFG Bank LTD, as lenders.
- On July 6, 2023, Ecopetrol issued (i) 8.875% Notes due 2033 in an aggregate amount of USD 300,000,000 (COP 1.2 trillion according to the COP/USD exchange rate as of December 31, 2023), and (ii) 8.625% Notes due 2029 in an aggregate amount of USD 1,200,000,000 (COP 4.6 trillion according to the COP/USD exchange rate as of December 31, 2023); in a SEC - registered transaction. The notes were listed on the NYSE.
- On July 7, 2023, Ecopetrol announced the redemption of its 5.875% Notes due 2023, which were issued in 2013.
- On August 24, 2023, the Ministry of Finance and Public Credit authorized the execution of a loan agreement for up to USD 1 billion to be executed among Deutsche Bank AG, Banco Inbursa S.A., Banco Latinoamericano de Comercio Exterior S.A., and ICBC Standard Bank Plc, as lenders.

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- The short and long-term debt transactions executed in 2022 were as follows:
- Between March and August 2022, Transelec S.A. and Internexa S.A., subsidiaries of ISA in Colombia, raised an aggregate of COP 279,907 million by executing several loan transactions with different maturities, in the local market.
- Between March and December 2022, several of ISA's subsidiaries in Perú (CTM, Internexa, Red de Energía del Perú, ISA Perú) raised an aggregate of USD 166.2 million and PEN 249.3 million by means of bank loans with different maturities, executed with local and international counterparties.
- On April 4, 2022, Consorcio Transmantaro S.A. ("CTM"), one of ISA's electric power transmission subsidiaries in Perú issued 5.200% amortizing notes due 2038 in an aggregate amount of USD 500 million under an unregistered Rule 144A/Regulation S notes offering (COP 1.89 trillion according to the COP/USD exchange rate as of April 04, 2022). The notes were listed on the Official List of the Luxembourg Stock Exchange. This follows CTM's announcement on March 22, 2022, of an any and all tender offer with allocation codes and consent solicitation to holders of CTM's 4.375% senior notes due 2023. On April 18, 2022, Companhia de Transmissão de Energia Elétrica Paulista ("ISA CTEEP"), ISA's electric power transmission subsidiary in Brazil, issued BRL 700 million of local amortizing notes (debentures) due in 2026. The notes bear an interest rate of CDI 1.55%. In addition, the Company raised BRL 233.7 million by means of a 20-year loan bearing an interest rate of TLP 2.01%.
- Between June and December 2022, Internexa Brazil raised an aggregate of BRL 65.6 million.
- The toll roads operated by Intervial Chile, executed the following debt transactions during 2022:
- On November 15, 2022, Ruta del Loa Sociedad Concesionaria S.A. issued local inflation-linked bonds due 2050, with a face value of Unidad de Fomento ("UF") 1,927,500. The bonds bear an interest rate of 3.85%.
- On March 15, 2022, Ruta del Bosque Sociedad Concesionaria S.A., prepaid its notes due June 15, 2022. The outstanding nominal value as of the prepayment date amounted to UF 1,500,500.
- On September 15, 2022, Ruta de la Araucanía Sociedad Concesionaria S.A., raised funds through an inflation-linked loan for an aggregate amount of UF 1,347,515. The bonds bear a floating interest rate of TAB (180) 1.28%.

Contractual Obligations

We enter into various commitments and contractual obligations that may require future cash payments. The following table summarizes our contractual obligations as of December 31, 2024.

Table 64 – Our Material Contractual Obligations

COP Millions	Payments due by period		
	Total	Short Term (Less than 1 year)	Long Term (More than 1 year)
Employee Benefit Plan	68,811,053	2,169,838	66,641,215
Contract Service Obligations	37,755,056	12,007,265	25,747,791
Natural Gas Supply Agreements	17,639,470	15,438,543	2,200,927
Purchase Obligations	3,967,218	1,863,812	2,103,406
Energy Supply Agreements	14,853,636	1,418,217	13,435,419
Capital Expenditures	51,909,266	17,376,852	34,532,414
Financial Sector Debt	23,554,914	4,185,319	19,369,595
Bonds	94,074,311	5,922,852	88,151,459
Total	312,564,924	60,382,698	252,182,226

4.10 Off Balance Sheet Arrangements

As of December 31, 2024, we did not have off-balance sheet arrangements of the type that is required to be disclosed under Item 5 of Form 20-F.

4.11 Statements of Financial Position

Table 65 - Consolidated Balance Sheet

<i>Balance sheet</i> (COP million)	As of December 31,			% Change	
	2024	2023	2022	2024/2023	2023/2022
Total assets	298,242,156	280,141,090	302,792,431	6.46	(7.48)
Liabilities	192,328,717	179,888,610	188,889,342	6.92	(4.77)
Equity	105,913,439	100,252,480	113,903,089	5.65	(11.98)
Total liabilities and equity	298,242,156	280,141,090	302,792,431	6.46	(7.48)

In 2024, assets increased by 6.5% or COP 18,101,066 million compared year-on-year, mainly due to:

- An increase in property, plant, equipment, natural resources, and intangibles by COP 16,431,393 million, due to the net effect between higher CAPEX, the conversion effect of subsidiaries with currencies of origin other than the Colombian peso and depreciation.
- An increase in taxes of COP 5,722,881 million, primarily associated with the update of the deferred taxes resulting from the exchange rate effect and advance payment of income tax and value added tax.
- An increase in cash and cash equivalents of COP 1,718,360 million, mainly because of operational activity
- A decrease in accounts receivable of COP 10,529,729 million, primarily because of resources received corresponding to the 2023 balance of the Fuel Price Stabilization Fund (FEPC) account receivable for COP 20,514,037 million, compared to the balance recorded in 2024 of COP 7,631 million. The decrease in the balance of the FEPC account is due to the gradual increase in diesel prices in Colombia.

In 2024, liabilities increased by 6.9% or COP 12,440,107 million compared to 2023, mainly due to:

- An increase in financial liabilities of COP 14,149,504 million mainly due to re-expressing debt in foreign currency at the closing rate recognized mainly in equity due to hedge accounting
- A decrease in provision for abandonment cost by COP 1,811,719 million due to lower rates.
- A decrease in other minor liabilities by COP 102,322 million.

In 2023, assets decreased by 7.5% or COP 22,651,342 million compared year-on-year, mainly due to:

- A decrease in accounts receivable of COP 8,288,474 million, primarily because of the offsetting of the balance of the account receivable of the Fuel Price Stabilization Fund account (FEPC) against dividends to be paid to the Republic of Colombia for COP 21,576,179 million, and funds received for COP 4,770,351 million. Additionally, the balance of the FEPC account has decreased because of the gradual increase in gasoline prices in Colombia and the decrease in benchmark prices (COP 20,505,603 million).
- A decrease in property, plant, equipment, natural resources, and intangibles by COP 6,365,469 million, resulting from the net effect of a lower exchange rate and its implications on subsidiaries with a functional currency other than the Colombian peso, the depreciation for the period, and a higher CAPEX.
- A decrease in taxes of COP 1,544,306 million, primarily associated with the update of the deferred taxes resulting from the exchange rate effect.

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- A decrease in inventories of COP 1,677,586 million, mainly because of prices, increased throughput in the refineries, and higher sales.

In 2023, liabilities decreased by 4.8% or COP 9,000,732 million compared to 2022, mainly due to:

- A decrease in financial liabilities of COP 9,319,312 million, net effect between higher debt and the revaluation of the Colombian peso against the U.S. dollar.
- Lower current tax liabilities associated with lower net income of COP 6,469,807 million.

Total equity of the Ecopetrol Group for year-end 2024 was COP 105,913,439 million. Equity attributable to Ecopetrol's shareholders was COP 79,854,603 million, an increase of COP 4,147,976 million compared to December 2023, mainly as a result of the distribution of dividends for the period and the effect of the exchange rate on subsidiaries with a functional currency other than the Colombian peso.

In 2023, Ecopetrol equity as of December 2023 was COP 100,253,665 million. Equity attributable to Ecopetrol shareholders was COP 75,707,812 million, a decrease of COP 10,447,115 million compared to December 2022, mainly as a result of the distribution of dividends for the period and the effect of the exchange rate on subsidiaries with a functional currency other than the Colombian peso.

4.12 Trend Analysis and Sensitivity Analysis

We updated our 2025 Investment Plan on November 29, 2024. See section Strategy and Market Overview—Our Corporate Strategy—2025 Investment Plan for a discussion of the trends recognized in the development of that plan.

Sensitivity Analysis

Sensitivity Analysis of our Results

The following table provides information about the sensitivity of our results as of December 31, 2024, due to variations of USD 1 in the price of ICE Brent crude and of 1% in the COP / USD exchange rate.

Table 66 – Sensitivity Analysis of our Results

	Income Statement 2024	Income Statement Case ICE Brent ⁽¹⁾ + USD1	Difference Between Real 2024 and Case ICE Brent	Income Statement Case TRM ⁽²⁾ +1%	Difference Between Real 2024 and Case TRM
COPS Billion					
Revenue	133,330.43	134,690.46	1,360.03	134,474.71	1,144.28
Cost of sales	86,481.15	87,042.48	561.33	86,928.62	447.47
Gross Income	46,849.28	47,647.98	798.70	47,546.09	696.81
Operating expenses	9,253.71	9,253.71	0.00	9,253.71	0.00
Impairment of non-current assets	(867.43)	(867.43)	0.00	(867.43)	0.00
Operating income	38,463.00	39,261.70	798.70	39,159.81	696.81
Finance results, net	(8,519.95)	(8,519.95)	0.00	(8,519.95)	0.00
Share of profit of associates and joint ventures	764.37	764.37	0.00	764.37	0.00
Income before income tax	30,707.42	31,506.12	798.70	31,404.23	696.81
Income Tax	(12,208.54)	(12,526.08)	(317.54)	(12,485.58)	(277.04)
Net Income	18,498.88	18,980.04	481.16	18,918.65	419.77

(1) ICE Brent = USD 80 per barrel

(2) Exchange rate (TRM) = COP 4,071 / USD 1.00

Assumptions for the Sensitivity Analysis of our Results:

- Our sensitivity analysis is based on the Consolidated Statement of Profit or Loss for 2024, as presented elsewhere in this annual report.

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- The sensitivity of the ICE Brent price index is in reference to an increase of USD 1 per barrel of crude oil in the average ICE Brent reference price based on a 366-day year for 2024. Prices assumed correspond to realized prices for crude oil, natural gas and refined products for 2024, adjusted to account for the differences between such realized prices and the ICE Brent reference price.
- The sensitivity of our results to changes in the exchange rate is in reference to a 1% average depreciation of the Colombian Peso against the U.S. dollar during 2024. Prices are the realized prices of crude oil, natural gas and refined products in 2024 and are expressed for the sensitivity using the adjusted exchange rate (i.e. a 1% average depreciation of the Colombian Peso against the U.S. dollar during 2024).
- The income tax for each of our sensitivity analyses (price of ICE Brent and COP / USD exchange rate) is estimated using the effective corporate tax rate of 39.8% for 2024.
- This sensitivity analysis keeps everything constant. In the case of significant variations of the ICE Brent price, we will perform interventions in our operating expenditures.

The table below sets forth the line items that are being affected by the variation on the reference prices or the average exchange rate.

Table 67

VARIATION ON ICE BRENT REFERENCE PRICE	VARIATION ON AVERAGE EXCHANGE RATE
REVENUE	
Sales of crude oil	Sales of crude oil
Sales of refined products	Sales of refined products
Sales of natural gas	Sales of natural gas
COST OF SALES	
Local purchases from business partners	Local purchases from business partners
Local purchases of hydrocarbons from the ANH	Local purchases of hydrocarbons from the ANH
Local purchases of natural gas	Local purchases of natural gas
Imports of products	Imports of products

5. **Risk Review**

5.1 **Risk Factor Summary**

The following is a summary of the principal risks we face:

Risks Related to Our Business

1. Our crude oil and natural gas reserve estimates involve some degree of uncertainty and may prove to be incorrect over time.
2. Achieving our long-term growth depends on our ability to execute our strategy, transition to a low carbon economy, manage sustainability risks and opportunities, having cutting edge knowledge and technologies, diversify our portfolio and develop additional hydrocarbon reserves.
3. Sharp movements of prices for crude oil, natural gas and refined products could adversely affect our business prospects, results and cash position.
4. Foreign currency exchange rate fluctuations may affect our financial results.
5. Increased competition may negatively impact our ability to access additional crude oil and natural gas reserves in Colombia and abroad.
6. Operational risks may materialize and affect the health and safety of our workforce, the local community and the environment, and cause disruptions or shutdowns.

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7. Our involvement in deep-water drilling, either directly or indirectly, involves risks and costs, which may be out of our control.
8. We are exposed to the credit, political and regulatory risks of our key customers.
9. Our ability to access credit markets may be limited by the deterioration of these markets, changes in credit ratings, and limited offering from financial institutions to participants in the oil and gas industry.
10. We may be exposed to increases in interest rates, thereby increasing our financial costs.
11. Our current and planned investments, divestments and business activities outside Colombia are exposed to political and economic risks.
12. Our future performance depends on successful selection, development and deployment of new technologies and our knowledge about them.
13. Our performance could be negatively affected by the lack of employees with the skills needed to execute our business strategy.
14. If the strategic plans associated to natural gas fail or underdeliver, we may be unable to keep pace with increasing domestic demand.
15. Our operations could be affected by demonstrations and other actions of labor unions, social organizations, communities and contractors.
16. Our activities may be interrupted or affected by external factors, such as climate change and its effect on weather and natural disasters.
17. Our operations, including our activities in indigenous reserves and Afro-Colombian lands, could face opposition from various communities.
18. We have made and may make significant investments and divestments, and we may not realize their expected value.
19. We might be required to provide financial support to our subsidiaries or affiliates in Colombia or abroad.
20. Investigations and other actions by Colombian administrative control entities involving our current or former employees or those of our current or former subsidiaries may impact our reputation.
21. Our results may be affected by supply chain disruptions and high price volatility impacting our suppliers, partners and other third-parties.
22. Our insurance policies do not cover all liabilities and may not be available for all risks.
23. New trends in the insurance sector in the face of climate change may impact our financial condition and results of operations.
24. A failure in our information technology systems or cybersecurity attacks may adversely affect our financial results.
25. We are exposed to behaviors incompatible with our ethics and compliance standards.
26. The performance of our partners, subsidiaries and affiliates in Colombia and elsewhere may negatively impact our image and reputation.
27. The reliability and capacity of national power supply systems may affect or limit the continuity of our operations or limit growth.
28. Rising water production levels may affect or constrain our crude oil production.

Risks Related to Colombia's and the Region's Political Environment

- 29. Changes in economic, energy transition and oil & gas policies in Colombia, Peru, Brazil, Chile and the United States of America could materially affect our financial condition and results of operations.
- 30. Our business operations and financial condition could be negatively affected by pandemic or epidemic diseases and other health events.
- 31. The Colombian Government could seize or expropriate our assets under certain circumstances for fair compensation.
- 32. Colombia has experienced internal security issues that have had or could have a negative effect on the Colombian economy and on us.
- 33. Despite the current government's announcement of a bilateral ceasefire with some armed groups, non-conformism may arise in the process of these dialogues spoken out through illegal and terrorist activities.
- 34. Regional and global events may have an impact on Colombia's social, economic and political situation as well as on us and our operations.
- 35. We are subject to the prevailing economic conditions and investment climate in Colombia, which may be less stable than those in developed countries.

Legal and Regulatory Risks

- 36. Our operations are subject to extensive regulation, which is subject to change from time to time by the applicable regulatory authorities.
- 37. More stringent environmental regulation may lead to increased expenses or reduced demand for our products, as well as affect timely permits.
- 38. We may not be able to keep pace with changing environmental requirements related to impacts to Colombia's biodiversity and nature.
- 39. Our operations might be affected by rising climate change and energy transition regulatory developments.
- 40. New or higher taxes resulting from changes in regulations or their interpretation could adversely affect our results of operations and financial condition.
- 41. We may incur losses and spend time and money defending pending lawsuits and arbitrations and responding to administrative investigations.

Risks Related to Our ADSs

- 42. Holders of our ADSs may encounter difficulties in protecting their interests.
- 43. Our ADS holders may be subject to regulations on foreign investment in Colombia.
- 44. Holders of our ADSs may not be able to effect service of process on us, our directors, or executive officers within the United States, which may limit your recovery in any foreign judgment you obtain against us.
- 45. The protections afforded to minority shareholders in Colombia are different from those in the United States and may be difficult to enforce.
- 46. ADSs do not have the same tax treatment as other equity investments in Colombia.

47. Judgments of Colombian courts with respect to our ADSs will be payable only in Colombian Pesos.
48. The relative volatility and illiquidity of the Colombian securities markets may substantially limit our investors' ability to sell our ADSs at the price and time they desire.
49. We are not required to disclose as much information to investors as a U.S. issuer is required to disclose.

Risks Related to the Controlling Shareholder

50. Our controlling shareholder's interests may differ from those of certain minority shareholders or may affect our long-term strategy.

5.2 Risk Factors

The risks discussed below could have a material adverse effect, separately or in combination, on our business's operating results, cash flows, liquidity, and financial condition. Investors should carefully consider these risks.

5.2.1 Risks Related to Our Business

This section describes the most significant potential risks to our business.

Our crude oil and natural gas reserve estimates involve some degree of uncertainty and may prove to be incorrect over time.

Reserves estimates are prepared using generally accepted geological and engineering evaluation methods and procedures. Estimates are based on geological, topographical, and engineering facts. Actual reserves and production may vary materially from estimates shown in this annual report, and downward revisions in our reserve estimates could lead to lower future production which could affect our results of operations and financial condition.

Hydrocarbon reserves presented in this annual report were calculated in accordance with SEC regulations. As required by those regulations, reserves were valued based on the unweighted average of closing prices for the first day of each month in the 12-month periods ended December 31, 2024, 2023, and 2022, as well as other conditions in existence at those dates. The average of closing prices of ICE Brent crude oil for the first day of each month in the 12-month periods was USD 98/Bbl in 2022, USD 83/Bbl in 2023, and USD 79.7/Bbl in 2024. In 2024, the Company recognized an increase in oil and gas proven reserves of 0.5% as compared to 2023, to 1,892.7 mmboe in 2024 from 1,883 mmboe in 2023. For more information, see section Business Overview—Exploration and Production—Reserves.

Furthermore, at least once a year, or more frequently if the circumstances require, the Company ascertains whether there are indicators of impairment to its assets or CGUs due to the difference between the carrying amount of such assets or CGUs against to their recoverable amounts, using reasonable assumptions, based on internal and external factors, which reflect market conditions. The recoverable amount is considered to be the higher of the fair value less costs of disposal and value in use, based on the free cash flow method, discounted at the Weighted Average Cost of Capital (WACC). Whenever the recoverable amount of an asset or CGU is lower than its net carrying amount, such amount is reduced to its recovery amount, recognizing a loss for impairment as an expense in the consolidated statement of profit or loss. External and internal sources of information may indicate that an impairment loss recognized for an asset, other than goodwill, may no longer exist or may have decreased, in this case, the reversal is recognized as an impairment recovery in the consolidated statement of profit or loss.

The 2024 impairment gains, net of non-current assets of COP 867,428 million, corresponds to the net result of:

- i. Recovery of impairment in the Cartagena Refinery of COP 1,271,120 million, due to (i) improvement in the price differentials of refined products in the medium and long term due to market conditions, (ii) prioritization of local crude oils for the Cartagena Refinery, (iii) lower discount rate versus 2023, and (iv) a lower net book value of fixed assets due to the partial recovery of the cost of the modernization project as a result of the recognition of McDermott's financial instrument settled in the arbitration with CB&I (see section Legal Proceedings—Reficar Investigations for information on the arbitration with CB&I).

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- ii. A recovery in the transportation and logistics segment of COP 127,206 million mainly due to (i) the effect of the higher exchange rate by year-end 2024 compared to year-end 2023 that impacts revenues from oil pipelines that have rates in dollars and (ii) the positive adjustment in the oil pipeline rate due to macroeconomic effects given the resolution of the Ministry of Mines and Energy of September 2024.
- iii. An impairment in the Exploration and production segment of COP 480,180 million mainly in Ecopetrol America LLC given the lower short- and long-term prices as well as the reclassification of reserves.
- iv. An impairment of non-current assets in the electric power transmission and toll roads concessions segment of COP 45,351 million primarily in ISA Bolivia due to an increase in WACC from country risk and the effect of exchange rate differences on the dollar-denominated cash flow.

Any significant change in estimates, including capital expenditures reductions related to upstream projects, and judgments could have a material effect on the quantity and present value of our proved reserves and subsequently on the recognition or recovery of impairment charges. Changes to estimations of reserves are applied prospectively to the amounts of depreciation, depletion and amortization charged and, consequently, the carrying amounts of exploration and production assets.

On the contrary, any upward revision in our estimated quantities of proved reserves would indicate higher future production volumes, which could result in lower expenses for depreciation, depletion, and amortization for properties to which we apply the units of production method for calculating these expenses. These lower expenses, and any higher revenues as a result of actual production volumes and realized prices, could benefit our results of operations and financial conditions.

Achieving our long-term growth depends on our ability to execute our strategy, our capacity to adapt our business to the transition to a low carbon economy, generate value by managing sustainability-related risks and opportunities, as well as on having cutting edge knowledge and technologies and our ability to successfully diversify our portfolio and develop additional hydrocarbon reserves.

Our long-term growth objectives depend largely on our ability to strengthen the competitiveness of our oil and gas business, diversify our portfolio into energy transition businesses, and achieve decarbonization targets. Our 2040 Strategy, “Energy that Transforms” aims to position the Ecopetrol Group as a leading integrated energy group in the Americas, focusing on energy diversification. This strategy seeks to bolster the company’s oil and gas business, while decarbonizing its processes through technological advancements. Additionally, our growth relies on developing the recovery potential of existing fields and discovering or acquiring new reserves. We strongly believe that successfully developing these reserves is key for contributing to energy security and achieving our long-term ambitions.

Our exploration activities expose us to inherent geological and drilling risks including the possibility of not discovering commercially viable crude oil or natural gas reserves. There is also the risk that some initially budgeted exploratory wells, may be drilled later than planned or not drilled at all. Despite our efforts to control drilling costs, these expenses are often uncertain, and numerous factors beyond our control can cause drilling operations to be curtailed, delayed, or cancelled.

Our ability to add and develop reserves also depends on our capacity to structurally reduce costs to maintain the profitability of oil fields already being exploited without compromising infrastructure integrity and HSE performance. See section *Strategy and Market Overview—Our Corporate Strategy—2025 Investment Plan* and section *Strategy and Market Overview—Our Corporate Strategy—2040 Strategy: Energy That Transforms*. If we are unable to maintain the competitiveness of our oil and gas business and achieve expected recovery factors in our existing fields, add projects with proven reserves, successfully develop our current projects, acquire new exploration assets, or successfully execute our exploration plans (whether as a result of the impossibility of obtaining or extending exploratory licenses, capital restrictions, or any other limitation), our ability to discover and develop additional reserves may be affected and our reserves portfolio could be expected to decline. Failure to secure additional reserves may impede us from achieving or maintaining production targets and may have a negative impact on our results of operations and financial condition. In addition, changes in the operation and development costs of the projects could impact the reserves.

We face the challenge of ensuring our assets generate value across the oil and gas segments. We assess their financial attractiveness and strategic relevance using an index methodology that considers two key elements: financial attractiveness (contribution to profitability, payback period of investments, and viability in the short, medium, and long term) and strategic relevance (synergies and complement to the hydrocarbon chain, resilience in different energy transition scenarios, and contribution to the decarbonization of the Ecopetrol Group).

Regarding our energy transmission business line, we face risks associated with energy transition. To achieve our energy transition objectives, we have developed the “Grid of the Future” vision with three main priorities: adaptation of the existing grid and better utilizing available capacity; connecting renewable energy sources to transmission networks; and developing interconnections that enable regional electrical integration. This vision faces long-term risks associated with changes in remuneration schemes and political instability in the region. Additionally, greater social and environmental requirements for business development, may impose more restrictions on our operations and growth expectations. Market and competition risks in our electric power transmission and toll roads businesses may result in new projects not being awarded, affecting our medium-term growth.

In terms of energy transition, we face the risk of not successfully incorporating alternative options into our portfolio as traditional businesses or segments lose their capacity to maintain value due to changes in global or local energy consumption patterns. Specifically, we face risks related to our ability to implement measures to reduce and offset carbon and methane emissions and adapt to climate variability and climate change. We also face regulatory risks related to new climate change regulations in Colombia, such as the updated NDC, the oil & gas industry’s climate change plan and the implementation of the National Program of Tradable GHG Emissions Quotas (PNCTE, for its acronym in Spanish). Other regulatory risks include the incorporation of new low-carbon businesses within our portfolio, due insufficient regulation that may impact their proper development.

Ecopetrol has developed energy transition scenarios, based on S&P Global Market Energy and Climate Scenarios, to monitor trends in each of the three business lines, which aims to provide a solid and unified reference framework that is expected to allow the Ecopetrol Group to anticipate and understand the challenges and opportunities of the energy transition by presenting three scenarios(i) Climate Alignment (1.7° - 1.8°C): Transformation to low-emission economies aligns governments and institutions around climate change. In addition, developed countries reach a net zero goal, while other countries follow a slower path. This is not enough to achieve the global net-zero goal of 1.5 °C; (ii) Energy Balance (1.9° - 2.3°C): Fundamental changes in governments, markets, and society set in motion a long-term energy transition, the debate continues between energy security and accelerating the transition; and (iii) Climate Divergence (2.5° - 2.8°C): Dissimilar interests in decarbonization despite policy, regulation and market changes. Global public policy decisions are insufficient to close the climate ambition gap. While the first and third scenarios do not represent the group’s core vision, assessing different perspectives on the global energy transition remains necessary. According to the 2040 Strategy, Ecopetrol considers the second scenario the most likely, aligning with a gradual energy transition. However, we are not certain about the alignment between strategic decision making, considering the analysis derived from the use of these scenarios.

These changes could lead to increased costs and investments in the short and medium term. We have already incurred costs related to these regulations and it is expected that to comply with this evolving regulatory framework we may have additional costs and investments in the short term. This could impact the achievement of the Company’s growth targets and its resilience. See section *Risk Review—Risk Factors—Legal and Regulatory Risks—Our operations might be affected by rising climate change and energy transition regulatory developments*. Our business growth and sustainability depend on our ability to manage our capital investments and operate efficiently, in accordance with our corporate strategy guidelines. See section *Strategy and Market Overview—Our Corporate Strategy* for a discussion of our strategic plan.

To successfully achieve our Corporate Strategy, we are venturing into low-emission energy-diversification businesses. These investments will help us achieve our decarbonization targets and generate value while incorporating these new businesses into our business plan. This requires the development of new technologies at competitive costs, and the growth of potential markets, such as demand for these alternative sources in the transportation segment or mobility. However, we cannot assure that the pace of technological developments or the regulation required to incorporate energy transition businesses within our portfolio will meet our expectations, nor that they will be successful or that demand growth will occur as expected.

Furthermore, we are subject to physical risks related to climate change. We are exposed to Colombia’s current climate conditions which may affect water availability and increase the vulnerability of our assets and operations to potential damages. These conditions could result in water shortages, floods, fires, storms, hurricanes, and rising sea levels that change in frequency and intensity. Extreme weather events could damage our assets and negatively affect our operations and financial condition. Additionally, the exposure of our assets under the three climate scenarios presented by the Intergovernmental Panel on Climate Change (SSP 1- RCP 2.6°C, SSP 2- RCP 4.5, and SSP 5- RCP 8.5 could result in potential damage to our assets or cause business disruptions such as water availability, limited transportation and access, and workforce disruptions.

Sharp movements of prices for crude oil, natural gas and refined products could adversely affect our business prospects, results and cash position.

In 2024, approximately 85% of the revenues came from sales of crude oil, natural gas, and refined products and 96% of the total volume sold of these products was indexed to international reference prices or benchmarks such as ICE Brent. Consequently, fluctuations in those international indexes have a direct effect on our financial condition and results of operations.

Prices of crude oil, natural gas and refined products have traditionally fluctuated as a result of various factors including, among others, competition within the international oil and natural gas industry, long-term changes in the demand for crude oil, natural gas and refined products, notably associated to the transition to a low carbon economy, the economic policies in the United States, China, India and the European Union, regulatory changes, changes in global supply, inventory levels, changes in the cost of capital, adverse or favorable economic conditions, global financial crises, substitute sources of energy, development of new technologies, global and regional economic and political developments in the OPEC+, the willingness and ability of the OPEC+ and its members to set production levels, local and global demand and supply for crude oil, refined products and natural gas, trading activity in oil and natural gas; weather conditions, natural events or disasters, which are changing in intensity and frequency due to climate change, and terrorism and global conflict. In particular, disagreements among OPEC+ members on production levels, changes in the trade policies from the US administration, and the continued hostilities between Russia and Ukraine and the escalation of the Middle East conflict since the Hamas attack triggered the conflict with Israel could impact international reference prices.

The Russia-Ukraine conflict has also increased volatility in the oil and refining business. Although the conflict has generally had a positive effect on crude oil prices and refining margins globally, the global economy has been adversely affected, which could lead to a rapid price correction in the future. Additionally, in the medium term, it could create incentives to accelerate decarbonization strategies, especially in Europe given its intention to cut hydrocarbon imports from Russia, thus potentially leading to a deterioration of the outlook for oil demand.

The conflict between Hamas and Israel in late 2023 has disrupted the supply of crude, refined products, LNG, and other commodities, which have risen as a result of the attacks in the Red Sea against US and UK-related vessels, in particular, instigated by Houthi forces located in Yemen. However, as of the date of this Annual Report, the supply of crude, refined products, and LNG has not been affected by the war, but time and costs related to its shipment have risen to avoid conflicted areas by diverting transportation to Africa.

During 2024, our crude oil basket average price was USD 73.3/BI versus USD 73.4/BI in 2023, the refined product basket average price was USD 86.8/BI versus USD 96.1/BI in 2023; and the natural gas average price was USD 27.8 per barrel equivalent in 2024 versus USD 28.4 per barrel equivalent in 2023. However, it is important to consider that the margin on refined products can result either in higher or lower margins due to a change in price of crude the same way gas prices can be impacted by local conditions, such as local demand and weather conditions.

Moreover, our prices are indexed to international benchmarks such as the Brent and light distillates in the Gulf of Mexico (aka Gulf of America), therefore our revenues are affected by the fluctuation of those prices. The difference between the producer revenue and the international parity price recognized by the government to Ecopetrol S.A. for diesel and gasoline can fluctuate significantly due to: (i) volatility in international oil prices, (ii) the methodology to determine the reference price of gasoline and diesel, and (iii) the sensitivity of retail price to monthly variations. As a result, these differences generate account receivables or account payables for Ecopetrol to or from the FEPC. A significant and permanent increase in the prices of gasoline and diesel in international markets, as compared to the regulated price in Colombia, can substantially increase the size of the receivable account corresponding to the FEPC. As a result, this increase could impact Ecopetrol's solvency and liquidity metrics in absolute terms as well as relative to its industry peers; consequently, the Company might not be able to reduce its financial leverage, or capture value through cash flow derived from oil prices which are relatively higher than those budgeted internally. The easing of the account receivable problem is conditioned on the willingness of the Colombian Government and availability of sources to make direct payments and/or the ability to make quick and significant increases in the regulated price in Colombia. As settlement and payments dates are not regulated, the Ecopetrol Group's cash flow could be affected, increasing its financial cost of debt, challenging the ability to execute the investment plan and the capacity to pay dividends. While producer's rights are protected by law, we cannot provide any certainty as to when we would receive any such payments due to us.

Additionally, the rating agencies' perception associated with the accumulation of FEPC balances, as a stand-alone credit baseline (without assuming the support of the National Government), represents a credit risk. The following metrics of Ecopetrol's rating could be reassessed at any time given a perception of higher liquidity/cash risk: (i) liquidity and hedging metrics due to lower cash availability; (ii) indebtedness metrics in case of additional borrowing, resulting in financial ratios different from those forecasted in Ecopetrol's financial plans; (iii) Ecopetrol's relative situation compared to peer companies at the same rating level; and (iv) Ecopetrol's rating in the event of a possible adjustment in the sovereign's rating, based on the rating agencies' perception of the impact of the FEPC on public finances. As of December 31, 2024, Ecopetrol S.A. recorded COP 5.96 trillion in accounts receivable due from FEPC and Cartagena Refinery recorded COP 1.66 trillion in accounts receivable due from FEPC. For further information see section [Business Overview—Applicable Laws and Regulations—Regulation Concerning Production and Prices—Fuel Price Stabilization Fund \(FEPC\)](#).

A reduction of international crude oil prices could also result in a delay or a change in our capital expenditure plan, in particular delaying exploration and development activities, thereby delaying the development of reserves and affecting future cash flows. In order to maintain a profitable operation and preserve the cash flow of the Company at certain oil price levels, some of our producing fields may have to be closed or their operations temporarily suspended, which would affect our production levels and expected revenues.

Foreign currency exchange rate fluctuations may affect our financial results.

Most of our revenues are derived from sales of products quoted in or with reference to U.S. dollars and other currencies such as Brazilian real (BRL), the Peruvian Sol (PEN) and the Chilean peso (CLP). Therefore, when the Colombian Peso depreciates against the U.S. dollar, our revenues converted into Colombian Pesos, increase. Conversely, when the Colombian Peso appreciates against the U.S. dollar, our revenues decrease.

On the other hand, imported goods, oil services and the debt, which is mainly denominated in U.S. dollars, become less expensive when the Colombian Peso appreciates against the U.S. dollar and more expensive when the Colombian Peso depreciates against the U.S. dollar.

As of December 31, 2024, our U.S. dollar-denominated total debt aggregate principal amount was USD 21.2 billion; recognized in our consolidated financial statements at its amortized cost, which corresponds to the present value of cash flows discounted by an annual effective interest rate. Out of this total, a principal of USD 17.4 billion corresponds to Ecopetrol S.A., whose functional currency is the Colombian Peso. Therefore, when the Colombian Peso depreciates against the U.S. dollar, Ecopetrol S.A. is exposed to an exchange rate loss. In contrast, when the Colombian Peso appreciates against the U.S. dollar, Ecopetrol S.A. is exposed to an exchange rate gain. Some of the Ecopetrol Group's affiliates have the U.S. dollar as functional currency and are not exposed to a material exchange rate risk resulting from fluctuations in the Colombian Peso against the U.S. dollar. On the asset side, when the financial statements of the Ecopetrol Group are consolidated, the exchange rate differential of the affiliates' assets and liabilities whose functional currency is the U.S. dollar is recognized directly in the equity, as part of other comprehensive income.

The U.S. dollar/Colombian Peso exchange rate has fluctuated during the last several years. On average, the Colombian Peso appreciated 5.87% in 2024, depreciated 1.64% in 2023, and depreciated 13.61% in 2022. Additionally, as of December 31, 2024, the Colombian Peso had depreciated 15.36%; as of December 31, 2023, the Colombian Peso had appreciated 20.54%; as of December 31, 2022, it had depreciated 20.82%; in each case in relation to the year-end exchange rate for the immediately preceding year. In addition, given the possible effects of rising inflation, increasing interest rates in the U.S. and Colombia, different global growth perspectives, political tensions in the world's largest economies, geopolitical conflicts, current and expected crude oil prices in the next few years and political uncertainty in Colombia, there is no clear view of how the U.S. dollar and the Colombian peso will behave in the medium to long-term. Continued market volatility is expected to lead U.S. dollar fluctuations that remain difficult to forecast.

A continued depreciation trend in the exchange rate of the Colombian Peso against the U.S. dollar may affect our financial results when converted into Colombian Pesos, given our current net position in U.S. dollars, the fact that most of our revenues are collected in U.S. dollars and the portion of our U.S. dollar debt that is not designated as hedge instrument and the future debt we may acquire whenever translation affects the debt balance. Please see our sensitivity analysis on our results of operation to exchange rate fluctuations in the section [Financial Review—Effect of Taxes, Exchange Rate Variation, Inflation and the Price of Oil on our Results—Exchange Rate Variation](#) and in Note 30.1 to our consolidated financial statements.

Increased competition from local and foreign oil companies may have a negative impact on our ability to gain access to additional crude oil and natural gas reserves in Colombia and abroad.

Access to new reserves is focused on the existing areas under production or exploration contracts. The access to new areas depends on available opportunities in the market and their potential. The financial resources available for this purpose is a key factor that can impede the inorganic growth of reserves in Colombia and abroad.

We are also exposed to international competition as a result of our international exploratory and production activities. Currently, we are exploring and producing in Brazil and the United States, where we partner and compete with other oil and gas companies operating in those locations. If we are unable to adequately compete with local and foreign oil and gas companies, or if we cannot enter into joint ventures with market players having high potential exploration and production projects, our exploration and production activities may be limited. This could reduce our market share and our reserves to production ratio, and adversely affect our financial condition.

Operational risks may materialize and affect the health and safety of our workforce, the local community and the environment, and cause disruptions or shutdowns.

Our exploration, production, refining, transportation and electric power transmission and toll roads concessions businesses in Colombia and in the foreign countries in which we operate are subject to industry-specific operating risks, some of which, despite our internal procedures and adherence to industry best practices, are beyond our control. Our operations may be curtailed, delayed or cancelled due to adverse or abnormal weather conditions and natural disasters (mainly due to climate variability or climate change), strikes and demonstrations by local actors aimed at blocking operations, equipment failures or accidents, oil or natural gas spills or leaks, shortages or delays in the availability or in the delivery of equipment, delays or cancellation of environmental licenses or other government authorizations or judicial decisions, fires, explosions, ruptures, surface cratering, pipeline failures, sabotage, thefts, damage and attacks to our transportation and production infrastructure caused by terrorist acts of illegal armed groups. Additionally, external factors, such as disagreements over local or national government policies or decisions may cause roads and infrastructure blockades, among other factors beyond the Company's control.

Some of our operations in Colombia and abroad could be conducted in remote and uninhabited locations that involve health and safety risks that could affect our workforce. By our own Company policy and practices, as well as under Colombian law and international industrial safety regulations, we are required to have health and safety practices that minimize risks and health issues faced by our workforce. Failure to comply with health and safety regulations in the jurisdictions where we operate may lead to investigations by health officials that could result in lawsuits or fines.

We may be required to incur in additional costs and expenses to allocate funds to industrial safety and health compliance under Colombian law and international industrial safety regulations. Additionally, if any operational incident occurs that affects local communities and/or ethnic communities in nearby areas, we will need to incur in additional costs and expenses to return affected areas to normality and to compensate for any damages we may cause. These additional costs may have a negative impact on the profitability of current operations and the projects we may decide to undertake. See *Our Business – Production Activities – Unconventional Hydrocarbons* for a summary of community issues related to the PPIIs.

The occurrence of any of these operating risks could result in substantial losses or slowdowns to our operations, including injury to our employees, malfunction or destruction of property, equipment and infrastructure, clean-up responsibilities, third-party liability claims, government investigations and imposition of fines, withdrawal of environmental licenses and other government permits, suspension or shutdown of our activities and loss of revenue. The occurrence of any of these events may have a material adverse effect on our financial condition and results of operations.

Our involvement in deep-water drilling either as direct operator or in conjunction with our business partners involves risks and costs, which may be out of our control.

Our deep-water drilling activities present severe risks, such as loss of primary containment, blow out, ignition, fire and explosions, marine collision, weather, platform instability and natural disasters. The occurrence of any of these unwanted events or other incidents could result in personal injuries, loss of life, severe environmental damage, property damage, clean-up and repair expenses, equipment damage and liability in civil and administrative proceedings. As a result, more stringent government regulation may result in increased costs and longer exploration and development timeframes for our deep-water drilling operations and consequently, heightened risks and costs associated with deep-water drilling may have a negative effect on our results of operations and financial condition and in our reputation.

See section *[Business Overview—Exploration and Production](#)* for a summary of our current deep-water drilling activities.

We are exposed to the credit, political and regulatory risks of our key customers.

Some of our customers may experience financial problems that could have a significant negative effect on their creditworthiness. Severe financial problems encountered by our customers could limit our ability to collect amounts owed to us, or to enforce the performance of obligations owed to us under contractual arrangements. In addition, many of our customers finance their activities through their cash flows from operations, short- and long-term debt or equity.

The combination of decreasing cash flows as a result of declines in commodity prices, a reduction in borrowing bases under reserve-based credit facilities, government sanctions which may include monetary penalties, executive orders and/or trade restrictions, and the lack of availability of debt or equity may result in a significant reduction of our customers' liquidity and limit their ability to make payments or perform their obligations to us according to their contractual terms.

Furthermore, some of our customers may be highly leveraged and subject to their own operating expenses. Therefore, the risk we face in doing business with these customers may increase. Other customers may also be subject to regulatory changes, which could increase the risk of defaulting on their obligations to us. We also could have disagreements with customers regarding tariffs, excusable events, or other aspects of our commercial relations that could lead to contract breaches by our clients. See Note 30.7 to our consolidated financial statements for more details.

Such financial problems experienced by our customers or deterioration in our relations with our customers could result in the impairment of our assets, a decrease in our operating cash flows and may also reduce or restrict our customers' future use of our products and services, which may have an adverse effect on our revenues and our ability to make payments under our existing debt obligations.

Our ability to access credit markets may be limited by the deterioration of these markets, changes in credit ratings, and limited offering from financial institutions to participants in the oil and gas industry.

Our and our subsidiaries' ability to access international and local capital markets and finance our operations and potentially refinance our debt maturities on terms acceptable to us could be adversely affected due to the volatility in prices in the oil and gas sector, the continued military conflict between Ukraine and Russia, the disruptions on Russia's energy exports as a result of sanctions, conflicts in the Middle East and their impact on global supply chains, the global economy impacts due to energy supply shocks, the potential impacts on demand of future pandemics or epidemics, the spread of protectionist policies in the United States, the lack of consensus among OPEC+ members, the political uncertainty in Latin America and other parts of the developed world, the awareness of corruption by governments and private companies in emerging markets, which in turn could worsen risk perception with respect to the emerging markets, or the occurrence of any of the risks described in the section *[Risk Review—Risk Factors—Risks Related to Colombia's Political and Regional Environment](#)*. These conditions, along with the possibility of systemic banking crises, significant write-offs in the financial services sector and the re-pricing of credit risk, can make it difficult for us to obtain funding for our capital needs on favorable terms. Our cost and ability to obtain capital might be affected as well if our creditors and potential investors believe that we are not actively responding to the new low carbon economy, integrating TESG considerations in our operation and management, addressing risks related to climate change and energy transition, and meeting TESG targets; considering further the evolving restrictions to invest in pure fossil fuels companies announced by certain investors worldwide.

Access to credit and capital markets depends on a number of factors, many of which we cannot control, including changes in: our credit ratings because of external factors, interest rates, the structured and commercial financial markets, tax rates due to new or changes to existing tax laws, foreign exchange and investment controls and restrictions, market perceptions of the industries in which we operate, which are mainly determined by our financial and operational strength, and the support that could be provided by the Colombian Government. We cannot assure that our credit ratings will continue for any given period of time or that the ratings will not be further lowered or withdrawn. An assigned rating may be raised or lowered depending, among other things, on the respective rating agency's assessment of our financial strength. In addition, a downgrade in the rating of the Republic of Colombia could also trigger a downgrade on ours, as it is capped by the rating of the Republic of Colombia and the implicit support that can potentially be provided to the Company. On September 22, 2023, Moody's Investors Service re-affirmed our rating at Baa3, with a negative outlook and re-affirmed our Baseline Credit Assessment (BCA) at ba3. On November 6, 2023, Fitch Ratings reaffirmed our rating at BB+ with a stable outlook and modified our individual credit rating (stand alone credit profile) to bbb- and affirmed the national long-term and short-term ratings of the Company at 'AAA' with a stable outlook and 'F1+', respectively. On January 18, 2024, S&P Global Ratings modified the outlook of Ecopetrol's credit rating from stable to negative, as a result of the review in the outlook of Colombia's credit rating, also from stable to negative. On May 31, 2024, Moody's Investors Service updated our rating at ba1 with a stable outlook. On November 6, 2024, Fitch Ratings reaffirmed our rating at BB+ with a stable outlook. On February 24, 2025, Moody's Investors Services reaffirmed our Ba1 rating with a stable outlook. On, March 14, 2025 Fitch Ratings, modified the outlook of Ecopetrol's credit rating from stable to negative, as a result of the review in the outlook of Colombia's credit rating (on March 6, 2025), also from stable to negative. With respect to our renewable energy and low carbon emission project portfolio, we cannot assure that the projects will be able to raise financing on the terms expected or required to develop such portfolio.

As a result of these factors, we may be forced to revise the timing and scope of our capital projects as necessary to adapt to existing market and economic conditions, downgrades to our credit ratings or to access the financial markets on terms less favorable, therefore negatively affecting our results of operations and financial condition.

In addition, under applicable regulation, most of our indebtedness must be previously authorized by the Colombian Ministry of Finance and Public Credit and the National Planning Department and local bond issuances by the Financial Superintendence of Colombia. Likewise, our equity offerings must abide by the terms set forth in Law 1118 of 2006 and any operation within the domestic equity capital market must be previously approved by the Financial Superintendence of Colombia. As such, our access to debt and equity funding is subject to the Government's time frames and policies, and we cannot guarantee that such authorizations would be granted in a timely fashion or granted at all.

We may be exposed to increases in interest rates, thereby increasing our financial costs.

We may incur debt locally and in the international capital markets and, consequently, may be affected by changes in prevailing interest rates.

When market interest rates increase, our financing expenses are likely to increase, which could have an adverse effect on our results of operations and financial condition. Our future success depends on our ability to access capital markets and obtain financing at cost effective rates.

As of December 31, 2024, approximately 29.5%, or a principal of USD 7.9 billion (COP 34.9 trillion, using a COP 4,409.15/1.00 U.S. exchange rate as of December 31, 2024), of our total indebtedness consisted of floating rate debt. If market interest rates rise, our financing expenses could be expected to increase and our cost of capital could be expected to deteriorate, which could have an adverse effect on our ability to execute certain projects, and our results of operations and financial condition. In addition, as we refinance our existing debt in the coming years, the mix of our indebtedness may change, specifically as it relates to the ratio of fixed to floating interest rates, the ratio of short-term to long-term debt, and the currencies in which our debt is denominated in or indexed to. We cannot assure that such changes will not result in increased financing expenses borne by us. Finally, as we incur new debt in the future to fund our working capital, capital projects or inorganic acquisitions, or pursue liability management transactions, the prevailing interest rates and spreads at any specific time could be less favorable in terms of cost when compared to our previous financing transactions, which could adversely affect our financial condition and results of operations.

Our current and planned investments, divestments and business activities outside Colombia are exposed to political and economic risks.

We began exploration activities outside Colombia in 2006 through our Brazilian subsidiary, Ecopetrol Óleo e Gás do Brasil Ltda. We operate through business partners, subsidiaries, or affiliates outside Colombia. We currently have investments, joint ventures and direct and indirect subsidiaries incorporated in Peru, Brazil, Chile, Argentina, Bolivia, Mexico, Bermuda, Panama, the Cayman Islands, Switzerland, Spain, the United Kingdom, Singapore, and the United States, and we are continuously assessing our investments, including any potential divestments, in these countries, as well as investments in other countries. Our investment and divestment decisions may be subject to risks related to economic and political conditions, as well as potential governmental actions, such as investigations or legal proceedings. Furthermore, we cannot predict the positions of foreign governments relating to the oil and gas industry, electricity transmission, toll roads concessions, land tenure, protection of private property, environmental standards, regulation, or taxation; nor can we assure that future governments will maintain policies favorable to foreign investment or repatriation of capital. Additionally, we may face new and unexpected risks involving environmental and other legal requirements beyond those we currently experience.

The results of operations and financial condition of our subsidiaries in these countries also may be adversely affected not only by risks associated with hydrocarbon exploration and production or electricity transmission and toll roads, but also by fluctuations in their local economies, political instability and government actions, including: the imposition of price controls, the imposition of restrictions on hydrocarbon exports, electricity transmission limitations, fluctuation of local currencies against the Colombian peso, the nationalization of oil and gas reserves or electricity transmission, increases in export and income tax rates for crude oil and oil products, electricity transmission, toll roads concessions, and unilateral (governmental) institutional and contractual changes, including controls on investments and limitations on new projects.

Any of these conditions occurring could disrupt or terminate our operations, causing our development activities to be curtailed or terminated in these areas, or our production to decline, limit our ability to pursue new opportunities, affect the recoverability of our assets, cause us to incur additional costs or delay the timeline of our projects, be unable to realize the original expected value or recover the value of our initial investment, or be unable to divest assets at acceptable prices or within the planned business timelines because of economic or political conditions or market risk.

Our future performance depends on successful selection, development and deployment of new technologies and our knowledge about them.

Technology, knowledge, science, and innovation are essential to our business, especially for the addition of reserves in complex settings, reducing operational costs, reducing the carbon footprint of our operations and adapting to the energy transition. If we do not develop the right technology, or do not secure access to required third-party technology, or if we fail to deploy the right technology, do not obtain the expertise to operate our deployed technology or to improve our processes, or do not deploy the knowledge necessary to improve such technology effectively, the achievement of our corporate goals, our profitability, and our earnings may be adversely affected. Furthermore, as we address climate change and the transition to a lower-carbon economy, we face the risk that our progress may be curtailed due to the high cost or limited access to low-carbon and water management technologies. In the case of our enhanced oil recovery program, we depend on the successful selection, adaptation, demonstration, and deployment of appropriate technologies that are also energy and environmentally efficient.

Our performance could be negatively affected by the lack of employees with the skills needed to execute our business strategy.

As the oil and gas industry and the energy sector faces an increasing number of challenges, the ability to react quickly to these challenges has become a key factor in achieving efficiency, profitability, growth, and sustainability. Our ability to achieve these goals could be negatively affected by a lack of key skilled employees that can execute our business strategy and transition to a low carbon economy with competency, creativity, and determination. This situation poses a risk if we are unable to timely strengthen or develop the capacities of management at all levels of the organization or attract new employees with the necessary skills to implement climate-resilient initiatives and to achieve our decarbonization goals.

If the strategic plans associated to natural gas fail or underdeliver, we may be unable to keep pace with increasing domestic demand.

In June 2024, the Mining and Energy Planning Unit (*Unidad de Planeación Minero Energética*, “UPME” for its acronym in Spanish) published the Natural Gas Supply Plan. The UPME has established a possible deficit of natural gas in Colombia between late 2025 and early 2026 in some scenarios. Considering the CREG Resolution 186 of 2020, the natural gas market is a physical market, which means that suppliers must comply with the quantities agreed in their contracts with firm gas commitments.

We are currently developing offshore projects to incorporate gas reserves; we cannot assure that they will go into operation in the short term. Additionally, we are party of several national gas supply contracts that have firm gas commitments. If we were unable to deliver natural gas to these clients because of cuts in operations or higher decline rates in our gas fields, among other reasons, we may be required to compensate our customers for our failure to supply natural gas.

Delays in the implementation of our strategic plans associated to natural gas and NGL could result in us losing market share if clients choose to secure their supply with other sources instead (such as third-party gas suppliers or imports). As a result, our financial condition, results of operations and market share could be impacted.

We depend on others for the construction and availability of natural gas transportation infrastructure for the transport of our gas, which may limit our ability to develop new or existing fields or lead to the deterioration of related assets and may not allow us to recover the cost of capital invested in natural gas discoveries.

Ecopetrol S.A. can only hold up to 25% of the equity of any natural gas transportation company according to Article 5 of CREG Resolution 057 of 1996 (except for transportation assets acquired before this Resolution). Therefore, there can be no assurance that the transportation infrastructure necessary to transport natural gas from the fields to distribution points and our customers will be built by third parties, or that if built in that location, there will be sufficient capacity available to us for the exploitation of new natural gas discoveries or the development of existing fields due to the non-financial closure of transport projects or lack of signed contracts with transporters. The failure to commercially exploit new or existing discoveries may result in impairment of the related assets and our inability to recover the capital expenditures invested to make these natural gas discoveries.

Our operations could be affected by demonstrations and other actions of labor unions, social organizations, communities and contractors.

Social organizations, including those in the communities where we operate, individuals representing specific communities, contractors and their workers, labor unions and other social movements may, exercising their rights, engage in demonstrations, protests, and other actions related to climate, labor (including expectations to increase the local employment or a higher spend on goods and services), health, indigenous rights and other social issues of local, national, or global significance. Such demonstrations, protests and actions may disrupt our operations, escalate into conflicts, lead to increased or unexpected costs, or otherwise have a material adverse effect on our business.

Regarding the emerging environmental and climate change concerns, some communities have shown strong opposition to the development of PPIIs, leading their representatives to propose bills aimed at banning Integral Research Pilot Projects (“PPIIs” from its acronyms in Spanish). Although none of these bills has materialized into a law, we cannot guarantee that similar bills will not continue to be proposed or that none of them may eventually gain sufficient support to be enacted.

We cannot guarantee that the actions taken by labor unions will not affect the normal development of our operations, that we will not experience strikes or labor unrest, or that our labor costs will not increase significantly. The occurrence of any of these events could have an adverse effect on our operations and financial condition.

Our activities may be interrupted or affected by external factors, such as climate change and its effect on weather and natural disasters.

In the past decade, the “El Niño” and “La Niña” have intensified, increasing the risk of extreme climate events, such as floods, landslides, wildfires, droughts, increased temperature and rising sea and river levels, among others, as well as related water scarcity, which may affect our infrastructure and business operations.

“El Niño” phenomenon is characterized by: (i) the lack of rainfall, may drastically decrease surface waterbodies flows, affecting both freshwater use and wastewater discharges because of the reduction on dilution potential of receiving waterbodies, (ii) increased temperatures, which causes heat waves and could have a direct impact on the health of our workers and cause an increase in epidemics and diseases, and (iii) potential negative impact on energy supply due to the decrease in the level of the rivers that feed the hydroelectric generation system of the country. In addition to the “El Niño” climate phenomenon, some basins in Colombia may be affected by seasonal variability in some periods of the year (normally January to March - June to July), which could reduce water flows, affecting freshwater withdrawals and surface discharges, as mentioned previously. Moreover, such adverse weather events can result in transmission restrictions caused by the increase in a transmission line’s load from the coast to the center of the country and negatively impact our electric power transmission business.

Furthermore, “La Niña” climate phenomenon is characterized by increased rainfall, which can generate frequent landslides and flooding, which may cause delays on transportation due to road blockades, increase pipeline integrity risks that may cause hydrocarbon spills and limit operations in our production fields and facilities, as well as cause infrastructure losses, such as collapse of transmission towers and lines that restrict our electric power transmission business’ operations.

These risks could result in fatalities, property damage, project delays, production deferrals, loss of revenue, pollution, and harm to the environment, damage roads as well as temporary disruptions to our services, among others. If any of these occur, we may be exposed to economic sanctions, damages, fines, or penalties in addition to the negative effects these events may have on our operations and the costs required to repair or remediate the related damage. These costs, fines and penalties may adversely affect our financial condition, reputation, and results of operations. Natural disasters or similar events could also result in substantial volatility in our results of operations or the interruption of our essential services for our country, such as our ability to transport natural gas and transmit electricity.

During 2024, ENSO conditions were not consolidated; meteorological conditions were modulated by the reference climatology.

Our operations, including our activities in areas classified as indigenous reserves and Afro-Colombian lands, could be subject to opposition from members of various communities.

We currently carry out and plan to continue carrying out activities in areas classified by the Government as indigenous reserves and Afro-Colombian lands. To undertake these activities, we must first comply with prior consultation processes, set forth by Colombian law. These prior consultation processes are required for obtaining environmental licenses to start our projects, works or activities in areas inhabited by ethnic communities. In addition, consultations can be seen as a potential instrument to involve communities in the decision of developing extracting industry and infrastructure projects in their territories. Generally, these consultation processes last between six months to one year depending on the community expectations but may be significantly delayed if we cannot reach an agreement with the communities. We strive to be respectful of the Constitution and laws and the autonomy of indigenous and afro-descendant communities, and we therefore do not enter their territories until we have reached an agreement with them. We also strive to structure management plans to prevent, mitigate, repair or offset the impact of our projects, as identified by local communities. Issued environmental licenses for these projects are subject to scrutiny as a result of claims filed by local community interest groups.

In recent years, indigenous communities have also been claiming their ancestral territories and requesting recognition of their right to be consulted about projects already in operation before the Indigenous and Tribal Peoples Convention number 169 started to apply in Colombia. This opposition results from, among other factors, the communities’ view on the exploitation of natural resources, the environment, and the effects on their cultures, territories and spiritual beliefs. According to this, we may be exposed to operational restrictions as a result of the opposition of these communities.

No certainty can be given that we will be able to reach an agreement with the different communities that do not agree and object to our operations or that such communities will participate in consultation processes if available. We may be exposed to similar delays due to the objection from local communities in other countries where we carry out our activities.

Our activities may be subject to objection, including protests by not-ethnic communities. We are also subject to other participation mechanisms, such as popular consultation “acción popular”, where local communities vote against the development of extractive industry projects. Any such similar situation may affect our future projects. See section [Risk Review—Legal Proceedings and Related Matters](#) for detailed information related to consultation processes with Afro-descendant communities.

We have made and may make significant investments and divestments, and we may not realize their expected value.

We continuously analyze investments and joint ventures in Colombia and abroad and will continue to do so as part of our 2040 Strategy. We have made investments and may continue to do so from time to time depending on the environment and strategic needs of the Company. Some of our investments, joint ventures and new business lines may be less profitable than planned and, as a result, we may not achieve consistent profitability in the future.

Obtaining the expected benefits of acquisitions, including ISA's, or joint venture investments, will depend, in part, on our ability to: (i) obtain the expected results of operations and financial condition from these acquisitions or joint venture investments, (ii) manage different sets of assets and operations and integrate distinct corporate cultures or investment goals, (iii) manage our objectives as a corporate group, and (iv) institute our corporate governance rules as well as other factors beyond our control such as the economic and regulatory environment in countries in which we have made acquisitions or joint venture investments, as well as all other risks affecting the oil and gas industry or the industries of the businesses we acquire or invest in. See section [Risk Review—Legal Proceedings and Related Matters—Interconexión Eléctrica S.A.](#)

Similarly, in our shale operations in the U.S., the ability to drill and develop different locations is subject to uncertainties such as natural gas and oil prices, drilling and production costs, availability of drilling services and equipment, lease acquisitions and expirations, processing capacity constraints, pipeline transportation bottlenecks, access to and availability of water sourcing and distribution systems, regulatory approvals, among others. We cannot assure that all the well locations we have identified will ever be drilled or if we will be able to produce natural gas or oil at the planned levels. As a result, our efforts may not succeed and our failure to successfully obtain the expected results from our acquisitions or joint venture investments could adversely affect our financial condition and results of operations.

In addition, as a result of strategic reassessments of our core operations and portfolio management analysis, in the past we have executed and may determine as part of our short- or long-term strategy to execute partial or total divestments in our current businesses, and the sale prices for these transactions may not be enough to realize the original expected value or recover the value of our initial investment. We may also retain liabilities following a divestment or be held liable for past acts, failures to act or liabilities that are different from those foreseen.

We might be required to provide financial support to our subsidiaries or affiliates in Colombia or abroad.

Although currently we are not the sponsor and have not provided guarantees to third parties to support the financing activities of any of our subsidiaries or affiliates, some financial support at any point in time might be needed to assure the long-term viability of such subsidiaries or affiliates when exposed to unexpected conditions, results, or when it is utterly required to support projects in their developing phase, in particular with respect of those pre-operative affiliates.

Any situation that could affect the operations of our subsidiaries or affiliates, or make them financially non-viable, particularly for those that are about to enter into their development phase or for those that recently entered into operations, may have a negative impact on their profitability as well as on their ability to pay their liabilities, which in turn could adversely affect our financial condition and results of operations.

Investigations and other actions by Colombian administrative control entities involving our current or former employees or those of our current or former subsidiaries may impact our reputation.

As a majority-owned state entity, Ecopetrol's current or former employees, as they are considered public servants, and those from its current or former subsidiaries are subject to oversight by various administrative control entities in Colombia, including the Office of the Comptroller General (*Contraloría General de la República*), The Attorney General's Office (*Procuraduría General de la Nación*) and/or The Prosecutor's Office (*Fiscalía General de la Nación*). Such oversight could result in proceedings, the imposition of fines or penalties, or other actions by Colombian administrative control entities and may ultimately also impact our reputation.

Investigations against Mr. Ricardo Roa for alleged actions that would have taken place before he joined the Ecopetrol as its Chief Executive Officer, and not during his time as the Ecopetrol's Chief Executive Officer or the Ecopetrol itself, may impact our reputation. On October 8, 2024, the National Electoral Council opened a formal investigation for alleged irregularities in the financing and presentation of the income and expenditure report of Mr. Gustavo Petro's 2022 presidential campaign, of which Mr. Ricardo Roa Barragán was the campaign manager. Separately, on December 12, 2023, the Attorney General's Office initiated a disciplinary investigation for the same reasons, after a Colombia citizen filed a petition before Colombia's Prosecutor's Office. According to public records, the investigation by the National Electoral Council is in the evidentiary phase, and the investigation by the Attorney General's Office is in the evidentiary phase.

On January 26, 2024, the Attorney General's Office initiated a preliminary investigation against Mr. Roa, in his capacity as Chief Executive Officer, for alleged irregularities occurred on December 2022, before he joined Ecopetrol as its Chief Executive Officer, in the purchase of an apartment from an oil and gas businessman from Venezuela that has business interests with Ecopetrol Group. The Attorney General's Office has not issued a formal accusation or decided to dismiss the proceeding definitively.

On December 16, 2024, the Attorney General's Office initiated a disciplinary investigation against Mr. Roa in his capacity as Chief Executive Officer, based on a complaint alleging that his statements of April 24, 2023, regarding the signing of oil and gas exploration and exploitation contracts and the intention to import gas from Venezuela, could have affected Ecopetrol's finances, such as loss of share value on markets that Ecopetrol participates in. The investigation is in the evidentiary phase.

As a result of these developments concerning our Chief Executive Officer, our Board of Directors commissioned a report from an external risk consultant. The key recommendations of the report were the need for the Board of Directors and management of Ecopetrol to constantly monitor publicly available information for any new developments regarding the CEO; evaluate potential risks and the likelihood of their coming to pass; and maintaining a continuing dialogue with external counsel expert in regulatory issues in the United States to ensure a prompt response of Ecopetrol and the Board of Directors of any recommendations made.

There are also investigations of certain employees and former employees of Ecopetrol, Bioenergy and Reficar and certain members of the board of directors of Offshore International Group, where Ecopetrol formerly held a stake, which remain ongoing. Ecopetrol is not aware of any allegations related to acts of corruption, bribery or fraud in connection therewith. See section [Risk Review—Legal Proceedings and Related Matters](#) and [Risk Review—Risk Factors—Legal and Regulatory Risk—We may incur losses and spend time and money defending pending lawsuits and arbitrations and responding to administrative investigations](#) for additional information.

Our results may be affected by supply chain disruptions and high price volatility impacting our suppliers, partners and other third-parties.

Global supply chains have been strongly impacted due to a combination of factors like geopolitical issues, global trade, economic factors, raw materials, breakthrough technologies, logistics disruptions, and the continued conflicts between Israel and Palestine, Russia and Ukraine and in the Middle East. These factors have resulted in substantial commercial disruption in the flow of goods and services across regions. Coupled with the tightening of monetary policy to curb inflationary trends, these factors continue to impact the global energy markets. A set of 32 most relevant supply indexes have been identified and monitored. While some international indexes show corrections, certain domestic indexes are experiencing high inflationary pressure. These include the Consumer Price Index (CPI), Producer Price Index (PPI), cement, copper, logistics, transportation, fuel (diesel and gasoline), among others. This situation has affected and could continue to affect suppliers and agreed commercial conditions and might contribute to spiral inflationary trends in the short term.

The above-mentioned factors are expected to have a potential impact between 4.2% and 4.7% inflation, equivalent to USD 129 million and USD 144 million. These scenarios could result in a deficit of 0.5 to 0.75 million barrels per day of crude oil, placing Brent prices in a range of USD 79 to USD 88 per barrel. This would impact the categories of oil services, technology, logistics, development of new projects, construction materials and equipment. This means, in inflationary terms, a potential resistance to the price level are expected to extend the soaring prices in the medium term, possibly fueling a scenario of slight economic slowdown.

Likewise, the global logistics situation has generated record increases in international and domestic freight transport rates, limited capacity in ports, and delays in the delivery times. The combination of inflationary impact, the logistical situation and the other shocks create complex environment that may affect our results and the performance of our suppliers, subcontractors, and third-party service providers. Some of our suppliers may face financial or operational problems that could led them to a breach of their obligations settled under contractual arrangements. Other suppliers may also be subject to regulatory changes or sanctions that could increase the risk of defaulting on their obligations to us, which could have an adverse effect on our operations and financial condition.

Most of our activity depends on suppliers, sub-contractors and third-party service providers that provide goods and services for our operations and projects. In addition, some of our operations and projects are performed through joint ventures or other contractual arrangements with our business partners or third-party service providers. Consequently, we depend on the performance of our business partners or third-party service providers. The weak performance of our suppliers, or our business partners or third-party providers, in any criteria such as operational efficiency, deadlines, administrative aspects, HSE, especially in those projects in which we do not act as operator, could negatively impact the execution of projects and operating performance, which in turn could have a negative impact on our results of operations and financial condition. We are exposed to the risk of not finding business partners or suppliers with the proper skills and performance we require for our projects. We are also indirectly exposed to supply agreements and other third-party services contracted by our business partners acting as operators under joint venture agreements.

Our insurance policies do not cover all liabilities and may not be available for all risks.

Our insurance policies do not cover all liabilities, and insurance may not be available for all risks. There can be no assurance that incidents will not occur in the future, that insurance will adequately cover the entire scope or extent of our losses or that our employees or former employees will not be found liable by investigations by Colombian State control entities in connection with claims arising from these and other events, which could adversely affect our financial condition and results of operations.

Notwithstanding the increase in coverage that has been achieved in recent years, due to worldwide market conditions and limitations associated to interpretations and decisions made by the Colombian Surveillance and the Office of the Comptroller General with regards to directors and officers insurance, in recent years the terms and conditions of our directors and officers insurance policy have been affected as such coverage has become more costly, which could affect future decisions expected to be made by such directors and officers.

New trends in the insurance sector in the face of climate change may impact our financial condition and results of operations.

We have identified three main insurance trends arising from the transition to a lower carbon economy and climate change that could have a negative impact on the Company: (i) insurance and reinsurance companies are imposing new requirements regarding decarbonization targets, which may affect the insurability of assets or higher premiums, (ii) policy coverage may change as climate risk modeling and assessment advance, leading to changes in underwriting policies and new policy exclusions, and (iii) increase frequency or intensity of climate related events may lead to increase in premium prices. We have been strengthening communications with the reinsurance market, in relation to the TSEG strategy and its commitment to comply with it, which allows us to support the negotiations of the corporate insurance program. However, we cannot assure that these trends will not increase our insurance costs or reduce our insurance coverage, which could adversely affect our financial condition and results of operations.

A failure in our information technology systems or cyber security attacks may adversely affect our financial results.

We depend on the reliability and security of our information technology systems to conduct certain exploration, development and production activities, process financial records and operating data and communicate with our employees and business partners, and for many other activities related to our business. Our information technology systems may fail or have other significant shortcomings due to operational system flaws or employee misuse, tampering or manipulation. In addition, we may become the target of cyber-attacks or information security breaches that could result in the unauthorized release, gathering, monitoring, misuse, loss, or destruction of proprietary and other information. Any of these occurrences could disrupt our business, result in potential liability or reputational damage, or otherwise have an adverse effect on our financial results.

During 2024, our internal cybersecurity systems identified and contained cybersecurity attacks such as malware, phishing and denial of service. We did not have any critical incidents during the year required to be reported in accordance with the new SEC rules, as we included in the cybersecurity guidelines that all cyber incidents must be assessed in accordance with the RAM (risk assessment matrix). Although we have not experienced any material losses related to failures of our information technology systems or cyber incidents, there can be no assurance that we will not suffer such losses in the future.

Information and processing systems are vital to the ability to monitor the operation and network performance of assets, achieve operating efficiencies, and meet service targets and standards. Any failure of any of these information and processing systems could have a material adverse effect on our financial condition and results of operations. In addition, we may become the target of cyber-attacks or information security breaches that could result in the unauthorized release, gathering, monitoring, misuse, loss or destruction of proprietary and other information. Any of these occurrences could disrupt our business, result in potential liability or reputational damage or otherwise have an adverse effect on our financial results.

We are exposed to behaviors incompatible with our ethics and compliance standards.

Given the extent, dimension and nature of our business and corporate sector, the frequent interaction with national and foreign Government Officials, the large number of contracts that we are a party to in Colombia and abroad with local and foreign suppliers, the geographic distribution of our operations and the great variety of actors that we interact within the course of our business, we are subject to possible violations of our Codes of Ethics and Conduct, as well as applicable legal provisions related to compliance with regulations of anti-money laundering, U.S. Foreign Corrupt Practices Act (“FCPA”), fraud, corruption and bribery. Such acts may impact our reputation, and eventually could affect the commercial relations of the Company.

The performance of our partners, subsidiaries and affiliates in Colombia and elsewhere may negatively impact our image and reputation.

As part of our strategy, we have carried out and plan to carry out substantial investments, divestitures, partnerships and joint ventures in Colombia and elsewhere. Failures, errors, accidents in the performance of such partners, affiliates and subsidiaries, among other factors, could potentially negatively impact our image and reputation.

There may be situations wherein product failures and/or accidents are not properly mitigated, making our relationship with our stakeholders difficult. We cannot ensure that there will be no impact on our relationship with local governments, customers and third parties as a result of such product failures and/or accidents, which could affect our image and reputation, negatively impacting us in the business environment and challenging the implementation of our strategies and achievement of our objectives.

The reliability and capacity of national power supply systems may affect or limit the continuity of our operations or limit growth.

Our energy consumption in 2024 was 8.26 TWh/year, of which 60% was supplied through self-generation, and the remaining 40% through power grid. Our demand is 10% of the total energy demand in the SIN. Our self-generation is subject to fuel and solar availability. In addition, several producing fields are connected to the national transmission system and depend on its expansion and reliability to keep steady production levels. The national electricity market is volatile due to changes in hydrology and availability of fuels (natural gas, diesel, etc.), bringing uncertainty to prices. If energy were to become unavailable or difficult to obtain, our results of operation and financial condition could be adversely affected.

Rising water production levels may affect or constrain our crude oil production.

During 2024, the Ecopetrol Group produced approximately 12.8 million barrels of water per day which includes direct operations, and operations with partners and subsidiaries. Taking into account the nature of our reservoirs, the water production levels to be managed by the Company may increase in the future. In order to achieve our oil and gas production goals and to avoid any production restrictions going forward, we will need to secure the required capacity to manage water levels. Factors that may trigger a possible constraint in our crude oil production due to the rising water production levels are: (i) ineffective project management of the required facilities, (ii) the Company's and its partners' ability to timely obtain the environmental permits related to water management, (iii) social and community interactions that could affect the development and operation of these projects, and (iv) the availability of capital to execute the required projects.

5.2.2 Risks Related to Colombia and the Region's Political and Regional Environment

This section discusses potential risks related to our extensive operations in Colombia, as well as our operations in other countries of Latin America.

Changes in economic, energy transition and oil & gas policies in Colombia, Peru, Brazil, Chile and the United States of America could materially affect our financial condition and results of operations.

Our financial condition and results of operations may be adversely affected by changes in the political climate of Colombia, Peru, Brazil and Chile to the extent that such changes affect the economic policies, growth, stability, outlook or regulatory environment of these countries.

With respect to Colombia, for the year ended December 31, 2024, revenues derived from Colombia represented 47% of our total revenues. The Colombian Government has historically exercised substantial influence on the local economy, and governmental policies are likely to continue to have an important effect on companies operating in Colombia and on market conditions. Natural resources are owned by the state, but they can be exploited by a third party and pay grants to the Government for that exploitation. The President of Colombia and the Colombian Central Bank have considerable power and independence as policymakers to determine governmental policies, regulations and actions relating to the economy and may adopt policies that may negatively affect us. We cannot predict which policies will be adopted by the Government and whether those policies would have a negative impact on the Colombian economy or our business and financial performance.

In December 2023, the Minister of Mines and Energy, Andrés Camacho, announced the progress made by the Colombian Government in relation to energy and hydrocarbons, as well as the challenges that are yet to be overcome in these sectors. The Colombian Government developed the “Roadmap for an Equitable Energy Transition,” after having presented the “Construction of principles, methodology and launch of the Social Dialogue to define the Roadmap for the Just Energy Transition in Colombia” during the United Nations Conference on Climate Change COP27 in Egypt in November 2022. This roadmap has been built through technical analysis and together with existing regulations such as Law 2099 of 2021 and CONPES 4075 of 2022. Moreover, the Colombian Government has presented a bill to definitively prohibit fracking in Colombia. At this time, it is unclear how such policies may affect our business, what form they could take, or whether we would need to adjust our business strategy to any such policies.

Furthermore, although throughout recent history elected governments (and the Colombian Congress as well) have pursued free market economic policies with almost no economic interventions, we cannot predict which policies, if any, will be adopted by the new Government and/or congress and whether those policies would have a negative impact on the Colombian economy or our business and financial performance. See section *Business Overview—Applicable Laws and Regulations—Regulation of Exploration and Production Activities—Business Regulation—Temporary regulation for the Comprehensive Research Pilot Projects (PPIL)*.

On August 2022, the MHCP submitted a tax reform bill to Congress proposing changes to the Colombian tax regime. The tax reform bill was sanctioned by President Petro as Law 2277 of 2022 on December 13, 2022, and became effective starting January 1, 2023. The law is expected to increase tax collection to approximately COP 20 trillion by the end of 2023 (approximately 3% of the country GDP). The tax reform includes, among others: (i) a new permanent equity tax applicable to Colombian individuals and non-residents, at rates ranging from 0.5% to 1.5% based on the level of net equity at January 1st every year, (ii) an increase in the dividend tax rate for local and foreign shareholders (0% to 39% progressive marginal rates for Colombian individuals, and 20% flat withholding for non-resident shareholders), (iii) an increase in the long-term capital gains tax rate (increases from 10% to 15%), (iv) the elimination of specific tax benefits and exemptions, (v) a minimum corporate income tax based on effective tax rate (effective rate calculated on book profit should be at least 15%, considering certain adjustments to accounting profits and certain exempted companies), (vi) the application of taxes based on significant economic presence (primarily for non-resident persons and entities that provide digital services, but including other services and commercial activities), (vii) the elimination of the ability to claim 50% of the ICA as an income tax credit, (viii) an additional percentage points to the nominal tax rate for companies engaged in the extraction of crude oil and coal of 0%, 5%, 10% or 15% and based on international prices. For fiscal year 2023 and 2024, additional percentage points will be applied to the nominal of 10% and 5%, given that the Brent price was USD 80.32 and USD 78.76, according to ANH Resolutions No. 0061 and No. 0044 from January 31, 2024 and 2025, respectively. Note that the revenues from the sale of natural gas are not subject to these additional percentage points to the nominal tax rate, (ix) non-deductibility of royalties, and (x) the modification of section 221 of Law 1819 of 2016, with an adjustment to the taxable event and establishing that the national carbon tax will be levied on the carbon equivalent content (CO₂eq) of all fossil fuels, including all petroleum derivatives, fossil gas and solids used for combustion.

Decree 175 of February 14, 2025 (“Decree 175”) introduced tax measures intended to address the state of internal commotion declared by the National Government through Decree 062 of 2025. These measures include the introduction of two new taxes: (i) the special tax for the Catatumbo; and (ii) the reactivation of the stamp tax rate. Both taxes are temporary and will be in effect from February 22, 2025, through December 31, 2025.

Additionally, the Colombian Congress recently approved the bill on pension reform (which restructures the pension system into a “pillar system” which manages and assigns funds in accordance with age, the condition of the affiliates, among others, as well as changes to pension schemes applicable to women). Furthermore, on March 6, 2025, the Chamber of Representatives voted in favor of the healthcare reform presented by President Petro for review by the Colombian Congress and as of the date of this report, it is currently being reviewed by the Senate. On March 19, 2025, the Colombian Congress voted to shelve the labor reform. The Colombian government has publicly stated its intention to conduct a public consultation process in the event that these reforms are not approved by Congress to determine the public’s stance on the reforms. The Colombian government has stated its intention to file the public consultation before Congress in April 2025. As of the date of this annual report, it is unclear how these proposals could affect the Colombian economy or our business.

With respect to Brazil, for the year ended December 31, 2024, revenues derived from our consolidated subsidiaries in this country represented 5% of our total revenues. On January 8, 2023, demonstrators invaded the Planalto presidential palace, the National Congress and the Federal Supreme Court (STF) in Brasília, protesting the defeat of then-president Jair Bolsonaro in the 2022 Brazilian general election and the inauguration of his successor Luiz Inácio Lula da Silva. As of February 4, 2025, 374 people had been tried and sentenced with up to 17 years of imprisonment in the cases involving the most serious crimes related to the events of January 8, 2023. On November 19, 2024, the Federal Police conducted the Counter-Coup Operation and indicted 37 people, amongst them former president Jair Bolsonaro, as well as various former high-ranking officials from his time in office. On electoral aspects, on October 6, 2024, municipalities held elections for mayors and city council members. A second round of voting took place on October 27, 2024 in 51 municipalities in which none of the mayoral candidates obtained more than half of the valid votes (excluding blank and invalid votes) in the first round. The elected mayors and city council members were sworn into office on January 1, 2025. The National Congress enacted a tax reform on December 20, 2023 (the “Brazil Tax Reform”). The Brazil Tax Reform includes: (i) merging four levies into value-added tax (VAT) rates managed in a dual format (partially federal and partially regional), (ii) changing tax collection from a tax on production to a tax on consumption, (iii) reduced tax rates on certain sectors of the economy, (iv) sets the framework for a creation of a cashback system, and (v) increases tax rates on luxury vehicles and inheritances. On April 25, 2024, the Federal Government submitted the bill for the first complementary law regulating aspects of the Brazil Tax Reform to the National Congress for consideration. The bill provides for a “cashback” or rebate mechanism for low-income families on certain goods and utility services, such as gas, electricity and water, and a “split payment” system that electronically splits tax payments relating to transactions by recipient. On January 16, 2025, the bill was enacted by President Lula as Complementary Law 214/2025 after having gone through its congressional approval process. On June 5, 2024, the Federal Government submitted bill No. 108/2024, the second complementary law regulating aspects of the Brazil Tax Reform to the National Congress for consideration. The bill creates the IBS Steering Committee (*Comitê Gestor do Imposto sobre Bens e Serviços* or “CG-IBS”, for its acronym in Portuguese), and regulates the administrative proceedings within the CG-IBS, as well as the collection and distribution of the tax on goods and services and the transition to the new tax system. On October 20, 2024, the bill was approved by the Lower House and remitted to the Senate for consideration. The objective of the Federal Government is to obtain Senate approval in 2025, so that the test period can begin in 2026. Changes in economic or other policies by the government of the president Luiz Inácio Lula da Silva could negatively affect our industry in general, or our Brazilian subsidiaries’ results of operations, in particular.

With respect to Peru, for the year ended December 31, 2024, revenues derived from our consolidated subsidiaries in this country represented 2% of our total revenues. Peru’s most recent general presidential elections took place in April 2021. Following a run-off between the two top contenders on June 6, 2021, Pedro Castillo was elected as Peru’s president. On December 7, 2022, Mr. Castillo announced his intention to dissolve the Peruvian Congress and to intervene, among others, the Peruvian judicial branch and Superior Court. Mr. Castillo’s actions were deemed to constitute an attempted coup, which led to his destitution and arrest. Mr. Castillo was succeeded by his then vice-president, Dina Boluarte. Following Mr. Castillo’s destitution, a wave of protests in support of Mr. Castillo erupted across the country, which led President Boluarte to declare a state of emergency across several regions in Peru on December 12, 2022 and call for congressional approval of a bill to permit early elections in 2024. After several legislative attempts to approve early elections, on June 15, 2023, President Boluarte declared that elections would not be held early, and that she would hold office until July 28, 2026. In March 2024, Congress approved a constitutional reform reinstating the bicameral system in the Legislative Branch. Starting with the 2026 general elections, Peru will have a House of Representatives with 130 members and a Senate with 60 members. This reform also limited the president’s power to dissolve Congress, restricting it to the House of Representatives only. In June 2024, the Congressional Constitution Committee approved a reform proposal to eliminate the National Board of Justice, transferring the power to appoint and remove judges, prosecutors, and electoral authorities to the Senate. However, the reform has yet to be fully approved, and it has been widely criticized by human rights organizations, which view it as a threat to judicial independence. These events have further increased the environment of political uncertainty in Peru, and gave way to further discussions about a possible reform of the Peruvian Constitution, which is based on free market, contractual liberty, and minimal governmental intervention in the economy. These events have further increased the environment of political uncertainty in Peru, and gave way to further discussions about a possible reform of the Peruvian Constitution, which is based on free market, contractual liberty, and minimal governmental intervention in the economy. There is uncertainty as to whether President Boluarte will obtain the required qualified majorities in order to modify the Peruvian Constitution. We cannot assure that policies against free market and minimal intervention of the government in the Peruvian economy will not be taken by the new administration or any new congress. Any changes in the Peruvian economy or the Peruvian government’s economic policies may have a negative effect on our business, financial condition, and results of operations. Changes in economic or other policies by the Peruvian government or other political developments in Peru could adversely affect the business, financial condition, and results of operations of our subsidiaries.

With respect to Chile, for the year ended December 31, 2024, revenues derived from our consolidated subsidiaries in this country represented 2% of our total revenues. In 2019, following social unrest and protests, the Chilean government called for a constitutional assembly to reform the Chilean constitution. In May 2021, the Chilean government established a constitutional assembly to write a new constitution, which was rejected by 61.86% of the votes cast on a referendum that took place on September 4, 2022. On January 17, 2023, Law No. 21,533 was published in the Official Gazette of Chile, setting forth the procedure for the drafting and approval of the new Constitution. Law No. 21,533 contains 12 fundamental principles and criteria for the drafting of the potential new Constitution. It also provides for an experts' commission (the "Experts' Commission") of 24 members that were appointed by the Chilean Congress, in proportion to the current political forces and parties represented in Congress, which was in charge of preparing a pre-draft of a constitutional text. This pre-draft is under discussion of the constitutional council (*Consejo Constitucional*) elected on May 7, 2023 (the "Constitutional Council"). On October 30, 2023, the Constitutional Council approved the draft of the new constitution and delivered it to President Gabriel Boric on November 7, 2023. On December 17, 2023, a new referendum on the approval or rejection of the draft constitution proposed by the Constitutional Council took place, with 55.76% of voters rejecting the new constitution and 44.24% approving it. Given that the proposed draft was rejected, the current constitution remains in effect. Additionally, the Chilean government announced that the process for the promulgation of a new constitution was closed and no initiatives on this matter would be proposed during the current presidential term, which ends on March 11, 2026. The election for regional governors took place on October 26 and 27, 2024. With the exception of Tarapacá, Ñuble, Los Ríos, Aysén and Magallanes, where the candidates were elected on their respective first round, a second-round election was held on November 24, 2024 between the two candidates with the highest number of votes. The results of the regional governor elections held on October 26 and 27, and November 24, 2024, show a political landscape shift in Chile. The ruling center-left political alliance, "*Por Chile y sus Regiones*," secured victory in seven governorships, reaffirming its position as the dominant political party. Moreover, the center-right coalition "*Chile Vamos*," which won six governorships, showed a notable strengthening of its regional influence, too. Additionally, independent candidates secured two governorships, while the "*Tu Región Radical*" movement claimed one, bringing the total to sixteen regional administrations. We cannot predict what policies will be adopted by Mr. Boric's government and whether those policies would have a negative impact on the Chilean economy or our industry sector in Chile or our Chilean subsidiaries' business and financial performance.

We cannot provide any assurances that political or social developments in Colombia, Peru, Brazil, or Chile over which we have no control, will not have an adverse effect on our respective economic situations and will not adversely affect the business, financial condition and results of operations of our consolidated subsidiaries and their ability to pay dividends or make other distributions to us. This could have a material adverse effect on our business, results of operations, financial condition.

With respect to United States of America, for the year ended December 31, 2024, revenues derived from our consolidated subsidiaries in this country represented 20% of our total revenues. On April 2, 2025, U.S. President Donald J. Trump announced new tariffs on imports into the United States of America. These tariffs include a "baseline" tariff of 10% on imports from many countries, including Colombia. The imposition of these tariffs may have significant adverse effects on global trade, which could have a material adverse effect on Colombia's economy, trade balance, and key industries. A significant portion of Colombia's exports are directed to the United States of America, making it vulnerable to changes in U.S. trade policy. Higher tariffs could reduce demand for Colombia's goods in the United States of America, disrupt supply chains, and lead to job losses in affected industries. Additionally, retaliatory measures by other nations could exacerbate economic uncertainty, impacting investor confidence and foreign direct investment, and countries facing even higher tariff rates could decide to sell excess products into the Colombian market, adversely affecting Colombian producers. The tariffs may also contribute to global trade tensions and volatility in currency markets, which could put pressure on exchange rates and inflation. If Colombia is unable to negotiate exemptions or mitigate the effects through alternative trade agreements, these factors could have a material adverse impact on Colombia's economic growth and fiscal stability. These developments could have a material adverse effect on our business, financial condition, or results of operations in Colombia.

Our business operations and financial condition could be negatively affected by pandemic or epidemic diseases and other health events.

Pandemic diseases and other health events, have the potential to negatively impact economic activities in many countries, including those in which we operate or have trade links, with consequent adverse effects on our customers and business by causing changes in the demand for energy, the movement of people and availability of services and our ability to address such future conditions, could again disrupt our business and operations.

As the potential impact of a new pandemic or other diseases is difficult to predict, the extent of the impact on our business and financial results will ultimately depend largely on future developments, including the duration, characteristics of the new outbreak (e.g., new diseases, new variants of the virus, capacity for infection and transmission, treatment developments and vaccination coverage), the impact on capital and financial markets and the related impact on consumer confidence and spending, and the actions taken by authorities to contain it, all of which are highly uncertain and cannot be accurately predicted.

The Colombian Government could seize or expropriate our assets under certain circumstances for fair compensation.

Pursuant to Articles 58 and 59 of the Colombian constitution, the Government can exercise its eminent domain powers in respect of private property assets in the event such action is deemed by the Government to be required in order to protect public interests. According to Law 388 of 1997, eminent domain powers may be exercised through: (i) an ordinary expropriation proceeding, or (ii) an administrative expropriation. In all cases we would be entitled to a fair compensation for the expropriated assets. Also, as a general rule, compensation must be paid before the asset is effectively expropriated. However, the compensation may be lower than the price for which the expropriated asset could be sold in a free-market sale or the value of the asset as part of an ongoing business. The aforementioned Article 59 of the Colombian constitution establishes a temporary expropriation for war reasons, which does not require that compensation be paid before expropriation.

Colombia has experienced internal security issues that have had or could have a negative effect on the Colombian economy and on us.

Colombia has experienced internal security issues, primarily due to the activities of guerrillas, paramilitary groups, drug cartels and organized armed groups known as GAOs. From time to time, guerrillas target crude oil and multi-purpose pipelines, including the Transandino Pipeline, Caño Limón - Coveñas and Oleoducto Bicentenario pipelines, and other related infrastructure disrupting our activities and those of our business partners.

During 2024, the attacks against our pipeline infrastructure increased by 5.3% in relation to 2023 (41 attacks in 2024 compared to 39 attacks in 2023). Nonetheless, the attacks especially affected infrastructure located in the Norte de Santander, Santander, Arauca, and Nariño departments, and the Caño Limón – Coveñas and Transandino pipelines. As a result, there was a deferred production of 114,505 barrels directly related to these attacks in 2024, as compared to 56,378 barrels in 2023. As of March 14th, 2025, nine attacks against our pipeline infrastructure have been identified.

Terrorist attacks have resulted in unscheduled shutdowns of our transportation systems to repair or replace sections of pipelines that have been damaged, with deferral of production in certain fields, as well as caused us to undertake environmental remediation. In respect of the pipeline infrastructure, the direct cost of repairs due to terrorist attacks in 2024 was approximately COP 325,189.26 million (USD 73.75 million using a COP 4,409.15/1.00 US exchange rate as of December 31, 2024).

During 2024, we also experienced 2 attacks to our production infrastructure in Santander, specifically on Meta and Santander on: flow line of the Castilla-2 well and 12" Line of the OLC – GRB Pipeline respectively. As a result, there was a deferred production of 1,021.33 barrels directly related to these attacks in 2024, as compared to 582 barrels in 2023. In respect of the production infrastructure, the direct cost of repairs due to guerrilla attacks in 2024 was approximately COP 193.706.399,0 (USD 43.9 million using a COP 4,409.15/1.00 USD exchange rate as of December 31, 2024).

Likewise, the theft of refined products and crude oil, as a result of security issues, may impact our operating and financial results in the future, as well as our reputation, due to the potential use of these products within the alkaloid chain production and the possible impact to communities and the environment, derived from this illegal practice. As a result, and as part of the strategy against the theft of crude oil, as of November 2023, Ecopetrol Group (EG) deployed an operational adjustment to transport south crude production through Ecuador pipelines while keeping Transandino System in contingency mode. Associated with the above, the theft of crude oil has decreased from approximately 3,552 bpd in 2023 to 1,483 bpd in 2024. Crude oil theft is directly related to illicit activities, such as those relating to illegal crops, mining and smuggling, as well as the presence of guerrilla dissidents and other illegal groups in the areas of influence of the main crude transportation systems, such as Caño Limón – Coveñas System (Catatumbo and Norte de Santander) and the Transandino System (Tumaco and Nariño). Furthermore, the theft of refined products is mainly related to the presence of common crime that illegally markets these products, presenting losses of approximately 179 bpd and 58.42 bpd in the years ended December 31, 2024 and 2023, respectively.

In recent years, social protests have resulted in blockades of the country's main roads and isolated incidents against certain of our infrastructure, which in turn has momentarily adversely affected the operations of our upstream, midstream, and downstream and sales and marketing segments, leading to decreases in our crude oil and refined products production and transported volumes.

These activities and their possible escalation and the effects associated with them have had, and may have in the future, a negative impact on the Colombian economy or on us, which may affect our customers, employees, assets, or the environment, with resulting containment, clean-up and repair expenses.

Despite the current government's announcement of a bilateral ceasefire with some armed groups, non-conformism may arise in the process of these dialogues spoken out through illegal and terrorist activities.

The dynamics of security in Colombia in 2024 were characterized by processes and public order situations led primarily by the ELN and the FARC dissidents or Estado Mayor Central (EMC). The six-month extension of the bilateral ceasefire between the Colombian Government and the ELN in February 2024 was initially met with optimism, particularly in conflict-stricken areas such as Arauca, Chocó, Cauca and Norte de Santander. This agreement offered temporary relief to affected communities, facilitated humanitarian access in critical zones, and reinforced the government's commitment to negotiated solutions. However, challenges in verification and mutual distrust jeopardized its implementation, underlining the need for improved monitoring mechanisms. The ceasefire, initiated on August 3, 2023, ultimately lapsed on August 3, 2024, without renewal, sparking uncertainty and rising tensions in regions like Arauca and Norte de Santander. The cessation of the agreement led to a resurgence of violence, including a wave of terrorist attacks targeting oil infrastructure and security forces, exacerbating instability. A significant blow to the process occurred when the ELN's Domingo Laín Sáenz Front carried out an attack, killing two soldiers on September 17, which prompted the government to suspend negotiations, reflecting its zero-tolerance stance toward violence during peace talks. The event further eroded trust, reignited violence in vulnerable regions, and diminished prospects for regional stability.

In 2024, the peace process with the Estado Mayor Central (EMC) of the FARC dissidents faced considerable challenges, such as intensified violence in areas like Catatumbo. This group is not currently engaged in dialogue with the government. Driven by clashes between the EMC and ELN, which have caused numerous casualties and mass displacement, undermining public confidence in the peace talks process. Despite these setbacks, the EMC peace process aimed to promote territorial transformation by strengthening state presence, advancing economic development, and addressing social disparities in Catatumbo Norte de Santander. Plans included reintegrating ex-combatants, providing essential services such as health and education, and supporting sustainable economic projects to replace illicit economies. The success of these initiatives depends on political will, the fulfillment of agreements, and governmental capacity to ensure security and economic alternatives.

At the beginning of 2025, security conditions deteriorated significantly due to numerous clashes between the ELN and dissident factions of the FARC in the Catatumbo region. These confrontations, driven by ideological differences and territorial disputes, created a severe crisis affecting both security and humanitarian conditions, with the municipality of Tibú, in Norte de Santander, being one of the most impacted areas.

The persistent confrontations between armed groups and the government have further intensified instability in the country, directly affecting Ecopetrol's operations in regions such as Arauca and Norte de Santander. These areas have witnessed most terrorist acts carried out by these groups, posing serious risks to both the safety of the employees, contractor's employees and the Company's infrastructure. As a result, Ecopetrol's operations are frequently disrupted by the volatile security environment.

Government decisions and security dynamics in those regions are the key factors that impact stability in the areas where Ecopetrol operates. For this reason, the Company must maintain constant communication with security state organizations, such as the Colombian army, and the National Police Force; however, despite these efforts, we cannot ensure the safe development of our operations.

Regional and global events may have an impact on Colombia's social, economic and political situation as well as on us and our operations.

Regional and global events, such as humanitarian crises, conflicts and natural disasters, may have an impact on Colombia's social, economic and political situation as well as on us and our operations. In addition, borders with some of Colombia's neighboring countries have been, may remain or be in the future shut down or restricted, affecting the economy and migration patterns in towns and cities close to such borders and commerce with those countries. We cannot make any assurances that such events will not negatively impact Colombia's social, economic and political situation, nor on our company and its operations.

We are subject to the prevailing economic conditions and investment climate in Colombia, which may be less stable than those in developed countries.

Market prices of securities issued by Colombian companies, including us, are subject to the prevailing economic conditions in Colombia. A large portion of our assets and operations are located in Colombia and most of our sales are currently derived from our local crude oil and natural gas production and the production of our refineries located in Colombia. Accordingly, our financial condition and results of operations depend on a significant extent on macroeconomic and political and regulatory conditions prevailing from time to time in Colombia and on the exchange rates between the Colombian Peso and the U.S. dollar.

If the perception of improved overall security in Colombia deteriorates or if the investment climate worsens, the Colombian economy may face lower growth rates than the ones posted recently, which could negatively affect our financial condition and results of operations.

Furthermore, the market price of our shares and American Depositary Shares, or ADSs, may be adversely affected by changes in governmental policies, particularly those affecting economic growth, exchange rates, interest rates, inflation, and taxes. Furthermore, the proposed bill for pension reform may affect the assets under management of private funds, which could affect the market of our shares. The Government has changed monetary, fiscal, taxation, labor and other policies over time and has thus influenced the performance of the Colombian economy. We have no control over the extent and timing of changes in these variables or government intervention and policies.

5.2.3 Legal and Regulatory Risks

This section discusses potential legal and regulatory risks to us, including the risk of having to comply with new laws and regulations.

Our operations are subject to extensive regulation, which is subject to change from time to time by the applicable regulatory authorities.

The Colombian hydrocarbons industry is subject to extensive regulation and supervision by the Government and regulatory agencies in matters including the award of exploration and production blocks by the ANH, the imposition of specific drilling and exploration obligations, restrictions on production, price controls, capital expenditures, liquidation of the Net Position of each refiner or importer with respect to the FEPC and required divestments. Existing regulation applies to virtually all aspects of our operations in Colombia and abroad. The commercialization activities of some of our products also face extensive regulation. Such regulation is subject to change by the applicable regulator affecting our ability to commercialize our products. See section Business Overview—Applicable Laws and Regulations. In particular, under Decree 1068 of 2015, as amended by Decree 1451 of 2018, the Ministry of Mines and Energy is required to calculate and liquidate each refiner and/or importer of fuel's participation differential (i.e., this arises when the International Parity Price is lower than the reference price established by the Ministry of Mines and Energy, leading to a "Net Position" every three months to be paid by the FEPC). Accordingly, Ecopetrol S.A. and Cartagena Refinery rely on the FEPC settling their respective Net Position each year in connection with amounts due to them from FEPC. As of December 31, 2024, Ecopetrol S.A. recorded COP 5.96 trillion in accounts receivable due from FEPC and Cartagena Refinery recorded COP 1.66 trillion in accounts receivable due from FEPC. We cannot offer any assurance as to when or if Ecopetrol S.A.'s or Cartagena Refinery's Net Position will be settled by FEPC and such amounts will be paid. If their respective Net Position is not settled, the Ecopetrol Group's consolidated financial statements and results of operations could be adversely impacted. See section Business Overview—Applicable Laws and Regulations—Regulation of Refining and Petrochemical Activities—Regulation Concerning Production and Prices—Fuel Price Stabilization Fund (FEPC).

The terms and conditions of the agreements with the ANH under which we explore and produce crude oil and natural gas generally reflect negotiations with the ANH and other governmental authorities and may vary by fields, basins and hydrocarbons discovered. We are required, as are all oil companies undertaking exploratory and production activities in Colombia, to pay a percentage of our production to the Government as royalties. The Colombian Congress has modified the royalty program for crude oil and natural gas production several times in the last 20 years, as it has modified the regime regulating new contracts entered into with the Government. In the future, the Colombian Congress may once again amend royalty payment levels and such changes could have an adverse effect on our future exploration and production in Colombia. See section Business Overview—Applicable Laws and Regulations—Regulation of Exploration and Production Activities—Business Regulation—Royalties for a description of the current royalty scheme.

Our operations in Colombia are subject to extensive national, state, and local environmental regulations. Environmental rules and regulations are applicable to our exploration, production, refining, transportation, supply, and marketing activities, as well as the biofuels we produce. These regulations establish, among other things, quality standards for hydrocarbon products, air emissions and greenhouse gases, water discharges and waste disposal, soil remediation, water pollution and the general storage, handling, transportation, and treatment of hydrocarbons in Colombia. Currently, all exploratory drilling projects in areas that do not yet have a license must undergo an environmental impact assessment and must receive an environmental license from the governmental agency responsible for awarding environmental licenses, the ANLA. Environmental authorities with jurisdiction over our activities routinely inspect our crude oil fields, refineries, and other production sites, and they may decide to open investigations or sanction proceedings, which may result in the imposition of fines, restrictions on operations or other sanctions in connection with potential non-compliance with environmental laws.

We are also subject to control and monitoring by the regional autonomous corporations (CAR for its acronym in Spanish), which are regional environmental authorities that grant permits for the use and exploitation of natural resources in areas or fields that have an Environmental Management Plan (PMA for its acronym in Spanish), in the same way they establish compensation measures for the use of these resources and perform monitoring, control, and impose sanctions as result of investigations.

If we fail to comply with any of these national or regional environmental regulations, we could be subject to administrative and criminal penalties, including warnings, fines, or closure orders of our facilities. Any such criminal penalty would be imposed on the legal representatives of the Company, including any legal representative, director or worker who participated or failed to take action related to the activities that lead to environmental damage. See section *Business Overview—Applicable Laws and Regulations—Regulation of Exploration and Production Activities—Business Regulation—Environmental Licensing and Consultations*.

Some of the companies in the business group perform exploratory activities outside of Colombian territory. As such, those companies are subject to foreign environmental regulations for the exploratory activities conducted by the business group outside of Colombia. Failure to comply with foreign environmental regulations may result in investigations by foreign regulators, which could lead to fines, warnings or temporary suspensions of our operations, which could have a negative impact in the consolidated financial statements and results of operations of the Ecopetrol Group.

In addition, the companies of the Ecopetrol Group conducting upstream activities outside Colombia may be subject to foreign health, safety, and environmental regulations. Foreign health and safety regulations may be more severe than those established under Colombian law and, therefore, we may be required to make additional investments to comply with those regulations.

Furthermore, our electric power transmission and toll roads concessions segment, carried on by ISA and its subsidiaries are heavily regulated in Colombia, Brazil, Peru and Chile by government ministries and authorities, as well as various other national, state, and local regulatory agencies. Regulatory actions taken by those agencies and, in particular, tariff reviews and revised compensation terms of transmission investments, could materially adversely affect the profitability of these businesses. In addition, increased regulatory requirements relating to the integrity of our facilities or the quality of the services provided by ISA and its subsidiaries may require additional spending in order to maintain compliance with these requirements.

We are subject to a broad range of environmental laws, which require us to incur ongoing costs and capital expenditures and expose us to substantial liabilities in the event of non-compliance. These laws and regulations require us to, among other things, minimize natural and socio-environmental risks, while maintaining the quality, safety, and efficiency of our facilities. These laws and regulations also require us to obtain and maintain environmental permits, licenses, and approvals for the operation of our business, which can lead to cost overruns or to changes in our investment plans. Some of these permits, licenses and approvals are subject to periodic renewal. Government environmental agencies could take enforcement actions against us for any failure to comply with applicable laws and regulations. Such enforcement actions could include, among other things, the imposition of fines, revocation of licenses, suspension of operations or imposition of criminal liability for non-compliance.

Environmental laws and regulations can also impose strict liability for the environmental remediation of spills and discharges of hazardous materials and waste and require us to indemnify or reimburse third parties for environmental damages. We cannot assure that we will obtain approval for any future projects, or that existing approvals, authorizations, licenses, and permits will not be questioned, revoked or otherwise suspended due to any alleged non-compliance or legal action. Environmental regulation has become more stringent in the countries where we operate in recent years. As a result, our operating costs have increased to comply with these new technical environmental requirements as well as the need to strengthen our specialized team in charge of environmental compliance in project and operations. If environmental laws continue to impose additional costs on us, we may need to reduce our investments on strategic projects to allocate funds to environmental compliance, delaying projects or having an adverse effect on our results of operations and financial condition. Moreover, more stringent environmental protection programs in the countries or industries where we operate could impose constraints and additional costs on our operations and require us to make significant capital expenditures in the future. We cannot assure that future legislative, regulatory, international law, industry, trade, or other developments will not have a material adverse effect on our business, properties, results of operations, financial condition or prospects.

Finally, under certain of our credit agreements, we are under an obligation to comply with international environmental standards established by our lenders or by multilateral institutions. Failure to comply with such environmental standards could result in an event of default under the relevant credit agreements that we, or our subsidiaries, have entered into, which would affect our financial condition.

More stringent environmental regulation may lead to increased expenses or reduced demand for our products, as well as affect timely permits.

In terms of climate change, the Colombian Government enacted the Climate Action Law (Law 2169) in 2021 which advances Colombia's focus on strengthening its strategy and actions against climate change, when considering the initiatives being taken at a global level. The Carbon Neutrality Colombian Strategy launched in April 2021 by the Ministry of Environment and Sustainable Development reaffirmed its commitment to these initiatives and accelerated Colombia's goal to reduce GHG emissions to reach carbon neutrality by 2050. In 2023, the Ministry of Energy and Mines issued guidelines for the formulation of the Comprehensive Corporate Climate Change Plan, which seeks to advance the identification, definition, implementation and monitoring of initiatives or measures for climate change management associated with (i) the reduction of greenhouse gas (GHG) emissions, (ii) the reduction and management of climate risks, and (iii) internal governance actions. This regulatory framework may establish new requirements at the operational level that seek to accelerate the reduction of GHG emissions such as methane, reduction of fugitive emissions and venting, reduction of flaring, and the implementation of specific actions in adaptation to climate change, which may be reflected in the increase of operating and production costs. In order to anticipate these changes, we participate in different spaces of discussion and regulatory construction to prepare and respond to these requirements and not be affected by the fulfillment of our climate objectives. However, we cannot make any assurances that we will be able to achieve our goals or those set out in government climate change and sustainability initiatives (e.g., proposed Colombian Climate Action Law, carbon tax, carbon offsets, among others) or meet other stakeholders' expectations with respect to such requirements, or that we will be able to apply reliable and cost-effective green alternatives. If we are unable to reach our carbon neutrality goals or governments' or other stakeholders' expectations with respect to such goals, our energy diversification portfolio and strategic priorities would be adversely impacted and could lead to increased expenses related to low-carbon initiatives and reduced demand for our core products.

We may not be able to keep pace with changing environmental requirements related to impacts to Colombia's biodiversity and nature.

As we operate in a country that is recognized as a megadiverse territory where complexity, fragility, and biological diversity are interwoven with a rich history and a dynamic and complex social, economic, and political landscape, and where the government looks to businesses to participate in the country's sustainability development goals implementation, we may not be able to adequately adapt and align our technology capabilities and strategy (e.g., Nature Based Solutions, Big Data Analytics, Remote Sensing, Robotics and Drones, Artificial Intelligence) to effectively enable, assess, and report on the reduction of its impact to Colombia's biodiversity and nature (e.g., contamination, habitat loss, deforestation, and GHG emissions), considering the increase in Colombian sustainable development commitments leading to increased regulatory scrutiny and impacting our strategic efforts and operations for minimizing its impacts to relevant ecosystems.

In 2024, Ecopetrol introduced the Taskforce on Nature-related Financial Disclosures (TNFD) recommendations framework, in which it actively participates as member. This engagement has allowed us to better identify environmental impacts and dependencies related to nature while effectively managing the associated risks and opportunities.

Our operations might be affected by rising climate change and energy transition regulatory developments.

The increase in global temperature due to the substantial increase of GHG is a concern worldwide. The Paris Agreement calls for immediate and forceful actions to be taken to limit the increase of global temperature below 1.5°C. In response, government agendas have increasingly been defining normative and regulatory frameworks that determine local actions related to climate change.

As a result, companies are increasingly subject to regulatory risks and public policy changes related to climate change. In Colombia, the climate change regulatory framework has developed substantially, defining goals, measures, and means of implementation that bind companies. In 2021, the Climate Action Law (Law 2169 amended by Law 2294 of 2023) was issued, which promotes the low-carbon development of the country through establishing goals and measures related to carbon neutrality and climate resilience. This law is aligned with the country's NDCs (51% GHG reduction by 2030) and its Long-Term Climate Strategy (E2050). The above is binding for Ecopetrol, among other aspects in: (i) mandatory reporting of GHG, (ii) National Registry of GHG Emissions Reduction and Removal, and (iii) low carbon development, carbon neutrality, and climate resilience implementation and monitoring plan. This regulation will be under continuous review by Ecopetrol to mitigate the potential financial effects and the impact on the company's climate goals. To this end, the company has developed a decarbonization roadmap to achieve medium and long-term goals. However, developments and new regulations could affect the fulfillment of company's climate goals, increasing costs and negatively impacting financial and operational results.

Moreover, in 2022, the Energy Transition Policy (CONPES 4075), which promotes strategies for sustainable economic development, was issued. The Government also issued a regulation associated with fugitive emissions and venting and routine flaring (Resolution 40066 of 2022). To this end, the Company has been making progress in improving activities to detect and measure these emissions in the different operating areas, through top-down and bottom-up technologies, and in closing these leaks. However, the implementation and enforcement of these regulations could generate additional costs for the company. These regulations will be under continuous review by Ecopetrol; however, we cannot assure that the Company is able to mitigate the potential financial effects and the impact on the Company's climate goals.

New or higher taxes resulting from changes in tax regulations or the interpretation thereof in Colombia could adversely affect our results of operations and financial condition.

New tax laws and regulations, and uncertainties in the interpretation with respect to existing and future tax policies pose risks to us. In recent years, the Colombian Congress and tax authorities have enacted modifications to taxes related to financial transactions, income, value added tax (VAT), and taxes on net worth. In December 2019, Congress passed Law 2101 called "*Ley de Crecimiento Económico*" or "Economic Growth Law", which largely maintains the changes of the previous tax reform (Law 1943 of 2018) along with some changes to tax legislation. On September 14, 2021, the Colombian Congress enacted a tax reform called "*Ley de Inversión Social*" or "Social Investment Law", which became effective as of January 1, 2022. This law increased the tax rate from 30% to 35%, which generated in Ecopetrol a deferred tax income of COP 306,312 million, recognized in the financial statements for the fiscal year ended 2021.

On December 13, 2022, the Colombian Congress enacted a tax reform (Law 2272 of 2022) effective from January 1, 2023. The tax reform includes, among others: (i) a new permanent equity tax applicable to Colombian individuals and non-residents, at rates ranging from 0.5% to 1.5% based on the level of net equity at January 1st every year, (ii) an increase in the dividend tax rate for local and foreign shareholders (0% to 39% progressive marginal rates for Colombian individuals, and 20% flat withholding for non-resident shareholders), (iii) an increase in the long-term capital gains tax rate (increasing from 10% to 15%); (iv) the elimination of specific tax benefits and exemptions, (v) a minimum corporate income tax based on effective tax rate (effective rate calculated on book profit should be at least 15%, considering certain adjustments to accounting profits and certain exempted companies), (vi) the application of taxes based on significant economic presence (primarily for non-resident persons and entities that provide digital services, but including other services and commercial activities) that took effect on January 1, 2024, (vii) the elimination of the ability to claim 50% of the Industry and Commerce Tax as an income tax credit, (viii) an income tax surcharge for companies engaged in the extraction of crude oil and coal of 0%, 5%, 10% or 15% and, based on international prices. For fiscal year 2023, the surtax of 5%, 10% or 15% applied when the Brent price reaches USD 66.36, USD 74.20 and USD 80.73, respectively, according to ANH Resolution No. 0061 of January 31, 2024 (revenues from the sale of natural gas are not subject to this surtax). For fiscal year 2023, the surtax applied was 10%, (ix) the introduction of a minimum tax based on effective tax rate determined on accounting profits, (x) non-deductibility of royalties. However, the Colombian Constitutional Court ruled that the limitation rule is unconstitutional, thus, not applicable. In a final effort to mitigate the effect of this ruling on the public finances, the Ministry of Mines and Energy and the Ministry of Finance and Public Credit requested the review of the ruling to the Constitutional Court in December of 2023, alleging a fiscal impact and nullity, respectively. In March 2024, the Constitutional Court rejected the request for nullity filed by the Ministry of Mines and Energy. The Constitutional Court rejected the fiscal impact claim filed by the Minister of Finance and Public Credit, stating that the arguments presented did not meet the constitutional threshold.

On February 14, 2025, the Colombian Government issued Decree 175 of 2025, which temporarily reinstated the stamp tax at a rate of 1% on public and private documents exceeding certain amounts, except for specific exemptions provided by law.

For a description of taxes affecting our results of operations and financial condition in 2024, see section *Financial Review—Effect of Taxes, Exchange Rate Variation, Inflation and the Price of Oil on Our Results—Taxes*. Changes in tax-related laws and regulations, and interpretations thereof, can affect tax burdens by increasing tax rates and fees, creating new taxes, limiting tax deductions, and eliminating tax-based incentives and untaxed income. In addition, tax authorities and tax courts may interpret tax regulations differently than we do, which could result in tax litigation and associated costs and penalties.

In relation to income tax applicable to our shareholders, until 2016, for Colombian income tax purposes, dividends that were distributed from profits taxed at the corporate level were not taxed or subject to withholding tax at the shareholder level. However, beginning in 2017, the regulation changed so that dividends paid to non-resident shareholders are subject to a withholding tax. For further detail and a description of such changes, see section *Financial Review—Effect of Taxes, Exchange Rate Variation, Inflation and the Price of Oil on our Results – Taxes*. Further changes to Colombian tax laws may subject us and our shareholders to higher taxes and could adversely affect our results of operations and financial condition.

We may incur losses and spend time and money defending pending lawsuits and arbitrations and responding to administrative investigations.

We are currently a party to several legal proceedings filed against us. We are also subject to labor-related lawsuits filed by current and former employees in connection with pension plans and retirement benefits. As of December 31, 2024, Ecopetrol S.A. was a party to 7,730 legal proceedings relating to civil, criminal, administrative, environmental, tax, constitutional, arbitration and labor claims, of which 5,435 were filed against us in the Colombian courts and arbitration tribunals and of which 388 had an accrual provision. We allocate substantial amounts of money and time to defend against these claims, in which the claimants often seek substantial sums of money as well as other remedies. See Note 22 to our consolidated financial statements and see section *Risk Review—Legal Proceedings and Related Matters*. In addition, in accordance with Colombian law, we and our employees are subject to surveillance and investigations by certain administrative control entities in Colombia, which are intended to determine whether public funds have been misused, mismanaged, or misappropriated or whether they have been used in compliance with applicable law. Such investigations may divert the attention of management and subject the Company to reputational risk and increase difficulties in retaining talent. See section *Risk Review—Legal Proceedings and Related Matters*.

5.2.4 *Risks Related to Our ADSs*

This section discusses potential risks associated with an investment in our American Depositary Shares (as opposed to our common shares) by investors outside Colombia.

Holders of our ADSs may encounter difficulties in protecting their interests.

Holders of our ADSs do not have the same voting rights as holders of our common shares. As set forth in the amended and restated deposit agreement, dated January 12, 2018 (as amended on December 30, 2021), among Ecopetrol S.A., JP Morgan Chase Bank, N.A., as depositary (the Depositary), and all holders from time to time of our American Depositary Receipts (as amended and restated, the “Deposit Agreement”), holders of our ADSs may instruct the Depositary, to vote on shareholder matters prior to a shareholders’ meeting.

Colombian law is not clear about the need to request proxies from existing shareholders. Thus, holders of our ADSs may not become aware of some matters in time to instruct the Depositary to vote their shares.

The Deposit Agreement provides holders of our ADSs with the right to instruct the Depositary to vote common shares separately. Pursuant to certain regulations and opinions issued by Financial Superintendence of Colombia, it is currently understood that the depositary may vote common shares of a Colombian corporation in an American Depositary Receipt, or ADR, program separately. Notwithstanding this, if new opinions or regulations are issued which prevent either the custodian or the Depositary to vote the common shares (including the right to receive common shares in the form of ADRs) deposited under the Deposit Agreement and any other securities, cash or property from time to time held by the Depositary in respect or in lieu of deposited common shares (the “Deposited Securities”) separately, all such Deposited Securities shall be voted based on the majority vote of the voting instructions timely received from holders of ADRs. In the case of such single block voting, all holders of ADRs, including holders of ADRs for which no voting instructions are timely received and holders of ADRs with voting instructions contrary to the voting instructions of a majority of the Deposited Securities timely received, should be aware that the Deposited Securities shall all be voted as a single block and that the voting instructions of such holders of ADRs will be deemed given in the manner stated above.

The Depositary will not itself exercise any voting discretion in respect of any Deposited Securities. The holders of our ADRs will be solely responsible for any exercise of the voting rights of the Deposited Securities represented by the ADRs if such vote is made pursuant to the procedures described in the Deposit Agreement. Holders of ADRs are strongly encouraged to forward their voting instructions as soon as possible as voting instructions will not be deemed received until such time as the ADR department responsible for proxies and voting has received such instructions, notwithstanding that such instructions may have been physically received by the Depositary, prior to such time.

In the future, the Colombian regulatory authorities may clarify their interpretation as to how the voting rights should be exercised by holders of our ADSs, and such possible interpretation could adversely affect the value of the common shares and ADSs.

Our ADS holders may be subject to regulations on foreign investment in Colombia.

Colombia’s International Investment Statute (the set of rules and regulations which govern the international investment and the foreign exchange regime, which include Decree 1068 of 2015, Resolution 1 of 2018 and External Circular DCIP83 issued by the Colombian Central Bank among others), regulates the manner in which non-Colombian residents can invest in Colombia and participate in the Colombian securities market. Among other requirements, Colombian law requires foreign investors to register certain foreign exchange transactions with the Colombian Central Bank and outlines the necessary procedures to authorize certain types of foreign investments. Colombian law requires that certain foreign exchange transactions, including international investment in foreign currency between Colombian residents and non-Colombian residents, must be made through the foreign exchange market, either through authorized intermediaries for the foreign exchange market or compensation accounts, which are regular bank accounts held abroad by Colombian residents and registered with the Colombian Central Bank. Any income or expenses under our ADR program must be made through the foreign exchange market.

Investors acquiring our ADRs are not required to register with the Colombian Central Bank directly, as they will benefit from the registration to be obtained by the custodian for our common shares underlying the ADRs in Colombia. If foreign investors in ADRs choose to surrender their ADRs and withdraw common shares, they must register their investment with the Colombian Central Bank in the common shares as a portfolio investment through their local representative, which may be a brokerage firm, trust company or investment management companies supervised by the Financial Superintendence of Colombia. Foreign investors will only be allowed to transfer dividends abroad after their foreign investment registration procedure with the Colombian Central Bank has been completed. Investors withdrawing common shares could incur expenses and/or suffer delays in the application process. The failure of an investor to report or register foreign exchange transactions with the Colombian Central Bank on a timely basis may prevent the investor from remitting dividends abroad or result in the initiation of an investigation and in the imposition of fines.

Colombian residents who acquire ADRs and either receive profits from this investment, surrender their ADRs or liquidate their investment in ADRs, must register their investment by means of the procedures set forth in section 7.4.1. and 7.4.2. of the External Regulation of the Circular DCIP-83 of the Colombian Central Bank.

The Colombian Government, the Colombian Congress, or the Colombian Central Bank may amend Colombia's International Investment Statute or the foreign exchange regime, which could result in more restrictive rules and could negatively affect trading of our ADSs or any transfer of currencies from Colombia to other countries or vice versa.

Colombia currently has a free convertibility system. If a more restrictive convertibility system is implemented, the Depositary may experience difficulties when converting Colombian Peso amounts into U.S. dollars to remit dividend payments. Also, currently Colombia has a floating exchange rate system that might be subject to change in the future. See section [Shareholder Information—Exchange Controls and Limitations](#).

Holders of our ADSs may not be able to effect service of process on us, our directors, or executive officers within the United States, which may limit your recovery in any foreign judgment you obtain against us.

We are a mixed economy company organized under the laws of Colombia. In addition, most of the members of our Board of Directors (Directors) and executive officers reside outside the United States. All or a substantial portion of our assets and the assets of these persons are located outside of the United States. As a result, it may not be possible for ADSs holders to effect service of process within the United States upon us or these persons or to enforce judgments against us or them in U.S. courts obtained in such courts predicated upon the civil liability provisions of the U.S. federal securities laws. Colombian courts determine whether to enforce a U.S. judgment predicated on the U.S. securities laws through a procedural system known as exequatur. For a description of these limitations, see section [Shareholder Information—Enforcement of Civil Liabilities](#).

The protections afforded to minority shareholders in Colombia are different from those in the United States and may be difficult to enforce.

Under Colombian law, the protections afforded to minority shareholders are different from those in the United States. In particular, while regulation provides, among others, the possibility of initiating class actions against issuers such as Ecopetrol, the legal framework with respect to shareholder disputes is substantially different under Colombian law than U.S. law and there are different procedural requirements for commencing shareholder lawsuits, such as shareholder derivative suits. As a result, it may be more difficult for our minority shareholders to enforce their rights against us or our Directors or controlling shareholder than it would be for shareholders of a U.S. company.

ADRs do not have the same tax treatment as other equity investments in Colombia.

Although ADRs represent Ecopetrol S.A.'s common shares, for Colombian tax purposes, ADRs are securities different from their underlying assets. Therefore, ADR holders are not entitled to the tax treatment granted to holders of the common shares. Such tax treatment includes, among others, benefits relating to dividends and to profits derived from sale of Colombian common shares. For further information, see section [Shareholder Information—Taxation—Colombian Tax Considerations](#).

Judgments of Colombian courts with respect to our ADSs will be payable only in Colombian Pesos.

If proceedings are brought in the courts of Colombia seeking to enforce the rights of ADS holders of common shares, we will be required to discharge our obligation amounts in Colombian Pesos. Colombian law provides that an obligation in Colombia to pay amounts denominated in foreign currency may only be satisfied in Colombian currency at the Representative Market Exchange Rate of the date the judgment is rendered, and such amounts are then adjusted to reflect exchange rate variations through the effective payment date.

The relative volatility and illiquidity of the Colombian securities markets may substantially limit our investors' ability to sell our ADSs at the price and time they desire.

Investing in securities that are traded in emerging markets, such as Colombia, often involves greater risk when compared to other world markets, and these investments are generally considered to be more speculative in nature. The Colombian securities market is substantially smaller, less liquid, more concentrated, can be more volatile, and subject to greater political, economic and market risk than other securities markets in the United States. As an example, in the past, the value of our shares has experienced sharp intra-day declines, as a result of political risk and the lost in value of the Colombian peso against the dollar. These conditions have triggered declines in our market capitalization and our removal from commonly followed indexes.

As of December 31, 2024, the Colombian Stock Exchange (*Bolsa de Valores de Colombia* or “BVC” for its acronym in Spanish) had a market capitalization of approximately COP 320,567,563 million (USD 73 billion using the rate as of December 30, 2024), and 4.27% increase when compared to the amount at the end of 2023 taking into account COP figures. By comparison, the New York Stock Exchange (the “NYSE”) had a market capitalization of USD 40 trillion as of December 31, 2024, and a daily trading volume of approximately USD 203 billion in 2024.

As of December 31, 2024, our shares represented the third highest market capitalization of the BVC accounting for 10.32% of the total MSCI COLCAP index. Measures taken by Ecopetrol in this regard include fulfilling issuer responsibilities through the publication of periodic and relevant information, holding meetings with investors/shareholders, and participating in initiatives/working groups aimed at boosting market liquidity. In November 2022, Ecopetrol was removed from the MSCI Colombia (USD) index due to market variables such as changes in the COP/USD exchange rate and our stock price, which adversely affect an increased market capitalization in U.S. dollars, and therefore affect our compliance with the Minimum Free Float Market Capitalization Requirement of such index. As of the date of this Annual Report, we cannot determine when we may try to be re-included in the MSCI Colombia (USD) index. Nevertheless, in 2024, Ecopetrol remained in the FTSE Emerging index, FTSE indices rank second after MSCI, with a combined share of 17.8% of total investments in referenced funds and 24.8% of investments in indexed funds.

Our subsidiaries listed on the Colombian Stock Exchange (“BVC” for its acronym in Spanish) such as ISA, are also exposed to these risks. As of December 31, 2024, ISA's shares accounting for 9.24% of the total MSCI COLCAP index.

Given the current ownership structure of our shares, it may be difficult for you to purchase large quantities of shares from a single shareholder. We cannot assure you that a liquid trading market for our ADSs will develop or, if developed, that it will be maintained. Without a liquid trading market coupled with the volatility of the Colombian securities market, the ability of investors in our ADSs to sell them at the desired price and time could be substantially limited.

We are not required to disclose as much information to investors as a U.S. issuer is required to disclose.

We are subject to the reporting requirements set by Law 964 of 2005, Decree 2555 of 2010, the SFC and the BVC. The corporate disclosure requirements that apply to us may not be equivalent to the disclosure requirements that apply to a U.S. issuer and, as a result, you may receive less interim information about us than you would receive from a U.S. issuer.

5.2.5 Risks Related to the Controlling Shareholder

Our controlling shareholder's interests may differ, from time to time, from those of certain minority shareholders, or may affect our long-term strategy.

The Nation currently holds 88.49% of our outstanding capital stock, making it our controlling shareholder. The Nation as our controlling shareholder has majority voting rights at the General Shareholders Assembly to elect the members of our Board of Directors and may propose and approve decisions that may be in its own interest and that may not necessarily benefit minority shareholders or be aligned with our long-term strategic goals.

For example, our controlling shareholder may suggest and approve dividend proposals at the ordinary General Shareholders Assembly, notwithstanding the interest of certain minority shareholders, in an amount that results in us having to reduce our capital expenditures or increase our debt levels. In addition, our controlling shareholder may support decisions to undertake projects that may diverge resources from the company's long-term strategic goals or make announcements about its intentions related to its holding of the Company's stock, which may not be in our best interest or in the best interest of our minority shareholders, including holders of our ADSs, and could affect the price of our shares or ADSs. Consequently, to the extent permitted by law, the actions of our controlling shareholder may thereby negatively affect our prospects, results of operations and financial condition. See section Shareholder Information—Dividend Policy.

5.3 Risk Management

5.3.1 Integrated Risk Management System and Internal Control System

Under the leadership of the Corporate Compliance Department and its Risk Office, in 2024, Ecopetrol S.A. kept strengthening its Integrated Risk Management System based on the international technical standard ISO 31000, which establishes a set of principles, frame of reference and process or cycle that allow the organization to manage the effects of uncertainty on meeting objectives, to maximize opportunities and assist in establishing strategies and making informed decisions.

Our risk management approach consists of four main stages: planning, identifying, evaluating, and managing risks, as well as cross-cutting stages of communication and consulting, record and reporting and monitoring. This cycle is supported by the principles of risk management: integration, continuous improvement, structure, information, culture, organizational structure, and normative and management tools.

Three of our most important tools within our risk management approach are:

- (i) **Risk Assessment Methodology:** In order to properly prioritize mitigation, treatment and monitoring efforts of risk management at the process level, a standardized methodology was established to assess inherent and residual risk levels. The risk level (Very High, High, Medium, Low or None) is obtained from the combination of the risks (impacts) and the probability of occurrence of those consequences. According with the level of risk, action plans for management and mitigation are defined.
- (ii) **Mitigation Plans:** Each year, by performing the stages of the risk management cycle, we define and implement mitigation plans to reduce the levels of exposure to risk through mitigation or elimination of some of its causes. Metrics and goals must be defined during the development of each plan to ensure its effectiveness and to prioritize our efforts on those with the greatest impacts.
- (iii) **Monitoring Indicators:** As part of the monitoring stage of the risk management cycle, we have implemented Key Risk Indicators (KRIs) which are metrics used to provide early signals of increasing risk exposures. These signals constitute information for preventative decision making to avoid risk materialization.

The Integrated Risk Management System establishes the definition of risk as the effect of uncertainty on the fulfillment our objectives, considering the effect as the deviation positive, negative or both, compared to what is expected. Our risks can be classified as:

- (i) Enterprise Risks: Risks that are directly associated with the business strategy plan of the Company and are systematically monitored by the Management Committee. When defining the enterprise risks, the analysis of the internal and external environment is carried out to determine the topics and trends that could have potential or real impact on our strategy. The management of those risks is led by the person accountable for the process and each risk has a defined treatment plan and monitoring indicators. Further information can be found in our Enterprise Risk Map on our website.
- (ii) Processes Risks: Risks that tend to identify potential failures in the activities related to our core and support business processes that drive us to achieve our objectives. At this level, our processes have identified risks with their respective mitigation methods, including financial and non-financial controls, treatment plans and/or monitoring indicators.
- (iii) Operational Risks: Risks that are at an operational level of detail and occur in our day-to-day activities and tasks.

On the other hand, emerging risks are those that are expected to have a long-term future impact on the company (three to five years and beyond) or, in some cases, have already started to impact Ecopetrol. Emerging risks are considered those that meet some of the following characteristics: (i) the risk is new, developing, or significantly increasing in relevance, (ii) a known risk in a new or unknown context or under re-emerging conditions, (iii) the potential financial or reputational impact of the risk is long-term and significant, (iv) it is an external risk arising from events outside the company's influence or control, (v) the risk and its impact on the company are specific, and (vi) it has a high potential impact to Ecopetrol S.A. and may require it to adapt its strategy and/or business model.

We have also continued consolidating our internal control systems into a unified system that integrates the best practices called for by the Committee of Sponsoring Organizations of the Treadway Commission (COSO 2013), Sarbanes–Oxley Act (SOX), governance and management of enterprise IT (COBIT), Enterprise Risk Management (COSO 2017) and our ethics and compliance rules, with the aim of establishing an integrated management system for all control components, thereby allowing us to strengthen all of our control system.

We have also defined guidelines and implemented an Internal Control System (which includes subsidiaries), the main purpose of which is to provide reasonable assurance regarding the achievement of all the Company's objectives relating to operations, strategy, reporting and compliance, through the appropriate risks management and ensuring the effectiveness of our controls and the scope of which includes our subsidiaries. Under those guidelines, each subsidiary must implement and report the performance of its Internal Control System to Ecopetrol S.A. to ensure compliance with the above measures, and the subsidiaries have methodological support from Ecopetrol S.A. when requested. Ecopetrol S.A. also performs preventive monitoring in selected subsidiaries to assure all the components and principles of their Internal Control Systems are present and operating. The system performance is systematically monitored by the Board of Directors.

The risk management component of our Internal Control System is in charge of identifying negative events or situations that may affect our defined objectives, assessing and prioritizing them to implement the most appropriate response. This component has been designed and implemented across the organization, with a two-level focus: Enterprise Risk and Processes Risks.

Ecopetrol S.A.'s Internal Control System is aligned to the Company's strategy and business processes and gives responsibility to all employees to manage risk, to maintain the effectiveness of controls, to report incidents to preventively correct possible deficiencies and to provide reasonable assurance of achieving corporate objectives and goals. The scope of this system includes the Company's subsidiaries who must implement and report on the performance of its internal control system to the Company to ensure compliance with the above measures.

5.3.2 *Managing Low Carbon Economy and Climate Change Risks*

To manage and mitigate the risks related to the transition to a low carbon economy and climate change, Ecopetrol, in line with the goal of generating value through TSEG, expects to invest approximately COP 2.3 trillion pesos in 2025, 35% of which is expected to be used for climate change, alternative energy use, and air quality; 18% is expected to be used for territorial development; 12% in biodiversity and ecosystem services; 12% in innovation, science and technology; 7% in industrial and process safety and the remaining 16% is expected to be used for other TSEG projects. Additionally, we have set shadow price on carbon at USD 40/TCO₂ for the years between 2025 and 2029, and USD 50/TCO₂ from 2030 onwards, which is expected to be used to assess and evaluate current and future projects and investments. See section *Strategy and Market Overview—Our Corporate Strategy—2040 Strategy: Energy That Transforms* for detailed information on our strategy and carbon shadow price.

To properly adapt the Ecopetrol Group's business strategy to the transition to a low carbon economy and ensure long-term value creation, we have been conducting energy transition scenario analyses since 2018. These analyses are being updated and refined reflecting changes that we anticipate for the years to come and that are aligned with the IEA's latest scenarios. This allows for the definition of actions to manage the risks and opportunities involved in transitioning to a low-carbon economy and adapting the business strategy to ensure long-term value creation. Within the framework of the 2040 Strategy, scenario trends and sensitivities were translated into three business scenarios: (i) Benchmark Scenario: It considers the same trends identified in the Energy Transition Benchmark Scenario, which is also the baseline scenario for the Company's 2040 Strategy, (ii) High Price Scenario: Associated with Decelerating Sensitivity trends in terms of energy transition. Seeks to reflect a business scenario in which the current trend is maintained, and climate targets are not met by 2030 or 2050, and (iii) Stress Test Scenario: It reflects the trends of the Accelerated Transition Scenario and some developments of the Sensitivity to a 2°C Scenario. Energy transition scenarios were developed following the formulation of the 2040 Strategy and its ratification in 2023.

As a result of the construction of energy transition scenarios, which aims to be a solid and unified reference framework and to allow us to anticipate and understand the challenges and opportunities of the energy transition, in 2024 we began monitoring trends based on such scenarios. The three scenarios Ecopetrol presented and used for comparison are: (i) Climate Alignment (1.7° - 1.8°C): Transformation to low-emission economies aligns governments and institutions around climate change. In addition, developed countries reach a net zero goal, while other countries follow a slower path. This is not enough to achieve the global net-zero goal of 1.5 °C; (ii) Energy Balance (1.9° - 2.3°C): Fundamental changes in governments, markets, and society set in motion a long-term energy transition, the debate continues between energy security and accelerating the transition; and (iii) Climate Divergence (2.5° - 2.8°C): Dissimilar interests in decarbonization despite policy, regulation and market changes. Global public policy decisions are insufficient to close the climate ambition gap.

Ecopetrol finds it essential to compare the three potential scenarios. While the first and third scenarios do not represent the group's core vision, assessing different perspectives on the global energy transition remains necessary. According to the 2040 Strategy, Ecopetrol considers the second scenario the most likely, aligning with a gradual energy transition. This transition envisions increased use of low-emission energy sources while retaining conventional energy in the overall energy mix. Additionally, this scenario is expected to enhance sustainability and resilience in energy supply. In this context, the Ecopetrol Group is committed to diversifying its energy portfolio, emphasizing the incorporation of low-emission energy sources, such as renewables and natural gas, to mitigate climate change and reduce reliance on traditional fossil fuels.

On November, 2024, we presented our third specialized report on climate change management following the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) highlighting progress in strengthening climate-related risk and opportunity management processes through discussions on governance, strategy, risks and metrics and targets. Our climate risk strategy is also being aligned with the recommendations of the TCFD and includes the addition of a new climate-related risk to our 2024 enterprise risks, in respect of inadequate response to environmental challenges associated with climate change, water and biodiversity.

5.3.3 Managing Information Security and Cybersecurity

Ecopetrol S.A. has a dedicated management team specialized in information security issues such as risk analysis, information processing, secure information management practices and classification of critical business information, compliance with control systems, effectiveness of available information security technologies, and third-party management to identify and monitor cybersecurity risks. This is articulated with the ERM system at the enterprise level. The Cybersecurity Department is part of the Vice Presidency of Science, Technology and Innovation, reporting to senior management and the Company's Board of Directors. Moreover, as part of the Ecopetrol's cybersecurity management, continuous training and awareness plans are carried out and implemented with the Board of Directors, senior management, and users in general, as well as specialized training for our cybersecurity team. Emerging risks at an industrial and global level keep us constantly evolving in our capabilities and process improvements. New technologies and hybrid ways of working expand the cyber threat landscapes on critical infrastructures, making this risk necessary for their management, monitoring and improvement.

Ecopetrol S.A. has incorporated cybersecurity risk as one of its primary business risks. Currently, there is a Cybersecurity and Cyber Defense division, comprised of a highly skilled, certified, and high-performing team, enabling Ecopetrol to elevate its cybersecurity measures. This team effectively manages and mitigates emerging cybersecurity risks by implementing various activities aimed at identifying and safeguarding critical digital assets. Through capabilities such as business operation protection, supply chain protection, culture, data and privacy, and cybersecurity operational effectiveness, the team prevents and contains cyber threats, while also monitoring and reporting emerging cybersecurity risks globally. Furthermore, the cybersecurity risks and strategy are overseen by the board of directors' committees, namely the Technology and Innovation Committee and the Risk and Audit Committee.

The cybersecurity team continues to integrate practices aimed at enhancing risk awareness and adjusting current information security capabilities in response to evolving cyber threats. As a result of this ongoing process, we are continually integrating elements related to cybersecurity threat management. These elements encompass various aspects, including the proper configuration of storage devices, comprehensive information security controls, development of policies and procedures addressing information security, specialized monitoring and cyber threat services, vulnerability management, cyber incident response management, deployment of protection tools, monitoring and response to malicious activities, and cybersecurity insurance coverage, threat hunting, threat intelligence, security by design, privacy by design, among others.

Ecopetrol S.A. has a Security Operations Center (SOC) service, to enhance the organization's ability to predict and identify trends in attacks on both its information technology and Operation Technology infrastructure, while also monitoring its online reputation. Throughout 2024, the SOC capabilities remained operational, with an expanded scope of services covering Operational Technology (OT) digital assets. This expansion included cybersecurity risk assessments and advanced security testing exercises (RedTeam) conducted on Ecopetrol's IT/OT infrastructure and its subsidiaries, enabling the identification of gaps to improve the overall cybersecurity posture. Additionally, specialized monitoring capabilities such as User Behavior Analysis (UBA) remains. Despite cyberattacks occurring in 2024, all reported events were successfully controlled, resulting in no material effects on processes, equipment, products, services, customer or supplier relationships, competitive conditions, or critical information. Ecopetrol, S.A. does not have any current proceedings that relate to cyber breaches.

We update our cybersecurity policies and cyberincident response procedures from time to time, as shown by several wargames that cover all business segments and their subsidiaries. These exercises document how to manage the activation of the Cyber Insurance policy, the PMU (Unified Command Post), and the operation model for cyberincident response with Ecopetrol's internal teams. The action protocol for business crisis scenarios is also regularly revised, establishing timely notification to, and communication processes with, internal and external entities, as well as the roadmap for defining and analyzing the materiality of a cybersecurity incident. The management guide includes two annexes that detail the roles, responsibilities, and activities of those involved in responding to a cyberincident event or alert.

Furthermore, during 2024, the internal audit department conducted audits of cybersecurity processes to follow up on previous improvement plans. Consequently, an action plan was developed with the main objectives of enhancing threat identification, access management, and improving specific technical components of the cybersecurity program.

Ecopetrol S.A. remains committed to using the ONG-C2M2 (Oil & Gas - Cybersecurity Capability Maturity Model) framework to manage its maturity and uphold its cybersecurity management system. This entails implementing practices and focus our capabilities domains such as access, response, third parties, and architecture.

Ecopetrol S.A. has also strengthened its cybersecurity capabilities in 2024 by continuing to incorporate foundational “Zero Trust” practices and advanced critical information protection controls to mitigate cyber risks across its business units. Another significant initiative throughout 2024 was the cultural awareness campaign focusing on three management pillars: (i) training, that consists of development of new skills, (ii) mobilization, that consists of promotion and ownership of change, and (iii) communication, that consists of promotion of understanding and conviction of behaviors). Additionally, the information assurance cycle was executed to identify, evaluate, and manage the cybersecurity risks associated with critical information assets. Finally, our cybersecurity strategy defined for the period 2022 to 2026 where a quantitative cyber risk model was applied was updated and aligned with the Science, Technology and Innovation strategy, as well as the Ecopetrol Group’s 2040 strategy, defining the following 5 pillars with a customer and country centric approach and vision:

1. Digital trust as a cross-cutting axis of excellence, innovation, and cyber collaboration.
2. Secure operations in our different ecosystems (apps, cloud, identity, among others).
3. Incident response capacity and continuous monitoring of cyber threats.
4. Data security and privacy and safe use of AI.
5. Industrial Cybersecurity, aligned with the protection of business infrastructures.

5.3.4 *Managing Financial Risk*

We are exposed to certain risks associated with the nature of our operations and the financial instruments we use. Among the risks that affect our financial assets, liabilities and expected future cash flows are changes in commodity prices, currency exchange rates, interest rates and the credit quality of our counterparties.

Commodity price risk is associated with our day-to-day operations as we export and import crude oil, natural gas, and refined products. We occasionally use hedges to partially protect our financial results from price fluctuations considering that part of our financial exposure under purchase contracts for crude oil and refined products depends on international oil prices. We believe that the risk of such exposure is partially naturally hedged since we are an integrated group (with operations in the upstream, midstream, downstream, and electric power transmission and toll roads concessions segments) and either export crude oil at international market prices or sell refined products at prices that are correlated to international market prices. During 2024, Ecopetrol Permian executed strategic hedging operations oriented to secure the value promise of the company for a total of 6.9 million barrels; additionally Ecopetrol S.A. and Ecopetrol Trading Asia Pte Ltd executed tactical hedging operations due to its exposure to pricing indices different from the commercialization benchmark and different pricing periods between the buying and the selling of physical barrels. A total of 50.4 million barrels were the subject of tactical hedges oriented at mitigating risks associated with crude oil imports, supply to refineries and international sales delivered at the destination port. We do not use derivative financial instruments for speculative or profit-generating purposes.

Currency risk arises in our operations given the fact that most of our revenues are derived from sales of products quoted in or with reference to U.S. dollars. Therefore, when the Colombian Peso depreciates against the U.S. dollar, our revenues converted into Colombian Pesos increase. Conversely, when the Colombian Peso appreciates against the U.S. dollar, our revenues decrease. On the other hand, imported goods, oil services and the debt, which is mainly denominated in U.S. dollars, become less expensive when the Colombian Peso appreciates against the U.S. dollar and more expensive when the Colombian Peso depreciates against the U.S. dollar.

As of December 31, 2024, our total debt denominated in U.S. dollar and other currencies (excluding debt denominated in Colombian pesos) amounted to USD 24.7 billion principal, which we recognize in our consolidated financial statements at its amortized cost, which corresponds to the present value of cash flows, discounted at the effective interest rate. Out of this total, USD 17.4 billion is owed by Ecopetrol S.A., whose functional currency is the Colombian Peso. Therefore, when the Colombian Peso depreciates against the U.S. dollar, the Colombian debt denominated in Colombian Pesos increases year-over-year, and Ecopetrol S.A. is exposed to an exchange rate loss. In contrast, when the Colombian Peso appreciates against the U.S. dollar, the Colombian debt denominated in Colombian Pesos decreases year-over-year, and Ecopetrol S.A. is exposed to an exchange rate gain. Some of the Ecopetrol Group’s subsidiaries have the U.S. dollar as functional currency and are not exposed to a material exchange rate risk resulting from fluctuations in the Colombian Peso against the U.S. dollar. On the asset side, when the financial statements of the Ecopetrol Group are consolidated, the exchange rate differential of the subsidiaries’ assets and liabilities whose functional currency is the U.S. dollar is recognized directly in equity, as part of other comprehensive income. The total consolidated debt expressed in Colombian Pesos as of December 31, 2024, increased 15.2% on a year-to-year basis, meanwhile the total debt denominated in U.S. dollars and other currencies (excluding debt denominated in Colombian pesos) had no representative changes.

Taking previous considerations into account, we seek to identify and manage currency risk in a comprehensive manner, using an integrated analysis of natural hedges to benefit from the correlation between income or investments in a foreign operation and debt denominated in foreign currency. We adopted accounting hedge as part of our risk management strategy, using two types of natural hedges with our U.S. dollar denominated debt as a financial instrument: (i) cash flow hedge for exports of crude oil, and (ii) hedge of a net investment in a foreign operation. In addition, we may involve the use of financial derivative instruments, and non-derivative financial instruments. As a part of its risk management strategy, using the natural hedge between exports and dollar-denominated debt, in October 2015, USD 5.4 billion of Ecopetrol S.A.'s debt in U.S. dollars was designated as hedge instrument of its future export sales for the period 2015 – 2023. During the second half of 2021, Ecopetrol S.A. hedged a new portion of the dollar-denominated debt against future revenues in an amount of USD 3.7 billion, and during 2021 Ecopetrol S.A. hedged USD 4.9 billion with its foreign investments and future revenues. In 2023, Ecopetrol S.A. hedged (i) a new portion of the dollar-denominated debt against future revenues in an amount of USD 1.9 billion, and (ii) USD 2.2 billion with its foreign investments and future revenues. Likewise, in 2024, Ecopetrol S.A. hedged (i) a new portion of the dollar-denominated debt against future revenues in an amount of USD 1.1 billion, and (ii) USD 0.6 billion with its foreign investments and future revenues.

As of December 31, 2024, the outstanding value of the natural accounting hedges was USD 17.6 billion. With the adoption of hedge accounting, the effect of the volatility of the foreign exchange rate on the hedged portion of the debt is highly mitigated and is recognized directly in equity, as part of other comprehensive income.

The remaining portion of our dollar-denominated debt, as well as the financial assets and liabilities denominated in foreign currency continue to be exposed to the fluctuation of the exchange rate. Finally, the Company maintains enough cash in Colombian pesos and U.S. dollars to meet its expenses in each currency (see Note 4.1.5 to our financial statements for further explanation of our accounting policy and Note 30.1 for details of the hedge accounting adopted).

Interest rate risk arises from our exposure to changes in interest rates mainly because of the issuances of floating rate debt linked to SOFR, CPI, IPCA, IBR, CDI and others (with 13.6%, 4.6%, 5.0%, 3.2%, 2.6%, and 0.5% respectively, of the nominal debt balance as of December 31, 2024). Thus, volatility in interest rates may affect the fair value of and cash flows related to our investments and floating rate debt. For 2024 our analysis of credit risk events and global financial markets led us to decide not to hedge interest rate risk. Nevertheless, our capital markets office continuously monitors the performance of interest rates and the effect of interest rates on our financial statements.

The trust funds linked to Ecopetrol S.A.'s pension obligations (PAP for its acronym in Spanish) are also exposed to changes in interest rates, as they include fixed and floating-rate instruments that are marked to market. This exposure is continuously monitored by our treasury office given the potential impact volatility may have on our financial results. The treasury office's information is gathered from reports provided by the asset managers. These reports refer to regulatory limits as well as market, credit and liquidity risks. The investment guidelines with respect to the PAPs are issued by the Colombian regulation for pension funds, as stipulated in Decree 941 of 2002 and Decree 1913 of 2018, where it is indicated that they must follow the same regime as the regular obligatory pension funds in their moderate (i.e., neither conservative nor aggressive) portfolio. For further information regarding the trust funds linked to the pension obligations of the company, see Note 30.8 to our consolidated financial statements.

Regarding liquidity risk, Ecopetrol S.A. forecasts and monitors its cash position daily in order to review updated expectations for liquidity conditions and the capacity to attend short term obligations. This forecast mainly includes operational income and expenses, capital expenditures expectations, debt and dividend related cash-flows, and other financial cash movements. Additionally, on a monthly basis, management reviews cash evolution, availability and forecasts under different scenarios.

Finally, counterparty risk is the potential probability that a borrower or counterparty defaults on any obligation. In our case, we are exposed to this risk as we invest in different financial instruments and receive letters of credit to mitigate our exposure with our commercial counterparties. We manage this risk by monitoring and analyzing the counterparty's creditworthiness, stock price behavior, spreads on credit default swaps, probability of default, among others.

Hedging guidelines for Ecopetrol S.A. and its subsidiaries

Ecopetrol S.A.'s management established a set of guidelines for hedging strategies for Ecopetrol S.A. and its subsidiaries. These guidelines allow us to use financial instruments to mitigate the impacts in our financial statements as a result of the fluctuation of risk factors, such as commodity prices, exchange rate, interest rate and others.

These guidelines determine general principles governing hedging operations, corporate governance, the process for implementing operations which includes the identification of risk exposition as an integrated group, the identification and design of the financial structures, and execution and monitoring, among others.

The guidelines also include a list of allowable financial assets, such as forwards, futures, options, and swaps and describe the differences between strategic and tactical hedging, where the former focus on protecting our financial results from market volatility and the latter is mainly designed to hedge the market risk of specific trading in physical markets.

Investment Guidelines Ecopetrol S.A.

Ecopetrol S.A.'s management established guidelines for our investment portfolios. These guidelines determine that investments in Ecopetrol S.A.'s U.S. dollar portfolio and the Colombian Peso portfolio may be invested in fixed income securities issued by entities with a rating equal to or greater than Ecopetrol S.A.'s credit risk rating, but which at all times must be a minimum of investment grade as rated by any of the internationally recognized rating agencies (Standard & Poor's, Moody's, and Fitch Ratings). In order to diversify risk in both our U.S. Dollar and Colombian Peso portfolios, Ecopetrol S.A.'s management will determine both short- and long-term limits by issuer and issuance based on internal analyses and external risk ratings.

Additionally, the portfolios in U.S. Dollar and Colombian Peso of Ecopetrol S.A. is expected to be segmented in the tranches determined by Ecopetrol S.A.'s management, meeting the Company's working capital and liquidity needs, benchmarks and cash flow projections.

5.4 Legal Proceedings and Related Matters

We are a party to various legal proceedings in the ordinary course of business. Other than the proceedings disclosed in this annual report, we are not involved in any pending (or, to our knowledge, threatened) litigation or arbitration proceeding that we believe will have a material adverse effect on our Company. Other legal proceedings that are pending against or involve us and our subsidiaries are incidental to the conduct of our and their business. We believe that the ultimate disposition of such other proceedings individually or in an aggregate basis will not have a material adverse effect on our consolidated financial condition or results of operations.

As of December 31, 2024, Ecopetrol S.A. was a party to 7,730 legal proceedings relating to civil, criminal, administrative, environmental, tax, constitutional, arbitration and labor claims, out of which 5,435 were filed against us in the Colombian courts and arbitration tribunals, of which 388 had an accrual provision. We allocate enough money and time to defend these claims. Historically, we have been successful in defending lawsuits filed against us. Other than the environmental administrative proceedings described in the last paragraph of this section, based on the advice of our legal advisors, it is reasonable to assume that the litigation procedures brought against us will not materially affect our financial position or solvency regardless of the outcome. See Note 23 to our consolidated financial statements included in this annual report for a discussion of our legal proceedings.

Caño Limón – Coveñas Crude Oil Pipeline Spill

On December 11, 2011, the Caño Limón - Coveñas oil pipeline ruptured and caused the spill of approximately 3,267 barrels of crude oil into the Iscala creek, which connects with the Pamplonita River that provides water to the city of Cúcuta. The incident did not cause any fatalities or injuries.

In 2012, a class action lawsuit was filed against Ecopetrol S.A. and against employees of the Company, and the First Administrative Court of Cúcuta has jurisdiction to conduct the case, which is in the evidentiary stage, pending a first instance judgment.

The Regional Environmental authority of Norte de Santander, or *Corporación Autónoma Regional de la Frontera Nororiental* (CORPONOR) also filed a lawsuit against Ecopetrol S.A. before the Administrative Court of Norte de Santander claiming for (i) the environmental loss caused by the incident and (ii) for compensation costs relating to the environment damage for approximately COP 33 billion. Ecopetrol S.A.'s legal counsel filed a motion to dismiss the lawsuit on June 2, 2014, based on three grounds: (i) there is no proof of environmental loss, (ii) CORPONOR does not have the authority to file this lawsuit and (iii) CORPONOR's petition for direct compensation is not the proper legal action according to the applicable procedural rules. In July 2020 the evidentiary stage closed. On July 27, 2023, the Administrative Court of Norte de Santander issued its ruling and denied the compensation claims for damages by CORPONOR. As of the date of this annual report, no appeal has been filed in connection to this decision.

Ecopetrol S.A. and national and local authorities agreed to develop a project consisting of an alternative to the water supply intake of the aqueduct in Cúcuta. In December 2011, our Board of Directors approved our participation in the project as part of the support of our contingency plans and relationship with stakeholders. On November 10, 2017, an agreement was signed with the purpose of building the alternative water supply at a cost of approximately COP 425.09 billion. According to the agreement, we are in charge of the construction of the aforementioned infrastructure. As of the date of this annual report, the construction projects continue their progress. Their statuses are currently the following: (i) for subproject 1, the initial delivery process was made official to the municipality of Cúcuta and overall progress is of 100%, and (ii) for subprojects 3 and 4, functional tests are undergoing and overall process is of 98.3%, without including complementary works and the scope of the sludge plant.

BT Energy Challenger

On October 22, 2014, we were served with a class action suit against us seeking monetary damages of approximately COP 7.4 trillion related to an incident that occurred on August 21, 2014, during the loading operations of the BT Energy Challenger vessel. The claimants alleged possible damage to the port area of Ecopetrol S.A.'s terminal in Coveñas, as well as of marine and submarine areas and beaches that form the geographical area of the Morrosquillo Gulf. This allegation is currently under investigation by the Harbor Master of Coveñas. Ecopetrol S.A. filed a motion requesting the judge to require the claimants to amend their claim to more precisely set forth the facts and evidence that allegedly support Ecopetrol S.A.'s liability.

On March 3, 2015, Ecopetrol S.A. filed its statement of defense arguing the exclusive fault of a third party. On October 20, 2015, the Court denied a class action of more than 100 informal traders in the region because there is no common identity with the initial class (hotel employees). However, during 2016 the Sucre Administrative Court accepted another 1,208 informal traders and fishermen as claimants.

On March 10, 2017, a mandatory settlement hearing was held in order to seek an agreement, but it failed.

In January 2018, a judicial order was issued to commence the evidence production phase, a decision which was objected by the parties.

In September 2018, all the ordered statements were made, the evidentiary stage was finalized and the parties filed their final closing arguments.

Afterwards, once the requests and appeals were resolved, the Court admitted the evidence, closed the evidentiary period, and the final arguments were presented. The closure of evidentiary period was appealed by several parties on the grounds that it was premature.

As of the date of this annual report, a first instance judgment is pending. The Court has consolidated several process-related judicial proceedings related to the class action suit, despite some objections and annulment motions from some of the involved parties and is currently reviewing the arguments on the appeals against its decision.

Salgar-Cartago Multi-purpose Pipeline Spill

On December 23, 2011 our Salgar-Cartago pipeline ruptured. Internal and external experts believe this incident occurred due to creep movement of soil caused by severe weather conditions, causing the soil surrounding the pipeline to exert strong pressure on the pipeline and rupture it. As of the date of this annual report, there are two lawsuits related to this incident with possible damages of approximately 6.0 COP billion.

It is important to mention that the third lawsuit that was reported in the previous report (2023), has already concluded with a final judgment.

Class Action of the AWA Indigenous Community

On April 2, 2018, a class action lawsuit was filed against Ecopetrol S.A. and Cenit by the Inda Guacaray and Inda Sabaleta reservations of the AWA Indigenous community who claim damages to their communities by environmental contamination and damage to natural resources that the defendants supposedly caused by act or omission during various environmental incidents. In August 2018 Ecopetrol S.A. answered the complaint. The parties are currently waiting for the evidentiary stage to start.

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On November 14, 2020, the Administrative Court of Cundinamarca declared that an inadequate claim was filed by the AWA community, considering that the claims related to the reestablishment of measures specific to restitution, rehabilitation, satisfaction and guarantees of non-repetition, could not be sought through a class action.

Although the plaintiffs did not clearly determine the amount of their claims, Ecopetrol S.A. and the National Agency for Legal Defense of the State (*Agencia Nacional de Defensa Jurídica del Estado* or “ANDJE”) had initially estimated the amount to be approximately COP 358,201,371,800. As of the date of this annual report, a compliance agreement hearing was still pending.

On February 2024, the AWA people filed a constitutional protection action against Ecopetrol, Cenit and other entities, for the alleged violation of the fundamental rights to a healthy environment, health, water, food, rights of future generations and comprehensive reparation of the plaintiffs, due to crude oil spills that have occurred in their territory derived, mainly, from the installation of illicit valves and the perpetration of terrorist attacks on the Pipeline Transandino (“OTA”). Therefore, the lawsuit invokes the same facts and claims of the class action that was filed by the same Indigenous people. The constitutional protection lawsuit, which was denied in the first and second judicial instances, was selected for review by the Constitutional Court and is in the evidentiary stage.

Consultation Process with Afro-Wilches

On April 21, 2022, the First Section of the Administrative Court of Barrancabermeja – Santander ordered Ecopetrol S.A., ANLA and the Ministry of the Interior to carry out a consultation process with the Afro-Colombian Corporation of Puerto Wilches – Afro Wilches in connection with the Comprehensive Research Pilot Projects (PPII for its acronym in Spanish) Kalé and Platero projects. The ruling was appealed by Ecopetrol S.A., ANLA and the Ministry of the Interior, among others. On June 2, 2022, the Administrative Court of Santander revoked the ruling of the First Section of the Administrative Court of Barrancabermeja – Santander. On June 20, 2023, the Constitutional Court admitted this matter for review. On August 20, 2024, the Constitutional Court in the review court ruled that since the plaintiffs were an ethnic population (Afro-Colombian community), a direct impact was evident and, consequently, confirmed the protection of the fundamental right to prior consultation because it was of minority groups, historically excluded and discriminated against. On August 23, 2024, Ecopetrol asked for an amendment and clarification, arguing that the prior consultation required by the protective ruling should only take place if the PPII comprehensive research pilot projects were to be implemented, considering that no such projects were planned at the time. The Constitutional Court rejected this request on October 23, 2024. On November 1, 2024, Ecopetrol filed a petition for modulation before the first instance judge. On November 7, 2024, the judge ruled that the prior consultation did not have to be done immediately, but only if there was interest in pursuing the project. This decision concluded this legal proceeding.

Foncoeco

On March 18, 2019, Ecopetrol S.A. received judicial notice of a lawsuit filed by the Fund of Workers and Former Workers of Ecopetrol for Participation in Utilities (“Foncoeco”) on behalf of workers and former workers alleging that between 1997 and 2017 the company allocated part of its profits for the wellbeing of their workers. The plaintiffs considered that they had the right to receive those profits up to COP 3,157,461,510,000. This lawsuit is similar the one that was ruled in favor of Ecopetrol S.A. in 2011.

The final arguments and sentencing hearing were held on March 2, 2022, in which a first instance ruling was issued in favor of Ecopetrol, which was confirmed by the Superior Court of Bogotá on June 29, 2022. Foncoeco filed a judicial review before the Supreme Court of Justice, which was rejected on March 30, 2023. The rejection of the Supreme Court completed all legal stages possible. The ruling has now become “res judicata.”

Environmental Administrative Proceedings

As of December 2024, Ecopetrol S.A. was part of 179 environmental administrative proceedings, of which 166 were initiated before 2023 and 13 during 2024. It is not possible for us to determine whether the pending proceedings could have a material effect on Ecopetrol S.A. During 2024, eight proceedings were concluded, in two of them, we were subject to monetary fines through resolution 355 of March 7, 2024, confirmed by resolution 1695 of August 12, 2024, for an aggregate amount of COP 465,851,480, resolution 3065 of December 22, 2023, confirmed by resolution 390 of March 12, 2024, for an aggregate amount of COP 16,348,104. Finally, two monetary fines are suspended pending appeal through resolution 2943 of December 27, 2024, for aggregate amount of COP 93,703,928 and resolution 1277 of December 30, 2022, for an aggregate amount of COP 182,061,180. The Environmental Authority has not issued a statement regarding this matter up to date.

Bioenergy Special Audit

The Office of the Comptroller General, in exercise of its fiscal monitoring duties and authority as set forth in Article 267 of the Political Constitution, has undertaken audits of the performance of the Bioenergy S.A.S. and Bioenergy Zona Franca S.A.S. investments.

On February 6, 2017, the Office of the Comptroller General initiated a Special Intervention (Special Audit) in order to evaluate the use of public funds in the project carried out by Bioenergy Zona Franca S.A.S. and Bioenergy S.A.S. On July 10, 2017 the Office of the Comptroller General issued its final report with 15 findings related to: (i) acquisition, lease payments and the use of agricultural lands, (ii) loss of profits due to the project's delay; and (iii) execution of contracts related with the building, commissioning and start-up of the industrial plant and the agricultural component of the project. On December 28, 2018, Bioenergy completed all of the activities set forth in the remediation plan to address the 15 findings.

As a result of some of the findings, the Office of the Comptroller General opened several actions of fiscal liability (*proceso de responsabilidad fiscal*) against former members of Bioenergy's administration and third-party companies.

In 2018, the Office of the Comptroller General initiated a financial audit of Bioenergy's financial statements for the year ended December 31, 2018. On May 21, 2019, the Comptroller General delivered its financial audit final report, issuing: (i) an unqualified opinion on Bioenergy's financial statements, (ii) an efficient and effective internal control process opinion, and (iii) a reasonable opinion, since the budget was prepared and executed, in all relevant matters, according to Bioenergy's budgeting internal regulation. Finally, the Office of the Comptroller General determined three findings related to: (i) plots of land pending to legalize, (ii) ethanol imports and (iii) the leasing agreement of the Casa Roja plot of Land. On December 31, 2020, Bioenergy completed all of the activities set forth in the remediation plan to address the three findings.

In 2019, the Office of the Comptroller General initiated and ended a compliance audit of Bioenergy S.A.S for the period starting July 1, 2017 to May 31, 2019. The Comptroller General notified Bioenergy on February 4, 2020 its compliance audit final report determining seven findings related to: (i) agricultural lands productivity, (ii) income and expenses from rental payments of subleased agricultural lands, (iii) balanced scorecard results for 2017-2018, (iv) update of laboratory procedures, (v) transport contract number 0029-17 settlement, (vi) document handling and (vii) Campo Victoria plot of Land. Bioenergy filed the remediation plan on February 25, 2020.

Until June 24, 2020, when the Superintendence of Companies of Colombia gave the order to start the Bioenergy's liquidation proceeding, Bioenergy S.A.S. completed activities as scheduled in the remediation plan according to the June 30, 2020 deadline. Any pending activities related to the aforementioned remediation plan, are in charge of the liquidator appointed by the Superintendence of Companies of Colombia in Bioenergy's liquidation proceeding.

During 2021, such judicial liquidation proceeding continued under surveillance and instruction of the Superintendence of Companies of Colombia, in compliance of the applicable law. On December 15, 2021, the adjudication hearing for both companies (Bioenergy SAS and Bioenergy Zona Franca SAS) was not successful, so the Superintendence of Companies of Colombia, appointed March 4, 2022 for a new hearing, which was suspended and then completed on March 9, 2022 with the approval of (i) the Adjudication Agreement of Bioenergy SAS; and (ii) the Reorganization Agreement of Bioenergy Zona Franca SAS respectively.

On December 16, 2021, a reorganization agreement of Bioenergy Zona Franca SAS was filed in the Superintendence of Companies of Colombia, with favorable vote of 75% of the creditors, to be authorized by such Superintendence. On January 24, 2022, Superintendence of Companies of Colombia authorized the continuity of the activities and corporate purpose of Bioenergy Zona Franca SAS until April 2022.

After the fulfillment of the agreement for the administrative liquidation of Bioenergy and the agreement regarding Bioenergy Zona Franca, neither Ecopetrol S.A. nor any of its affiliates will be considered shareholders of the aforementioned companies. Therefore, legal contingencies associated to those companies are now limited.

On April 3, 2024, the Superintendency of Companies of Colombia ended the liquidation proceeding and ordered the cancellation of the Commercial Registration of Bioenergy S.A.S which was completed on December 27, 2024.

Ecopetrol's stake in Offshore International Group investigation

In 2009, Ecopetrol acquired a 50% ownership interest in Offshore International Group Inc. (OIG). OIG carries out crude oil exploration and production activities in Peru. This equity interest was recognized as an investment in a joint venture (entity over which the Ecopetrol Business Group had significant influence but not control and as a result was not considered an affiliate or subsidiary) and recorded using the equity method of accounting. On January 19, 2021, Ecopetrol consummated the sale of all of its shares in OIG.

On December 7, 2022, the Office of the Comptroller General (Contraloría General de la República) commenced a formal investigation (*Proceso de Responsabilidad Fiscal*) against certain members of OIG's Board of Directors, which as of the date of this annual report, is ongoing. According to the Comptroller General's public statements, the investigation relates to "possible insufficient oversight of the investment by the members of OIG's Board of Directors to prevent the materialization of related risks".

As of the date of this annual report, the Office of the General Comptroller's investigation names two former members of senior management—the Chief Operating Officer of Ecopetrol (until May, 2024), and the Chief Executive Officer of Cenit S.A. (until July, 2024), in each case, in their capacity as members of OIG's Board of Directors.

Although the content and status of the investigation is confidential, Ecopetrol has collaborated and provided the information requested by the General Comptroller's Office, and Ecopetrol is not aware of any allegations related to acts of corruption, bribery or fraud in connection therewith.

Reficar Investigations

According to Colombian regulations, Ecopetrol and Reficar employees are public servants, and as such can be held liable for negligent use or mismanagement of public funds. In this context, given that Ecopetrol is majority owned by the Colombian Government and Reficar is a wholly owned subsidiary of Ecopetrol, Ecopetrol and Reficar administer public funds.

As a result, Ecopetrol and Reficar employees are subject to the control and supervision of the following control entities, among others:

The Office of the Comptroller General (Contraloría General de la República) oversees the adequate use of public funds and has the authority to investigate public employees or private sector employees that manage public resources.

The Attorney General's Office (Procuraduría General de la Nación) supervises compliance with applicable law by public employees and private sector employees that carry out public functions. The Attorney General's Office investigates and sanctions individuals for such compliance failures.

The Prosecutor's Office (Fiscalía General de la Nación) investigates infringements and prosecutes alleged crimes before the court in judicial proceedings.

The following are the most significant investigations and proceedings carried out by the aforementioned state entities:

1. The Office of the Comptroller General's investigations and proceedings.
 - 1.1 Because of the amendment of the schedule and budget related to Cartagena refinery's expansion and modernization project (the "Project"), the Office of the Comptroller General conducted a special audit action of the Project in 2016 and issued a final report to Reficar on December 5, 2016. The report detailed 36 findings most of which were related to increased costs compared to the budget for services, labor and materials. As required, Reficar executed an action plan addressing the 36 findings. See section on *The Attorney General's Office Investigations* below, which describes the Attorney General's Office decision on December 10, 2021, in relation to the 36 findings.
 - 1.2 As a result of the findings described above, on March 10, 2017, the Office of the Comptroller General opened an investigation pertaining to the financial responsibility (*proceso de responsabilidad fiscal*) of 36 individuals involved in the Project, including former members of Ecopetrol's Board of Directors, former members of Reficar's Board of Directors, former employees of Ecopetrol S.A., and former employees of Reficar, along with four contractors who provided their services during the execution of the Project CB&I Americas Ltd., CB&I UK Limited, CBI Colombiana S.A. and, Foster Wheeler USA Corporation and Process Consultants Inc.

These investigations were conducted based on the Office of the Comptroller General's thesis that lower than expected profitability at Reficar could have been caused by (i) amendments to the schedule and, (ii) the increase of the budget for the Project.

On June 5, 2018, the Office of the Comptroller General split the initial proceeding into two different proceedings. The first one is related to the increase of the Project's budget and the second one is related to the lost profits due to extension in the Project's schedule:

- 1.2.1. Regarding the first proceeding, on June 5, 2018, the Office of the Comptroller General indicted: (i) 15 individuals, which include former members of Reficar's Board of Directors, a former employee of Ecopetrol, and former employees of Reficar, (ii) CB&I Americas Ltd., CB&I UK Limited, CBI Colombiana S.A., Foster Wheeler USA Corporation and Process Consultants Inc, and the following insurance companies, Compañía Aseguradora de Fianzas S.A, Coaseguro Confianza S.A., Liberty Seguros S.A., CHUBB de Colombia Compañía de Seguros S.A., Seguros Colpatría S.A. and Mapfre Seguros Generales de Colombia S.A., as third parties with joint liability.

As for the other 21 individuals initially investigated in 2017, the Office of the Comptroller General closed the investigations.

On April 26, 2021, the Office of the Comptroller General decided on the charges for violation of financial responsibility for an amount of COP 2.95 trillion in connection with the approval of the capital expenditure modifications to the Project. This decision was issued against seven former members of Reficar's Board of Directors, five former Reficar employees, four contractors that rendered their services during the execution of the Project and four insurance companies. They were found liable among others, for: (i) having approved additions to the Project's capital expenditures, knowing that the value proposition and profitability of the investment would be affected; (ii) not having ensured the adequate application of the business group investment guidelines. See *The Attorney General's Office Investigations* below, which describes the Attorney General's Office pronouncement on May 4, 2021.

Nonetheless, in the ruling there was no allegation related to acts of corruption, bribery or fraud. As of the date of this annual report, no current or former member of Ecopetrol's Board of Directors has been charged or found guilty in the first proceeding related to the increase in the Project budget.

The decision is of an administrative nature. Consequently, those deemed financially responsible have filed lawsuits before the judges of the Republic of Colombia to seek the annulment of the ruling. In connection with one of these lawsuits related to Hernando José Gómez Restrepo, a former member of the Board of Directors of Reficar from March 29, 2012 to April 19, 2013, on November 8, 2024, the Administrative Court of Cundinamarca issued a first-instance judgment annulling the decision of the Office of the Comptroller General, citing, among other reasons, the absence of pecuniary damage. The annulment of the Comptroller General's decision applies exclusively to Mr. Hernando José Gómez Restrepo. On December 13 and 18, 2024, the Office of the Comptroller General and the Attorney General's Office filed appeals against the judgment. The appeals will be decided by the High Court for Administrative Matters (*Consejo de Estado*). Reficar is not a party to these legal proceedings.

- 1.2.2. In relation to the second proceeding, on February 3, 2022, the Intersectoral Delegate Comptroller's Office concluded the investigative proceedings, with a favorable decision for the individuals that were under investigation.

- 1.3. The Office of the Comptroller General also ordered the commencement of an additional investigation in relation to amounts executed in the Project and its sources of funding. In this investigation, on August 24, 2021, the Comptroller's Office started a new financial responsibility proceeding pursuant to which eight former employees of Reficar are under investigation (three former presidents and five former financial vice presidents).

On February, 2023, the Office of the Comptroller General conducted a special visit to the refinery to investigate expenses related to the destination of financial costs, among others, which according to the Comptroller's Office, entered the project, and their allocation remained unidentified. On April 14, 2023, the Office of the Comptroller General released a technical report of the visit, which, based on information provided by Reficar, concluded that all expenses were properly identified, supported, and associated with services provided by third parties.

On April 19, 2023, it was mandated to include the technical report in the process and make it accessible to the parties involved in the proceedings.

Subsequently, on October 2, 2024, the proceedings were formally closed. The Intersectoral Delegate Comptroller 15 determined that the facts in the case did not constitute damage to public assets.

Currently there is no allegation related to acts of corruption, bribery, or fraud.

As of the date of this annual report, both Ecopetrol and Reficar have not been found liable under these proceedings.

- 1.4. From 2017 until 2024 the Office of the Comptroller General has performed and reported on special and financial audits to Reficar concluding that Reficar's financial statements from 2016 to 2023 do not reasonably represent the entity's financial position as of the end of each year. This situation originates in the difference in interpretations, of Reficar and of the Comptroller General, concerning the applicable accounting principles. Historically, Reficar's external and independent auditors have issued unqualified opinions on Reficar's financial statements during and after the Project. As of the date of this annual report, such auditors have not informed Reficar that there has been any change to their opinions to the financial statements. As of the date of this annual report, to the best of Ecopetrol's knowledge, the financial statements continue to fairly represent the financial and operational condition of the Company in all material aspects and its internal controls remain effective.

As of the date of this annual report, the current Boards of Directors of Ecopetrol and Reficar are not part of the Comptroller General proceedings.

2. The Attorney General's Office investigations:

Reficar was officially informed that the Attorney General's Office had initiated four investigations related to the Project. As of the date of this annual report, all four investigations have been closed.

- 2.1. Regarding the first of these investigations, on September 12, 2017, the Attorney General's Office indicted certain former members of Reficar's Board of Directors, as well as certain former officers of Reficar. The charges were related to the failure to fulfill some of their duties as administrators and/or for acting "ultra vires" in the exercise of their functions against: (i) Javier Genaro Gutiérrez (Ecopetrol CEO, 2007-2015); (ii) Felipe Laverde (Reficar General Counsel, 2009-March 2017); (iii) Pedro Rosales (Ecopetrol Downstream Executive Vice President, 2008-2015); (iv) Diana Constanza Calixto (Ecopetrol Head of the Corporate Finance Unit, 2009-2014), (v) Orlando José Cabrales (Reficar CEO, 2009-2012) and (vi) Reyes Reinoso Yáñez (Reficar CEO, 2012-2016). The Attorney General's Office closed the case against certain former members of Reficar's Board of Directors and former officers of Reficar.

On January 17, 2020, the Attorney General's Office issued its judgment against Reyes Reinoso Yáñez for acting "ultra vires" in the exercise of his functions promoting a special billing procedure without the due diligence required to protect Reficar's resources. As for the other four individuals initially investigated, they were acquitted of the charges. Mr. Reinoso submitted an appeal against the decision, which was decided in favor of Reyes Reinoso Yáñez and the other individuals that were under investigation. With this ruling, the process was formally closed.

- 2.2. In the second investigation, on October 21, 2020, the Attorney General's Office issued its judgment against a former employee of Reficar, Nicolas Isaksson Palacios, related to the failure to fulfill some of his duties for acting "ultra vires" in the exercise of his functions. The Attorney General's Office closed the case against the rest of the former members of Reficar's Board of Directors and the other Reficar employees.

On October 31, 2022, the Attorney General's Office dismissed the process pursuant to the applicable statute of limitation.

- 2.3. On May 4, 2021, the Attorney General's Office closed the third proceeding related to the increase of the budget of the Project, against former members of the Board of Directors and former employees of Ecopetrol considering, amongst others: (i) that the capital expenditure modifications that were approved during the execution of the Project were necessary and that the public servants who approved them acted in accordance with their duties, (ii) that the costs and schedule presented to Reficar by CB&I were wrong, and (iii) if the capital expenditure modifications had not been approved, the mega-project could not have been completed.

- 2.4. On December 10, 2021, the Attorney General's Office closed the fourth proceeding related to the findings included in the final report of the Project special audit carried out by the Office of the Comptroller General in 2016. The process was formally closed pursuant to the applicable statute of limitation.

As of the date of this annual report, no member of Ecopetrol's current management team, nor the current Boards of Directors of Ecopetrol or Reficar are subject to Attorney General's Office processes and Ecopetrol is not aware of any allegations related to acts of corruption, bribery or fraud in connection therewith.

3. The Prosecutor's Office investigations:

The Prosecutor's Office has been conducting the following legal proceedings in which Ecopetrol S.A. has been recognized as a victim:

- 3.1 Between July 25 and August 2, 2017, the Prosecutor's Office indicted the following individuals with charges, the majority of which are related to offenses against the public administration and illegal interest in the execution of agreements: (i) Orlando José Cabrales Martínez (Reficar CEO, 2009-2012); (ii) Reyes Reinoso Yáñez (Reficar CEO, 2012-2016); (iii) Felipe Laverde Concha (Reficar General Counsel, 2009-March 2017); (iv) Pedro Alfonso Rosales Navarro (Ecopetrol S.A. Downstream Executive Vice President, 2008-2015); (v) Masoud Deidehban (CB&I Executive Project Director); (vi) Phillip Asherman (CB&I CEO) and (vii) Carlos Lloreda (Reficar's statutory auditor from 2013-2015). The arraignment hearing began on May 30, 2018 and concluded on August 22, 2019.

The Prosecutor's Office made public the factual basis for such charges. On May 9, 2017, Ecopetrol's Audit and Risk Committee retained a U.S.-based outside law firm to commence a third-party investigation into the matters set forth in the Prosecutor's Office announcement. The results were presented in December 2017 to Ecopetrol's Audit and Risk Committee. This investigation concluded that to date there has been no evidence of possible unlawful acts that affect Ecopetrol's internal control over the financial reporting of the Company, on the allegations made by the Prosecutor's Office.

The preparatory trial hearing took place between November 25, 2019 and February 2, 2024. The trial hearings are concluded and we expect a first-instance decision in 2025.

As of the date of this annual report, no member of Ecopetrol's current management team, nor the current Boards of Directors of Ecopetrol or Reficar are subject to this process.

- 3.2 On October 22 and 23, 2018, the Prosecutor's Office indicted the following individuals with charges related to improper management and obtaining false public documents: Javier Genaro Gutiérrez Pemberthy (Ecopetrol S.A. CEO, 2007-2015), Reyes Reinoso Yáñez (Reficar CEO, 2012-2016), Pedro Alfonso Rosales Navarro (Ecopetrol S.A. Downstream Executive Vice President, 2008-2015), and Diana Constanza Calixto Hernández (Ecopetrol S.A. Head of the Corporate Finance Unit, 2009-2014). In the arraignment hearing that took place on August 5, 2019, Ecopetrol and Reficar were recognized as victims.

The Prosecutor's Office made public the factual basis of the charges, which is based on the theory that the indicted directors hid necessary information from Ecopetrol's Board of Directors before the approval of amendment No. 3 of the internal budget of the project (Control de Cambio No. 3).

The trial hearing commenced on October 28, 2024. During the hearing, defense attorneys sought the dismissal of the investigation, citing the expiration of the statute of limitations for the criminal action. However, the presiding judge denied the request. The defense attorneys subsequently filed appeals. On December 10, 2024, the Superior Court of Bogotá upheld the lower court's decision, ordering the continuation of the oral trial.

As of the date of this annual report, the oral trial remains ongoing.

No member of the current management team of Ecopetrol, nor the current Boards of Directors of Ecopetrol or Reficar are part of the process.

- 3.3 On March 18, 2019, the Prosecutor’s Office indicted the following individuals with charges related to entering into agreements without compliance with legal requirements: Orlando José Cabrales Martínez (Reficar CEO, 2009-2012) and Felipe Castilla (Reficar CEO, 2009). The arraignment hearing took place on January 27, 2020.

The Prosecutor’s Office made public the factual basis of the charges, which is based on the theory that hiring FPIVC as the project manager consultant of the Project through a sole source process violated the objective selection principle.

On May 9, 2022, the judge found the indicted citizens guilty and condemned them to 64 months of prison. On August 18, 2022, the verdict was read, and the defense appealed.

On October 19, 2023, the Criminal Chamber of the Superior Court of Bogotá upheld the initial verdict. Attorneys representing the convicted parties subsequently lodged an extraordinary appeal in cassation before the Supreme Court of Justice challenging this ruling. On March 5, 2025, the Supreme Court of Justice declared the proceeding against Orlando José Cabrales Martínez—regarding the execution of a contract without compliance with legal requirements—terminated, on the grounds that the action was barred due to the defendant’s death, which extinguished the cause of action. A decision remains pending on the cassation claim filed by Felipe Castilla Canales. As of the date of this annual report, there have been no significant updates to the appeal process.

As of the date of this annual report, Ecopetrol and Reficar have no knowledge of any legal proceeding in the United States regarding the project.

- 3.4 On April 24, 2018, the Prosecutor’s Office indicted Nicolás Isaksson, former employee of Reficar, with alleged charges for offenses against the public administration and illegal interest in the execution of certain agreements. The criminal action is currently suspended until December 2025, due to the application of a plea agreement (*principio de oportunidad*).

4. Arbitration Tribunal

On March 8, 2016, Reficar filed a Request for Arbitration before the International Chamber of Commerce (the “ICC”), against Chicago Bridge & Iron Company N.V., CB&I UK Limited, and CBI Colombiana S.A. (jointly “CB&I”) concerning a dispute related to the EPC contract entered into by and between Reficar and CB&I for the expansion of the Cartagena refinery in Cartagena, Colombia. Reficar was the claimant in the ICC arbitration and sought no less than USD 2 billion in damages plus lost profits.

On May 25, 2016, CB&I filed its Answer to the Request for Arbitration and Counterclaim for approximately USD 106 million and COP 324,052 million. On June 27, 2016, Reficar filed its reply to CB&I’s counterclaim denying and disputing the declarations and relief requested by CB&I. On April 28, 2017, CB&I submitted its Statement of Counterclaim increasing its claims to approximately USD 116 million and COP 387,558 million. On March 16, 2018, CB&I submitted its Exhaustive Statement of Counterclaim further increasing its claims to approximately USD 129 million and COP 432,303 million (including in each case interest), and also filed its Exhaustive Statement of Defense to Reficar’s claims. On this same date, Reficar filed its Exhaustive Statement of Claim seeking, among others, USD 139 million for provisionally paid invoices under the Memorandum of Agreement (“MOA”) and Project Invoicing Procedure (“PIP”) Agreements and the EPC Contract.

On June 28, 2019, CB&I submitted its Reply to the Non-Exhaustive Statement of Defense to Counterclaim increasing its claims to approximately USD 137 million and COP 503,241 million (including in each case interest, respectively). On this same date, Reficar filed its Reply to CB&I’s Non-Exhaustive Statement of Defense and its Exhaustive Statement of Defense to CB&I’s counterclaim, updating its claim for provisionally paid invoices under the MOA and PIP Agreements and the EPC Contract to approximately USD 137 million.

In January 2020, McDermott International Ltd, formerly McDermott International Inc. (hereinafter “McDermott”), CB&I’s parent company, filed for bankruptcy and announced that it would initiate a reorganization plan pursuant to Chapter 11 of the United States Bankruptcy Law. In response to this situation, Reficar implemented actions to protect its interests and is being advised by a group of experts with whom it continued to analyze other available measures under these new circumstances.

On January 21, 2020, Comet II B.V., the successor in interest to Chicago Bridge & Iron Company N.V., commenced a bankruptcy case under Chapter 11 of the United States Code in the United States Bankruptcy Court for the Southern District of Texas. Upon the bankruptcy filing, an automatic stay of the commencement or continuation of any action or proceeding, or the enforcement of any judgment or award, against Comet II B.V. became effective, staying the arbitration against Comet II B.V. On January 23, 2020, Comet II B.V. obtained an order from the Bankruptcy Court permitting it to, in its discretion, modify the automatic stay to permit it to proceed with litigation or other contested matters. On March 14, 2020, the Bankruptcy Court entered an order confirming a plan of reorganization, and the order provides for the stay against the arbitration to end upon the earlier of the effective date of the plan and August 30, 2020.

As a consequence of the bankruptcy filing, the arbitration was stayed until July 1, 2020, as described below.

In respect of the arbitration involving Reficar, the confirmation order provided that the proper forum for adjudication of the merits of the arbitration is an International Tribunal under the arbitration rules of the International Chamber of Commerce, the arbitration claims would not be subject to estimation in the Bankruptcy Court, and the stay would not be violated if the parties discuss logistical items with the International Chamber of Commerce tribunal or each other. The order reserved all rights and arguments of the parties related to the arbitration schedule, hearing location, and arbitration logistics and recognizes that, without waiving any arguments, including but not limited to the Debtors' objections to alternative hearing locations and long gap(s) between hearing dates. On June 30, 2020, McDermott notified the relevant parties of the occurrence of the effective date of the plan of reorganization, and thus the stay on the arbitration was lifted on July 1, 2020.

On May 6, 2020, the Superintendence of Companies ordered the liquidation of CBI Colombiana S.A., a respondent in the arbitration against CB&I. On October 22, 2020, Reficar submitted a proof of claim in the liquidation proceeding to seek recognition as a creditor of CBI Colombiana S.A. for the amounts of its claims in the arbitration. On January 15, 2021, the liquidator of CBI Colombiana S.A. accepted Reficar's petition.

On September 22, 2020, the Tribunal scheduled the commencement of the hearing in May 2021.

Between May 17, 2021, and June 16, 2021, the first two blocks of the merits hearing took place. On June 16, 2021, the Tribunal ordered the parties to submit two post-hearing briefs, the first one on October 15, 2021, and the second one on November 5, 2021. Additionally, the Tribunal scheduled the hearing for the parties to present their closing arguments on November 18 and 19, 2021.

The post-hearing briefs were submitted on October 22, 2021, and November 10, 2021, respectively and on November 18, 2021, the parties presented their closing arguments.

Later, on December 20, 2021, Reficar filed its Statement on Costs, and on February 11, 2022, CB&I filed its Statement on Costs.

On June 7, 2023, Reficar was notified of the decision of the international arbitral tribunal (the "Award") that resolved the dispute in relation to the EPC Contract. The arbitral tribunal ordered CB&I to pay USD 1,008 million plus interest accruing from December 31, 2015 until paid, in favor of Reficar, as follows: (i) USD 845.4 million in damages for exceeding costs, (ii) USD 152.75 million in damages for delays, and (iii) USD 10.3 million in damages for corrections of defects.

On June 8, 2023, Chicago Bridge & Iron Company N.V. (now McDermott Holdings B.V.) and CB&I UK Limited filed an action to vacate the Award before the U.S. District Court for the Southern District of New York, seeking denial of its recognition and enforcement in the United States.

On August 4, 2023, Reficar replied to the request for annulment and in turn, requested its confirmation. Moreover, on September 22, 2023, the Company filed its reply memorandum concerning the request for confirmation of the Award.

On September 8, 2023, McDermott publicly announced that it would initiate financial restructuring proceedings for its subsidiaries in the United Kingdom and the Netherlands, CB&I UK Limited and Chicago Bridge & Iron Company N.V. respectively.

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On October 10, 2023, Chicago Bridge & Iron Company N.V. and CB&I UK Limited filed a petition before the Texas Bankruptcy Judge to initiate a procedure for recognition of financial restructuring processes abroad, known as Chapter 15 of the Bankruptcy Code of the United States of America. Specifically, they requested recognition of the financial restructuring processes that were announced by McDermott International on September 8, 2023. The action to vacate and the request of confirmation of the Award – which would determine the possibility of executing and therefore collecting the amounts decreed – was temporarily suspended by order of the bankruptcy judge overseeing the matter in the State of Texas.

On November 29, 2023, a hearing was held to request the lifting of the temporary suspension, however, the judge overseeing the matter in the State of Texas did not grant the request and determined that when new facts are available, Reficar may file another request to lift the provisional suspension measure.

On February 27, 2024, Reficar was notified of the decision of the Court of the United Kingdom in which it was determined that the financial restructuring plan of CB&I UK Limited was approved by the Court of the United Kingdom.

With respect to the reorganization process initiated by Chicago Bridge & Iron N.V. in the Netherlands on September 8, 2023. On February 25, 2024, an independent restructuring expert appointed by the Court voted on an alternative reorganization plan under which Refinería de Cartagena would receive, among others, certain shares of McDermott.

On March 21, 2024, Reficar was notified of the decision by the District Court of Amsterdam to approve the alternative financial restructuring plan of Chicago Bridge & Iron Company N.V. Under the plan, which was presented by an independent expert appointed by the court, Reficar received convertible preferred shares representing 19.9% of the share capital of McDermott, holding company of a group of entities with presence in more than 54 countries which specialize in engineering services for the energy industry and low-carbon solutions, and that includes CB&I N.V. These shares do not grant Reficar the right to vote, designate a member of its board of directors, nor exercise control over McDermott.

On March 22, 2024, the United States Bankruptcy Judge for the United States Bankruptcy Court for the Southern District of Texas issued (1) an order granting verified petition for (a) recognition of foreign proceedings in England, (b) recognition of foreign proceedings in the Netherlands, and (2) the order recognizing and giving full force and effect to (a) the restructuring plan and the order of the English Court sanctioning the restructuring plan, and (b) the parallel restructuring plans (the “WHOA Plans”) and the order of the Dutch Court sanctioning the WHOA Plans. The effective date and the consummation date of the restructuring was March 25, 2024. On March 31, 2024, because of the aforementioned plans, Reficar became the beneficiary of (i) USD 70 million and USD 95 million draw under two different letters of credits; and (ii) USD 9 million corresponding to the reimbursement of legal fees.

As of September 30, 2024, Reficar carried out the financial valuation of the shares for the amount of USD 234,525,440, which represents an increase in the financial assets account for Refinería de Cartagena compared to a lower value of the property, plant and equipment.

On December 9, 2024, McDermott announced that it has completed the sale of its storage business (CB&I’s tank business) to a consortium of financial investors led by Mason Capital Management. Under the terms of the deal announced on October 7, 2024, McDermott would receive USD 475 million of pre-tax income and transaction expenses. Pursuant to the terms of McDermott’s credit agreement, the proceeds from the sale would be used to repay CB&I’s existing tank business term loan, secure certain McDermott letters of credit in cash, and reduce an existing McDermott term loan.

On January 16, 2025, Refinería de Cartagena S.A.S. was notified of the decision issued by the Court of the Southern District of New York, by which it denied the request presented by Chicago Bridge & Iron Company N.V., CB&I UK Limited to vacate the arbitration award dated June 2, 2023 in relation to the EPC Contract (Engineering, Procurement, and Construction Contract) executed between Reficar and CB&I for the expansion and modernization of the refinery located in the city of Cartagena, accordingly resolving the disputes between Reficar and Chicago Bridge & Iron Company N.V., CB&I UK Limited and CBI Colombiana S.A. Consequently, the arbitration award in question was confirmed in its entirety.

Ecopetrol continuously monitors the operations of McDermott to identify any potential changes in the fair value of the investment and/or risk premiums associated with the valuation model.

Requirements related to VAT by the National Tax Authority of Colombia

Refinería de Cartagena and Ecopetrol S.A. received customs requirements REA 211, REA 264 and REA 289, respectively, from the National Tax Authority of Colombia (DIAN) in 2025. The National Tax Authority of Colombia (DIAN) proposed an official corrective liquidation and a penalty on certain gasoline import filings for the period of 2022 to 2024, due to the failure to pay VAT on these filings. Refinería de Cartagena and Ecopetrol consider that their filings were prepared in accordance with current customs legislation and are preparing their response to the requirements indicated by the National Tax Authority of Colombia (DIAN).

6. Shareholder Information

6.1 Shareholders' General Assembly

Our Shareholders General Assembly was held on March 28, 2025, and the following matters were discussed and approved, among others:

- The plan for distribution of the Company's profits, which establishes the distribution of an ordinary dividend per share of COP 214, as follows: payment of dividends to minority shareholders to be made in two equal installments on April 4, 2025 and April 29, 2025; and the payment to the majority shareholder will be made in three installments as follows: i) COP 2,200,000,000,000 on April 4, 2025, ii) COP 2,300,000,000,000 on April 29, 2025, and iii) COP 3,286,344,378,880 on June 27, 2025.
- The establishment of a special reserve of COP 16,635,492,094,077 in order to support Ecopetrol S.A.'s financial sustainability and flexibility in the execution of its strategy.
- Election of Deloitte & Touche S.A.S., as the statutory auditor for the 2025 – 2029 period and assignment of their remuneration.
- Election of Board Members for the 2025 - 2029 period
- Approval of amendments to the Internal Regulations of the General Shareholder's Meeting.
- Approval of amendments to the succession policy for the members of the Board of Directors.

6.2 Dividend Policy

In 2018, the Board of Directors approved a dividend policy consisting of the ordinary distribution of between 40% and 60% of the adjusted net income of the Company of each fiscal year. For this purpose, the Board of Directors shall assess overall delivery against the Company's financial targets, as well as the macroeconomic environment, projected cash requirements for delivering on our Business Plan and strategy, while maintaining appropriate financial flexibility in keeping the Company's debt metrics in line with an investment grade rating. The policy does not preclude the distribution of extraordinary dividends above the 40% to 60% range, under exceptional circumstances and with due consideration of the above criteria. The maximum amount to be distributed is the profits available to shareholders (net income after release and appropriation for legal, fiscal and occasional reserves).

Pursuant to Colombian law, dividend distribution to our shareholders must be approved by a 78% majority of the shares represented in the corresponding General Shareholders Assembly. In the absence of this special majority, at least 50% of the net profits must be distributed.

On March 28, 2025, our shareholders at the ordinary General Shareholders Assembly approved an ordinary dividend of COP 214 per share for the fiscal year ended December 31, 2024; based on the number of outstanding shares as of December 31, 2024. The payment is expected to be made in two different installments on April 4 and April 29, 2025 to our minority shareholders. The payment to the majority shareholder will be made in three installments on April 4, April 29, and June 27, 2025.

On March 22, 2024, our shareholders at the ordinary General Shareholders Assembly approved an ordinary dividend of COP 278 per share for the fiscal year ended December 31, 2023 and an extraordinary dividend of COP 34 per share for the above mentioned fiscal year, amounting to a total of COP 312 per share; both based on the number of outstanding shares as of December 31, 2023. The payment was made in two different installments on April 3, 2024 and June 26, 2024 to our minority shareholders. The payment to the majority shareholder was made before December 31, 2024, taking into account the payment schedule of the balance of the Fuel Price Stabilization Fund (FEPC) corresponding to its 2023 accumulation.

On March 30, 2023, our shareholders at the ordinary General Shareholder's Assembly approved an ordinary dividend of 60% of our net income for the fiscal year ended December 31, 2022 amounting to COP 20,023,830 million, or COP 487 per share, and an extraordinary dividend of 13% of our net income for the above mentioned fiscal year, amounting to COP 4,358,369 million or COP 106 per share; both based on the number of outstanding shares as of December 31, 2022. The payment was made in three different installments on April 27, September 28 and December 21, 2023 to our minority shareholders amounting COP 2,806,020 and for the majority shareholder, the total dividend payment was offset against the accounts receivable from the FEPC for the amount of COP 21,576,179 million.

On March 30, 2022, our shareholders at the ordinary General Shareholders' Assembly approved an ordinary dividend of 59.8% of our net income for the fiscal year ended December 31, 2021 amounting to COP 9,991,356 million, or COP 243 per share, and an extraordinary dividend of 9.1% of our net income for the abovementioned fiscal year, amounting to COP 1,521,317 million, or COP 37 per share; both based on the number of outstanding shares as of December 31, 2021. The payment was made on April 21, 2022 to our minority shareholders and no later than September 30, 2022 to the majority shareholder.

On June 17, 2022, our shareholders at an extraordinary General Shareholders' Assembly, approved: (i) to extend the deadline for the payment of dividends to the Nation, originally approved in the General Shareholders' Assembly of March 30, 2022, from September 30 to October 31, 2022, and (ii) to distribute the Company's special reserve that had been approved in the General Shareholder's Assembly held on March 30, as an extraordinary dividend of COP 168. The payment of the dividend for minority shareholders was made in a single payment on June 30, 2022, and for the majority shareholder, the total dividend payment was offset against the accounts receivable from the FEPC.

Ecopetrol S.A. S.A. is required to maintain legal reserves equal to 50% of its subscribed capital. If the legal reserves are less than 50% of subscribed capital, we intend to allocate 10% of net income to our legal reserves on an annual basis until our legal reserves meet the required level.

See section *Financial Review—Liquidity and Capital Resources—Dividends*.

6.3 Market and Market Prices

Registration and Transfer of Shares

Under Colombian law, transfers of shares must be registered on the issuer's stock ledger. Only those holders registered on the stock ledger are considered by law as shareholders. Ecopetrol S.A.'s shares are in electronic form, other than those shares held by the Nation, which are in physical form.

Transfers of electronic shares is required to be negotiated through the Colombian Stock Exchange. In Colombia, only brokers called Sociedades Comisionistas de Bolsa are authorized to make the transfer of shares through the Colombian Stock Exchange. The transfer of shares is registered in the Centralized Security Deposit (*Depósito Centralizado de Valores*) or DECEVAL, through the relevant stockbrokers. DECEVAL records the share transfer on its systems, to make the corresponding registration in the issuer stock ledger.

Under Colombian legislation, if a transfer of shares has a value equivalent to or higher than 66,000 UVR (the UVR was COP 376.78 as of December 31, 2024) it must be made through the Colombian Stock Exchange (BVC) if the shares are registered with the BVC. Otherwise, shareholders can freely negotiate a transfer of shares.

Nevertheless, pursuant to Decree 2555 of 2010 Article 6.15.1.1.2 the following transfers are not required to be performed through the BVC:

- Transfers between shareholders who are considered to be the same beneficial owner;
- Transfer of shares owned by financial institutions, under supervision of the SFC, that are in a liquidation process;
- Repurchases of shares by the issuer;
- Property delivered in lieu of payment, or payment of money or other valuable property, different than the amount owed or demanded, in exchange for the payment of the debt;
- Transfer of shares made by the Nation or the Financial Institutions Warranty Fund (*Fondo de Garantías de Instituciones Financieras*) or FOGAFIN;
- Transfer of shares issued abroad by Colombian companies, provided they take place outside Colombia;
- Transfer of shares issued by foreign companies, offered through a public offering in Colombia, provided that they take place outside Colombia;
- Transfers made by the Central Counterparty Risk Chamber, in accordance with the provisions of paragraph 2 of Article 2.13.1.1.1. of this Decree; and
- Any other transaction specifically authorized by the SFC to take place outside the BVC.

For the purposes described above, multiple transfer transactions made within one hundred twenty (120) calendar days, between the same parties on shares of the same issuer and under similar conditions, are considered a single transfer.

6.4 Description of Ecopetrol Registered Debt Securities

Ecopetrol S.A. has issued the following classes of registered notes under an indenture (the Indenture), dated as of July 23, 2009, and amended as of June 26, 2015, between the Company and the Bank of New York Mellon, as trustee:

1. 8.625% Notes due 2029
2. 6.875% Notes due 2030
3. 4.625% Notes due 2031
4. 7.750% Notes due 2032
5. 8.875% Notes due 2033
6. 8.375% Notes due 2036
7. 7.375% Notes due 2043

8. 5.875% Notes due 2045
9. 5.875% Bonds due 2051

Please refer to Exhibits 4.10, 4.11, 4.12, 4.13, 4.14, 4.15, 4.16, 4.17, 4.18, 4.19, and 4.38 to this Annual Report for the information relating to these debt securities required by Item 12.A of Form 20 - F.

6.5 Description of Ecopetrol ADRs

Fees and Charges That a Holder of Our ADSs May Have to Pay, Either Directly or Indirectly

JPMorgan Chase Bank, N.A., our Depositary, may charge each person to whom ADSs are issued, including, without limitation, issuances against deposits of shares, issuances in respect of share distributions, rights and other distributions, issuances pursuant to a stock dividend or stock split declared by us or issuances pursuant to a merger, exchange of securities or any other transaction or event affecting the ADSs or Deposited Securities, and each person surrendering ADSs for withdrawal of Deposited Securities in any manner permitted by the Deposit Agreement or whose ADSs are cancelled or reduced for any other reason, USD 5.00 for each 100 ADS (or any portion thereof) issued, delivered, reduced, cancelled or surrendered, as the case may be. The Depositary may sell (by public or private sale) sufficient securities and property received in respect of a share distribution, rights and/or other distribution prior to such deposit to pay such charge.

The Depositary collects its fees for issuance and cancellation of ADSs directly from investors depositing common shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them. The Depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of distributable property to pay the fees. The Depositary may collect its annual fee for Depositary services by deduction from cash distributions, or by directly billing investors, or by charging the book-entry system accounts of participants acting for them. The Depositary may generally refuse to provide services to any holder until the fees and expenses owing by such holder for those services or otherwise are paid.

The following additional charges may be incurred by holders of ADRs, by any party depositing or withdrawing common shares or by any party surrendering ADSs and/or to whom ADSs are issued (including, without limitation, issuance pursuant to a stock dividend or stock split declared by us or an exchange of stock regarding the ADRs or the Deposited Securities or a distribution of ADSs), whichever is applicable:

- A fee of USD 0.05 or less per ADS for any cash distribution made pursuant to the Deposit Agreement;
- A fee for the distribution of securities (or the sale of securities in connection with a distribution), such fee being in an amount equal to the fee for the execution and delivery of ADSs which would have been charged as a result of the deposit of such securities (treating all such securities as if they were common shares) but which securities or the net cash proceeds from the sale thereof are instead distributed by the Depositary to those holders of ADRs entitled thereto;
- An aggregate fee of up to USD 0.05 per ADS per calendar year (or portion thereof) for services performed by the Depositary in administering the ADRs (which fee may be charged on a periodic basis during each calendar year and shall be assessed against holders of ADRs as of the record date or record dates set by the Depositary during each calendar year and shall be payable in the manner described in the next succeeding provision);
- A fee for the reimbursement of such fees, charges and expenses as are incurred by the Depositary and/or any of the Depositary's agents (including, without limitation, the custodian and expenses incurred on behalf of holders of ADRs in connection with compliance with foreign exchange control regulations or any law or regulation relating to foreign investment) in connection with the servicing of our common shares or other Deposited Securities, the sale of securities (including, without limitation, Deposited Securities) and the delivery of Deposited Securities or otherwise in connection with the Depositary's or its custodian's compliance with applicable law, rule or regulation (which fees and charges shall be assessed on a proportionate basis against registered holders of ADRs as of the record date or dates set by the Depositary and shall be payable at the sole discretion of the Depositary by billing such holders of ADRs or by deducting such charge from one or more cash dividends or other cash distributions);
- Stock transfer or other taxes and other governmental charges;
- SWIFT, cable, telex and facsimile transmission and delivery charges incurred at the request of a holder of ADRs;

- Transfer or registration fees for the registration of transfer of Deposited Securities on any applicable register in connection with the deposit or withdrawal of Deposited Securities; and
- In connection with the conversion of foreign currency into U.S. dollars, the Depositary shall deduct out of such foreign currency the fees, expenses and other charges charged by it or the Depositary's agent (which may be a division, branch or affiliate) so appointed in connection with such conversion. The Depositary and/or the Depositary's agent may act as principal for such conversion of foreign currency. Such charges may at any time and from time to time be changed by agreement between us and the Depositary.
- We will pay all other charges and expenses of the Depositary and any agent of the Depositary (except the custodian) pursuant to agreements from time to time between us and the Depositary. The fees described above may be amended from time to time.

Fees and Other Direct and Indirect Payments Made by the Depositary to Us

Our Depositary has agreed to reimburse us for certain expenses we incur that are related to establishment and maintenance of the ADR program, including investor relations expenses and exchange application and listing fees. In 2022, reimbursements were made in the amount of approximately USD 1,200,000. In 2023, reimbursements were made in the amount of approximately USD 2,591,158. In 2024, reimbursements were made in the amount of approximately USD 2,705,924.38. For more information, see section *Recent Developments-Temporal reduction in the conversion cost of Ecopetrol's ADR*.

Other

Please refer to Exhibit 2.1 to this annual report for the remaining information relating to our American Depositary Shares required by Item 12.D of Form 20-F.

6.6 Taxation

6.6.1 Colombian Tax Considerations

The following is a general description of the Colombian tax considerations for investments in common shares in Colombia or for the purchase of ADSs, in a foreign securities market. This description is based on applicable law in effect as of the date of this annual report is issued, which may be subject to changes.

Prospective purchasers of common shares or ADSs should consult their own tax advisors for a detailed analysis of the tax consequences in Colombia, resulting from the acquisition, ownership and disposition of common shares or ADSs.

General Rules

Colombian entities and individuals who are deemed to be residents within the Colombian national territory for Colombian tax purposes are subject to Colombian income tax on their worldwide income. Foreign entities and individuals who are not deemed to be residents in Colombia, are subject to income tax in Colombia only with respect to their Colombian-source income, which is generally defined as income obtained from (i) the rendering of services inside Colombian territory, (ii) the exploitation of tangible and intangible assets in Colombia, and (iii) the sale of tangible or intangible assets that are located inside Colombian territory at the time of the sale among others. Double taxation treaties signed by Colombia, if applicable, may provide for special regulations regarding income taxation. Until 2018, foreign residents deriving income through a permanent establishment were subject to Colombian income tax on the Colombian source income attributable to their permanent establishment only. As of 2019, foreign tax residents deriving income through a permanent establishment will be subject to Colombian income tax on their global source income attributable to their permanent establishment in Colombia.

Dividends paid by Colombian companies, as well as profits distributed by branches/permanent establishments of foreign entities, are deemed as a dividend and as Colombian income. However, the applicable tax depends on an imputation system set forth in Articles 48 and 49 of the Colombian Tax Code. For more information related to the Colombian dividends tax regime, see Risk Review—Risk Factors—Risks Related to Colombia's Political and Regional Information.

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As mentioned above, Law 1819 of 2016 created a new dividends tax that applies on all dividend distributions to Colombian individuals or to any type of non-resident shareholder, absent any specific treaty or exception, regardless that dividends are paid from taxed or untaxed profits. According to the aforementioned law, dividend payments made to foreign shareholders out of profits accrued at the corporate level as of 2017 were subject to a 5% withholding. That rate was subsequently modified by Law 1943 of 2018, which increased it to 7.5% and extended dividend taxation to intercompany dividends between Colombian resident companies (with certain exceptions).

From fiscal year 2022 onwards, a withholding tax on dividends paid applies as follows:

- (i) Dividends paid to non-resident shareholders: (i) a 10% dividend tax on dividends distributed from profits taxed at the corporate level (except that dividends paid to non-resident shareholders out of profits taxed at the corporate level prior to and including December 31, 2016, are not subject to this tax); or (ii) 35% withholding tax rate on dividends distributed from profits not taxed at the corporate level, plus an additional 10% dividend tax after applying the initial 35% withholding tax rate (i.e., 41.5% in 2022).
- (ii) For Colombian individuals: dividend income in excess of 300 UVT are taxed at a 10% rate, in respect of profits taxed at the corporate level; and 31% withholding tax rate on dividends distributed from profits not taxed at the corporate level, plus an additional 10% dividend tax after applying the initial 35% withholding tax rate.

From fiscal year 2023 onwards, dividend taxation will be as follows:

- (i) Dividends paid to non-resident shareholders: (i) a 20% dividend tax on dividends distributed from profits taxed at the corporate level (except that dividends paid to non-resident shareholders out of profits taxed at the corporate level prior to and including December 31, 2016 are not subject to this tax); or (ii) 35% withholding tax rate on dividends distributed from profits not taxed at the corporate level, plus additional 20% dividend tax after applying the initial 35% withholding tax rate.
- (ii) For Colombian individuals: dividend income in excess of 1,090 UVT are taxed at progressive rates up to 39% in respect of profits taxed at the corporate level, and 35% withholding tax rate on dividends distributed from profits not taxed at the corporate level, plus an additional dividend tax (at the aforementioned progressive rates) after applying the initial 35% withholding tax rate. Additionally, resident individuals may take a marginal 19% discount on the portion of dividend income exceeding 1,090 UVT in the same taxable period.

Relief or reduced tax rates may apply under an applicable treaty to avoid double taxation, but the application of any such rules must be analyzed on a case-by-case basis.

For Colombian tax purposes, an individual is considered a Colombian resident when he/she meets any of the following criteria:

- (i) He/she remains in Colombia continuously or discontinuously for more than 183 calendar days within any given 365-consecutive-day term;
- (ii) He/she is related to the Colombian Government's foreign service or to individuals who are in the Colombian Government's foreign service and who, by virtue of the Vienna Conventions on diplomatic and consular relations, are exempted from taxes during the time of their service; or
- (iii) He/she is a Colombian national and meets one or more of the following:
 - Has a spouse or permanent companion, or dependent children, who are tax residents in Colombia, or
 - 50% or more of his or her total income is Colombian source income, or
 - 50% or more of his or her assets are managed in Colombia, or
 - 50% or more of his or her assets are deemed to be located or possessed in Colombia, or
 - Has failed to provide proof of residency in another country (different from Colombia) upon previous official request by the Colombian tax office, or

- He/she has a tax residency in a country considered by the Colombian Government to be a low tax jurisdiction or a tax haven.

Law 1739 of 2014 clarifies that Colombian nationals who otherwise falls under point (iii) above will not be deemed tax residents if meet any of the following conditions:

- If more than 50% of his or her annual income has its source in the jurisdiction where he or she is domiciled and whose country of domicile is not Colombia.
- If more than 50% of his/her assets are located in the jurisdiction where he or she is domiciled and whose country of domicile is not Colombia.

For purposes of Colombian taxation, an entity is deemed to be a “national” or a “Colombian entity” and, therefore, subject to taxation in Colombia on its worldwide income, if it meets any of the following criteria:

- It has its place of effective management, in Colombia during the corresponding year or taxable period;
- It has its main domicile in the Colombian territory; or
- It has been incorporated in Colombia, in accordance with Colombian laws.

Pursuant to the Colombian Tax Code, a foreign company or non-resident individual has a permanent establishment in Colombia when said company or individual performs activities in Colombia through: (i) a fixed place of business (i.e., branches, factories or offices), or (ii) an individual who is not an independent agent empowered to execute agreements on behalf of the foreign company. As noted above, until 2018 permanent establishments were considered Colombian taxpayers in connection with their Colombian source income. As of fiscal year 2019, foreign residents deriving income through a Colombian permanent establishment are subject to Colombian income tax on the worldwide income attributable to the Colombian permanent establishment. A foreign company or entity will not be deemed to have a permanent establishment by the sole fact that it acts through a broker or any other independent agent provided that such persons act in the ordinary course of their business. However, if the independent agent conducts all or nearly all its activities on behalf of that company, and the commercial or financial conditions established between independent enterprises, that agent will no longer be considered an independent agent for these purposes. In addition, passive-income generating activities, such as dividends, royalties and interests, typically do not qualify as entrepreneurial and are not deemed to create permanent establishments.

Tax Treatment of a Non-Colombian Entity and a Non-Resident Individual of Colombia Who Purchases an ADS in a Foreign Securities Market

Dividends

As a general rule, dividends paid to foreign companies, foreign entities or non-resident individuals who are investing in ADSs which underlying assets are Colombian shares are treated as Colombian-source income and are thus subject to Colombian income tax.

To avoid double taxation, dividends paid by Colombian entities are not subject to income tax at the shareholder level when they are paid out of corporate profits that have been previously taxed at the corporate level. For fiscal years 2017 and 2018, a withholding tax on dividends was triggered for dividends paid to non-resident shareholders. Withholding tax rates on dividends were as follows: (i) a 5% dividend tax for dividends distributed out of profits already taxed at the company’s level; (ii) 35% withholding tax rate for dividends distributed out of profits that were not taxed at the company’s level, plus a 10% dividend tax rate after having applied and deducted the initial 35% withholding. Note that dividends paid to non-resident shareholders out of profits taxed at the corporate level until December 31, 2016, are not subject to the aforementioned 10% dividend tax or any other income tax. As of 2021, the withholding tax rates applicable to dividends paid to resident companies and non-resident shareholders (companies and individuals) are: i) a 7.5% or 10% tax on dividends, as applicable, distributed from profits taxed at the corporate level (except that dividends paid to non-resident shareholders out of profits taxed at the corporate level prior to and including December 31, 2016, are not subject to this tax); and (ii) 35% withholding tax rate on dividends distributed from profits not taxed at the corporate level, plus an additional 7.5% or 10%, as applicable, dividend tax after applying the initial 35% withholding tax rate.

From the fiscal year 2023 and onwards, applicable tax rates on dividends paid to non-resident shareholders are as follows: (i) a 20% dividend tax on dividends distributed from profits taxed at the corporate level (except that dividends paid to non-resident shareholders out of profits taxed at the corporate level prior to and including December 31, 2016 are not subject to this tax); or (ii) 35% withholding tax rate on dividends distributed from profits not taxed at the corporate level, plus additional 20% dividend tax after applying the initial 35% withholding tax rate.

Further to the above, non-resident entities or non-resident individuals whose investment qualifies as portfolio investments (i.e., investing through a Foreign Funds Administration Account - FFAA) will be taxed upon distribution by means of a withholding tax mechanism. In this case, pursuant to Article 18-1 of the Colombian Tax Code, the applicable withholding tax rate on taxable dividends is 25%, assuming that the dividends cannot be attributed to a permanent establishment in Colombia belonging to the shareholder and were not subject to taxation at the corporate level. The abovementioned 10% or 20% dividend tax rates, as applicable, apply on the balance of dividends to be distributed to the shareholder investing through an FFAA, or on the gross amount in such cases the dividend is paid out of profits that were subject to taxation at the corporate level. These foreign shareholders subject to this withholding tax are not required to file an income tax return in Colombia.

Taxation of Capital Gains from the Sale of ADSs

Capital gains obtained from the sale of ADSs by non-Colombian entities, Colombian individuals who are non-residents in Colombia and foreign non-resident individuals, are not subject to income tax in Colombia, as such sale does not generate Colombian-source income to the extent that the ADSs are not deemed to be sourced in Colombia. If the holder of the ADSs who is a non-resident entity, a Colombian individual who is not a resident in Colombia or a foreign non-resident individual, decides to surrender the ADSs and withdraw the underlying common shares, it is arguable that such transaction does not generate a capital gain subject to income tax in Colombia. However, different interpretations may be adopted by the Colombian Tax Authorities on this matter.

Tax Treatment in Colombia of a Non-Colombian Entity and a Non-Resident Individual of Colombia Who Purchases Ecopetrol's Shares in Colombia's Securities Market.

Dividends

As a general rule, dividends paid to foreign companies, foreign entities, or to non-resident individuals in Colombia, who are investing in Colombian shares directly or through a FFAA, are treated as national-source income; thus, they are subject to Colombian income tax.

The dividend tax regime was modified and, as of 2022, is as follows:

- (i) Dividends paid to non-resident shareholders: (i) a 10% dividend tax on dividends distributed from profits taxed at the corporate level (except that dividends paid to nonresident shareholders out of profits taxed at the corporate level prior to and including December 31, 2016, are not subject to this tax); or (ii) 35% withholding tax rate on dividends distributed from profits not taxed at the corporate level, plus an additional 10% dividend tax after applying the initial 35% withholding tax rate (i.e., 41.5% in 2022).
- (ii) Dividends paid to Colombian companies: (i) a 7.5% dividend tax on dividends distributed from taxed profits, or (ii) a 35% withholding tax on dividends distributed from untaxed profits, plus an additional 7.5% dividend tax on the balance of the dividend amount after the initial 35% withholding.
- (iii) For Colombian resident individuals: dividend income in excess of 300 UVT is taxed at a rate of 10%, for fiscal years 2021 onwards in respect of profits taxed at the corporate level; and 35% withholding tax rate on dividends distributed from profits not taxed at the corporate level, plus an additional 10% dividend tax after applying the initial 35% withholding tax rate.

From fiscal year 2023 onwards, dividend taxation will be as follows:

- (i) Dividends paid to non-resident shareholders: (i) a 20% dividend tax on dividends distributed from profits taxed at the corporate level (except that dividends paid to non-resident shareholders out of profits taxed at the corporate level prior to and including December 31, 2016 are not subject to this tax); or (ii) 35% withholding tax rate on dividends distributed from profits not taxed at the corporate level, plus additional 20% dividend tax after applying the initial 35% withholding tax rate.

- (ii) For Colombian individuals: dividend income in excess of 1,090 UVT are taxed at progressive rates up to 39% in respect of profits taxed at the corporate level, and 35% withholding tax rate on dividends distributed from profits not taxed at the corporate level, plus an additional dividend tax (at the aforementioned progressive rates) after applying the initial 35% withholding tax rate.

Non-resident entities or non-resident individuals whose investment qualifies as portfolio investment (i.e., investing through a FFAA), will be taxed upon distribution by means of the withholding tax mechanism. In this case withholding will apply at 25% on dividends that are distributed by the Colombian entity are not taxed at the corporate level. Pursuant to Article 18-1 of the Colombian Tax Code, assuming that the dividends cannot be attributed to a permanent establishment in Colombia belonging to the shareholder. These foreign shareholders subject to this withholding tax are not required to file an income tax return in Colombia, nevertheless those rules would not apply to foreign investments whereby the final beneficiary is a tax resident in Colombia who has control over such investments. This treatment was modified by Law 1943/2018 and Law 2010/2019. See section Financial Review—Effect of Taxes, Exchange Rate.

Variation, Inflation and the Price of Oil on our Results—Taxes—Taxes.

In addition to the above, the new dividend tax will apply at a 5% rate over dividends distributed from profits taxed at the corporate level. This treatment was modified by Law 1943 of 2018 and Law 2010 of 2019 (7.5% in 2019 and 10% from 2020 onwards). See section Financial Review—Effect of Taxes, Exchange Rate Variation, Inflation and the Price of Oil on our Results—Taxes.

Taxation of Capital Gains for the Sale of Shares

Pursuant to Article 36 - 1 of the Colombian Tax Code, capital gains derived from the sale of shares listed on the BVC and owned by the same beneficial owner, are deemed as non-taxable income in Colombia, provided that the shares sold during the same taxable year do not represent more than 10% (3% as of 2023) of the outstanding shares of the listed company. Pursuant to Section 1.6.1.13.2.19 of Regulatory Decree 1625 of 2016, sellers of shares are not required to file an income tax return for the transfer of securities that are listed in the National Registry of Securities and Issuers (*Registro Nacional de Valores y Emisores*) as long as the foreign investment is treated as a portfolio investment according to Article 3 of Decree 2080 of 2000 (currently compiled in Article 2.17.2.2.1.2 of Decree 1068 of 2015) and the abovementioned 10% (3% as of 2023) threshold is not surpassed.

If the abovementioned requirements are not met, the capital gain obtained in the sale of shares is subject to income tax or capital gains tax, under the following rules:

- (i) The gain or loss arising therefrom will be the difference between the sale price and the tax basis of the shares. As a general rule, the tax basis of shares is equal to the price paid for such shares (i.e., cost of acquisition).
- (ii) The applicable tax rate and the withholding tax rate have to be determined on a case-by-case basis. Generally, if the shares have been owned for at least two years and qualify as fixed assets (i.e., they are not sold within their ordinary course of business), the profits from the sale will qualify as capital gains taxable at 15%; otherwise, profits will qualify as ordinary income, subject to a 33% income tax for fiscal year 2021 (2022 onwards – 35%).

Tax Treatment of Non-Residents Who Purchase Ecopetrol's Shares in the BVC Market and Exchange Them for ADSs

Dividends

Payment of dividends by Colombian entities to foreign companies, foreign entities or to non-resident individuals who are investing in ADSs which underlying assets are Colombian shares or in Colombian shares directly are subject to the tax treatment described above.

Taxation on Capital Gains for the Sale of Shares

If the holder of the Colombian shares is a non-resident entity, a Colombian individual who is not a resident in Colombia or a foreign non-resident individual, and such holder decides to exchange such common shares for ADSs, it is arguable that such transaction should not generate a capital gain subject to income tax in Colombia. However, different interpretations may be adopted by the Colombian tax authorities on this matter. For instance, assuming that the exchange of securities is treated as a sale of Ecopetrol S.A.'s shares, the seller would be subject to the tax treatment described above in connection with the taxation of capital gains for the sale of shares. Absent any specific rules or regulations addressing this specific situation, a case-by-case analysis would be necessary.

Extraordinary Taxes Decreed Under Decree 175 of 2025

Decree 175 introduced tax measures intended to address the state of internal commotion declared by the National Government through Decree 062 of 2025. These measures include the introduction of two new taxes: (i) the special tax for the Catatumbo; and (ii) the reactivation of the stamp tax rate. Both taxes are temporary and will be in effect from February 22, 2025, through December 31, 2025.

Special Tax for the Catatumbo

This tax applies to: (i) the first sale of hydrocarbons and coal within or from Colombia; and (ii) the submission and acceptance of the export clearance request for hydrocarbons and coal for outside Colombia.

Decree 175 specifies that the taxable products are those classified under the following tariff classifications: 27.01 (Coal; briquettes, ovoids, and similar solid fuels manufactured from coal); 27.09 (Crude petroleum oils or oils obtained from bituminous minerals).

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Below are the main elements of this tax, based on the taxable event:

Element	First sale within or from the national territory	Exports
Moment of accrual	Occurs upon issuance of the invoice, or upon the first delivery if no invoice is issued. Hydrocarbons received by the ANH as royalty payments only trigger the tax at the time of export	Occurs upon filing and acceptance of the export clearance request for shipments outside the country. If the party extracting hydrocarbon or coal is also the direct exporter, the tax only accrues upon the sale. From the first clarification, it follows that the tax may accrue twice if the extractor and the exporter are not the same entity. In that scenario, the tax is triggered (i) at the time of the first sale, and (ii) upon export.
Tax Base	Sale Price	The FOB value (in pesos) of the product. If the amount is in U.S. dollars, the exchange rate (TRM) on the date of filing and acceptance of the export clearance request shall apply.
Rate	1%	1%
Taxable and responsible party	Any individual or legal entity that sells hydrocarbons.	Any individual or legal entity that carries out definitive export operations.
Collection	Must be remitted within the first five business days of each month, consolidating the previous month's sales transactions.	Must be paid at the time the export clearance request is filed and accepted. This rule applies to clearance requests filed and accepted on or after February 22, 2025. In the event the export clearance request contains provisional data that differs from the final data reported in the export return, the Decree 175 authorizes: (i) payment of any additional tax amount within ten business days after the final export return is filed; or (ii) a refund request if there is an overpayment.
Penalties	- Non filing/non-payment: A penalty equal to 20% of the tax due. - Late filing: A penalty of 5% of the tax due for each month or fraction thereof, not to exceed 100% of the tax liability. - Underpayment: If corrected before a special assessment notice, a penalty of 10% of the additional tax due; if corrected after the special assessment notice, a penalty of 20%.	Any incomplete payment of the tax triggers a penalty of 5% on the FOB value of the goods, without prejudice to the calculation and payment of the outstanding tax amount and any applicable interest.

Reactivation of the Stamp Tax Rate

Law 1111 of 2006 had progressively reduced the stamp tax rate to 0% as of taxable year 2010. Decree 175 reinstates a 1% stamp tax rate applicable to public or private documents that meet the following conditions:

- (i) Are executed or accepted within Colombia or are executed abroad but enforced in Colombian territory.
- (ii) Give rise to obligations in Colombia, whereby the creation, existence, modification, or termination of obligations is recorded, including extensions or assignments, with an amount exceeding 6,000 UVT (COP 298,794,000 in 2025).

A document is subject to stamp tax if the grantor, acceptor, or signatory is: (i) a legal entity; (ii) an individual who is a merchant and who, in the previous taxable year, obtained gross income or held gross assets exceeding 30,000 UVT (COP 1,493,970,000 in 2025).

The tax is collected through withholding at source, whereby: if a public entity is involved, that public entity acts as the withholding agent; a notary acts as the withholding agent in the case of public deeds; for other documents, the withholding agent is the contracting party, acceptor, or signatory.

For installment-based or periodic contracts, the tax base is the total amount of the periodic payments due under the contract. If the contract amount is undetermined, the stamp tax applies to each individual payment made during the contract's term.

This is an instantaneous tax, and the withheld amount must be reported in the monthly withholding tax return.

6.6.2 U.S. Federal Income Tax Consequences

This summary describes the principal U.S. federal income tax consequences of the ownership and disposition of common shares or ADSs, but it does not purport to be a comprehensive description of all of the U.S. tax consequences that may be relevant to a decision to hold or dispose of common shares or ADSs. This summary applies only to purchasers of common shares or ADSs who will hold the common shares or ADSs as capital assets for U.S. federal income tax purposes and does not apply to special classes of holders such as dealers in securities or currencies, holders whose functional currency is not the U.S. dollar, holders of 10% or more of our shares (taking into account shares held directly or through depositary arrangements) by vote or by value, tax-exempt organizations, financial institutions, holders liable for the alternative minimum tax, securities traders who elect to account for their investment in common shares or ADSs on a mark-to-market basis, partnerships or other pass-through entities or arrangements and investors therein, insurance companies, U.S. expatriates, persons that purchase or sell common shares or ADSs as part of a wash sale for tax purposes, and persons holding common shares or ADSs in a hedging transaction or as part of a straddle, conversion or other integrated transaction for U.S. federal income tax purposes. The statements regarding U.S. tax law set forth in this summary are based on the Internal Revenue Code of 1986, as amended, the "Code," its legislative history, existing and proposed U.S. Treasury regulations, published rulings and court decisions, all as in force on the date of this annual report, and changes to such law subsequent to the date of this annual report may affect the tax consequences described herein (possibly with retroactive effect). This summary is also based in part on the representations of the Depositary and the assumption that each obligation in the Deposit Agreement and any related agreement will be performed in accordance with its terms.

Each holder is encouraged to consult such holder's tax advisor concerning the overall tax consequences to it, including the consequences under laws other than U.S. federal income tax laws, of an investment in common shares or ADSs. In this discussion, references to a "U.S. Holder" are to a beneficial owner of a common share or an ADS that is for U.S. federal income tax purposes (1) an individual citizen or resident of the United States, (2) a corporation, or any other entity taxable as a corporation, organized under the laws of the United States, any state thereof or the District of Columbia, (3) an estate whose income is subject to U.S. federal income tax regardless of its source, or (4) a trust if (i) a United States court can exercise primary supervision over the trust's administration and one or more United States persons are authorized to control all substantial decisions of the trust or (ii) it has in effect a valid election under applicable U.S. Treasury regulations to be treated as a U.S. person.

For U.S. federal income tax purposes, holders of ADSs generally will be treated as owners of the common shares represented by such ADSs.

This discussion does not address any aspect of U.S. federal taxation other than U.S. federal income taxation (such as the estate and gift tax or the Medicare tax on net investment income). Holders of common shares or ADSs should consult their own tax advisor regarding the U.S. federal, state and local and other tax consequences of owning and disposing of common shares and ADSs in their particular circumstances.

Distributions on Common Shares or ADSs

A distribution to U.S. Holders made by us of cash or property with respect to common shares or ADSs generally will be treated as a dividend for U.S. federal income tax purposes to the extent paid out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles). Distributions in excess of our current or accumulated earnings and profits, as determined for U.S. federal income tax purposes, will be treated first as a tax-free return of capital reducing such U.S. Holder's adjusted tax basis in the common shares or ADSs. Any distribution in excess of such adjusted tax basis will be treated as capital gain and will be either long-term or short-term capital gain depending upon whether the U.S. Holder held the common shares or ADSs for more than one year. Distributions of additional common shares or ADSs to U.S. Holders that are part of a pro rata distribution to all of our shareholders generally will not be subject to U.S. federal income tax. We do not maintain calculations of our earnings and profits under U.S. federal income tax principles, and, therefore, except as described in the previous sentence, U.S. Holders should expect that any distributions generally will be reported as dividends for U.S. federal income tax purposes. As used below, the term "dividend" means a distribution that constitutes a dividend for U.S. federal income tax purposes. The amount of any distribution will include the amount of any Colombian tax withheld on the amount distributed, and the amount of a distribution paid in Colombian Pesos will be measured by reference to the exchange rate for converting Colombian Pesos into U.S. dollars in effect on the date the distribution is received by the Depositary (or by a U.S. Holder in the case of a holder of common shares) regardless of whether the payment is in fact converted into U.S. dollars. If the Depositary (or U.S. Holder in the case of a holder of common shares) does not convert such Colombian Pesos into U.S. dollars on the date it receives them, generally, any gain or loss resulting from currency exchange fluctuations during the period from the date the dividend payment is included in income to the date the payment is converted into U.S. dollars will be treated as ordinary income or loss and will not be eligible for the special tax rate applicable to qualified dividend income (as discussed below). The gain or loss generally will be income or loss from sources within the United States for foreign tax credit limitation purposes. Dividends paid by us will not be eligible for the dividends received deduction allowed to corporations under the Code.

If you are a non-corporate U.S. Holder, dividends that constitute qualified dividend income will be taxable to you at the preferential rates applicable to long-term capital gains, provided that you meet certain holding requirements. Dividends paid on the ADSs will be treated as qualified dividend income if (1) the ADSs are readily tradable on an established securities market in the United States and (2) we were not, in the year prior to the year in which the dividend was paid, and are not, in the year in which the dividend is paid, a passive foreign investment company (PFIC). The ADSs are listed on the New York Stock Exchange and will qualify as readily tradable on an established securities market in the United States, as long as they are so listed. Based on our audited financial statements and relevant market and shareholder data, we believe that we were not treated as a PFIC for U.S. federal income tax purposes with respect to our 2024 year. In addition, based on our audited financial statements and our current expectations regarding the value and nature of our assets, the sources and nature of our income, and relevant market and shareholder data, we do not anticipate becoming a PFIC for the 2025 taxable year. However, this conclusion is a factual determination that is made annually and thus may be subject to change. Based on existing guidance, it is not clear whether dividends received with respect to the common shares will be treated as qualified dividends. Holders of ADSs and common shares should consult their own tax advisers regarding the availability of the reduced dividend tax rate in the light of the considerations discussed above and their own particular circumstances.

A U.S. Holder may be eligible, subject to a number of complex limitations and conditions and the Foreign Tax Credit Regulations (as defined below), to claim a U.S. foreign tax credit in respect of any Colombian income taxes withheld on dividends received on common shares or ADSs. For purposes of calculating the foreign tax credit, dividends paid on our common shares or ADSs will be treated as income from sources outside of the United States and will generally constitute passive category income. However, Treasury regulations that apply to taxes paid or accrued in taxable years beginning on or after December 28, 2021 (the Foreign Tax Credit Regulations) impose additional requirements for foreign taxes to be eligible for a foreign tax credit, and there can be no assurance that those requirements will be satisfied. A recent notice from the IRS provides temporary relief from the Foreign Tax Credit Regulations by allowing taxpayers to apply a modified version of the regulations for taxable years ending before the date that a notice or other guidance withdrawing or modifying the temporary relief is issued (or any later date specified in such notice or other guidance), provided that the taxpayer consistently applies such modified version of the U.S. Treasury regulations and complies with specific requirements set forth in a previous notice. Any taxes imposed by Colombia on dividends received generally will qualify as potentially creditable taxes if a U.S. Holder applies a modified version of the U.S. Treasury regulations pursuant to the notice. However, a U.S. Holder will generally be denied a foreign tax credit for foreign taxes imposed with respect to the dividends where the U.S. Holder does not meet a minimum holding period requirement. In the case of all other U.S. Holders, the application of these requirements to the Colombian tax on dividends is uncertain and we have not determined whether these requirements have been met. If the Colombian tax is not a creditable tax or a U.S. Holder does not elect to claim a credit for any foreign income taxes paid during the taxable year, such U.S. Holder may instead, at such U.S. Holder's election, deduct such Colombian income taxes in computing U.S. taxable income, subject to generally applicable limitations and conditions. The rules relating to the eligibility and deductibility of foreign tax credits are extremely complex, and U.S. Holders are urged to consult their own independent tax advisors regarding the availability of foreign tax credits with respect to any Colombian income taxes withheld.

Sale, Exchange or Other Taxable Dispositions of Common Shares or ADSs

A U.S. Holder generally will recognize capital gain or loss upon the sale, exchange or other taxable disposition of common shares or ADSs in an amount equal to the difference between the U.S. dollar value of the amount realized on the sale, exchange or other taxable disposition of the common shares or ADSs and the U.S. Holder's adjusted tax basis, determined in U.S. dollars, in the common shares or ADSs. Any gain or loss will be long-term capital gain or loss if the common shares or ADSs have been held for more than one year. Certain non-corporate U.S. Holders (including individuals) may be eligible for preferential rates of U.S. federal income tax in respect of long-term capital gains. The deductibility of capital losses is subject to limitations under the Code.

If you are a U.S. Holder of common shares or ADSs, the initial tax basis of your common shares or ADSs will be the U.S. dollar value of the Colombian Peso-denominated purchase price determined on the date of purchase. If the common shares or ADSs are treated as traded on an "established securities market," a cash basis U.S. Holder, or, if it elects, an accrual basis U.S. Holder, will determine the dollar value of the cost of such common shares or ADSs by translating the amount paid at the spot rate of exchange on the settlement date of the purchase. Such an election by an accrual basis U.S. Holder must be applied consistently from year to year and cannot be revoked without the consent of the IRS. If you convert U.S. dollars to Colombian Pesos and immediately use that currency to purchase common shares or ADSs, such conversion generally will not result in taxable gain or loss to you. With respect to the sale or exchange of common shares or ADSs, the amount realized generally will be the U.S. dollar value of the payment received determined on (1) the date of receipt of payment in the case of a cash basis U.S. Holder and (2) the date of disposition in the case of an accrual basis U.S. Holder. If the common shares or ADSs are treated as traded on an "established securities market," a cash basis taxpayer, or, if it elects, an accrual basis taxpayer, will determine the U.S. dollar value of the amount realized by translating the amount received at the spot rate of exchange on the settlement date of the sale.

Deposits and withdrawals of common shares in exchange for ADSs, and of ADSs for common shares, generally will not result in the realization of gain or loss for U.S. federal income tax purposes.

Backup Withholding and Information Reporting

In general, dividends on common shares or ADSs, and payments of the proceeds of a sale, exchange or other taxable disposition of common shares or ADSs, paid within the United States, by a U.S. payer through certain U.S.-related financial intermediaries to a U.S. Holder are subject to information reporting and may be subject to backup withholding at a current rate of 24%, unless the holder (1) establishes that it is an exempt recipient or (2) with respect to backup withholding, provides an accurate taxpayer identification number and certifies that it is a U.S. person and that no loss of exemption from backup withholding has occurred.

Backup withholding is not an additional tax. The amount of any backup withholding tax from a payment to a U.S. Holder will be allowed as a credit against the U.S. Holder's U.S. federal income tax liability, provided that the required information is timely furnished to the IRS. A U.S. Holder generally may obtain a refund of any amounts withheld under the backup withholding rules that exceed its U.S. federal income tax liability by timely filing a refund claim with the IRS.

U.S. Tax Considerations for Non-U.S. Holders

A holder or beneficial owner of common shares or ADSs that is not a U.S. Holder for U.S. federal income tax purposes (a "non-U.S. Holder") generally will not be subject to U.S. federal income or withholding tax on dividends received on common shares or ADSs, unless the dividends are "effectively connected" with the non-U.S. Holder's conduct of a trade or business within the United States. In such a case, a non-U.S. Holder generally will be taxed in the same manner as a U.S. Holder. In the case of "effectively connected" dividends received by a corporate non-U.S. Holder, the corporate non-U.S. Holder may, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate.

A non-U.S. Holder of common shares or ADSs will not be subject to U.S. federal income or withholding tax on gain realized on the sale of common shares or ADSs, unless (i) the gain is "effectively connected" with the non-U.S. Holder's conduct of a trade or business in the United States or (ii) in the case of gain realized by an individual non-U.S. Holder, the non-U.S. Holder is present in the United States for 183 days or more in the taxable year of the sale and certain other conditions are met. In the case of "effectively connected" gains realized by a corporate non-U.S. Holder, the corporate non-U.S. Holder may, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate.

Although non-U.S. Holders generally are exempt from backup withholding and information reporting requirements, a non-U.S. Holder may be required to comply with certification and identification procedures in order to establish its exemption from information reporting and backup withholding.

6.7 Exchange Controls and Limitations

Certain foreign exchange transactions with foreign exchange control restrictions including international investments and some transactions between Colombian residents and non-Colombian residents must be conducted through the foreign exchange market. In Colombia, foreign investment transactions are subject to foreign exchange control restrictions, and the acquisition of shares registered in the National Registry of Securities and Issuers (*Registro Nacional de Valores y Emisores*). ADRs by non-residents are considered a type of portfolio investment and must be registered before the Colombian Central Bank. Therefore, any foreign currency income or expense under the ADRs must be transferred through the appropriate channels of the foreign exchange market, which means using an intermediary of the foreign exchange market or a bank account opened abroad of Colombia and registered as compensation account before the Colombian Central Bank.

Transactions conducted through intermediaries of the foreign exchange market are made at market rates freely negotiated with authorized intermediaries (local banks, financial corporations, administrators and others) or using a bank account opened abroad and registered as a compensation account (in this case, without effective conversion of the currencies into Colombian Pesos). Since September 25, 1999, the Colombian foreign exchange regime is structured under the system of free flotation of the exchange rate, whereby market forces determine the level of exchange rate from time to time.

Foreign portfolio investments must be made through authorized foreign exchange investment management companies, that will act as the administrator. Only brokerage firms, trust companies and investment management companies, subject to the inspection and supervision of the SFC, are allowed to act in the local Colombian stock market on behalf of foreign investors. Such brokerage firms, trust companies and investment management companies also act as the foreign investors' local representatives for tax, foreign exchange purposes, remittance of information and any other purpose defined by the supervisory entity.

Non-residents are also allowed to register the acquisition of shares registered in the National Registry of Securities and Issuers, as direct investments in Colombian companies. The registration must be completed before the Colombian Central Bank, considering the method of payment of the acquisition and the formalization of the agreement in accordance to which the acquisition has been made.

Colombian law provides that the Colombian Central Bank may regulate the foreign exchange regime at its own discretion at any time (i.e., it is allowed to temporarily limit the remittance of dividends from abroad whenever the international reserves of the Colombian Central Bank fall below an amount equal to three months of imports or those reserves are at the highest allowable level). Additionally, from time to time, the Colombian Government introduces amendments to the International Investment Statute. Hence, we cannot assure you that the Colombian Central Bank will not intervene in the future imposing restrictions to the free convertibility system currently applicable in Colombia. See section *Risk Review—Risk Factors—Risks Related to Colombia’s Political and Regional Environment*.

Registration of Foreign Investment Represented in Underlying Shares

Colombia’s International Investment Statute as approved by the Government and the foreign exchange regulations issued by the Colombian Central Bank, which have been amended from time to time through decrees and regulations, govern the manner in which non-Colombian resident entities and individuals can invest in Colombia and participate in the Colombian securities markets. Among other requirements, the International Investment Statute and Colombian Central Bank regulations establish the liability of registration of foreign investment transactions with the Colombian Central Bank and specify procedures to authorize and administer such foreign investment transactions. Additionally, pertinent information related to foreign investment transactions must be updated on a regular basis (on a monthly basis by the administrator with the submission of the “Statistical Report on Foreign Portfolio Equity Investments in Colombia - IPEXT”).

Under the International Investment Statute and Colombian Central Bank regulations, the failure of a foreign investor to report or register with the Colombian Central Bank foreign exchange transactions relating to investments in Colombia on a timely basis may (i) prevent the investor from obtaining remittance rights, (ii) constitute an exchange control infraction and (iii) result in economic fines.

Notwithstanding the regulations described above, foreign investors who acquire ADRs are not required to directly register this investment with Colombian authorities as such registration is made in the name of the ADR program administrator. Holders of ADRs will benefit from the registration to be obtained by the local custodian for our common shares underlying the ADRs in Colombia. Such registration allows the custodian to convert dividends and other distributions with respect to the common shares into foreign currency and remit the proceeds abroad. If investors in ADRs choose to surrender their ADRs and withdraw common shares, they must retain an administrator, who will act as a local representative for the investments and register their investments in common shares as a portfolio investment through said local representative. The local representative is the brokerage firm, trust company or investment management company that acts on behalf of the holders of the ADRs in Colombia, and the request for registration is made by them.

Colombian residents who acquire ADRs and either receive profits from this investment, surrender their ADRs or liquidate their investment in ADRs, are considered as a type of financial investment and/or in assets located abroad by resident in Colombian and in that case, may be registered with the Colombian Central Bank depending on whether the payment was performed using the foreign exchange market.

In case of obtaining its own foreign investment registration, an investor who surrenders its ADRs and sells common shares may incur expenses and/or suffer delays in the application process. Investors would only be allowed to transfer dividends abroad or transfer funds received as distributions relating to our common shares after their foreign investment registration procedure with the Colombian Central Bank has been completed. In addition, the Depositary’s foreign investment registration may also be adversely affected by future legislative changes, but its rights to transfer dividends abroad or profits arising from distributions relating to our common shares must be maintained according to Colombian law and foreign investment treaties entered into by Colombia in force at the time of the registration of the investment, except when Colombia’s international reserves fall below an amount equivalent to three months’ worth of imports. Prospective purchasers of common shares or ADSs should consult their own foreign exchange advisors.

6.8 Exchange Rates

On March 31, 2025, the Representative Market Exchange Rate was COP 4,192.57 per USD 1.00. The Federal Reserve Bank of New York does not report a noon-buying rate for Colombian Pesos. The SFC calculates the Representative Market Exchange Rate based on the weighted averages of the buy and sell foreign exchange rates quoted daily by foreign exchange rate market intermediaries including financial institutions for the purchase and sale of U.S. dollars. The SFC also calculates the Representative Market Exchange Rate for each month for purposes of preparing financial statements and converting amounts in foreign currency to Colombian Pesos.

6.9 Major Shareholders

The following table sets forth the names of our major shareholders, and the number of shares and the percentage of outstanding shares owned by them on March 31, 2025:

Table 68 – Major Shareholders

Shareholders	As of March 31, 2025	
	Number of shares	% Ownership
Nation ⁽¹⁾ – Ministry of Finance and Public Credit	36,384,788,417	88.49
Public float	4,731,906,273	11.51
Total	41,116,694,690	100.00

(1) Includes 1,600 shares owned by other state entities.

All our common shares have identical voting rights.

As of February 14, 2025, the registration date of our annual general shareholders' meeting, 3.34% or 1,374,128,640 of our common shares were held of record in the form of American Depository Shares, we had 56 registered holders, and 44,626 beneficiaries of common shares, or ADSs representing common shares, in the United States.

Changes in the Capital of the Company

There are no conditions in our bylaws governing changes in our capital stock that are more stringent than those required under Colombian law, with the exception that the Nation must hold a minimum of 80% in any stock issuance undertaken under Law 1118 of 2006.

On August 27, 2021, our Board of Directors approved the framework for the Third Round of the Program for the Issuance and Placement of Common Stock (the "Program"), in accordance with Law No. 1118 of 2006 ("Law 1118"). As provided by Law 1118, to the extent any potential public offerings of common shares are carried out under the Program, the Nation will at all times continue to maintain at least 80% of the common equity interest of Ecopetrol S.A. The Program contemplates a five-year term during which we may carry out one or more public offerings of common shares for the specific purposes set forth therein. On October 13, 2021, the SFC approved the Program. Any offerings to be undertaken pursuant to the Program remain subject to approval by the SFC and any such approvals, if and when granted, do not imply any commitment or obligation on Ecopetrol S.A. to issue common shares.

6.10 Enforcement of Civil Liabilities

We are a Colombian company. Most of our Directors and executive officers and some of the experts named in this annual report reside outside the United States. All or a substantial portion of our assets and the assets of these persons are located outside of the United States. As a result, it may not be possible for you to effect service of process within the United States upon us or these persons who are residents in Colombia or to enforce against us or these persons who are residents in Colombia judgments in U.S. courts obtained in such courts predicated upon the civil liability provisions of the U.S. federal securities laws. Colombian courts will enforce a U.S. judgment predicated on the U.S. securities laws through a judicial proceeding known under Colombian Law as "exequatur." The Colombian Supreme Court will enforce a foreign judgment, without reconsideration of the merits only if the judgment satisfies the requirements set forth in Articles 605 through 607 of Law 1564 of 2012 (Código General del Proceso) which entered into force on January 1, 2016, pursuant to Acuerdo No. SAA1510392, of October 1, 2015, issued by the Colombian Superior Council of the Judiciary (*Consejo Superior de la Judicatura*), as follows:

- A treaty or convention exists between Colombia and the country where the judgment was granted relating to the recognition and enforcement of foreign judgments or, in the absence of such treaty or convention, proper evidence is provided to the Supreme Court of Colombia to the effect that there is reciprocity in the recognition of foreign judgments of the same nature between the courts of the relevant jurisdiction and the courts of Colombia;
- The foreign judgment does not relate to "in rem rights" vested in assets located in Colombia at the time the lawsuit was filed;
- The foreign judgment does not contravene or conflict with public order Colombian laws other than judicial procedural rules;
- The foreign judgment, in accordance with the laws of the country where it was rendered, is final and binding, and is not subject to appeal;
- A duly legalized copy of the judgment (together with an official translation into Spanish if the judgment is issued in a foreign language either by the Colombian Ministry of Foreign Affairs (*Ministerio de Relaciones Exteriores de Colombia*), an officially recognized translator or by a translator appointed by a judge) has been presented to the Supreme Court of Colombia;

- The foreign judgment does not refer to any matter upon which Colombian courts have exclusive jurisdiction;
- No proceeding is pending in Colombia with respect to the same cause of action, and no final judgment has been awarded in any proceeding in Colombia on the same subject matter and between the same parties;
- In the proceeding commenced before the foreign court that issued the judgment, the defendant was served in accordance with the laws of such jurisdiction and in a manner reasonably designated to give the defendant an opportunity to defend against the action; and
- The legal requirements pertaining to the exequatur proceedings have been observed.

The United States and Colombia do not have a bilateral treaty providing for automatic reciprocal recognition and enforcement of judgments in civil and commercial matters. The Colombian Supreme Court has in the past accepted that reciprocity exists on a case-by-case basis, when it has been proven that either the U.S. court that has rendered the relevant judgement has enforced similar decisions by a Colombian court, or that the relevant U.S. court would enforce a foreign judgment, including a judgment issued by a Colombian court. However, such enforceability decisions are considered by Colombian courts on a case-by-case basis.

Proceedings for enforcement of a money judgment by attachment or execution against any assets or property located in Colombia are within the exclusive jurisdiction of Colombian courts, and such proceedings are conducted in Spanish. All parties affected by a foreign judgment in exequatur proceedings must be summoned to the exequatur proceedings in accordance with the rules that apply to the Colombian courts. In the course of such proceedings, both the plaintiff and the defendant are afforded the opportunity to request that evidence to be produced in connection with the requirements listed above. In addition, before the judgment is rendered, each party may file final allegations in support of such party's position regarding the abovementioned requirements.

Assuming that a foreign judgment complies with the standards set forth in the preceding paragraphs and the absence of any condition referred to above that would render a foreign judgment not subject to recognition under Colombian law, such foreign judgment would be enforceable in Colombia in an enforcement proceeding under the laws of Colombia, provided that the Colombian Supreme Court has previously granted exequatur upon the foreign judgment.

We reserve our right to plead sovereign immunity under the United States Foreign Sovereign Immunities Act of 1976 with respect to actions brought against us under United States federal securities laws or any state securities laws.

7. Corporate Governance

Since 2004, Ecopetrol S.A. has voluntarily adopted transparency, governance and control practices to facilitate corporate governance to generate confidence among stakeholders and ensure the sustainability of its business. The corporate governance practices at Ecopetrol S.A. aim to:

- Promote all stakeholders transparency, objectivity and competitiveness.
- Add value to the company and attract investors.
- Protect shareholders, investors and stakeholders' rights.
- Encourage financial markets confidence; and
- Accomplish the highest corporate governance standards.

Evolution of the Ecopetrol Group's Management Model

The Ecopetrol Group's management model, which was based on the segment management of the oil and gas business, evolved to reflect the Group's updated composition and strategy as a diversified energy Group.

In line with the 2040 Strategy, since 2022, the organization and management of the Ecopetrol Group's operations has evolved into three business lines: (i) Hydrocarbons, (ii) Energies for the Transition and (iii) Transmission and Roads. For each business line, the objective and focus of Ecopetrol as head of the group were identified and the leaders responsible for its development and promotion within the group were defined. The Hydrocarbons business line, led by Ecopetrol's Chief Operating Officer, focuses on maintaining its efficiency, competitiveness and the decarbonization of its operations, leading the management of its own business segments. The Energies for the Transition business, led by Ecopetrol's Vice President of Energies for the Transition, concentrates on incubating and developing energy solutions businesses associated with gas, biogas, LPG, energy, hydrogen, renewables and CCUS. Finally, the Transmission and Roads business line is established at the Ecopetrol Group level, is led by ISA's president, with a focus on maximizing value and capturing synergies with respect to mature energy transmission, road infrastructure and telecommunications businesses. See section *[Business Overview—Our Corporate Structure](#)*.

The evolution in the management of the Ecopetrol Group by business lines, recognizes the dual nature of Ecopetrol as an operating company and as a parent company or investor, and is based on other key elements for its management, such as organizational structure, corporate governance model and the processes needed to strategically guide the Ecopetrol Group as a diversified energy group.

Corporate Governance

During 2024, under the framework provided in the corporate governance model, decisions were made to advance towards meeting the goals set in the Ecopetrol Group's 2040 Strategy, with a view to generating value and sustainability. The main milestones in corporate governance are highlighted below:

- i. Statute reform to strengthen Corporate Governance: In 2024, amendments were made to the company's statutes that address better corporate governance practices and regulatory clarifications, mainly regarding the rights of shareholders, and the functions of the different bodies of Ecopetrol. These reforms were aimed at continuing to consolidate Ecopetrol as an efficient company managed under the highest standards of corporate governance, seeking to provide greater clarity regarding the powers of Ecopetrol's corporate bodies. As part of these reforms, it is required that at least 30% of the board of directors be made up of women. Additionally, it is made explicit in Ecopetrol's social objective, including the possibility of developing activities related to conventional and alternative sources of energy in line with the global needs of the market, the 2040 strategy and Ecopetrol's promise as a good corporate citizen.
- ii. Evolution of Ecopetrol's Relationship Model with the companies of the Ecopetrol Group: In 2024, the Ecopetrol Group Relationship Model evolved towards a more strategic approach, incorporating group interactions for the Energies for Transition function and thereby leveraging compliance with the 2040 strategy
- iii. Articulation of themes and optimization of the operation of the Business Line Committees and Executive Committee within the structure of Senior Management Committees (CADs): For Ecopetrol, the senior management committees are collegiate bodies that constitute a management tool to support the Chief Executive Officer of Ecopetrol in his task to achieve the corporate purpose and objectives of the Ecopetrol Group. Some of the senior management committees include business line committees: hydrocarbons; energies for transition; and transmission, roads and telecommunications; as well as the strategic committee, among others.

These committees have been key to the management and diversification of the Ecopetrol Group's businesses. As evidence of the above, 78% of the topics presented in the business line committees and in the strategic committee were related to the 4 pillars of the "Energy that transforms" strategy as follows: (i) Grow with the energy transition, (ii) Generate value through TSEG, (iii) Cutting-edge Knowledge and (iv) Competitive Returns. Additionally, since the beginning of 2024, Atlas Governance, the largest Corporate Governance portal in Latin America, was implemented as the new management system of the strategic committee and the three business line committees, optimizing the functioning of the committees and reflecting the commitment of the Company with innovation and efficiency in its management. In this way, with the implementation of Atlas, the committees have greater security, traceability and practicality in their operation.
- iv. Ecopetrol continues to strengthen its practices in corporate governance:
 - Ecopetrol participated in the Corporate Sustainability Assessment (CSA) which is part of the Dow Jones Sustainability Index (DJSI).
 - Regarding the economic and governance dimension (G), Ecopetrol had a score of 61/100.

- The survey on the adoption of the Code of Best Corporate Practices of Colombia (Country Code), sent to the Financial Superintendence of Colombia, reflects the situation of Ecopetrol S.A. against the recommendations established in the Country Code in relation to corporate governance practices. In 2024, Ecopetrol obtained a score of 89.1% for implementing the practices recommended by the Country Code.
- In 2024, Atlas Governance was implemented as the new management system of Ecopetrol's Board of Directors, as well as the strategic committee and the three business line committees. As a result of the implementation and use of the system, Ecopetrol has been recognized as the winner of the Atlas Governance Awards Latam in the State category.

Corporate Governance System

Corporate governance is the system of rules and practices that govern the decision-making process and delegation of authority between the governing bodies of the Ecopetrol Group, as well as the relationships between the companies that comprise it. Corporate Governance in Ecopetrol is more than a key element for organizational management—it is a strategy enabler that our stakeholders value and monitor continuously, as it generates trust, sustainable results over time and results in long-term value relationships.

Our model is structured based on the law, international standards, the corporate governance principles of the Organization for Economic Cooperation and Development (OECD), good corporate governance practices and the Ecopetrol Group's strategy. Our corporate governance provides safeguards for adequate decision-making of the governing bodies of the Ecopetrol Group in terms of agility, clarity and consistency, as well as the promotion of the realization of synergies between Ecopetrol S.A. and the Ecopetrol Group companies.

By virtue of the foregoing, the scope of the role that Ecopetrol plays as head of the group is defined according to the following criteria: (i) percentage of Ecopetrol's participation in the different companies of the group; (ii) existence or not of a control situation (direct or indirect) by Ecopetrol; and (iii) relevance of companies in the group's strategy. Therefore, in companies in which Ecopetrol has 100% direct or indirect participation, there is a high level of influence as a parent company; while in companies in which shareholding is shared with other companies, guidelines of the parent company are adopted considering the corporate governance of the respective companies.

Within the mechanisms and instruments of articulation that the group has, several elements of corporate governance stand out, which support Ecopetrol's role as head of the group, such as the guidelines and positions of business lines and segments, which are adopted through different corporate governance bodies, such as the boards of directors (or equivalent body) of the companies of the Ecopetrol Group. In accordance with the nominees to which Ecopetrol is entitled according to the level of shareholding.

The President of Ecopetrol has the duty to appoint the employees of Ecopetrol or Ecopetrol's subsidiaries to the board of directors (or equivalent body) of the companies of the Group in which Ecopetrol has a participation as a shareholder. The general principles and criteria to consider in the appointment process are, among others: (i) Good name; (ii) Professional suitability; (iii) Integrity; (iv) experience in leadership and administration; and (v) commitment and professionalism. Consequently, the evaluation of the boards of directors is a corporate governance practice adopted by the Ecopetrol Group and constitutes a tool through which the boards of directors annually evaluate their management to identify the strengths in their operation, contribute to the fulfillment of the goals set in the group's strategy and opportunities for improvement.

To leverage the business strategy, Ecopetrol has a Corporate Governance System that aims to provide a consistent, sustainable and objective framework for action to safeguard Ecopetrol's governance as well as generate synchrony and articulation with the companies of the Ecopetrol Group. The main elements of this system are:

- (i) Boards of Directors: Ecopetrol and Subsidiaries
 - a. Promote best management practices in the Boards of Ecopetrol and in the other Ecopetrol Group's companies.
 - b. Ensure alignment of the strategy under the Ecopetrol Group's management by business lines.
- (ii) Senior Management Committees
 - a. Establish the structure of the Senior Management Committees (operating, monitoring and improvement mechanisms).
 - b. Optimize Ecopetrol senior management time.

(iii) Matrix of Decisions and Attributions

- a. Define the key or more relevant decisions of the Ecopetrol Group.
- b. Establish which governing bodies are responsible for making key decisions.
- c. Define how these decisions are made.

(iv) Relationship Model

- a. Establish the way in which the areas within the Ecopetrol Group's scope are related to the Ecopetrol Group's companies.
- b. Capture the Ecopetrol Group's synergies.
- c. Manage articulation through management or administration by business lines.

Statement of the Nation as Majority Shareholder

Ecopetrol's majority shareholder (the Nation, represented by the Ministry of Finance and Public Credit), is unilaterally committed to protect the interests of the minority shareholders in the following topics:

- Composition of Board of Directors: including in its list of candidates a Representative for the hydrocarbon producing departments where Ecopetrol operates and a Representative for the minority shareholders, who will be chosen by the 10 shareholders with the largest stock participations. Ecopetrol has adopted the practice of having a majority of independent members. The current Board of Directors is composed of nine members: six independent and three non-independent who were elected at the General Meeting of Shareholders held on March 28, 2025.
- Dividend policy: guaranteeing the right of each shareholder to receive his pro rata dividends in accordance with Colombian law.
- Issues not included in the agenda of extraordinary meetings of the General Shareholders Assembly: permitting a vote on those initiatives submitted by one or more shareholders representing at least 2% of the subscribed shares of the company.
- Asset disposal: ensuring that any asset disposal of an amount equal or higher than 15% of the stock exchange capitalization of Ecopetrol S.A. is discussed and decided by the General Shareholders' Assembly and that the Nation will only vote affirmatively if the vote of minority shareholders is equal to or exceeds 2% of the shares subscribed by shareholders other than the Nation.

7.1 Bylaws

The Bylaws of Ecopetrol S.A. are contained in Public Deed No. 5314 of December 14, 2007, issued by the Second Notary of Bogotá; amended by Public Deed No. 560 of May 23, 2011, issued by the Notary Forty-Six of Bogotá, Deed No. 666 of May 7, 2013, issued by the Notary Sixty-Five of Bogotá, Deed No. 1049 of May 19, 2015, issued by the Notary Second of Bogotá, Deed No. 0685 of May 2, 2018, issued by the Notary Twenty of Bogotá, Deed No. 888 of May 28, 2019 issued by the Notary Twenty Third of Bogotá, Deed No. 6527 issued by the Notary Twenty Nine of Bogotá of June 08, 2020, Deed No. 10976 of May 6, 2021 issued by the Notary Twenty Nine of Bogotá, Deed No. 9184 of May 11, 2022 issued by the Notary Twenty Nine of Bogotá, Deed No. 137 of February 20, 2024, issued by the Notary Six of Bogotá, Deed No. 3136 of May 21, 2024 issued by the Notary Sixty Eight of Bogotá, and Deed No. 1273 of June 18, 2024, issued by the Notary Fifty Two of Bogotá. An English translation of the amended bylaws is included as Exhibit 1.1 to this annual report.

On January 10, 2024, the General Shareholders Assembly approved an amendment to the Company's bylaws that requires that at least 30% of the members of the Board of Directors must be women. The amendment aims to promote gender plurality and it anticipates the requirement set forth in Colombia's National Development Plan (PND for its acronym in Spanish) according to which 30% of the board members of the boards of directors of securities issuers must be women as of 2026.

On March 22, 2024, the General Shareholders Assembly approved an amendment to the Company's bylaws, aligned with the terms of Law 1118 of 2006, consisting of the amendment of the Company's corporate purpose in order to include the following activities: research, development and the commercialization of conventional and alternative energy sources; the production, blending, storage, transportation and commercialization of oxygenating components and biofuels, port operations and the performance of any related, complementary or useful activities for the execution of the aforementioned activities. Moreover, the General Shareholders Assembly also approved amendments to Ecopetrol's bylaws related to: (a) shareholders rights (b) succession policy of the Board of Directors; (c) remote attendance to the Ordinary Meetings of the General Shareholder's Assembly; (d) remote meetings for the Board of Directors; and (e) duties of the President of the Board of Directors. These amendments are currently undergoing the process required by Colombian law to be formalized and become effective, including the review of the Financial Superintendence of Colombia, pursuant to Article 6.4.1.1.42 of Decree 2555 of 2010, among other formalities. On May 29, 2024, the amendments to the bylaws were formalized.

This summary does not purport to be complete and is qualified by reference to our bylaws, which are filed as an exhibit to this annual report. For a description of the provisions of our bylaws relating to our Board of Directors and its committees, see sections *Corporate Governance—Board of Directors—Board Practices* and *Corporate Governance—Board of Directors—Board Committees*.

General Shareholders' Meeting

Shareholders' meetings may be ordinary or extraordinary. Ordinary meetings will take place in our legal domicile located in Bogotá, Colombia, within the first three months following the end of each fiscal year, on the day and at the time set forth in the notice for the General Shareholders' Meeting. The call for the General Shareholders' Meeting is published on the Ecopetrol S.A. website and in a newspaper of national circulation, in physical or digital form, 30 calendar days prior to the date on which the meeting will take place on the Sunday previous to the meeting, must be published at Ecopetrol S.A.'s website www.ecopetrol.com.co.

The Annual General Shareholders' Meeting provides shareholders with the opportunity to make key management decisions reserved to shareholders. At the General Shareholders' Meeting, our Board of Directors and the external auditor are appointed. Decisions are taken regarding the company's annual financial statements, profit distribution, audit and management reports, including our corporate governance report and sustainability report, and any other matter provided under applicable law or our corporate bylaws.

Extraordinary Shareholders' Meetings are summoned by our Board of Directors, by our president or chief executive officer, by our external auditor, or by shareholders holding at least 5% of the outstanding shares, or when unforeseen or urgent needs of the Company require it. An Extraordinary Shareholders' Meeting should be called no later than 15 calendar days prior to the date of the meeting. The only exception is when the Law requires a greater time between the summons and the meeting. Such notice to the Extraordinary Shareholders' Meeting is published on the Ecopetrol S.A. website and in a newspaper of national circulation, in physical or digital form. The notice informs the agenda for the meeting to the company's shareholders.

For both the ordinary and extraordinary meetings, the quorum required is a plural number of shareholders representing 50% plus one of the subscribed shareholders entitled to vote. Decisions are approved with a majority of the members present. This quorum is exempted in the case of “second-call meetings,” which may take place when a meeting fails to obtain the required quorum and is called within a period between 10 business days and 30 business days from the first date, in which case decisions may be adopted by a majority of the shares present regardless of the number represented.

Decisions made at ordinary and extraordinary shareholders’ meeting must be approved by a plural number of shareholders representing the majority of the shares present. Colombian law requires higher majorities in the following cases:

- The vote of at least 70% of the shares present and entitled to vote at the ordinary shareholders’ meeting is required to approve the issuance of stock not subject to preemptive rights.
- The vote of at least 78% of the shares represented entitled to vote is required to approve the distribution of the annual net profits. In the absence of this special majority, at least 50% of the net profits must be distributed. If the sum of all legal reserves (statutory, legal and optional) exceeds the amount of the outstanding capital, the Company must distribute at least 70% of the annual net profits.
- The vote of at least 80% of the shares represented is required to approve the payment of dividends in shares; and
- The vote of 100% of the outstanding and issued shares is required to replace a vacancy on the Board of Directors without applying the electoral quotient system.

Shareholders may be represented by proxies, provided that the proxy: (i) is in writing (faxes and electronic documents are valid), (ii) specifies the name of the representative, (iii) specifies the date or time of the meeting for which the proxy is given and (iv) includes other information specified by the applicable law. Proxies granted abroad do not require legalization or an apostille.

During our ordinary annual shareholders’ meeting, our employees and Directors are only allowed to represent their own shares, unless they act as legal representatives.

Our 2024 Shareholders’ General Assembly was held on March 22, 2024 and the following matters were approved, among others:

- The plan for distribution of the Company’s profits, which establishes the distribution of an ordinary dividend per share of COP 278 and an extraordinary dividend per share of COP 34, for a total dividend of COP 312 per share, as follows: payment of dividends to minority shareholders to be made in two equal installments on April 3, 2024 and June 26, 2024; and the payment to the majority shareholder will be made before December 31, 2024, taking into account the payment schedule of the balance of the debt of the Fuel Price Stabilization Fund (FEPC) accrued during 2023, which is owed by the majority shareholder to Ecopetrol.
- The establishment of a special reserve of COP 11,993,230,652,653 in order to support Ecopetrol S.A.’s financial sustainability and flexibility in the execution of its strategy.
- Election of members of the Board of Directors for the period of 2024 to 2025.
- Amendment of our bylaws.

Our 2025 Shareholder’s General Assembly was held on March 28, 2025, and the following matters were approved, among others:

- The plan for distribution of the Company’s profits, which establishes the distribution of an ordinary dividend per share of COP 214, as follows: payment of dividends to minority shareholders to be made in two equal installments on April 4, 2025 and April 29, 2025; and the payment to the majority shareholder will be made in three installments as follows: 1) COP 2,200,000,000,000 on April 4, 2025, 2) COP 2,300,000,000,000 on April 29, 2025, and 3) COP 3,286,344,378,880 on June 27, 2025.
- The establishment of a special reserve of COP 16,635,492,094,077 in order to support Ecopetrol S.A.’s financial sustainability and flexibility in the execution of its strategy.
- Election of Deloitte & Touche S.A.S., as the statutory auditor for the 2025 – 2029 period and assignment of their remuneration.

- Election of Board Members for the 2025 - 2029 period
- Approval of amendments to the Internal Regulations of the General Shareholder's Meeting.
- Approval of amendments to the succession policy for the members of the Board of Directors.

Preference Rights and Restrictions Attaching to Our Shares

There are only ordinary shares, and these carry no special rights or restrictions (ordinary shares). Our current shareholders do not have any type of preemptive rights. However, in the case of a future equity offering, we will review whether or not existing shareholders would be entitled to preemptive or similar rights and, if that were the case, the corporate approvals and offering documents for any such equity offering would regulate the subject matter accordingly. In connection with any future public offering of ordinary shares within the five-year Program for the Issuance and Placement of Common Stock authorized by the Superintendence of Finance of Colombia on October 13, 2021, we have determined that preemptive rights will be available to our registered holders of common shares to purchase additional common shares in Colombia, in accordance with applicable regulations.

Under Commercial Colombian law, our shareholders have the following economic privileges and voting rights:

- to participate and vote on the decisions of the General Shareholders Assembly;
- to receive dividends based on the financial performance of the Company in proportion to their share ownership;
- to transfer and sell shares according to our bylaws and Colombian law;
- to inspect corporate books and records with 15 business days prior to the ordinary shareholders' meeting where the year-end financial statements are to be approved;
- upon liquidation, to receive a proportional amount of the corporate assets after the payment of external liabilities; and
- to sell the shares, known as right of withdrawal (*derecho de retiro*), if a corporate restructuring affects the economic or voting rights of the shareholders in the terms and conditions established under Colombian law.

Ecopetrol S.A.'s bylaws provide additional rights to our minority shareholders. These rights include:

Sale of Assets. For a ten-year period counted from the date of subscription of the declaration of the Nation dated February 16, 2018 or until the Nation loses its status as majority shareholder, the Nation guarantees that any sale of 15% or more of our assets requires the approval of the General Shareholders Assembly and that the Nation would only be allowed to vote its shares in favor of the proposal if 2% or more of our minority shareholders accept the proposal.

Candidate List. Pursuant to our bylaws and Law 1118 of 2006, the Nation will include in its candidate list for election of members of the Board of Directors one member nominated by the departments that produce hydrocarbons. In addition, pursuant to the declaration of the Nation dated February 16, 2018, the Nation will include in its candidate list for election of members of the Board of Directors one member nominated by the ten largest minority shareholders. The minority shareholders' right to appoint a candidate loses its effect when minority shareholders, according to their share participation, name a member to our Board of Directors.

Extraordinary Shareholders Meetings. Our bylaws provide that the entity exercising permanent control over Ecopetrol S.A. must instruct the Company's CEO or External Auditor to call an extraordinary meeting of the Company's shareholders when so requested by a plurality of shareholders holding at least 5% of the total number of outstanding shares. Such requests shall be made in writing and must clearly indicate the purpose of the meeting.

Investor Relations Office. Ecopetrol S.A. has an investor relations office, a specialized unit responsible for our shareholders. Pursuant to our bylaws, shareholders holding at least 5% of the total number of shares outstanding may request that the investor relations office conduct a special audit, provided that such audit does not hinder the day-to-day operations of the Company, of the following documents: the income statement; the proposal for the distribution of profits; the report of the Board of Directors as to the economic and financial status of our Company; the report from our general counsel as to the legal status of our Company; and the report from the independent auditors. Special audits cannot be made of documents that contain scientific, technological or statistical information of our Company, or agreements that give us competitive and economic advantages over our competitors, or in respect of any document related to intellectual property. Shareholders also have the right to propose good corporate governance recommendations to the office for the protection of investors.

Others. Pursuant to our bylaws, shareholders holding at least 5% of the total number of shares outstanding may propose recommendations to our Board of Directors pertaining to the management of our Company. Any shareholder may file a written petition to our Board of Directors to investigate corporate governance violations that the shareholder believes to have been committed.

Amendments to Rights and Restrictions to Shares

We have only one class of stock and it has no special rights or restrictions (ordinary shares). Our shareholders do not have any type of preemptive rights. The rights given to our shareholders by law are described in our bylaws and may only be modified through an amendment to the law.

The additional rights given to our minority shareholders in our bylaws and corporate governance code may only be modified through an amendment of those internal documents.

Limitations on the Rights to Hold Securities

There are no limitations in our bylaws or Colombian law on the rights of Colombian residents or foreign investors to own the shares of our Company, or on the right to hold or exercise voting rights with respect to those shares, except in cases of legal representation.

Restrictions on Change of Control, Mergers, Spin-offs or Transformations of the Company

Under Colombian law and our bylaws, the General Shareholders Assembly has full authority to approve any mergers, spin-offs or transformations, subject to compliance of applicable law. Corporate restructurings are subject to the requirement that the Nation must hold a minimum of 80% of our common stock in any issuance of stock pursuant to Law 1118 of 2006.

Ownership Threshold Requiring Public Disclosure

The Corporate Governance Code, Title III, Chapter 1, Section 5, states: Identification of Major Shareholders. The shareholding composition of the Company, indicating at least the twenty (20) people with the greatest number of shares, is disclosed on Ecopetrol's website at www.ecopetrol.com.co. Colombian securities regulations set forth the obligation to disclose any material event or "*información relevante*". Any transfer of shares equal or greater than 5% of our capital stock, or any legal entity or individual acquiring a percentage of shares that would make him the beneficial owner of 5% or more of our capital stock, is a material event, and therefore, must be disclosed to the SFC. The regulation includes other criteria in order to identify when to report a material event other than the situations described in the previous sentence.

External Auditor

Pursuant to our bylaws, the external auditor will be appointed for periods of four (4) years and may be reelected consecutively for up to ten (10) years, and it may once again be hired after one (1) period away from the position. The partner assigned to the Company must be replaced after a term of five (5) years holding this position.

7.2 Code of Ethics and Conduct

Our Code of Ethics and Conduct states integrity, responsibility, respect and commitment to life, as ethical principles of the organization. Our Code of Ethics and Conduct also sets forth that we must comply with the provisions contained in the applicable national and international laws in the countries where we have operations, including the U.S. and Colombia, as well as all internal regulations that are adopted by the Company.

In our Code, we define the guidelines for the following aspects: conflict of interest; ethical conflict; prohibition of bribery, other forms of corruption and violations of the FCPA; integrity in accounting; prevention of money laundering and financing of terrorism; gifts, amenities and hospitalities; protection and use of resources; information management; security and confidentiality; prohibition of insider trading and use of inside information, environmental policy, social responsibility, respect for human rights and rejection of discrimination, antitrust and anticompetitive practices and sexual harassment in the workplace; whistleblowing channel; and examples of ethical behaviors. As part of the Ethics guidelines of Ecopetrol, facilitation payments, political contributions and donations, diversion of money from social investment activities or sponsorships towards political activities or other than the purposes established by the Company and lobbying are prohibited.

Our Code of Ethics and Conduct applies to our Board of Directors, our Chief Executive Officer, our Chief Financial Officer, principal accounting officer, persons performing similar functions, to all of the other employees of the company and its affiliates and all individuals or legal entities that have any relationship with it, including beneficiaries, shareholders, contractors, suppliers, agents, partners, customers, allies (included joint ventures) and suppliers, in addition to the personnel and companies that the contractors may engage for the execution of the agreed activities.

All our agreements with suppliers or third parties include a provision relating to compliance with applicable anti-bribery anti-corruption and general compliance regulations. These agreements also require our suppliers and third parties to accept and adopt our Code of Ethics and Conduct as well as our compliance manuals.

Our Code of Ethics and Conduct is available on our website.

7.3 Board of Directors

Board of Directors from March 2025

The Board of Directors was elected at the Ordinary Shareholders Meeting held on March 28, 2025. The current Board of Directors is composed as follows:

Non-independent members:

- Lilia Tatiana Roa Avendaño
- Alberto José Merlano Alcocer
- Hildebrando Vélez Galeano

Independent members:

- Ángela María Robledo Gómez
- Mónica de Greiff Lindo
- Guillermo García Realpe
- Álvaro Torres Macías
- Ricardo Rodríguez Yee (nominated by the hydrocarbon producing departments)
- Luis Felipe Henao Cardona (nominated by the minority shareholders with largest shareholding)

On April 5, 2025, Guillermo García Realpe was appointed as the Chairperson and Mónica de Greiff Lindo was appointed as Vice Chairperson, until a new election was held. On April 23, 2025, they were ratified.

The information below sets forth the names and business experience of each of the directors elected at the General Shareholders Ordinary Meeting held on March 28, 2025.

Lilia Tatiana Roa Avendaño currently serves as Vice Minister of Environmental Land Management at the Ministry of Environment and Sustainable Development. She is a petroleum engineer from the *Universidad Industrial de Santander*, and holds a Master's degree in Latin American Studies from Universidad Andina Simón Bolívar in Quito, Ecuador and a Ph.D. in Humanities from the University of Amsterdam. She served as Coordinator of the Energy and Climate Justice Area of Censat *Agua Viva – Amigos de la Tierra*, Colombia, along with other positions in this organization. She has been a consultant to the Vincent Price Art Museum, Rosa Luxemburg Foundation, Heinrich Boll Foundation, Pax Christi, Ecofondo, Transnational Institute and Colombia's Mining and Energy Planning Unit – UPME. She is a non-independent member of Ecopetrol's Board of Directors since March 2024.

Ms. Roa Avendaño has expertise in: (i) energy transition; (ii) administration, senior management, and leadership; (iii) government and/or public policy; (iv) human resources and/or talent development; (v) health, safety and/or environment; (vi) sustainability; (vii) climate change; (viii) territorial development; (ix) water and/or wastewater matters; and (x) business strategy and/or project management. As a member of Ecopetrol's board of directors, she is periodically trained in ethics, compliance and risk management matters.

Alberto José Merlano Alcocer, currently serves as a Management Consultant at *Escala Humana* with an emphasis on corporate conflict management. Moreover, he teaches postgraduate courses at the business school of *Universidad de los Andes* and as professor at the business and law schools of *Universidad del Norte*. At the latter, he is co-creator and professor of the specialization and master's programs in negotiation and conflict resolution. He holds a bachelor's degree in business administration from Universidad EAFIT in Medellín and a master's degree in industrial administration from Universidad del Valle. He was Administrative Vice-President at Ecopetrol for 12 consecutive years, Manager of UT Kapital Geophysical, and General Manager of the *Empresa de Acueducto de Bogotá* under two different district administrations. He was also Dean of the School of Business at the *Universidad del Norte*, Director of the Sena business advisory program on the Atlantic Coast, National Director of Human Development at Carvajal S.A., Director of the Management Advisory Center at INCOLDA and of the master's in business administration program at EAFIT in Cali, and served as Manager of “*Educación para la Acción*” in Cali.

Mr. Merlano Alcocer has expertise in: (i) the energy industry; (ii) administration, senior management and leadership; (iii) government affairs and/or public policy; (iv) finance; (v) human resources and/or talent development; (vi) corporate governance; (vii) health and industrial safety; (viii) business strategy and/or project management.

Hildebrando Vélez Galeano, worked as a consultant and advisor for the Administrative Department of the Environment of Cali (DAGMA) and as advisor to the Ministry of Equality and Equity. He is a chemical engineer from the Universidad Nacional, has a PhD in environmental sciences from the Universidad del Valle, and master's degrees in philosophy from the Universidad Javeriana and sociology from the Universidad Nacional. He has served as director of Censat Agua Viva, as advisor to *Universidad Nacional* in the Advisory Group for Trade Unions in Occupational Health, and as a member of the Colombian Safety Council.

Mr. Vélez Galeano has expertise in: (i) the energy industry; (ii) energy transition; (iii) administration, senior management and leadership; (iv) government and/or public policy; (v) human resources and/or talent development; (vi) technology and/or innovation; (vii) health, safety and/or the environment; (viii) sustainability; (ix) business strategy and/or project management.

Ángela María Robledo has served as a member of the Advisory Committee for the Development of the National Care System of the Ministry of Equality and is a member of the National Participation Committee on behalf of “*Defendamos la Paz*” in the conversations between the Colombian Government and the Ejército de Liberación Nacional. She is part of the National Government delegation in the peace negotiation in the Department of Nariño with the group “Comuneros del Sur”. She holds a bachelor's degree in psychology and a master's degree in political science and international relations from the Pontificia Universidad Javeriana in Bogotá. She was a member of the First and Seventh Commissions of the House of Representatives of the Republic of Colombia, Co-President of the Peace Commission, and a member of the Gender Equity Commission of such body. She has served as an Advisor to the Office of the Dean of Universidad Pedagógica Nacional, on Peace and Gender Issues, she served as Academic Dean of the School of Psychology of the Pontificia Universidad Javeriana and was a member of both, the Academic Council and the University Governing Council of such institution, where she also served as professor and researcher for its Faculty of Psychology. She has also served as Director of the Administrative Department for Social Welfare of Bogotá. She served as Social Director, Manager, and Coordinator in the fields of health, education, rural development, and the protection of young women's and children's rights for the Antonio Restrepo Barco Foundation. She is an independent member of Ecopetrol's Board of Directors since March 2024.

Ms. Robledo has expertise in: (i) administration, senior management, and leadership; (ii) government affairs and/or public policy; (iii) human resources and/or talent development; (iv) health, safety and/or environment; (v) sustainability; (vi) human development in the territories (territorial development) and (vii) business strategy and project management. As a member of Ecopetrol's board of directors, she is periodically trained in ethics, compliance and risk management matters.

Monica de Greiff Lindo is currently a member of the boards of directors of EPS Sanitas S.A.S., Lagos de Aurea S.A.S, the Aris Mining Corporation, located in Canada, One Young World, located in London, Fiducoldex S.A., and Corporación Historia PAR. She holds a bachelor's degree and a Ph.D. in jurisprudence and is a specialist in law and a graduate degree in administrative law, both from *Universidad del Rosario* in Bogotá. She served as Ambassador to Kenya, permanent representative to the United Nations for Environment and Habitat, former CEO of the Bogotá Chamber of Commerce and of the Bogotá Energy Group, as well as a former District Secretary of Economic Development of Bogotá. She served as former presidential advisor for international affairs, Minister of Justice of Colombia, Vice Minister of Justice of Colombia, and Secretary General at the Ministry of Mines and Energy. In addition to her positions in the public sector she also served as Vice President of Legal and Public Affairs at Shell Colombia Inc. and was a member of the board of the International Chamber of Commerce of Paris, Promigas S.A., *Corporación de Ferias y Exposiciones S.A.*, *Grupo Keralty S.A.S* and *Gran Colombia Gold*. She is a member of Ecopetrol's board of directors since October 24, 2022. She was a non-independent member until October 2, 2023, and as of such date she is an independent member.

Ms. de Greiff Lindo has expertise in: (i) the energy industry and energy transition; (ii) administration, senior management, and leadership; (iii) government affairs and/or public policy; (iv) business risk management; (v) human resources and talent development; (vi) legal affairs and corporate governance; (vii) health, safety and/or environment; (viii) sustainability; (ix) climate change; and (x) business strategy and project management. As a member of Ecopetrol's board of directors, she is periodically trained in ethics, compliance and risk management matters.

Guillermo García Realpe currently serves as an advisor and consultant, specializing in matters related to environmental conservation and regional development. He holds a bachelor's degree in law and a graduate degree in socioeconomic sciences from *Pontificia Universidad Javeriana*. He has served as Secretary General of the Ministry of the Interior, Senator of the Republic of Colombia, Vice President of the Senate, and member of the Third Commission of the Senate. He has also served as President and Member of the Fifth Commission of the Senate, advisor in the National Planning Department in regional development affairs, Director of planning of Nariño, Head of planning of the University of Nariño, and Departmental Secretary of Planning. He is an independent member of Ecopetrol's board of directors since March 2024.

Mr. García Realpe has expertise in: (i) energy industry and/or energy transition; (ii) administration, senior management and leadership; (iii) governance and/or public policy matters; (iv) finance; (v) human resources; (vi) legal and/or corporate governance matters; (vii) technology; (viii) health and environment; (ix) sustainability; and (x) business strategy. As a member of Ecopetrol's board of directors, he is periodically trained in ethics, compliance and risk management matters.

Álvaro Torres Macías currently serves as chief executive officer (CEO) of Electryon Power Inc. in Canada. He is an electrical engineer from the Universidad Industrial de Santander in Colombia. He holds a graduate degree in electrical transmission networks from the L'Institut National Polytechnique de Lorraine in Nancy, France, a Master's degree (M.Eng. and M.Sc.) in electric power engineering and computer and systems engineering from Rensselaer Polytechnic Institute in Troy, USA, and a Ph.D. in electric power engineering from the same institution. He served as a member of the boards of directors of *Empresa de Energía de Boyacá - EBSA*, *Transportadora de Gas Internacional - TGI*, *Transportadora de Energía de Centroamérica S.A.* in Guatemala, *Cálidda Energía S.A.C.* in Perú, *Contugas S.A.C.* in Perú, *Empresa de Energía de Cundinamarca - EEC*, companies of the *Grupo de Energía de Bogotá - GEB*, *ITANSUCA*, *OPAIN*, the technology business incubator *Innovar* of *COLCIENCIAS*, *SOFTEC*, and was an alternate board member of *PROMIGAS*. He also served as Country Manager of Northland Power Inc. and Electryon Power Inc., both Canadian companies, Manager of Delphi Capital Partners, president of *CONALVIAS*, Vice President of corporate planning and shareholders portfolio of *Empresa de Energía de Bogotá* (currently *Grupo de Energía de Bogotá - GEB*), general manager of *SNC Lavalin Inc.*, as well as senior partner, Technical Manager and General Manager of *Consultoría Colombiana S.A. - CONCOL*. Similarly, Mr. Torres, in his former leadership roles he has contributed with his expertise in cybersecurity and cyber defense policies and practices. Between 1980 and 2012, he was a professor at Universidad de Los Andes in the Faculty of Electrical and Electronic Engineering. He is an independent member of Ecopetrol's board of directors since March 2024. Currently, he is the financial and accounting expert of the Board of Directors of Ecopetrol.

Dr. Torres Macías has expertise in (i) the energy business; (ii) energy transition; (iii) administration, senior management, and leadership; (iv) finance; (v) business risk management; (vi) human resources and/or talent development; (vii) legal matters and/or corporate governance; (viii) technology and/or innovation; (ix) health, safety, and/or environment - HSE; (x) sustainability; (xi) cybersecurity; (xii) climate change; and (xiii) business strategy and project management. As a member of Ecopetrol's board of directors, he is periodically trained in ethics, compliance and risk management matters.

Ricardo Rodríguez Yee is an Industrial Engineer from the Universidad Distrital Francisco José de Caldas, and a Ph.D. candidate at the Università degli Studi di Palermo in the Model Based Public Planning, Policy Design and Management program. He holds master's degrees in organizational management from the Université du Québec à Chicoutimi and in Industrial Engineering from the *Universidad de los Andes*.

He has served as Deputy Comptroller for the Mining and Energy Sector and Vice at the office of the Comptroller General of the Republic, leading fiscal investigations into companies such as Reficar, Bioenergy, Propilco, Hidroituango and Electricaribe. Also, he served as Director of the Mining and Energy Planning Unit, contributing to the indicative planning and strategic development of the sector. He led corporate restructurings in state-owned companies such as Enertolima, *Barranquilla Telecomunicaciones*, Gecelca, Emsirva and Cedelca and acted as an advisor on investment and strategy to the Chief of Staff of the National Army, the General Commander of the Colombian Armed Forces, the UNDP, the FNG, the Ministry of Mines and Energy, the Office of the Inspector General, the National Federation of Departments and Ecopetrol.

Mr. Rodríguez Yee has expertise in: (i) the energy industry; (ii) energy transition; (iii) administration, senior management and leadership; (iv) government and/or public policy; (v) finance; (vi) business risk management; (vii) human resources and/or talent development; (viii) legal affairs and/or corporate governance; (ix) technology and/or innovation; (x) health and environment; (xi) sustainability; and (xii) business strategy and/or project management.

Luis Felipe Henao Cardona is currently a member of the board of directors of EPM and Director of *Lambda Consultoría*. He holds a degree in Law from Universidad del Rosario and is a Ph.D. candidate in Law at the University of Salamanca. He also holds specialization degrees in business law from Universidad del Rosario and Criminal Law from the University of Salamanca.

He served as Minister of Housing, Land, and Territory (2013–2016) and previously held roles as Vice Minister of Housing and Vice Minister of Participation and Equal Rights. Additionally, he was Secretary General of the Ministry of the Interior and Justice and the Ministry of Environment, Housing, and Territorial Development. He has been a columnist for *El Espectador* and *El Tiempo* and a panelist for *Hora 20*.

Mr. Henao Cardona has expertise in: (i) the energy industry; (ii) energy transition; (iii) administration, senior management and leadership; (iv) government affairs and public policy; (v) finance; (vi) human resources and/or talent development; (vii) legal and/or corporate governance issues; (viii) the environment; and (ix) business strategy and project management.

Board of Directors from March 2024 to March 2025

Non-independent members:

- Lilia Tatiana Roa Avendaño
- Edwin Palma Egea

Independent members:

- Ángela María Robledo Gómez
- Mónica de Greiff Lindo
- Luis Alberto Zuleta Jaramillo
- Gonzalo Hernandez Jiménez (Independent since May 1st, 2024)
- Guillermo García Realpe
- Álvaro Torres Macías (nominated by the hydrocarbon producing departments)
- Juan José Echavarría Soto (nominated by the minority shareholders with largest shareholding)

Mr. Edwin Palma Egea presented his resignation as member of Ecopetrol's Board of Directors, effective on March 6, 2025.

On August 30, 2024, Mr. Juan José Echavarría Soto and Mr. Luis Alberto Zuleta Jaramillo presented their resignations as independent members of the Ecopetrol's Board of Directors, which became effective on November 9, 2024.

The information below sets forth the names and business experience of directors Gonzalo Hernández Jiménez, Edwin Palma Egea, Luis Alberto Zuleta Jaramillo and Juan José Echavarría Soto. For the business experience of directors Lilia Tatiana Roa Avendaño, Ángela María Robledo Gómez, Mónica de Greiff Lindo, Guillermo García Realpe and Álvaro Torres Macías, please refer to title "Board of Directors from March 2025" immediately above.

Gonzalo Hernández Jiménez currently holds the position of Professor at *Pontificia Universidad Javeriana's* department of economics. He is also a member of the board of directors of *Financiera de Desarrollo Nacional (FDN)*, and of the *Aris Mining Corporation*, located in Canada. He is an economist from the *Pontificia Universidad Javeriana*, with a master's degree and Ph.D. in Economics from the University of Massachusetts, Amherst. He was a member of the boards of directors of *Grupo Bicentenario S.A.S.*, and the Administrator of Resources of the General System of Social Security in Health (ADRES, for its acronym in Spanish). He was a member of Ecopetrol's Board of Directors since October 24, 2022. He was a non-independent member of Ecopetrol's Board of Directors until April 30, 2024, and as of May 1st, 2024 he was an independent member.

Mr. Hernández Jiménez has expertise in: (i) administration, senior management and leadership; (ii) financial and securities markets; (iii) human resources and/or talent development; (iv) legal affairs and/or corporate governance; (v) business strategy and project management; (vi) health, safety and/or environment; (vii) sustainability, (viii) energy industry, and (ix) government affairs and public policy. As a member of Ecopetrol's board of directors, he was periodically trained in ethics, compliance and risk management matters.

Edwin Palma Egea currently serves as Minister of Mines and Energy of Colombia and previously served as special agent for AIR-E S.A.S. and as Vice Minister of Labor Relations and Inspection at the Ministry of Labor. He holds a bachelor's degree in law from *Universidad Cooperativa de Colombia* in Barrancabermeja, as well as graduate degrees in labor law and social security from the *Universidad Libre de Colombia* in Socorro, Santander. He also holds a graduate degree in constitutional law and a master's degree in law with a focus on labor law, both from *Universidad Externado de Colombia* in Bogotá. He also completed the Specialization Course for Latin American Experts in Labor Relations at *Universidad de Castilla-La Mancha*, Spain. He worked for Ecopetrol for approximately two decades, served as an arbitrator in legal disputes for the Company for more than 10 years, and led the *Unión Sindical Obrera (USO)* as the National Board Chair from 2018 to 2021. He was a non-independent member of Ecopetrol's Board of Directors since March 2024.

Mr. Palma Egea has expertise in: (i) administration, senior management, and leadership; (ii) governance and/or public policy; (iii) human resources and/or talent development; (iv) legal matters and/or corporate governance; and (vi) health, safety and/or environment. As a member of Ecopetrol's board of directors, he was periodically trained in ethics, compliance and risk management matters.

Luis Alberto Zuleta Jaramillo is an economist from the *Universidad de Antioquia* with a Master of Sciences in Economic Development from the University of Strathclyde in the United Kingdom. He is currently an economic and financial consultant to the audit committee of Bancolombia, Banco Agromercantil of Guatemala and Banistmo of Panama, as well as an Associate Researcher for Fedesarrollo, and a university professor. He has been a member of the boards of directors of Medellín's Metro, Caribol, *Banco Caja Social*, *Corporación de Ahorro y Vivienda Colmena*, *Compañía de Financiamiento Comercial Sufinanciamiento*, Bancolombia, Suramericana, Bolsa Mercantil de Colombia, Protección S.A. and member of the governing board of *Fundación Social*. Mr. Zuleta has served in the following committees: financial and audit committee of the manufacturing company Grupo Crystal S.A.S. and financial committee of ICETEX. Additionally, he is a member of the board of directors of the nonprofit *Fundación Pro Niñez Gabriel Herrera Rogelís*. He was an independent member of the Board of Directors of Ecopetrol, Chairperson of the Board's Audit and Risk Committee and financial and accounting expert from March 2023 to November 9, 2024.

Mr. Zuleta has expertise in: (i) energy industry and energy transition; (ii) administration, senior management and leadership; (iii) government affairs and/or public policy; (iv) financial and securities markets; (v) business risk management; (vi) human resources and talent development; (vii) legal affairs and corporate governance; (viii) technology and innovation; (ix) health, safety and environment; (x) sustainability; (xi) cybersecurity; and (xii) business strategy and project management. As a member of Ecopetrol's board of directors, he was periodically trained in ethics, compliance and risk management matters.

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Juan José Echavarría Soto is an Administrative Engineer from the School of Mines, *Universidad Nacional de Colombia*, he completed a non-degree program in economics at Harvard University and holds a master's degree in economics from Boston University and a PhD in Economics from Oxford University. He served as a member of the board of directors of Ecopetrol for four months in 2016. He has been an associate researcher at Fedesarrollo and a university professor. He previously served as general manager and director of the Nation's Central Bank (*Banco de la República*), as a Consultant of the Development Bank of Latin America (CAF), the Inter-American Development Bank (IDB), the Ministry of Commerce and Finagro, Director of the Mission for the Restructuring of Coffee in Colombia, Executive Director of Fedesarrollo, Plenipotentiary Minister of the Colombian Mission to the Organization of American States (OAS), advisor in the area of international trade at the OAS, Vice Minister of Foreign Trade of Colombia and principal negotiator of the Colombia- Chile, Colombian– Central America, Colombia – Caricom, and Colombia - G3 trade agreements, and dean of the Faculty of Economics at *Universidad Nacional de Bogotá*.

Mr. Echavarría has served on the Boards of Directors of Isagen S.A., *Banco de la República*, *Bolsa y Banca*, and *Fiduciaria Bogotá*. He has been a member of the board of directors of the nonprofit Alejandro Ángel Escobar Foundation. He was an independent member of Ecopetrol's board of directors, nominated by the minority shareholders with the second largest shareholding (after the Nation), from March 2023 to November 9, 2024, and was the Chairperson of the Board's Corporate Governance and Sustainability Committee from November 2023 to November 2024.

Mr. Echavarría has expertise in: (i) the energy industry; (ii) the energy transition; (iii) administration, senior management, and leadership; (iv) government affairs and/or public policy; (v) financial and securities market; (vi) human resources and talent development; and (vii) legal affairs and corporate governance. As a member of Ecopetrol's Board of Directors, he was periodically trained in ethics, compliance and risk management matters.

Board of Directors from March 2023 to March 2024

The previous Board of Directors was elected at the Ordinary Shareholders Meeting held on March 30, 2023. Such Board named Saúl Kattan Cohen as Chairperson and Mauricio Cabrera Galvis as Vice Chairperson. Hence, from January 2024 to March 22, 2024, the Board was composed as follows:

Non-independent members:

- Gonzalo Hernández Jiménez
- Esteban Piedrahíta Uribe

Independent members:

- Saúl Kattan Cohen
- Mónica de Greiff Lindo
- Claudia González Sánchez
- Gabriel Mauricio Cabrera Galvis
- Luis Alberto Zuleta Jaramillo
- Sandra Ospina Arango (nominated by the hydrocarbon producing departments)
- Juan José Echavarría Soto (nominated by the minority shareholders with largest shareholding)

The information below sets forth the names and business experience of each of the Directors elected at the General Shareholders Ordinary Meeting held on March 30, 2023. For the business experience of directors Gonzalo Hernández Jiménez, Luis Alberto Zuleta Jaramillo and Juan José Echavarría please refer to the title "Board of Directors from March 2024 to March 2025" immediately above. For the business experience of Monica de Greiff Lindo, please refer to the title "Board of Directors from March 2025" above.

Gabriel Mauricio Cabrera Galvis works on investment banking and financial consulting activities as the Director of the firm *Cabrera & Bedoya, Banqueros de Inversión*. He has been member of the Boards of Directors of the *Asociación para la Promoción de las Artes (PROARTES)*, *Lloreda S.A.*, and *Financiera de Desarrollo Nacional*. He has also served as President of the Banco de Occidente and Fundación FES, Dean of the Faculty of Economics of *Universidad Externado*, General Director of Public Credit at the Ministry of Finance and Public Credit, Head of the Global Planning Unit of the National Planning Department, and Technical Vice President, Director of the Economics Department and researcher at *Asociación Bancaria de Colombia*. He has been also a former director of *Clínica DIME S.A.*, *Fabricato S.A.*, *Grupo Energía Bogotá*, *Empresa de Teléfonos de Bogotá*, *Propal*, *Banco de Bogotá*, *ISA*, *Carbocol*, *Astorga S.A.*, *Giros y Finanzas C.F.C.*, *Incorbank S.A.* and *Ecopetrol S.A.* (from 2017 to 2019). He holds a B.A. degree in Philosophy from the *Pontificia Universidad Javeriana* and a Master's degree in economics from *Universidad de los Andes* and is a Ph.D. candidate from the London School of Economics. He had published various books on economic policies and articles on monetary exchange policy and fiscal policy. He was an independent member of Ecopetrol's Board of Directors from October 24, 2022 to March 22, 2024, and during such period served as the Vice-Chairperson of the Board and Chairperson of its Remuneration, Nomination and Culture Committee.

Mr. Cabrera Galvis has expertise in: (i) the energy industry; (ii) administration, senior management, and leadership; (iii) government affairs and/or public policy; (iv) financial and securities markets; (v) human resources and talent development; (vi) legal and corporate governance; and (vii) business strategy and project management. As a member of Ecopetrol's Board of Directors, he was periodically trained in ethics, compliance and risk management matters.

Saúl Kattan Cohen was the President of the firm *SK Consulting Partners Corp.* He has been the liquidator of the companies of *Grupo Transtel* and an alternate member of the Board of Directors of *Tikva S.A.* He has served as President of *Empresa de Telecomunicaciones de Bogotá*, *NFCGC Investments* and *Blockbuster Video Colombia* and was a Financial and Economic Researcher at Colombia's central bank (*Banco de la República*). He has been a member of several Boards of Directors, including *Colombia Móvil (TIGO)*, *Empresa de Energía de Bogotá*, *Contact Center Americas*, *Colvatec*, *Skynet*, *Kokoriko* and *Pepe Ganga*. He holds a bachelor's degree in economics from the *Universidad de los Andes* in Bogotá, and he attended the Executive Management Program at the Instituto de Alta Dirección Empresarial (INALDE) in Bogotá and the Advanced Management Program at the Wharton Business School at the University of Pennsylvania. He was an independent member of Ecopetrol's Board of Directors from October 24, 2022 to March 22, 2024, and during such period served as the Chairperson of the Board and Chairperson of its Business Committee and its Technology and Innovation Committee.

Mr. Kattan Cohen has expertise in: (i) administration, senior management and leadership; (ii) government affairs and public policy; (iii) financial and securities markets; (iv) business risk management; (v) human resources and talent development; (vi) legal matters and corporate governance; (vii) technology and innovation; (viii) cybersecurity; and (ix) business strategy and project management. As a member of Ecopetrol's Board of Directors, he was periodically trained in ethics, compliance and risk management matters.

Esteban Piedrahíta Uribe previously held the positions of Chairperson of the Chamber of Commerce of Cali, General Director at *Departamento Nacional de Planeación*, Advisor to the President and then Senior Specialist at the Inter-American Development Bank, Economic Editor of *Semana* magazine, General Manager of *Endriven Colombia/Gas Meridional S.A.S. E.S.P.*, member of the Advisory Council of *Fundación Panthera*, member of the board of directors of *Cementos Argos S.A.*, among others. He holds a degree in Economics from Harvard University and a Master's degree in Philosophy and History of Science from the London School of Economics and Political Science. He is currently the Dean of *Icesi University* and has served as member of the Boards of Directors of *Grupo Argos S.A.*, *Compañía de Seguros Bolívar S.A.* and *Seguros Comerciales Bolívar S.A.* He has also been a member of the Board of Trustees of *Fundación Sidoc* and *Centro Internacional de Entrenamiento e Investigaciones Médicas (CIDEIM)*. He was a member of the Board of Directors of Ecopetrol from April 2019 to March 22, 2024. He was an independent member and Chairperson of the Board's Corporate Governance and Sustainability Committee until November 2023, and as of such date, he was a non-independent member of the Board.

Mr. Piedrahíta Uribe has experience in: (i) the energy industry; (ii) energy transition; (iii) administration, senior management and leadership; (iv) government affairs and public policy; (v) business strategy and project management; and (vi) legal matters and/or corporate governance. In addition to the aforementioned positions, Mr. Piedrahíta Uribe has experience in: (i) finance and securities markets, having worked as Investment Banker with *Salomon Brothers* in New York and *Estrategias Corporativas* in Bogotá; and (ii) climate change and sustainability, having served as independent member of the Investment Committee of the *MGM Sustainable Energy Fund (MSEF) I and II*. As for technology and innovation, Mr. Piedrahíta Uribe founded two internet companies: *Laciudad.com* and *Zoom Media Group* and participated in the Massachusetts Institute of Technology's program "Massachusetts Institute of Digital Business Strategy: Harnessing Our Digital Future". As a member of Ecopetrol's Board of Directors, Mr. Piedrahíta Uribe was periodically trained in ethics, compliance, and risk management matters.

Sandra Ospina Arango has over 31 years of experience in the energy industry. She had co-led projects and initiatives for the development and upgrading of national electricity systems; participated in formulating regulations and standards for the future development of smart grids and renewable energies, and in shared-value initiatives between the State, academia and industry, supporting innovation and regional entrepreneurship. She is an Electrical Engineer, licensed in Physical Mathematics from *Universidad del Valle*. She holds a graduate studies degree in Energy Transmission and Distribution and a master's degree in Energy Generation from the aforementioned university. She has been a professor of the master's in engineering at *Universidad del Valle* and has participated on projects on I+D+I (Research, Development and Innovation, for its acronym in Spanish) at *Universidad del Valle*. She is a Ph.D. candidate in Electrical and Electronic Engineering at the same University and has led the Smart Grid Group of the Regional Energy Integration Commission (CIER, for its acronym in Spanish) – Latin America. Throughout the past years she has served in management positions at Celsia Colombia S.A. E.S.P. and has been a member of various steering committees in the energy sector for various entities. She was an independent member of Ecopetrol's Board of Directors from October 24, 2022 to March 22, 2024, and during such period served as the Chairperson of the Board's HSE (Health, Safety & Environment) Committee.

Ms. Ospina Arango has expertise in: (i) energy industry and energy transition; (ii) administration, senior management and leadership; (iii) government affairs and public policy; (iv) financial and securities markets; (v) business risk management; (vi) human resources and talent development; (vii) legal affairs and corporate governance; (viii) technology and innovation; (ix) health, safety and/or environment; (x) sustainability; (xi) cybersecurity; and (xii) business strategy and project management. As a member of Ecopetrol's Board of Directors, she was periodically trained in ethics, compliance and risk management matters.

Claudia González Sánchez is a lawyer from the *Universidad del Rosario* with a specialization in financial legislation from the *Universidad de los Andes*. She served as a member of the Board of Directors of Ecopetrol from March 2018 to March 2019. She is currently the Executive President of the *Asociación Colombiana de Corredores de Seguros* or "ACOAS," an association that represents insurance brokers. She served as Legal Secretary of the Presidency of the Republic, Secretary General of the Ministry of Finance and Public Credit, Secretary General of the Ministry of Mines and Energy, Secretary General of the Administrative Department of Security (DAS), National Administrative and Financial Director of the Attorney General's Office and Deputy Director of Programming for the Central Sector of the National Planning Department (DNP).

Ms. Gonzalez has been a member of the board of directors of various companies including Gecelca, Fiduprevisora S.A., Central de Inversiones S.A. (CISA), Sociedad de Activos Especiales S.A.S. (SAE), Coljuegos, Unidad de Gestión Pensional y Parafiscales (UGPP), Urrá S.A. E.S.P. and Ecopetrol S.A. Given her professional background, she has experience in: (i) the energy industry; (ii) administration, senior management, and leadership; (iii) government affairs and/or public policy; (iv) business risk management; (v) human resources and talent development; and (vi) legal affairs and corporate governance. As a member of Ecopetrol's Board of Directors, she was periodically trained in ethics, compliance and risk management matters.

7.3.1 Board Practices

Currently, our Board of Directors is composed of nine members and is responsible for, among other roles, establishing our general business policies. The majority of the Board of Directors must be independent, their independence is determined pursuant to the criteria set out in paragraph two, Article 44, Law 964, 2005, and they must be elected in accordance with the procedure determined in Decree 3923, 2006, or any other provisions that regulate, amend, replace or add such regulations. In addition, pursuant to our bylaws and in accordance with the procedures described therein, the slate of candidates must include, for the last two seats in the Board of Directors, the name of one individual jointly proposed by departments that produce hydrocarbons and one individual jointly proposed by the ten minority shareholders with the largest shareholding participation. According to the Colombian law and the internal regulations, the members of the Board of Directors must be elected by the General Shareholders Assembly in accordance with a proportional representation system similar to cumulative voting (through an electoral quota voting system). The number of votes required to fill each position is calculated by dividing the number of possible votes by the number of open board positions. The members of the Board of Directors may be elected without an electoral quota voting system when there is unanimity. Pursuant to our bylaws, (i) positions on our Board of Directors are appointed in a personal capacity, (ii) at least three members appointed for a specific period must be current members from the preceding period, without including candidates for seats eight and nine, (iii) with retroactive effect to 2021, Directors will be elected for a four-year institutional term, and (iv) members of the Board may be re-elected more than once for the same four-year term without exceeding a total of three terms. Our current Directors were elected at the General Shareholders Assembly held on March 28, 2025.

Our CEO is appointed by the Board of Directors and, as the Company's general legal representative, will have at least two personal alternates. The CEO is elected and freely removed by the Board of Directors. In accordance with our bylaws, the Board of Directors must evaluate the performance of the CEO. Such results are published in Ecopetrol's website or in an alternative media vehicle.

The remuneration of our Directors is set exclusively by the shareholders at the General Shareholders Assembly. Currently, Directors are remunerated for attending board meetings and committee meetings. A Board meeting requires a quorum of at least five members and decisions are approved with a majority of the Directors present.

Under Colombian law, a director or executive officer must abstain from participating in any transaction that may result in a conflict of interest or that involves competing with the company, unless authorized at a General Shareholders Assembly. The general shareholders may approve or reject the participation of the director or executive officer in the transaction giving rise to the conflict of interest with the vote of the majority of the shares present at the General Shareholders Assembly. If the director or executive officer who has the conflict is a shareholder, his or her vote must be excluded. We disclose the number of conflicts of interest of our employees, executive officers and Directors in our annual reports.

Neither our bylaws nor our corporate governance code provide a retirement age for our Directors. Under our bylaws, there is no requirement for a person to have a minimum number of shares to be elected as a Director. Colombian law provides that Directors willing to sell or purchase shares in our Company need prior authorization from the entire Board of Directors. Colombian law does not impose any limitation as to the number of shares that may be acquired by a Director.

Succession policy of the Board of Directors

In 2021 Ecopetrol's Board of Directors adopted the Board of Directors' succession policy, with the purpose of (i) ensuring an organized replacement of its members, (ii) minimizing the possible economic and reputational impact that may arise from the change in board membership, (iii) promoting the attraction of human talent, and (iv) ensuring the long-term stability and sustainability of the Ecopetrol Group's strategy.

On March 22, 2024, the General Shareholders Assembly approved, among others, an amendment to the Company's bylaws consisting of that the General Shareholders Assembly must approve the succession policy for the members of the Board of Directors.

On March 28, 2025, the General Shareholders Assembly approved, among others, the succession policy for the members of the Board of Directors, since it is the corporate body responsible for approving the succession policy proposed by the Board of Directors. The succession policy maintains the purpose of ensuring an organized replacement of its members and reflects the Company's preparedness to face any changes arising from handovers in its directorate, a characteristic valued by the Company's shareholders. The succession policy reduces uncertainty and provides additional surety regarding the transparency and dependability of the selection process for the members of the Board of Directors.

The policy regulates the capacities, obligations, and requirements for the nomination and election of the board members in order to strengthen the transparency of the selection process and guarantee that their capacities contribute to the fulfillment of Ecopetrol's objectives and strategic plans.

This Policy is part of the corporate rules concerning the succession of the Board of Directors.

Gender diversity

Furthermore, in 2021 Ecopetrol became part of the 30% Club, a global campaign intended to increase gender diversity on boards of directors, whereby Ecopetrol committed itself to boosting efforts to achieve 30% participation of women in senior positions at the Company within a reasonable timeframe; and also, on the boards of the other affiliates of the Ecopetrol Group by adopting a progressive plan. In 2023, the Company ratified its goal to promote an increased participation of women in the boards of directors of companies of the Ecopetrol Group.

Part of this commitment is reflected in the appointment of women on the boards of directors of the Ecopetrol Group, with a participation of 23% in 2024. In 2024, 94 of the 408 positions on the boards of directors of the Group's companies were held by women.

As for Ecopetrol's Board of Directors, on January 10, 2024, the General Shareholders Assembly approved an amendment to the Company's bylaws that requires that at least 30% of the members of the Board of Directors must be women. The current Board of Directors, whose members were appointed on March 28, 2025, is comprised of three women. The amendment aims to promote gender plurality and it anticipates the requirement set forth in Colombia's National Development Plan (PND for its acronym in Spanish) according to which 30% of the board members of the boards of directors of securities issuers must be women as of 2026.

7.3.2 **Board Committees**

Pursuant to our bylaws, our Board of Directors may constitute the committees it considers necessary. The Board of Directors currently has six committees (audit and risk committee, corporate governance and sustainability committee, remuneration, appointments and culture committee, business committee, HSE (health, security and environment) committee and technology and innovation committee). These committees establish guidelines, set specific actions and evaluate and submit proposals designed to improve performance in the areas under their supervision and control. The committees are solely comprised of members of the Board of Directors who are also appointed by the same members. The chairperson of each of the committees must be an independent Director. In addition to applicable regulations, the committees also have their own specific regulations that establish their purposes, duties and responsibilities.

Table 69– Composition of committees of the Board of Directors since April 23, 2025

Audit and Risk Committee	Remuneration, Nomination, and Culture Committee
Álvaro Torres Macías (Chairperson)	Guillermo García Realpe (Chairperson)
Ángela María Robledo Gómez	Mónica de Greiff Lindo
Mónica de Greiff Lindo	Lilia Tatiana Roa Avendaño
Guillermo García Realpe	Alberto José Merlano Alcocer
Ricardo Rodríguez Yee	Luis Felipe Henao Cardona
Corporate Governance and Sustainability Committee	Business Committee
Luis Felipe Henao Cardona (Chairperson)	Mónica de Greiff Lindo (Chairperson)
Ángela María Robledo Gómez	Guillermo García Realpe
Guillermo García Realpe	Álvaro Torres Macías
Lilia Tatiana Roa Avendaño	Alberto José Merlano Alcocer
Alberto José Merlano Alcocer	Hildebrando Vélez Galeano
HSE Committee	Technology and Innovation Committee
Ángela María Robledo Gómez (Chairperson)	Ricardo Rodríguez Yee (Chairperson)
Mónica de Greiff Lindo	Ángela María Robledo Gómez
Álvaro Torres Macías	Álvaro Torres Macías
Lilia Tatiana Roa Avendaño	Lilia Tatiana Roa Avendaño
Hildebrando Vélez Galeano	Hildebrando Vélez Galeano

Audit and Risk Committee

Our audit and risk committee, which must be comprised of at least three members, all of them independent Directors, is our highest internal control body and provides support to our Board of Directors on risk, accounting and financial matters. It oversees our internal control over financial reporting. It also analyzes the annual hydrocarbons reserves report and provides support for our Board by analyzing topics related to financial matters, risks, control and the assessment of the Company's internal and external auditors.

All committee members are required to be knowledgeable in accounting matters and at least one of them is required to be an expert in financial and accounting matters.

Our Board of Directors has determined that Álvaro Torres Macías qualifies as an “audit committee financial expert” and he is independent under the definition of “independent” applicable to us under the rules of the NYSE.

The audit and risk committee approves on a case-by-case basis any engagement of our external independent auditors to provide services different than those related to auditing our financial statements. The audit and risk committee reviews that the additional services do not affect the external auditor’s independence.

Remuneration, Appointments and Culture Committee

Our remuneration, appointments and culture committee, which must be comprised of at least three members, and a majority of independent directors, provides general guidelines for the selection and remuneration of our executive officers and employees, and within the framework of the Ecopetrol Group’s strategy, oversees matters of organizational culture.

Corporate Governance and Sustainability Committee

Our corporate governance and sustainability committee, which must be comprised of at least three members, and a majority of independent directors, supports the Board of Directors in the analysis and decision making related to systems for the adoption of best practices in corporate governance for the oil and gas industry and the energy sector, which include matters related to the adoption of specific measures regarding the Ecopetrol Group’s governance. This committee also supports the analysis and provides recommendations related to the Ecopetrol Group’s sustainability agenda and TESG topics.

Business Committee

Our business committee, which must be comprised of at least five members, and a majority of independent directors, assists our Board in analyzing potential business ventures. Based on its delegation of power, the committee studies and analyzes capital expenditure policies, major investment projects, strategy, new businesses and other matters that would help us move forward in our efforts toward the consolidation of our strategy. The primary criteria used in the committee’s decision-making process are the optimization of our portfolio and the proper allocation of our resources.

HSE Committee (Health, Safety and Environment)

Our HSE committee, which must be comprised of at least three members, the majority of which must be independent, supports the management of the Board of Directors with respect to monitoring and management of risks associated with the health and safety of our employees, contractors and partners. The HSE Committee is also responsible for monitoring Ecopetrol’s environmental management strategy, which includes matters related to the adoption of specific metrics regarding, for example, decarbonization.

Technology and Innovation Committee

Our technology and innovation committee, which must be comprised of at least three members, the majority of which must be independent, supports the management of the Board of Directors with respect to technological and digital transformation, as well as the cultural change that Ecopetrol is undergoing to transform itself into a leading company in the use of technology and digital innovation in the hydrocarbons sector. The Technology and Innovation Committee also reviews TESG-related topics and is in charge of reviewing and monitoring the Ecopetrol Group’s digital strategy, as well as computer security, cybersecurity, cyber defense, privacy and data recovering strategies.

7.4 **Compliance with NYSE Listing Rules**

The following is a summary of the significant differences between our corporate governance practices and those required for U.S. companies under the NYSE listing standards.

NYSE Standards

Director Independence

The majority of the board of directors must be independent. §303A.01. “Controlled companies,” which would include Ecopetrol if we were a U.S. issuer, are exempt from this requirement. A controlled company is one in which more than 50% of the voting power is held by an individual, group or another company, rather than the public. §303A.00.

Executive Sessions

The non-management directors of each listed company must meet at regularly scheduled executive sessions without management. §303A.03.

Nominating/Corporate Governance and Sustainability Committee

A nominating/corporate governance and sustainability committee composed entirely of independent directors is required. The committee must have a charter specifying the purpose, duties and evaluation procedures of the committee. §303A.04. “Controlled companies” are exempt from these requirements. §303A.00.

Remuneration Committee

A remuneration committee composed entirely of independent directors is required, which must evaluate and approve executive officer compensation. The committee must have a charter specifying the purpose, duties and evaluation procedures of the committee. §303A.05. “Controlled companies” are exempt from this requirement. §303A.00.

Audit and Risk Committee

An audit committee with a minimum of three independent directors satisfying the independence and other requirements of Rule 10A-3 under the Exchange Act and the more stringent requirements under the NYSE standards is required. §§303A.06 and 303A.07.

Equity Compensation Plans

Equity compensation plans and all material revisions thereto require shareholder approval, subject to limited exemptions. §§303A.08 and 312.03.

Our Corporate Governance Practices

Pursuant to our bylaws, the majority of the Board of Directors must be independent. As of the date of this annual report, we have six independent Directors and three non-independent Directors. The criteria to determine the independent status of Board members is set forth in Colombian Law 964 of 2005, Article 44, Paragraph Two.

A comparable rule does not exist under Colombian law. All Board members are non-management directors. Our Board of Directors’ regular scheduled executive sessions are usually with the Company’s management, but Directors may at any time request sessions without management.

Colombian law does not require the establishment of a nominating and a corporate governance and sustainability committee composed entirely of independent directors. Pursuant to our board charter, these committees shall be composed of a majority of independent Directors. Both the Remuneration, Nomination and Culture Committee and the Corporate Governance and Sustainability Committee have charters specifying their purpose and duties.

Colombian law does not require the establishment of a remuneration committee composed entirely of independent directors. Pursuant to our board charter, this committee shall be composed of a majority of independent Directors. The Remuneration, Nomination and Culture Committee has a charter specifying its purpose and duties.

According to Law 964 of 2005, Colombian companies that are authorized to issue securities by the Superintendence of Finance of Colombia must have an audit committee that satisfies the requirements of Law 964 of 2005, including its minimum number of members, independence criteria and audit related duties. Our audit and risk committee is composed entirely of independent Directors, and the committee meets the requirements of Law 964 of 2005 and Rule 10A-3 under the Exchange Act.

Under Colombian law, no similar right to vote on equity compensation plans and material revisions thereto is given to shareholders. We do not give our shareholders the right to vote on equity compensation plans and material revisions thereto.

NYSE Standards

Listed companies must adopt and disclose corporate governance guidelines. §303A.09.

Our Corporate Governance Practices

The Superintendence of Finance of Colombia recommends the adoption of corporate governance guidelines to all Colombian issuers. According to Superintendence of Finance Circular No. 028, 2014, the adoption of corporate governance guidelines is voluntary. Listed companies must annually publish a corporate governance survey comparing their corporate governance standards with those recommended by the Superintendence of Finance. Our corporate governance code and our survey of the adoption of Colombian practices are available on our website at <http://www.ecopetrol.com.co>.

Code of Ethics for Directors, Officers and Employees

Corporate governance guidelines and a code of business conduct and ethics is required, with disclosure of any waiver for directors or executive officers. The code must contain compliance standards and procedures that will facilitate the effective operation of the code. §303A.10.

We have adopted a code of ethics which complies with applicable U.S. and Colombian law. Our code of ethics applies to our chief executive officer, chief financial officer, principal accounting officer, persons performing similar functions and to all of the employees, members of the Board of Directors, suppliers, and contractors of Ecopetrol S.A. and its corporate group. Our code of ethics is available on our website at <http://www.ecopetrol.com.co>

7.5 Management

Ecopetrol defines its organizational structure according to Law 1118 of 2006 and its bylaws. Senior management includes positions responsible for general management, policy formulation, and the adoption of plans and projects. Their main functions are: (i) defining and evaluating long-term strategy, (ii) formulating policies, directing the Ecopetrol, (iii) approving plans and projects, (iv) monitoring in senior management committees, and (v) verifying the internal control and risk system. The senior management positions mentioned within this chapter report to the Chief Executive Officer and Vice Presidents, and to the Executive Vice President of Hydrocarbons.

On April 26, 2024, we announced the following senior management changes and appointments:

1. Rafael Ernesto Guzmán Ayala, former President of Hocol, was appointed acting COO as of May 11, 2024 and served in that position until his appointment as Executive Vice President of Hydrocarbons in January 2025 Alberto Enrique Consuegra Granger, who had been serving as Chief Operating Officer (COO), served until May 10, 2024.
2. Felipe Trujillo López as Vice President Commercial and Marketing. Dr. Trujillo has been in charge of this Vice-Presidency since January 20, 2024.
3. Victoria Irene Sepúlveda Ballesteros as Corporate Vice President of Human Resources. Dr. Sepúlveda has been in charge of this Vice-Presidency since January 19, 2024.
4. María Cristina Toro Restrepo as Legal Vice President effective as of May 7, 2024.

On June 28, 2024, we announced the following senior management changes:

1. Sandra Lucía Rodríguez, who served as Vice President of Sustainable Territorial Development, was appointed the Corporate Vice Presidency of Territorial Transformation and Health Safety and the Environment.
2. Jaime Pineda, who served as Vice President of Procurement and Services, was appointed the Vice Presidency of Administration and Services.
3. Germán González, who served as Vice President of Corporate Affairs and Secretary General, took on the position of Secretary General and became in charge of the Corporate Directorate of Institutional Relations and Communications.

4. As a result of the voluntary resignation to the Company by María Catalina Escobar, the former Corporate Vice President of Finance and Sustainable Value in charge, the Board appointed Javier Cárdenas, who previously served as Control and Reporting Manager, as Vice President in charge.

On July 31, 2024, we announced the following senior management changes:

1. Sandra Lucía Rodríguez as Corporate Vice President of Territorial Transformation and HSE as of August 1, 2024. Sandra has been in charge of this vice presidency since June 28, 2024.
2. Camilo Barco Muñoz as Corporate Vice President of Finance and Sustainable Value as of August 20, 2024.
3. Jaime Andrés García as Vice President of Procurement and Services as of September 2, 2024.
4. Alberto José Vergara Monterrosa as Corporate Director of Compliance as of August 1, 2024. Alberto was in charge of the Corporate Compliance Vice Presidency since April 2024 and the Corporate Compliance Directorate since June 6, 2024.

On August 30, 2024, we announced Nicolás Azcuénaga Ramírez, whose former position was Corporate Vice President of Strategy and New Businesses, who held that position until September 15, 2024 by mutual agreement. As his replacement, the Board of Directors appointed Julián Lemos Valero, Mergers and Acquisitions Manager, as acting Corporate Vice President of Strategy and New Businesses, effective September 16, 2024 and until the appointment of the position is made.

On October 1, 2024, we announced Juan Carlos Hurtado Parra as Vice President of the Upstream segment, who was in charge of this department since June 15 and assumed the position permanently as of October 1.

On October 16, 2024, we announced Carlos Mauricio Avila Saldarriaga was appointed as Vice President of Subsidiaries and Assets with Partners.

On December 13, 2024, we announced the following senior management changes:

1. Germán González Reyes, who was serving as Secretary General since September 29, 2023 and Acting Director of Institutional Relations and Communications since June 28, 2024, held that role until January 17, 2025.
2. Cristina Toro Restrepo, the former Corporate Legal Vice President, as Acting Secretary General, effective as of January 18, 2025, until the position was permanently filled by María Cristina Toro Restrepo on January 31, 2025.
3. Rodolfo García Paredes, former Hydrocarbons Legal Manager, as Acting Corporate Legal Vice President, effective as of January 18, 2025, until was permanently filled by María Cristina Toro Restrepo on January 31, 2025.
4. Diana Marcela Jiménez, former Regulatory Strategy Manager, as Acting Director of Institutional Relations and Communications, effective as of January 18, 2025, until the position is permanently filled.

On January 15, 2025, we announced the following senior management changes:

1. Walter Fabián Canova, who had served as Vice President of Refining and Industrial Processes, performed his duties until January 15, 2025 and terminated his employment contract by mutual agreement after working at the Company for more than seven years.
2. Felipe Trujillo López, current Vice President of Commercial and Marketing, serves as Vice President of Refining and Industrial Processes until a permanent appointment is made.
3. Julio César Herrera serves as Vice President of Commercial and Marketing in charge and until a permanent appointment is made.

On January 31, 2025, we announced the following senior management changes:

1. María Cristina Toro Restrepo was confirmed as Corporate Legal Vice President and General Secretary. This Vice Presidency reports directly to the President.
2. Rafael Ernesto Guzmán Ayala was appointed Executive Vice President of Hydrocarbons. He will continue to report directly to the President.

On April 23, 2025, we announced the following senior management changes:

1. Diana Marcela Jimenez Rodriguez was confirmed as Director of Institutional Relations and Communication.
2. Julian Fernando Lemos Valero was confirmed as Corporate Vice President of Strategy and Business Development.
3. Julio Herrera was confirmed Vice President of Commercial and Marketing.

The following presents information concerning our executive officers and senior management as of April 23, 2025. Unless otherwise noted, the majority of these individuals are Colombian citizens.

Executive Officers

Ricardo Roa Barragán has served as the Chief Executive Officer of Ecopetrol S.A. since April 2023. Since joining Ecopetrol, he has led the Group's energy transition, achieving significant progress in energy efficiency, in the expansion of renewable energy portfolio within the Group's operations, as well as strengthening ISA's energy transmission and roads businesses. Mr. Roa has also strengthened the role of the hydrocarbons business and its contribution to the national economy and to Ecopetrol's shareholders. He has an extensive 30-year-plus professional career as CEO, General Manager and Director, with significant achievements in energy and gas companies in United States, Brazil, Peru, Guatemala, Honduras and Colombia. His vast experience includes roles as General Manager of Electricidad de Santander, Director of Commercialization and Business Manager in Energy and Methanol of Ingenios Incauca and Providencia, President of Transportadora de Gas Internacional TGI, President of Grupo Energía Bogotá, General Manager of Controles Eléctricos de Colombia, President of Central Termoeléctrica La Luna, and General Manager of Empresa Energía Honduras. He holds a degree in mechanical engineering from Universidad Nacional de Colombia, and specialization in Engineering Management Systems from Pontificia Universidad Javeriana.

Rafael Ernesto Guzman has served as Chief Operating Officer of Ecopetrol S.A. since May 2024. Prior to this role, he was President and CEO of Hocol, Ecopetrol S. A's upstream subsidiary since March 2019 and Technical Vice-President of Ecopetrol S.A since May 2013. Mr. Guzman has over 25 years of experience in the oil and gas industry, where he has held several positions as regional production manager. Mr. Guzman worked with ENI in managerial positions in Europe and Latin America and in BP, where he started his professional career as a Senior Reservoir Engineer for the large Cusiana field. Mr. Guzman holds a B.S. degree in Petroleum Engineering from Universidad America in Colombia (1995), a M.S. in Petroleum Engineering and a PhD in Petroleum Engineering with minor in Mathematics both from Stanford University.

Camilo Barco Muñoz, has served as Corporate Vice President of Finance and Sustainable Value since August 30, 2024. He is a Senior Executive with more than 30 years of successful experience in management positions, both in the public and private sectors. Currently, certified ESG Member of several Boards of Directors in Colombia— Jaramillo Mora Constructores JMC, Banco Agrario de Colombia BAC, FONDES, OZONO ESP and for former member of other important Boards in large companies across Latin America, including among others: Ecopetrol, Bancoldex, Telefónica, ISA Capital do Brasil, CTEEP, Red Eléctrica del Perú, Intervial Chile, INFRAMCO and Metro de Bogotá. He is a dynamic and encouraging leader with strong competencies in high performance team management, strategic planning, corporate governance, corporate finance and new business structuring and development. As an Investment Banker, he participated in the structuring and execution of an extensive number of transactions, either in advisory (M&A), Structured finance and debt capital markets. Previously, as a Consultant, he accompanied the Colombian Government and a wide list of public and private companies in the execution of strategic projects aimed at sustainability and value generation. In addition, Mr.Barco served as Country Head of Investment Banking of Banco Itaú in Colombia; General Director of State-Owned Enterprises in the Ministry of Finance and Public Credit (holding entity of state companies); Managing Director Head of Investment Banking at BBVA Colombia; CFO of Grupo ISA; Manager of Financial Consulting at Deloitte; and Advisor to UNDP for the Privatization and Concessions Program in Colombia. He is a lawyer from Universidad del Rosario, Specialist in financial law from Universidad de los Andes, has carried out various executive courses in Corporate Finance, Capital Markets and International Finance at Chicago Booth School of Business and at the London School of Economics-LSE.

Management Team

Juan Carlos Hurtado Parra has served as Vice President of Upstream since October 1, 2024. He is an electrical engineer, and has a Master in Business Administration (MBA) in international oil and gas as well as a specialization in Project Evaluation and Development. Mr. Hurtado has worked for over 27 years in the oil and gas sector, including extensive experience in executive positions within Ecopetrol and Transportadora de Gas Internacional (TGI). Mr. Hurtado's professional expertise includes resource management and coordination, processes and project methodologies, the development and operation of hydrocarbon production fields, and gas transport system operation and maintenance processes management, among others.

Alexander Cadena Motezuma has served as President of Cenit since May 2024. He previously served as President of Ocesa as of March 2020, President of ODL from 2018 to 2020, and Director of Strategy and New Business at Cenit from 2012 to 2016. Alexander has held multiple leadership positions in Ecopetrol, including New Business Manager for Downstream, Head of the Risk Management Unit in the Financial Vice Presidency, Gas Management Coordinator in the Business Management area, and served as Process Engineer at the Barrancabermeja Refinery. Additionally, he has been member of the boards of directors of Ocesa, ODL, ODC, Empresa de Energía de Bogotá, Bioenergy, Gases de la Guajira, Gasorient, Surtigas, and Invercolsa, among others. A Chemical Engineer from the Universidad Industrial de Santander, Mr. Cadena boasts over 30 years of experience in the energy sector in the areas of production and transportation of hydrocarbons, natural gas, electricity, renewable energies, regulation, and competitiveness. Additionally, he holds a Master's in Business Administration from Universidad Externado de Colombia.

Felipe Trujillo is the Acting Vice-President of Refining and Industrial Processes in charge of the Ecopetrol Group since January 2025. He has been a member of the board of directors of Ecodiesel and Ecopetrol US Trading. He is an Industrial Engineer from Pontificia Universidad Javeriana, with a Specialization in Strategic Marketing from "Colegio de Estudios Superiores de Administración - CESA" and has an MBA from "Universidad de Los Andes." He has 26 years of experience in leadership positions in the commercial and marketing departments, including new business structuring. The last 20 years of his work experience have been in the oil and gas industry at Ecopetrol, working in various positions such as National Commercialization Manager, Petrochemicals and Industrials Manager, Downstream New Business Manager and Gas Manager and Vice-President Commercial and Marketing.

David Riaño Alarcón has served as Vice President of Energies for the Transition since August 18, 2023. He has over 28 years of experience in the energy sector, having held leadership positions in companies and entities in the energy and gas sector. His knowledge of the energy market has been attained in renowned companies including Transportadora de Gas Internacional, Empresa de Energía de Cundinamarca, Gas Natural Fenosa, Red de Energía del Perú (ISA), in trade associations such as ACOGEN and government entities such as the Superintendence of Public Services (SSPD) and the Energy and Gas Regulatory Commission (CREG). He is an electrical engineer with a bachelor's degree from the University of La Salle and three master's degrees in economics from Universidad Javeriana, in industrial engineering from Universidad de los Andes, and in business administration from University of Warwick.

Julián Fernando Lemos Valero is the Corporate Vice President of Strategy and Business Development since April 23, 2025. He graduated as a Mechanical Engineer from Universidad Nacional de Colombia and completed a specialization in economic and social appraisal of projects from Universidad de los Andes. Mr. Lemos has 18 years of professional experience in the energy sector, primarily in the assessment of investment opportunities in energy, gas, petrochemicals, and biofuels. His previous positions include Business Development Manager and strategy manager at Mitsubishi Corporation, a Japanese multinational. In Ecopetrol, he has been part of the Corporate Vice Presidency of Strategy and Business Development since 2017, with responsibilities for developing the energy, gas infrastructure, and petrochemicals businesses, among others. He played a prominent role in the team that completed the purchase of ISA in August 2021 and successfully headed the Mergers and Acquisitions Management area from December 2022 to September 2024.

Sandra Lucia Rodriguez Rojas has served as Vice president of Territorial Transformation & HSE since October 2023; managers for Social Prosperity, Dialogue and relations with stakeholders, Sustainability and environmental management, Territorial planning and monitoring, also Territorial Management & HSE for Hydrocarbons as well as energies for transition, all report to her. Ms. Rodriguez is a lawyer from the Pontificia Universidad Javeriana (Bogotá, Colombia) who specialized in business law —at that same university— and in Administrative Law at Universidad Santo Tomás (Bogotá, Colombia). She also holds two masters' degrees: one in Public Law and another one in Environmental Policy and Management, both from Universidad Carlos III (Madrid, Spain). Before being appointed Ms. Rodriguez served as Colombia's Deputy Ombudsman for Environmental and Collective Rights since 2018. She was one of the founding members of the Center for Environmental Law Studies at Pontificia Universidad Javeriana (Bogotá, Colombia), conducted research in Administrative Law, Economic Law, and Environmental Regulation since 1998 and stays an Administrative Law and Environmental Law professor for the university graduate programs.

Jaime Andrés García Cuello was appointed as Vice President of Supply and Services in September 2024. Prior to this appointment, he was Executive Vice President of Banco Agrario. Mr. García has 24 years of professional experience, having served in strategic positions in both national and multinational companies. His expertise concentrates on supply chain, operations, purchasing, finance, and shared services management, in roles such as Procurement and Supply Chain Director and Human Capital Supply Chain Vice President of ETB S.A. - E.S.P.; Vice President of operations of dexFreight Corp.; Procurement, Administrative and Organizational Development Director of Grupo Empresarial Oleoflores; and Procurement Director of DIRECTV Colombia Ltd. He has also served as advisor to board of Directors in companies and has been a professor at the Universidad del Norte in purchasing and supply management, organizational development and culture, and strategic management and organizational design. He graduated as a Civil Engineer from Universidad de los Andes and has a Master's in Business Administration from Universidad Politécnica de Madrid, Spain.

María Cristina Toro Restrepo has served as Corporate Vice-President of Legal Affairs and Secretariat since May 7, 2024. She holds a law degree from Universidad de Caldas university. She has completed specialization programs in Mining-Energy Law at Universidad Externado de Colombia and Commercial Law and Tax and Customs Legislation at Universidad de Caldas. In her 26 years of professional experience, she served as General Secretary of Medellín's public utilities company (EPM), headed the Legal Counsel Office of the Metro of Bogotá, acted as General Secretary of the Metro of Medellín, headed the Labor Relations Management area of EPM, served as General Secretary and Legal Vice President of Grupo Energía de Bogotá, General Secretary of CHEC and Legal Director of Aguas de Manizales. Ms. Toro is a member of *Women in Connection*, and both the *Women Corporate Directors' Community and Leadership Advisory Board* of CESA, a private business administration college in Bogotá.

Alberto José Vergara Monterrosa has served as the Corporate Director of Compliance since August 1, 2024. With over 23 years of expertise in Ecopetrol, Alberto José has harnessed his knowledge to simultaneously pursue an academic career, working as a professor at the Universidad Nacional and Universidad Católica de Colombia universities. He is a lawyer from Universidad Nacional with a specialization in Procedural Law from the same university. He also realized additional specializations in business law and contract law from the Universidad Colegio Mayor de Nuestra Señora del Rosario and Commercial Law from the Universidad de los Andes University and holds a Master's Degree in Private Law from the latter. Prior to this new role, Mr. Vergara worked as Corporate Ethics and Compliance Affairs Manager from 2023 to date and as Compliance Investigations Coordinator from 2020 to 2023 with a corporate purview for the Ecopetrol Group. He joined Ecopetrol in November 2000 and served in various roles in a number of departments, including the Internal Disciplinary Control Office (2000 – 2008), the Internal Audit Directorate (2008 – 2014), the Vice Presidency of Legal Affairs (2015), Head of the Ethics and Compliance Unit (2015), Counselor to the Vice Presidency of Compliance (2015 – 2016), and Corporate Internal Audit Management (2016 – 2020), where he served as Head of Legal Affairs. He has vast knowledge and experience in the independent assurance of management, governance, control, and risk processes within the macro processes and projects of the Upstream, Downstream, Midstream, and corporate segments of the Oil & Gas industry.

Julio Herrera is the Vice President of Commercial and Marketing since April 23, 2025. He is a Certified Public Accountant from Universidad Javeriana and holds studies in Marketing and Sales from Kellogg School of Management at Northwestern University in Chicago, as well as in Finance from the Wharton School of Business at the University of Pennsylvania. With over 30 years of experience in the oil and gas industry. Throughout his career, he has excelled in leadership roles in Finance and Strategy, Planning, Business Development, Operations, Upstream, Downstream, and Midstream. From his various positions at ExxonMobil, BP, Ecopetrol and other American private energy companies, he has been a key player in complex international ventures across the Americas, the Caribbean, Europe, Africa, the Middle East, and Australia. In recent years, he has focused on Crude and Product Marketing in the Americas.

Sergio Andrés Moreno Acevedo, has served as Acting Corporate Vice President of Science, Technology, and Innovation at Ecopetrol S.A, since January 17, 2025. He holds a systems engineer degree from the Industrial University of Santander, with a specialization in technology management. He has over 25 years of experience in transformation, digital strategy, and innovation. He has held key roles in globally oriented companies, leading digital transformation initiatives. His career includes high-responsibility positions with multiple achievements in process optimization from tactical, operational, and strategic perspectives, impacting operational efficiency and service experience. He has strong skills in transformational leadership, strategic planning, adaptability, critical thinking, innovation, and problem-solving.

Victoria Irene Sepúlveda Ballesteros has served as the Corporate Vice President of Organizational Talent since January 19, 2024. She is a lawyer specializing in Commercial Law and an MBA candidate, with nearly 20 years of experience in administrative and human management roles. She has extensive expertise in human talent management and labor relations within companies and business groups in the energy sector in Colombia. Previously, she was the Human Management Manager at Chilco, the parent company in Colombia of the Lipigas Group. She has held corporate roles in business groups as Director of Subsidiaries and Resource Manager. Among her notable projects, her strategic planning stands out, addressing complex situations assertively, constantly seeking to engage with peers and superiors to find the best solutions that add value. She has experience in organizational transformation projects, project management, process management, and continuous improvement.

Ricardo Montes Gómez has served as Corporate Director of Internal Audit for the Ecopetrol Group since September 1, 2016. Mr. Gomez is a Public Accountant from the Universidad Externado of Colombia, holds a Master's in Business Administration from the INALDE Business School of Universidad de la Sabana of Colombia, and completed the Certified Financial Planning certificate program of Southern Methodist University located in Dallas, USA. He has over 40 years of professional experience both locally and internationally in the Oil & Gas sector, undertaking various leadership roles within Internal Audit and Financial Management, as well as serving as Chief Financial Officer (CFO) and Comptroller of public and private companies within this sector.

Diana Marcela Jimenez Rodriguez is the director of Institutional Relations and Communication since April 23, 2025. She is an electrical engineer from the Universidad de los Andes, with additional qualifications in business administration. She holds a specialization in business administration from UCUF Spain, and she has an executive master's in business administration from EADA Business School. With over 20 years of experience, Diana has held strategic positions in the energy sector both nationally and internationally. She has served as director for the Ecopetrol Group in Gas and LPG, and Regulatory Strategy, and as vice-president for Institutional Relations, Regulation, and the Environment for the Enel Group in Colombia and Central America. Moreover, she has been business development manager (VP) for Enel Group companies in Colombia and advisor to the CREG.

None of our Directors, Executive Officers or members of senior management has any familial relationship with any other Director, Executive Officer or member of senior management.

7.6 Compensation of Directors and Management

Based on a resolution adopted at our annual shareholders' meeting in 2012, compensation for Directors' attendance at meetings of the Board of Directors and/or committee meetings was set to six minimum monthly wage salaries, which totals approximately COP 8.5 million for 2025 and COP 7.8 million for 2024. See Note 31.1 to our consolidated financial statements for more details.

During 2024, the total compensation paid to our Board Directors amounted to COP 6,139 million and the remuneration paid to executive officers and senior management amounted to COP 23,186 million. The latter includes amounts paid to certain Directors, executive officers and senior management pursuant to a bonus plan under which such persons are entitled to receive variable compensation based on the Company's results for each year. Ecopetrol has a short-term and long-term variable compensation.

The short-term variable compensation for senior management is recognized based on the annual company's results associated with the achievement of strategic objectives and the goals of the Company's Balanced Scorecard ("BSC"). 2024 BSC includes metrics based on four strategic pillars: (i) Grow with the Energy Transition (that weighs 25% of the BSC); (ii) Generate Value with sustainability (10%), (iii) Cutting-edge Knowledge (5%), and (iv) Competitive Returns (50%). The remaining 10% of the BSC corresponds to the most important cultural principle for Ecopetrol, "Life First".

None of the members of our management team are eligible to receive pension and retirement benefits from us.

Implementation of the Long-Term Incentive Plan

Companies have increasingly incorporated incentive compensation plans into their compensation structures, in line with good international practices, to drive exceptional and sustainable results to meet stakeholder expectations. Long-Term Incentives Plans (ILPs for its acronym in Spanish) are designed to generate incremental value for shareholders based on the Company's proposed objectives and goals. These plans offer senior management a compensation mechanism consistent with the achievement of those strategic objectives and align incentives for beneficiary leaders with the Company's success in meeting these strategic objectives.

Ecopetrol's general ILP Plan is managed through a voluntary pension fund administered by a legally authorized financial entity, as required under Colombian law. The fund receives cash contributions from Ecopetrol with the mandate of investing such cash in ordinary shares of the Company, through open market purchases in Colombia. Once the plan expires and the company confirms and provided that the goals are met, the contributions become equity for the beneficiaries, and they will be able to determine the allocation of any earned contributions according to the following options:

- Keep the contributions in the portfolio that invests in Ecopetrol shares and over which Ecopetrol does not exercise investment decisions.
- Monetize the equity to invest the contributions (totally or partially) in other investment portfolios offered by the fund's manager.
- Monetize the equity by withdrawing the cash (totally or partially) from the fund.

Every year, the Board of Directors approves a set of metrics and objectives that are aligned with the corporate strategy and business plan. These objectives are updated periodically and are valid for a three-year term. The metrics and objectives seek to accelerate the path of the energy transition and guarantee the country's energy sovereignty. They are regularly monitored to ensure that the company stays on track and is making progress towards meeting its strategic goals. Currently, there are three ILP plans in effect:

- (i) for the 2022-2024 period, the metrics are Operational Cash Flow – OCF (60%), Greenhouse Gas Emissions (GHG) reduction (20%) and Oil Production (20%);
- (ii) for the 2023-2025 period, the metrics are related to Free Cash Flow (FCF) (50%), Reserve Replacement Ratio (RRR) (20%), New Energies (including hydrogen production and incorporation of renewables) (20%), and Greenhouse Gas Emissions (GHG) reduction (10%); and
- (iii) for the 2024-2026 period, the metrics are related to Free Cash Flow - FCF (40%), Return on Average Capital Employed - ROACE (20%), Reserve Replacement Ratio - RRR (20%), and Energy Reduction Cost (20%).

Currently, the ILPs are part of the compensation scheme applicable to the CEO, Vice Presidents, equivalent positions, and other positions at Ecopetrol, according to their level of responsibility and relevant performance criteria. This compensation scheme applies to all of Ecopetrol's subsidiaries.

7.7 Share Ownership of Directors and Executive Officers

The following table sets forth the executive officers and directors that own shares of Ecopetrol S.A. as of January 31, 2025. Under Colombian law, all of our shareholders have the same economic privileges and voting rights.

Table 70 – Executive Officers and Directors owning Ecopetrol's shares

Executive Officer	Number of shares ⁽¹⁾	% Ownership
Edwin Palma Egea	25	0.0000001 %
Juan Carlos Hurtado Parra	2,000	0.0000050 %
Luis Felipe Rivera Garcia	13,750	0.0000330 %

7.8 Controls and Procedures

Disclosure Controls and Procedures

As required by Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as of December 31, 2024, we evaluated the design and effectiveness of our financial disclosure controls and procedures under the supervision and participation of our management, including our Chief Executive Officer and Chief Financial Officer. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even if effective, disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.

Based upon this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that as of the end of the period covered by this annual report, our disclosure controls and procedures were effective to provide reasonable assurance that the information required to be disclosed in the reports that we file and submit under the Securities Exchange Act of 1934 is recorded, summarized and reported as and when required and is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a - 15(f) and 15(d) - 15(f) under the Securities Exchange Act of 1934. Our internal control over financial reporting is a process designed under the supervision of our Chief Executive Officer and Chief Financial Officer, and monitored by our board of directors, management and other personnel, in order to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external reporting purposes in accordance with generally accepted accounting principles, and it includes those policies and procedures that: i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of our assets; ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only in accordance with authorization of our management and directors; and iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, effective control over financial reporting cannot, and does not, provide absolute assurance of achieving our control objectives. Also, projection of any evaluation of the effectiveness of the internal controls to future periods is subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

As of the year ended December 31, 2024, our management conducted an assessment of the effectiveness of our internal control over financial reporting in accordance with the criteria established in the publication "Internal Control – Integrated Framework (2013)," issued by the Committee of the Sponsoring Organizations of the Treadway Commission, as well as the rules set by the SEC in its Final Rule "Management's Report on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports."

Based on the assessment performed, management concluded that our internal control over financial reporting was effective as of December 31, 2024.

The effectiveness of our internal control over financial reporting has been audited by Ernst & Young Audit S.A.S., an independent registered public accounting firm, as stated in their audit report accompanying our consolidated financial statements.

Audit and Non-Audit Fees

Our consolidated financial statements for the fiscal years ended December 31, 2024 and 2023 were audited by Ernst & Young Audit S.A.S. The following table sets forth the fees billed to us by Ernst & Young Audit S.A.S. during the fiscal years ended December 31, 2024 and 2023.

Table 71 – Fees Billed to us by Ernst & Young Audit S.A.S.

COP Millions, excluding 19% Value Added Tax	For the year ended December 31,	
	2024	2023
Audit fees	24,649	23,845
Tax fees	—	—
All other fees	133	132
Total	24,782	23,977

Audit Fees. The audit fees listed in the table above are the aggregated fees billed by Ernst & Young and its affiliates, in connection with their audits of our annual consolidated financial statements (IFRS), interim consolidated financial statements (under IFRS), statutory audits of Ecopetrol S.A. and its consolidated subsidiaries and some of its associate entities (under local GAAP) and review of periodic documents filed with the SEC. In addition, these audit fees include fees related to our independent auditors' audits of our internal controls over financial reporting.

Tax fees. Tax fees in the above table are fees billed by Ernst & Young for pre-approved services related to technical compliance with tax matters of one of our subsidiaries.

All Other Fees. The all other fees listed in the table above are the aggregated fees billed by Ernst & Young Audit S.A.S. in connection with the review of our sustainability report.

Changes in Internal Control over Financial Reporting

There were no changes made in our internal control over financial reporting for the year ended December 31, 2024 that have materially affected or are reasonably likely to materially affect our internal controls over financial reporting.

Attestation Report of the Registered Public Accounting Firm

Ernst & Young Audit S.A.S.'s attestation report on our internal control over financial reporting is included in their audit report accompanying our consolidated financial statements. See Report of Independent Registered Public Accounting Firm to the consolidated financial statements.

Clawback Policy

On November 30, 2023, we approved its claw-back policy providing for the recovery of erroneously awarded incentive-based compensation "received" by current and former executive officers in connection with a financial restatement, regardless of fault or misconduct, on or after October 2, 2023. A copy of our claw-back policy is attached hereto as Exhibit No. 7.1.

Insider Trading Policy

On March 25, 2025, the Company updated its insider trading prevention policy, which provides the guidelines to assist the members of the Board of Directors and their respective committees, the senior management, employees, interns and trainees of the Company, and anyone who by their job, profession or function has access to non-public information of Ecopetrol, to comply with their obligations under the securities and exchange laws and regulations of the Company's jurisdiction and the jurisdictions in which the Company's securities are traded. A copy of our insider trading prevention policy is attached hereto as Exhibit 7.2

8. **Financial Statements**

Ecopetrol S.A.

Consolidated Financial Statements

As of December 31, 2024, and 2023 and for the three years in the period ended December 31, 2024

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Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Ecopetrol S.A.

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of Ecopetrol S.A. (the Company) as of December 31, 2024 and 2023, the related consolidated statements of profit or loss, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2024, and the related notes and financial statement schedules listed in exhibits 1, 2 and 3 (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2024, in conformity IFRS Accounting Standards as issued by the International Accounting Standards Board (IASB).

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2024, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated April 23, 2025, expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Estimation of recoverable amount of long-lived assets in the Cartagena refinery

Description of the Matter

As described in notes 4.13 and 18 of the consolidated financial statements, management assesses at each reporting date, whether there is an indication that long-lived assets may be impaired. If any indication exists, or when annual impairment testing for a cash generating unit (CGU) is required, management estimates the CGU's recoverable amount. A CGU's recoverable amount is the higher of a CGU's fair value less costs of disposal and its value in use. When the carrying amount of a CGU exceeds its recoverable amount, the CGU is considered impaired and is written down to its recoverable amount. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the CGU's recoverable amount since the last impairment loss was recognized. The reversal of impairment is limited so that the carrying amount of the CGU does not exceed either its recoverable amount or the carrying amount that would have been determined had no impairment loss been recognized for the CGU in prior periods. In 2024, the Company recognized a reversal of impairment loss in the Cartagena refinery CGU, of COP \$1,271,120, as disclosed in note 18.2.1 of the consolidated financial statements.

Auditing management's estimate related to the determination of the Cartagena refinery CGU recoverable amount was complex and required the involvement of specialists due to the highly judgmental nature of the assumptions used in the model. In particular, the significant assumptions were the discount rate (weighted average cost of capital) and estimated refining margins, which are affected by expectations about future market or economic conditions such as the sales prices of refined products and crude oil purchase prices.

*How We Addressed
the Matter in Our
Audit*

We obtained an understanding, evaluated the design, and tested the operating effectiveness of controls over the Company's process to determine the recoverable amount of the CGU, including controls over management's review of the methodology used to develop such estimates, the projected financial information and the significant assumptions described above.

Our audit procedures included, among others, assessing the methodology used and testing the significant assumptions described above, as well as the underlying data used by the Company, by comparing the significant assumptions used in the model with current industry and economic trends. Additionally, we assessed the reasonableness of the Company's projections by comparing them to actual results and comparable trends in the industry and tested the clerical accuracy of such projections.

We also involved our valuation specialists to assist in the assessment of the discount rate (weighted average cost of capital), estimates of forward prices for oil and refined products, and projected financial information used in management's estimate for the projected refining margin.

Furthermore, we evaluated the related disclosures in the consolidated financial statements.

The impact of oil and gas reserves in the determination of depreciation and depletion, and assessment of impairment of long-lived assets for the Exploration and Production segment

*Description of the
Matter*

As described in notes 3.1 and 3.2 of the consolidated financial statements, the oil and gas reserves estimate impacts the calculation of depreciation and depletion, and the determination of future cash flows used in the assessment of impairment of long-lived assets for the Exploration and Production segment. The depletion and depreciation of long-lived assets for the Exploration and Production segment are calculated using the units-of-production method, based on proven developed and proven undeveloped reserves. These types of reserves are estimated quantities of oil and gas that can be reasonably expected to be commercially recoverable in future years from reservoirs under existing economic and operating conditions.

The estimation of oil and gas reserves requires the assessment of assumptions such as oil and gas prices, operational and capital expenditures and production rates, among others. Because of the complexity involved in estimating oil and gas reserves, management used independent petroleum engineers (hereinafter "specialists") to estimate the volume of oil and gas reserves.

Auditing the calculation of depreciation and depletion and the assessment of impairment of long-lived assets for the Exploration and Production segment was complex because of the use of the work of the specialists and the evaluation of management's determination of the assumptions described above used by the specialists in estimating oil and gas reserves.

*How We Addressed
the Matter in Our
Audit*

We obtained an understanding, evaluated the design, and tested the operational effectiveness of the Company's controls over its process to determine depreciation and depletion and assess impairment of long-lived assets for the Exploration and Production segment, including management's controls over the review of the methodologies used by the specialists and the completeness and accuracy of the financial assumptions provided to the specialists for use in estimating oil and gas reserves.

Our audit procedures included, among others, obtaining the reserve reports from the specialists and evaluating the competence and objectivity of the specialists and management's qualified persons responsible for overseeing the preparation of the reserve estimates through the consideration of their professional qualifications and experience, as well as the use of generally accepted practices and methodologies in preparing the reserve estimates. Additionally, we evaluated the completeness and accuracy of the financial assumptions described above used by the specialists in estimating oil and gas reserves by agreeing the inputs to source documentation and comparing them to historical results. We tested the mathematical accuracy of the calculation of depreciation and depletion and evaluated the methodologies used in the impairment assessment for long-lived assets for the Exploration and Production segment. We also tested the underlying data by comparing the oil and gas reserves used in the calculation of depreciation and depletion and impairment assessment to the reserve reports prepared by the specialists, among other procedures.

Acquisition of the remaining interest in the Joint Operating Agreement (JOA) for the field CPO-09.

*Description of the
Matter*

As described in Note 12 of the consolidated financial statements, on December 31, 2024, Ecopetrol acquired the remaining 45% interest in the field CPO-09 for COP \$1,989,695. Considering that the Company previously held a 55% interest in the Joint Operating Agreement for the field CPO-09, this transaction is classified as a business combination achieved in stages in accordance with IFRS 3 – Business Combinations. Under this approach, the Company remeasures its previously held interest to its acquisition-date fair value and recognizes the resulting gain or loss, if any, in profit or loss or other comprehensive income, as appropriate. The fair value of the net assets acquired and the previously held interest was determined using the income approach and totaled COP \$5,562,201, resulting in a gain on the transaction of COP \$1,698,862.

Auditing the business combination achieved in stages was complex and required the involvement of specialists due to the judgmental nature of the assumptions used to determine the fair value of the assets acquired and previously held interest. The significant assumptions used to estimate the fair value of the assets included oil and gas reserves, oil and gas prices and the discount rate, among others.

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*How We Addressed
the Matter in Our
Audit*

We obtained an understanding, evaluated the design, and tested the operational effectiveness of the Company's controls over its process to estimate the fair value of the assets acquired, including controls over management's review of the methodology used to develop such estimates and the financial information used by the specialists in determining the significant assumptions described above.

Our audit procedures included, among others, the review of the binding Sale and Purchase Agreement and assessment of the completeness and accuracy of the financial data used in determining the significant assumptions described above.

For the oil and gas reserve estimates used in the valuation, our audit procedures included obtaining the reserve reports from the specialists and evaluating the competence and objectivity of the specialists and management's qualified persons responsible for overseeing the preparation of the reserve estimates through the consideration of their professional qualifications and experience, as well as the use of generally accepted practices and methodologies in preparing the reserve estimates. We evaluated the completeness and accuracy of the financial assumptions used by the specialists in estimating oil and gas reserves by agreeing the inputs to source documentation and comparing them to historical results. We also tested the underlying data by comparing the oil and gas reserves used in the valuation to the reserve reports prepared by the specialists.

We also evaluated the competence and objectivity of the internal and external specialists used by management in determining the oil and gas prices and discount rate. Additionally, we involved our valuation specialists to assist in assessing the fair value methodology used by management and the determination of the oil and gas prices and discount rate.

Furthermore, we evaluated the related disclosures in the consolidated financial statements.

/s/ Ernst & Young Audit S.A.S.
A member practice of
Ernst & Young Global Limited

We have served as the Company's auditor since 2016.
Bogotá, D.C., Colombia
April 23, 2025

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Ecopetrol S.A.

Opinion on Internal Control over Financial Reporting

We have audited Ecopetrol S.A.'s internal control over financial reporting as of December 31, 2024, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), (the COSO criteria). In our opinion, Ecopetrol S.A. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2024, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statements of financial position of the Company as of December 31, 2024 and 2023, the related consolidated statements of profit or loss, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2024, and the related notes and financial statement schedules listed in exhibits 1, 2 and 3 and our report dated April 23, 2025 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young Audit S.A.S.
A member practice of
Ernst & Young Global Limited

Bogotá, D.C., Colombia
April 23, 2025

Ecopetrol S.A.
Consolidated statement of financial position

(In millions of Colombian pesos)

		As of December 31,	
	Note	2024	2023
Assets			
Current assets			
Cash and cash equivalents	6	14,054,475	12,336,115
Trade and other receivables	7	20,425,640	33,310,642
Inventories	8	10,027,831	10,202,448
Other financial assets	9	851,543	1,860,928
Current tax assets	10	11,455,893	8,111,079
Other assets	11	3,797,677	2,769,029
		60,613,059	68,590,241
Assets held for sale		46,746	24,865
Total current assets		60,659,805	68,615,106
Non-current assets			
Trade and other receivables	7	32,136,361	29,781,088
Other financial assets	9	4,388,907	371,847
Investment in associates and joint ventures	13	8,651,873	8,418,632
Property, plant, and equipment	14	107,454,558	95,171,302
Natural and environmental resources	15	47,665,794	45,216,133
Right-of-use assets	16	980,411	841,636
Intangible assets	17	16,413,285	14,714,809
Non-current tax assets	10	12,908,124	10,530,057
Goodwill	19	5,145,785	4,846,667
Other assets	11	1,837,253	1,633,813
Total non-current assets		237,582,351	211,525,984
Total assets		298,242,156	280,141,090
Liabilities			
Current liabilities			
Loans and borrowings	20	11,287,944	15,550,008
Trade and other payables	21	19,302,124	18,891,434
Provisions for employee benefits	22	3,368,547	3,059,204
Current tax liabilities	10	2,769,379	2,869,225
Accrued liabilities and provisions	23	1,620,506	1,595,249
Other liabilities		1,286,971	1,599,443
Total current liabilities		39,635,471	43,564,563
Non-current liabilities			
Loans and borrowings	20	108,677,087	90,265,519
Trade and other payables	21	14,811	27,280
Provisions for employee benefits	22	14,007,664	15,213,509
Non-current tax liabilities	10	14,928,665	13,567,513
Accrued liabilities and provisions	23	12,735,672	14,547,391
Other liabilities		2,329,347	2,702,835
Total non-current liabilities		152,693,246	136,324,047
Total liabilities		192,328,717	179,888,610
Equity			
Subscribed and paid in capital	24.1	25,040,067	25,040,067
Additional paid in capital	24.2	6,607,699	6,607,699
Reserves	24.3	24,156,407	17,922,725
Other comprehensive income	24.5	11,912,209	8,674,648
Retained earnings		12,138,221	17,461,488
Equity attributable to owners of parent		79,854,603	75,706,627
Non-controlling interest		26,058,836	24,545,853
Total equity		105,913,439	100,252,480
Total liabilities and equity		298,242,156	280,141,090

Ecopetrol S.A.
Consolidated statement of profit or loss

(In millions of Colombian pesos, except for basic and diluted earnings per share, which are expressed in Colombian pesos)

	Note	For the years ended December 31,		
		2024	2023	2022
Sales revenue	25	133,330,428	143,189,602	159,611,078
Cost of sales	26	(86,481,154)	(88,178,198)	(89,458,148)
Gross profit		46,849,274	55,011,404	70,152,930
Administrative expenses	27	(5,103,103)	(5,025,797)	(4,335,695)
Operations and project expenses	27	(5,647,651)	(5,702,162)	(4,743,628)
Impairment recovery (loss) of non-current assets	18	867,428	(2,098,333)	(287,999)
Other operating income (expense)	28	1,497,049	(426,131)	(555,855)
Operating income		38,462,997	41,758,981	60,229,753
Financial result	29			
Finance income		1,747,801	2,320,969	1,317,145
Finance expenses		(10,319,316)	(10,384,065)	(8,027,252)
Foreign exchange gain (loss)		51,567	2,397,712	(124,650)
		(8,519,948)	(5,665,384)	(6,834,757)
Share of profits of associates and joint ventures	13	764,366	805,349	768,422
Profit before income tax expense		30,707,415	36,898,946	54,163,418
Income tax expense	10	(12,208,540)	(11,515,875)	(18,963,938)
Net profit for the year		18,498,875	25,383,071	35,199,480
Net profit attributable to:				
Owners of parent		13,841,153	21,060,798	31,604,781
Non-controlling interest		4,657,722	4,322,273	3,594,699
		18,498,875	25,383,071	35,199,480
Basic and diluted earnings per share	24.6	336.6	512.2	768.7

Ecopetrol S.A.
Consolidated statement of comprehensive income

(In millions of Colombian pesos)

	Note	For the years ended December 31,		
		2024	2023	2022
Net profit for the year		18,498,875	25,383,071	35,199,480
Other comprehensive income				
Other comprehensive income that may be reclassified to profit or loss in subsequent periods -net of taxes:				
Unrealized (loss) gain on hedges:				
Cash flow hedge for future exports		(2,181,202)	3,071,546	(1,528,749)
Hedge of a net investment in a foreign operation		(3,326,425)	6,213,387	(4,987,735)
Cash flow hedge with derivative instruments		(85,122)	173,711	117,913
Financial instruments measured at fair value		(142,717)	(2,393)	829
Foreign currency translation		7,370,955	(18,177,596)	15,960,722
		1,635,489	(8,721,345)	9,562,980
Other comprehensive income that will not to be reclassified to profit or loss in subsequent periods -net of taxes:				
Remeasurement gain (loss) on defined benefit plans	22.1	1,307,532	(2,734,273)	(668,254)
		1,307,532	(2,734,273)	(668,254)
Other comprehensive income for the year, net of tax		2,943,021	(11,455,618)	8,894,726
Total comprehensive income for the year, net of tax		21,441,896	13,927,453	44,094,206
Comprehensive income attributable to:				
Owners of parent		17,078,715	13,938,727	36,043,606
Non-controlling interest		4,363,181	(11,274)	8,050,600
		21,441,896	13,927,453	44,094,206

Ecopetrol S.A.
Consolidated statement of changes in equity

(In millions of Colombian pesos)

	Note	Attributable to owners of parent					Non-controlling interest	Total equity
		Subscribed and paid-in capital	Additional paid-in capital	Reserves	Other comprehensive income	Retained earnings		
Balance as of January 1, 2024		25,040,067	6,607,699	17,922,725	8,674,648	17,461,488	24,545,853	100,252,480
Net profit		—	—	—	—	13,841,153	4,657,722	18,498,875
Release of reserves	24.3	—	—	(8,174,839)	—	8,174,839	—	—
Dividends declared	24.4	—	—	—	—	(12,828,409)	(2,763,543)	(15,591,952)
Equity restitution	—	—	—	—	—	—	(30,666)	(30,666)
Acquisition of subsidiaries	24.4	—	—	—	—	(102,329)	(55,990)	(158,319)
Appropriation of reserves, net:								
Legal	24.3	—	—	1,906,209	—	(1,906,209)	—	—
Fiscal and statutory reserves	24.3	—	—	509,082	—	(509,082)	—	—
Occasional	24.3	—	—	11,993,230	—	(11,993,230)	—	—
Other comprehensive income:								
Loss on hedging instruments:								
Cash flow hedge for future exports		—	—	—	(2,179,393)	—	(1,809)	(2,181,202)
Hedge of a net investment in a foreign operation		—	—	—	(3,231,111)	—	(95,314)	(3,326,425)
Cash flow hedge with derivative Instruments		—	—	—	(66,931)	—	(18,191)	(85,122)
Financial instruments measured at fair value		—	—	—	(142,473)	—	(244)	(142,717)
Foreign currency translation		—	—	—	7,606,454	—	(235,499)	7,370,955
Remeasurement gain on defined benefit plans		—	—	—	1,251,015	—	56,517	1,307,532
Balance as of December 31, 2024		25,040,067	6,607,699	24,156,407	11,912,209	12,138,221	26,058,836	105,913,439

	Note	Attributable to owners of parent					Non-controlling interest	Total equity
		Subscribed and paid-in capital	Additional paid-in capital	Reserves	Other comprehensive income	Retained earnings		
Balance as of January 1, 2023		25,040,067	6,607,699	8,898,633	15,796,719	29,811,809	27,748,162	113,903,089
Adoption of new standards		—	—	—	—	(4,828)	—	(4,828)
Balance as of January 1, 2023, after adoption		25,040,067	6,607,699	8,898,633	15,796,719	29,806,981	27,748,162	113,898,261
Net profit		—	—	—	—	21,060,798	4,322,273	25,383,071
Release of reserves	24.3	—	—	(2,491,377)	—	2,491,377	—	—
Dividends declared	24.4	—	—	—	—	(24,382,199)	(3,146,267)	(27,528,466)
Equity restitution	—	—	—	—	—	—	(44,768)	(44,768)
Appropriation of reserves, net:								
Legal	24.3	—	—	3,340,629	—	(3,340,629)	—	—
Fiscal and statutory reserves	24.3	—	—	509,082	—	(509,082)	—	—
Occasional	24.3	—	—	7,665,758	—	(7,665,758)	—	—
Other comprehensive income:								
Gain (loss) on hedging instruments:								
Cash flow hedge for future exports		—	—	—	3,075,743	—	(4,197)	3,071,546
Hedge of a net investment in a foreign operation		—	—	—	6,053,951	—	159,436	6,213,387
Cash flow hedge with derivative Instruments		—	—	—	123,094	—	50,617	173,711
Financial instruments measured at fair value		—	—	—	(2,125)	—	(268)	(2,393)
Foreign currency translation		—	—	—	(13,761,678)	—	(4,415,918)	(18,177,596)
Remeasurement loss on defined benefit plans		—	—	—	(2,611,056)	—	(123,217)	(2,734,273)
Balance as of December 31, 2023		25,040,067	6,607,699	17,922,725	8,674,648	17,461,488	24,545,853	100,252,480

	Note	Attributable to owners of parent					Non-controlling interest	Total equity
		Subscribed and paid-in capital	Additional paid-in capital	Reserves	Other comprehensive income	Retained earnings		
Balance as of January 1, 2022		25,040,067	6,607,699	10,624,229	11,357,894	14,859,658	22,094,225	90,583,772
Adoption of new standards		—	—	—	—	42,054	—	42,054
Balance as of January 1, 2022, after adoption		25,040,067	6,607,699	10,624,229	11,357,894	14,901,712	22,094,225	90,625,826
Net profit		—	—	—	—	31,604,781	3,594,699	35,199,480
Release of reserves		—	—	(5,886,441)	—	5,886,441	—	—
Dividends declared		—	—	(6,907,605)	—	(11,512,675)	(2,073,000)	(20,493,280)
Business combination		—	—	—	—	—	(238,839)	(238,839)
Equity restitution		—	—	—	—	—	(84,824)	(84,824)
Appropriation of reserves, net:								
Legal		—	—	1,669,468	—	(1,669,468)	—	—
Fiscal and statutory reserves		—	—	509,082	—	(509,082)	—	—
Occasional		—	—	8,889,900	—	(8,889,900)	—	—
Other comprehensive income:								
(Loss) gain on hedging instruments:								
Cash flow hedge for future exports		—	—	—	(1,528,749)	—	—	(1,528,749)
Hedge of a net investment in a foreign operation		—	—	—	(4,854,805)	—	(132,930)	(4,987,735)
Cash flow hedge with derivative instruments		—	—	—	62,792	—	55,121	117,913
Financial instruments measured at fair value		—	—	—	942	—	(113)	829
Foreign currency translation		—	—	—	11,572,728	—	4,387,994	15,960,722
Remeasurement (loss) gain on defined benefit plans		—	—	—	(814,083)	—	145,829	(668,254)
Balance as of December 31, 2022		25,040,067	6,607,699	8,898,633	15,796,719	29,811,809	27,748,162	113,903,089

Ecopetrol S.A.
Consolidated statement of cash flows

(In millions of Colombian pesos)

	Note	For the years ended December 31,		
		2024	2023	2022
Cash flow in operating activities:				
Net profit for the period		18,498,875	25,383,071	35,199,480
Adjustments to reconcile the net profit to net cash provided by operating activities:				
Income tax expense	10	12,208,540	11,515,875	18,963,938
Depreciation, depletion, and amortization	14,15,16,17	15,197,283	13,812,387	12,128,991
(Gain) loss foreign exchange	29	(51,567)	(2,397,712)	124,650
Finance cost of loans and borrowings	29	7,377,086	6,923,831	5,517,417
Finance cost of post-employment benefits and abandonment costs	29	2,465,600	2,196,936	2,003,687
Write off exploratory assets and dry wells	15	1,108,134	1,472,397	1,032,164
Loss (gain) on disposal of non-current assets		50,371	(143,424)	379,985
Profit on business combinations	12	(1,698,862)	—	—
Profit on reversal of fields	28	(28,268)	—	—
Impairment (recovery) loss of non-current assets	18	(867,428)	2,098,333	287,999
Impairment loss of current assets	28	262,010	95,902	101,871
Gain on fair value adjustment of financial assets and interest		(1,675,173)	(1,971,805)	(1,009,908)
Loss (gain) on hedging transactions with derivatives		25,611	2,180	(553)
Share of profit of associates and joint ventures	13	(764,366)	(805,349)	(768,422)
Loss (gain) on the sale of assets held for sale		21,056	19,799	(279,635)
Hedge ineffectiveness	30.3	6,658	25,454	6,625
Realized loss on foreign exchange cash flow hedges	25	238,943	479,779	1,143,287
Movements in provisions	23	312,128	853,365	715,831
Net change in operational assets and liabilities:				
Trade and other receivables		9,051,605	(20,439,663)	(27,539,055)
Inventories		532,562	808,127	(2,831,729)
Trade and other payables		(1,277,094)	507,579	3,690,068
Tax assets and liabilities		(1,998,829)	(5,854,882)	(3,100,744)
Provisions for employee benefits		(496,118)	(177,960)	(355,645)
Provisions and contingencies		(1,061,339)	(1,169,603)	(1,004,167)
Other assets and liabilities		(2,090,638)	(601,662)	589,729
		55,346,780	32,632,955	44,995,864
Income tax paid		(10,219,264)	(12,832,403)	(8,761,294)
Net cash provided by operating activities		45,127,516	19,800,552	36,234,570
Cash flow in investing activities:				
Investment in joint ventures	13	(20,430)	(853)	(329,377)
Acquisition of subsidiaries, net of cash acquired	2.2	(157,705)	—	—
Consideration paid for the acquisition of assets	12	(880,396)	—	—
Investment in property, plant, and equipment	14	(9,521,041)	(9,349,885)	(8,767,716)
Investment in natural and environmental resources	15	(10,540,836)	(13,964,435)	(11,962,544)
Acquisitions of intangibles	17	(865,708)	(776,596)	(1,147,510)
Proceeds from sales of other financial assets		(2,455,334)	976,467	1,301,394
Interests received	29	1,627,135	1,884,445	965,952
Dividends received	13.1	425,191	482,124	1,471,134
Proceeds from sales of assets		355,142	728,995	373,634
Net cash used in investment activities		(22,033,982)	(20,019,738)	(18,095,033)
Cash flow in financing activities:				
Proceeds from borrowings	20.1	27,155,189	34,035,090	16,844,029
Repayment of borrowings	20.1	(26,157,908)	(21,659,669)	(16,409,494)
Interest payments	20.1	(7,526,172)	(6,580,746)	(5,492,251)
Lease payments	16	(562,501)	(533,640)	(434,555)
Payment of restitution of equity to minority shareholders		(30,666)	(44,768)	(84,824)
Dividends paid	24.4	(15,565,064)	(5,570,876)	(13,356,947)
Net cash used in financing activities		(22,687,122)	(354,609)	(18,934,042)
Exchange difference in cash and cash equivalents		1,311,948	(2,491,148)	1,645,657
Net increase (decrease) in cash and cash equivalents		1,718,360	(3,064,943)	851,152
Cash and cash equivalents at the beginning of the year		12,336,115	15,401,058	14,549,906
Cash and cash equivalent at the end of the year	6	14,054,475	12,336,115	15,401,058

Ecopetrol S.A.
Notes to the consolidated financial statements
(Figures expressed in millions of Colombian pesos, unless otherwise stated)

1. Reporting entity

Ecopetrol S.A. is a mixed economy company, with a commercial nature, formed in 1948 in Bogotá – Colombia, headquarters of the Ecopetrol Business Group (collectively called “Ecopetrol Business Group”); which is engaged in commercial and industrial activities related to the exploration, exploitation, refining, transportation, storage, distribution and marketing of hydrocarbons, their derivatives and products, as well as the electric power transmission services, design, development, construction, operation and maintenance of road and energy infrastructure projects and the provision of information technology and telecommunications services.

An 11.51% of Ecopetrol S.A.’s shares are publicly traded on the Stock Exchanges of Colombia and New York, USA. The remaining shares (88.49% of the total outstanding shares) are owned by the Colombian Ministry of Finance and Public Credit.

The address of the main office of Ecopetrol S.A. is Bogotá – Colombia, Carrera 13 No. 36 – 24.

2. Basis for preparation

2.1 Statement of compliance and authorization of financial statements

The consolidated financial statements of Ecopetrol and its subsidiaries as of December 31, 2024, and 2023 and for each of the three years in the period ended December 31, 2024, have been prepared in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (IASB).

Accounting policies have been applied consistently in all years presented.

These consolidated financial statements were approved and authorized for issuance by the Board of Directors of Ecopetrol on April 23, 2025.

2.2 Basis for consolidation

The consolidated financial statements were prepared by consolidating all companies set out in Exhibits 1, which are those over which Ecopetrol S.A. exercises direct or indirect control. Control is achieved when the Ecopetrol Business Group:

- has power over the investee (including rights to manage relevant activities);
- is exposed, or has the rights, to variable returns from its involvement with the investee; and
- has the ability to use its power to affect its operational returns. This instance occurs when the Ecopetrol Business Group has less than a majority of the voting rights of an investee, and it still has the power over the investee to provide it with the practical ability to direct the relevant activities of the investee unilaterally. The Ecopetrol Business Group considers all relevant facts and circumstances in assessing whether or not the Company’s voting rights in an investee are sufficient or not to give it power, including:
 - a) the percentage of the Ecopetrol Business Group’s voting rights relative to the size and apportionment of the shares of other vote holders;
 - b) potential voting rights held by the Ecopetrol Business Group, other vote holders or other parties;
 - c) rights arising from other contractual arrangements; and
 - d) any additional facts and circumstances that indicate that the Ecopetrol Business Group has, or does not have, the current ability to direct the relevant activities, at the time that decisions need to be made, including voting patterns at previous shareholders’ meetings.

Subsidiaries are consolidated from the date on which control is obtained until the date that such control ceases.

Ecopetrol S.A.
Notes to the consolidated financial statements
(Figures expressed in millions of Colombian pesos, unless otherwise stated)

All intercompany assets and liabilities, equity, income, expenses, and cash flows relating to transactions between entities of the Ecopetrol Business Group were eliminated on consolidation. Unrealized losses are also eliminated. Non-controlling interest represents the proportion of profit, other comprehensive income and net assets in subsidiaries that are not attributable to Ecopetrol shareholders.

The consolidated financial statements as of December 31, 2024, were prepared on the basis that the Ecopetrol Business Group will continue to operate as a going concern bases.

Significant changes in consolidation:

2024

Ocensa Ductos S.A.S

In July 2024, Oleoducto Central S.A. acquired 100% of the shares of the company Repsol Ductos de Colombia – RDC (named as of October 2, 2024 as Ocensa Ductos S.A.S.), an entity dedicated to investment activities that currently has a 7.14% investment in Oleoducto de Colombia (ODC), which is a subsidiary of the Ecopetrol Business Group. The net cash paid value corresponds to \$157,705.

2023

Econova Technology & Innovation, S.L.

On March 17, 2023, Ecopetrol S.A. concluded the establishment process of the company called Econova Technology & Innovation, S.L., domiciled in Spain. Its main corporate purpose is oriented to activities related to science, technology, and innovation (CT+i). Ecopetrol S.A. is the direct owner of 100% of the share capital, subscribed in accordance with the regulatory requirements of the Spanish jurisdiction.

2022

Ecopetrol US Trading LLC

In November 2022, the indirect subsidiary Ecopetrol US Trading LLC was incorporated. This company is domiciled in Delaware, United States of America, its main corporate purpose is the international commercialization of refined, petrochemical, crude oil, and natural gas of Ecopetrol Business Group and third parties. Ecopetrol US Trading LLC is a direct subsidiary of Ecopetrol USA Inc.

Gasoducto de Oriente S.A.

On July 12, 2022, the liquidation of the Gasoducto de Oriente S.A. took place in the Chamber of Commerce of Bogotá. It was a subsidiary of Inversiones de Gases de Colombia S.A.

Conexión Kimal Lo Aguirre

In July 2022, ISA Inversiones Chile incorporated the Joint Venture Conexión Kimal Lo Aguirre, together with Transelec and China Southern Power Grid International (CSG) as shareholders. This company will build and operate the Kimal-Lo Aguirre project in Chile awarded in 2021.

2.3 Basis of measurement

The consolidated financial statements have been prepared on a historical cost basis, except for financial assets and liabilities that are measured at fair value through profit or loss and/or changes in other comprehensive income at the end of each reporting period, as explained in the accounting policies included below.

Historical cost is generally based on the fair value of the consideration given in exchange for goods and services.

Ecopetrol S.A.
Notes to the consolidated financial statements
(Figures expressed in millions of Colombian pesos, unless otherwise stated)

The fair value is the price that would be received from selling an asset or that would be paid for transferring a liability among market participants, in an orderly transaction, on the date of measurement. When estimating the fair value, the Ecopetrol Business Group uses assumptions that market participants would use for pricing an asset or liability at current market conditions, including risk assumptions, which maximize the value (highest and best use) of the asset or liability.

2.4 Functional and presentation currency

The consolidated financial statements are presented in Colombian Pesos, which is the Ecopetrol's functional currency. For each Ecopetrol Business Group entity, its functional currency is determined based on the main economic environment where it operates.

The statements of profit or loss, and cash flows of subsidiaries with functional currencies different from Ecopetrol's functional currency are translated at the exchange rates on the dates of the transaction or based on the monthly average exchange rate. Assets and liabilities are translated at the closing exchange rate, and other equity items are translated at exchange rates at the time of the transaction. All resulting exchange differences are recognized in other comprehensive income. On disposal of all or significant part of a foreign operation, the cumulative translation adjustment related to the foreign operation is reclassified to profit or loss.

The consolidated financial statements are presented in Colombian pesos rounded up to the closest million unit (COP\$ 000,000) except when otherwise indicated.

2.5 Foreign currency

Transactions in foreign currencies are initially recorded by the Ecopetrol Business Group's entities at their respective functional currency spot rates at the transactions date. Monetary items denominated in foreign currencies are translated at the functional currency spot rates prevailing at the reporting date. Differences arising on settlement, or translation, or monetary items are recognized in profit or loss, in financial results, net, except those resulting from the conversion of loans and borrowings designated as cash flow hedges or net investment in a foreign operation hedge, which are recognized in other comprehensive income within equity. When the hedged item affects the financial results, exchange differences accumulated in equity are reclassified to profit or loss as part of operating results.

Non-monetary items measured at fair value that are denominated in a foreign currency are translated using the exchange rates prevailing on the date when the fair value is determined. The gain or loss arising on translation of non-monetary items measured at fair value is treated in line with the recognition of the gain or loss on the change in fair value of the item.

2.6 Classification of assets and liabilities as current and non-current

The Ecopetrol Business Group presents assets and liabilities in the consolidated statement of financial position based on whether assets are classified as current or non-current.

An asset or liability is classified as current when:

- It is expected to be realized or intended to be sold or consumed (or expected to be settled, in the case of liabilities) in the ordinary course of business;
- Held mainly for the purpose of trading;
- Expected to be realized (or to be settled, in the case of liabilities) within twelve months after the reporting period; or
- In the case of the assets, it is cash or a cash equivalent, unless the exchange of such asset or liability is restricted or to be used to settle a liability at least twelve months after the reporting period; or
- In the case of a liability, there is no unconditional right to defer settlement of the liability until at least twelve months after the reporting period.

Other assets and liabilities are classified as non-current.

Deferred tax assets and liabilities are classified as non-current assets and liabilities.

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2.7 Earnings per share

Basic earnings per share is calculated by dividing the profit for the year attributable to equity holders of Ecopetrol, the parent company, by the weighted average number of ordinary shares outstanding during the year. There is no potential dilution of shares.

3. Material estimates and accounting judgments

The preparation of the consolidated financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts of assets, liabilities, sales revenues, costs, and commitments recognized in the financial statements and the accompanying disclosures. The Ecopetrol Business Group based its assumptions and estimates on parameters available when these consolidated financial statements were prepared. Uncertainty about these assumptions and estimates could result in outcomes that required a material adjustment to the carrying amount of assets or liabilities affected in future periods. Changes in estimates are adjusted prospectively in the period in which the estimate is revised.

In the process of applying the Ecopetrol Business Group's accounting policies, management has made the following judgments and estimates which have the most significant impact on the amounts recognized in the consolidated financial statements:

3.1 Oil and gas reserves

Oil and gas reserves are estimates of the amounts of hydrocarbons that can be economically and legally extracted from the Ecopetrol Business Group's oil and gas properties.

The reserves estimation is performed annually as of December 31 in accordance with the United States Securities and Exchange Commission (SEC) definitions and rules set forth in Rule 4-10(a) of SEC Regulation S-X and the disclosure guidelines contained in the SEC final rule – Modernization of Oil and Gas Reporting.

As required by current regulations, the future estimated date on which a field will no longer produce for economic reasons, is based on actual costs and average of crude prices (calculated as the arithmetical average of prices on the first day of the past 12 months). The estimated date for end of production will affect the amounts of reserves, unless the prices have been defined by contractual agreements; therefore, if the prices and costs change from one year to the next, the proved reserves estimate also changes. Generally, our proved reserves decrease as prices go down and increase when prices go up.

Reserves estimation is an inherently complex process, and it involves professional judgments. Reserves estimation is prepared using technical and economic factors, including projections of future production rates, oil prices, engineering data and duration and amounts of future investments, and they imply a certain degree of uncertainty. These estimations reflect the regulatory and market conditions existing on the date of reporting, which could significantly differ from other conditions during the year or in future periods.

Any changes in regulatory and/or market conditions and assumptions could materially affect the reserves estimation.

Impact of oil reserves and natural gas in depreciation and depletion

Changes to estimations for proven developed reserves may affect the carrying amounts of exploration and production assets, natural resources and environment, liabilities for dismantling and depreciation and depletion. With all other variables remaining unchanged, a decrease in estimated proven reserves would increase, prospectively, depreciation, depletion, and amortization costs, while an increase in reserves would reduce depreciation and amortization expenses, as depreciation, depletion and amortization charges are calculated using the units of production method.

Information about the carrying amounts of exploration and production assets and the amounts charged to income, including depreciation and depletion, is presented in Notes 14 and 15. In addition, the movements of proved developed reserves is presented in Note 34.

3.2 Impairment (recovery) of non-current assets

Ecopetrol Business Group Management uses its professional judgment in assessing the existence of evidence of an impairment loss or reversal, based on internal and external factors.

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When an indicator of impairment loss or reversal of impairment of prior period impairment exists, the Ecopetrol Business Group estimates the recoverable amount of the cash generating units (CGU), which is considered the greater of fair value less costs of disposal and the value in use.

The assessments require the use of estimates and assumptions, such as, among other factors: (1) future investments, and costs; (2) useful life of assets; (3) future prices, and (4) discount rate, which is reviewed annually, and is determined as the weighted average cost of capital (WACC). Specifically, for crude oil and gas assets, the following are also included: (6) estimation of volumes and market value of oil and natural gas reserves and (7) production profiles of oil fields and future production of refined and chemical products. The recoverable amount is compared with the net book value of the asset, or of the cash-generating unit (CGU), thus determining whether the asset is impaired or if the impairment recognized in prior periods should be reversed.

A previously recognized impairment loss is reversed, only if there has been a change in the assumptions used to determine the assets or in the CGU's recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of an asset or CGU, other than goodwill, does not exceed either its recoverable amount, or the carrying amount that would have been determined (net of amortization or depreciation) had no impairment loss been recognized for the asset or CGU in prior periods.

Future oil and refined products prices assumptions are estimated at current market conditions. For oil and gas asset, expected production volumes, which comprise proven, unproved, probable, and possible reserves are used for impairment testing because Management believes this to be the most appropriate indicator of expected future cash flows, which would also be considered by market participants. Reserves estimates are inherently imprecise and subject to uncertainty risk. Furthermore, projections about unproved volumes are based on information that is necessarily less robust than what is available for mature reservoirs.

These estimates and assumptions are subject to risk and uncertainty. Therefore, there is a possibility that changes in circumstances will impact these projections, which may also impact the recoverable amount of assets and/or CGUs, hence, may also affect the recognition of an impairment loss or the reversal of prior period impairment amounts.

3.3 Exploration and evaluation costs

The application of the Ecopetrol Business Group's accounting policy for exploration and evaluation costs requires judgment to determine whether future economic benefits are likely, either from future exploitation or sale, or whether activities have not reached a stage which permits a reasonable assessment of the existence of reserves. Certain exploration and evaluation costs are initially capitalized when it is expected that commercially viable reserves will result. The Ecopetrol Business Group uses its professional judgment of future events and circumstances and makes estimates to assess annually the generation of future economic benefits for extracting oil resources, as well as technical and commercial analyses to confirm its intention of continuing their development. Changes regarding available information, such as drilling success level or changes in the project's economics, production costs, and investment levels, as well as other factors, may result in capitalized exploration drilling costs being recognized in profit or loss for the period. The expenses for dry wells, as a cost of the period, are included in operating activities in the consolidated statement of cash flows.

3.4 Determination of cash generating units (CGU)

The allocation of assets in cash generating units requires significant judgment, as well as assessments regarding integration among assets, the existence of active markets, and similar exposure to market risk, shared infrastructure, and the way in which management monitors the operations. See Note 4.13 – *Impairment of non-current assets* for more information.

3.5 Abandonment and dismantling costs of fields and other facilities

According to environmental and oil regulations, the Ecopetrol Business Group is required to bear the costs for the abandonment of oil extraction, refining plants and transportation facilities, which include the cost of plugging and abandoning wells, dismantling facilities, and environmental remediation in the affected areas.

Estimated abandonment and dismantling costs are recorded at the time of the installation of the assets and are reviewed annually.

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The calculations for these estimations are complex and involve significant judgments by Management. The ultimate decommissioning costs are uncertain and cost estimates can vary in response to many factors, including changes to relevant legal requirements, the emergence of new restoration techniques or experience at other production sites. The expected timing, extent and amount of expenditure may also change, for example, in response to changes in internal cost projections, changes in reserve estimates, future inflation rates and discount rates. Ecopetrol Business Group considers that the abandonment and dismantling costs are reasonable, based on the experience of the Ecopetrol Business Group and market conditions; nevertheless, significant variations in external factors used for the calculation of the estimation could significantly impact the amounts recorded in the financial statements. See Note 4.14 - *Provisions and contingent liabilities* (asset retirement obligation).

3.6 Pension plan and other benefits

The determination of expenses, liabilities and adjustments relating to pension plans and other defined retirement benefits makes it necessary for Management to use its judgment in the application of actuarial assumptions made in the actuarial calculation. The actuarial assumptions include estimates regarding future mortality, retirement, changes in compensation, and discount rate to reflect the time value of money, in addition to the rate of return on the plan's assets. Due to the complexity in the valuation of these variables, as well as their long-term nature, the estimated amounts are quite sensitive to any change in these assumptions.

These assumptions are reviewed on an annual basis and may differ materially from actual results due to changes in economic and market conditions, regulatory changes, judicial rulings, higher or lower retirement rates, or longer or shorter life expectancies among employees.

3.7 Goodwill impairment

In December of each year, the Ecopetrol Business Group performs an annual impairment test on goodwill to assess if its carrying amount may be recoverable. Goodwill is assigned to each cash generating unit (or groups of CGU).

The determination of the recoverable amount is described in Note 4.11, and its calculation requires assumptions and estimates. Ecopetrol Business Group considers that the assumptions and estimations used are reasonable and supportable based on the current market conditions and are aligned to the risk profile of the related assets. However, if different assumptions and estimations are used, they could lead to different results. Valuation models used to determine fair value are sensitive to changes in the underlying assumptions. For example, sales volumes and prices that will be paid for the purchase of raw materials are assumptions that may vary in the future. Adverse changes in any of these assumptions could lead to the recognition of goodwill impairment.

3.8 Litigation

The Ecopetrol Business Group is subject to claims relating to regulatory and arbitration proceedings, tax assessments, and other claims arising in the normal course of business. Management evaluates these claims based on their nature, the likelihood that they materialize, and the amounts involved, to decide on the amounts recognized and/or disclosed in the financial statements.

This analysis, which may require considerable judgment, includes the assessment of current legal proceedings brought against the Ecopetrol Business Group and claims not yet initiated. A provision is recognized when the Ecopetrol Business Group has a present obligation derived from a past event, it is likely that an outflow of resources of economic benefits will be required to settle the obligation, and a reliable estimate of the amount of such obligation can be made.

3.9 Income and deferred taxes

Calculation of the income tax provision requires interpretation of tax law in the jurisdictions where the Ecopetrol Business Group operates. Significant judgment is required to determine estimates for income tax on taxable profits and to evaluate the recoverability of deferred tax assets, which are based on the ability to generate sufficient taxable income during the periods in which such deferred taxes could be used or deduct.

To the extent that future cash flows and taxable income differ significantly from the estimates, the Ecopetrol Business Group's ability to realize the deferred tax assets recorded could be affected.

Furthermore, changes in tax rules could impact the capacity of the Ecopetrol Business Group to obtain tax deductions in future years, as well as the recognition of new tax liabilities resulting from auditing conducted by the tax authorities.

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Tax positions taken involve a thorough assessment by Management and are reviewed and adjusted in response to situations such as expiration in the applicability of laws, closing of tax audits, additional disclosures caused by any legal issue or a court decision relevant to a particular tax issue. The Ecopetrol Business Group records provisions based on estimated potential liabilities that could be derived from a tax audit. The amount of these provisions depends on factors such as previous experience in tax audits and different interpretations of tax legislation. The actual results may differ from the estimates recorded.

3.10 Hedge accounting

The process of identifying hedging relationships between hedged items and the underlying instruments (derivative and non-derivative, such as long-term, foreign currency-denominated debt), and their corresponding effectiveness, requires the use of judgment by Management. The Ecopetrol Business Group periodically monitors the alignment between its hedge instruments and its risk management policy.

3.11 Traffic projections for road concessions

The revenue for the services provided under the road concessions related to certain contracts, which are accounted under the financial asset model of IFRIC 12, is calculated through the present value of future revenue cash flow. This estimation is based on traffic studies made by an independent entity based on GDP projections among other variables according to the concession.

4. Accounting policies

4.1 Financial instruments

A financial instrument is any contract that creates a financial asset for an entity and a financial liability or equity instrument for another entity. This concept includes elements such as debt instruments, shares (without control or significant influence), accounts payable, accounts receivable, financial derivatives, among others.

The classification of financial instruments depends on the nature and purpose for which the financial assets or liabilities were acquired and is determined at the time of initial recognition. Financial assets and financial liabilities are initially measured at their fair value.

Transaction costs that are directly attributable to the acquisition or issuance of financial assets and liabilities, other than those measured at fair value through profit or loss, are added to or deducted from the fair value of financial assets and liabilities on initial recognition. Transaction costs directly attributable to the acquisition of financial assets and liabilities measured at fair value through profit or loss are immediately recognized in profit or loss.

Loans and borrowings (See Note 20) and trade and other receivables (See Note 7) and financial assets (See Note 9) held to maturity are subsequently measured at amortized cost using the effective interest rate method. However, for those receivables and payables for which payment is expected to be received or made in the short term, their subsequent recognition corresponds to transaction value, considering that the effect of the value of money over time is not material due to short maturities.

Additionally, equity instruments are measured at fair value.

Measurements at fair value

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place in the principal market of the asset or liability or in the absence of a principal market in the most advantageous market.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, supposing that the market participants act in their economic best interest.

A fair value measurement of a non-financial asset considers a market participant's ability to generate economic benefits by using the asset for its most profitable use or by selling it to another market participant that would use the asset in its highest and best use.

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Ecopetrol Business Group uses valuation techniques that are appropriate for the circumstances and for which the data is available and enough to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are classified within the following scale, based on the lowest level input that is significant to the fair value measurement, as follows:

- Level 1: Quoted (unadjusted) market prices in active markets for identical assets or liabilities. The fair value of the Ecopetrol Business Group's marketable securities with a quoted market price is based on Level 1 inputs.
- Level 2: Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observed. Level 2 inputs include prices of similar assets, prices obtained through quotations made by stockbrokers, and prices that can be substantially corroborated with other observable data with the same contractual terms.

For derivative contracts for which a quoted market price is not available, fair value estimates are generally determined using models and other valuation methods, the key inputs for which include future prices, volatility estimates, price correlation, counterparty credit risk, and market liquidity, as appropriate.

- Level 3: Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable. The Ecopetrol Business Group does not use Level-3 inputs for the measurement of financial assets and liabilities. The Ecopetrol Business Group may use Level-3 inputs for the calculation the recoverable amount of certain non-financial assets for the purpose of impairment testing.

Effective interest rate method

The effective interest rate method is a method of calculating the amortized cost of a financial instrument and accounting of income or financial cost over the relevant period. The effective interest rate is the discount rate that exactly discounts estimated future cash receipts or payments (including all fees, transaction costs and other premiums or discounts) through the expected life of the financial instrument (or, when appropriate, at a shorter period), to the net carrying amount on initial recognition. This methodology is also applied to the instrument's measurement related to the concession financial assets.

Impairment

The Ecopetrol Business Group evaluates if there is objective evidence that a financial asset or group of financial assets are impaired. Financial assets are evaluated for the impairment indicators at the end of each reporting period. Financial assets are considered impaired when there is objective evidence that, because of one or more events that occurred after initial recognition, the estimated future cash flows of the asset have been affected. For financial assets measured at amortized cost, the amount of the impairment loss recognized is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the financial asset's original effective interest rate.

4.1.1 Cash and cash equivalents

Cash and cash equivalents include cash on hand, financial investments that are highly liquid, bank deposits, and special funds with original maturity dates of ninety days or less which are subject to an insignificant risk of changes in value.

Restricted cash is a monetary resource with the objective of allocating it to specific and previously determined purposes.

4.1.2 Financial assets

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Ecopetrol Group's business model for managing them. Except for trade receivables that do not contain a significant financing component or for which the Ecopetrol Business Group has applied the practical expedient, Ecopetrol Business Group initially measures a financial asset at its fair value plus, and, in the case of a financial asset not at fair value through profit or loss, at transaction costs. Trade receivables that do not contain a significant financing component or for which the Ecopetrol Business Group has applied the practical expedient are measured at the transaction price determined under IFRS 15.

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Ecopetrol Business Group classifies its financial assets in the following categories:

- a) Financial assets measured at fair value through profit or loss

Financial assets are held for trading and financial assets designated at the time of the initial recognition at fair value through profit or loss. Financial assets are classified as held for trading if they are acquired to be sold or repurchased in the short term. They are recognized at their fair value and losses or profits arising at the time of re-measurement are recognized in the statement of profit or loss.

- b) Financial assets measured at fair value with changes in other comprehensive income

These are equity instruments of other non-controlled and non-strategic companies not allowing for any type of control or significant influence thereon and where the Ecopetrol Business Group's Management does not intend to negotiate with them in the short term. These financial instruments are recorded at their fair value, and unrealized gains or losses are recognized in other comprehensive income.

- c) Financial assets at amortized cost

This category is the most relevant to Ecopetrol Business Group. The Group's financial assets at amortized cost includes trade receivables, other receivables, loans, and borrowings.

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. Loans and receivables, including trade and other receivables, are measured initially at fair value and then at amortized cost using the effective interest rate method, less impairment.

Loans to employees are initially recorded using the present value of the future cash flows, discounted at the current market rate for similar loans. If the interest rate is less than the current market rate, fair value will be less than the amount of the loan. This difference is recorded as a benefit to employees.

Ecopetrol Business Group measures financial assets at amortized cost if both of the following conditions are met:

- The asset is held within a business model with the objective to hold financial assets to collect contractual cash flows.
- The contractual terms of the asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Financial assets at amortized cost are subsequently measured using the effective interest method and are subject to impairment analysis. Gains and losses are recognized in profit or loss when the asset is derecognized, modified, or impaired.

Derecognition of financial assets

The Ecopetrol Business Group derecognizes a financial asset only upon the expiration of the contractual rights to the cash flows of the asset or, when it has transferred its rights to receive such cash flows or has assumed the obligation to pay the cash flows received in full without material delay to a third party and (a) it has transferred substantially all the risks and benefits inherent in the ownership of the financial asset or (b) it has neither transferred nor retained substantially all the risks and benefits of the asset, but has transferred control of the asset.

When the Ecopetrol Business Group does neither transfer nor retain substantially all the risks and benefits of the asset or transfer control of the asset, the Ecopetrol Business Group continues to recognize the transferred asset, to the extent of its continuing participation, and it also recognizes the associated liability.

4.1.3 Financial liabilities

Financial liabilities correspond to the financing obtained by the Ecopetrol Business Group through bank credit facilities and bonds, accounts payables to suppliers, and creditors.

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Bonds and bank credit facilities are initially recognized at their fair value, net of directly attributable transactions cost. After initial recognition, interest-bearing credit facilities and bonds are subsequently measured at amortized cost, using the effective interest rate method. The effective interest method amortization is included as a financial expense in the statement of profit or loss. Amortized cost is calculated by considering any discount or premium on acquisition and fees or costs that are an integral part of the effective interest rate (EIR). The EIR amortization is included as finance costs in the statement of profit or loss.

Accounts payable to suppliers and other creditors are short-term financial liabilities recognized at their transaction value upon subsequent recognition, considering that the effect of the time value of money is not significant as they have short maturities.

Derecognition of financial liabilities

A financial liability is derecognized when the obligation specified in the contract is discharged, cancelled, or expires. When an existing financial liability has been replaced by another from the same lender, under substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the de-recognition of the original liability and recognized as a new liability. The difference between the respective carrying amounts is recognized in the statement of profit or loss.

4.1.4 Derivative financial instruments

Financial instruments are initially recognized at fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. Changes in the fair value of derivatives are recognized as gains or losses in the statement of profit or loss, except for the effective portion of cash flow hedges, which is recognized in other comprehensive income and later reclassified to profit or loss when the hedge item affects profit or loss.

Changes in fair value of derivative contracts, which do not qualify or are not designated as hedges, including forward contracts for the purchase and sale of commodities under negotiation for physical delivery or receipt of the commodity are recorded in profit or loss.

Derivatives embedded in the host contract are accounted for as separate derivatives at fair value if their economic characteristics and risks are not closely related to those of the host contracts and the host contracts are not held for trading or designated at fair value through profit or loss. These embedded derivatives are measured at fair value with changes in fair value recognized in profit or loss.

4.1.5 Hedging operations

For purposes of hedge accounting, hedges are classified as:

- Cash flow hedges: hedges of the exposure to variability in cash flows attributable to a particular risk associated with all, or a component of, a recognized asset or liability or a highly probable forecast transaction, and that could affect profit or loss.
- Hedges of net investments in foreign operations.
- Fair value hedges: hedges of the exposure to changes in fair value of a recognized asset or liability or an unrecognized firm commitment, or a component of any such item, that is attributable to a particular risk and that could affect profit or loss.

At the inception of a hedge relationship, Ecopetrol Business Group formally designates and documents the hedge relationship to which it wishes to apply hedge accounting and the risk management objective and strategy for undertaking the hedge. Such hedges are expected to be highly effective in achieving offsetting changes in fair value or cash flows and are assessed on an ongoing basis to determine whether they have been highly effective throughout the financial reporting periods for which they were designated.

4.1.5.1 Cash flow hedge

The effective portion of the gain or loss on the hedging instrument is recognized in Other Comprehensive Income (OCI) in the cash flow hedge reserve, while any ineffective portion is recognized immediately in the statement of profit or loss.

The amounts previously accumulated in OCI are recognized in profit or loss when the hedged transaction affects the statement of profit or loss. If the hedged transaction subsequently results in the recognition of a non-financial item, the amount accumulated in equity is removed from the separate component of equity and included in the initial cost or other carrying amount of the hedged asset or liability.

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If the hedging instrument expires or is sold, terminated, or exercised without replacement or rollover, or if its designation as a hedge is revoked or when the hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss previously recognized in other comprehensive income remains separately in equity until the forecast transaction occurs is recognized in the consolidated statement of profit or loss. When it is no longer expected that the initially hedged transaction will occur.

Ecopetrol Business Group designates certain loans as a hedging instrument for its exposure to exchange rate risk in future crude oil exports. Additionally, Ecopetrol Business Group enters positions with derivative financial instruments such as commodity swaps, cross currency swaps or interest rate swaps to hedge commodity price risks, exchange rate risk and interest rate risk, respectively, which may also be designated as cash flow hedges (See Note 30.3).

4.1.5.2 Hedge of net investment in a foreign operation

Hedges of a net investment in a foreign operation, including a hedge of a monetary item that is accounted for as part of the net investment, are accounted for similarly to cash flow hedges.

Gains or losses on the hedging instrument relating to the effective portion of the hedge are recognized as OCI while any gains or losses relating to the ineffective portion are recognized in the statement of profit or loss. On the disposal of a foreign operation, the cumulative value of any such gains or losses recorded in equity is transferred to the statement of profit or loss.

Ecopetrol Business Group allocates long-term loans as hedging instruments for its exposure to foreign exchange risk on its investment in subsidiaries whose functional currency is the U.S. dollar. See Note 30.4.

4.1.5.3 Fair value hedge

The gain or loss on the hedging instrument shall be recognized in profit or loss or other comprehensive income if the hedging instrument hedges an equity instrument for which an entity has elected to present changes in fair value in other comprehensive income.

The hedging gain or loss on the hedged item shall adjust the carrying amount of the hedged item (if applicable) and be recognized in profit or loss. If the hedged item is a financial asset (or a component thereof) that is measured at fair value through other comprehensive income, the hedging gain or loss on the hedged item shall be recognized in profit or loss. However, if the hedged item is an equity instrument for which an entity has elected to present changes in fair value in other comprehensive income, those amounts shall remain in other comprehensive income.

4.2 Inventories

Inventories are recorded at the lower of cost and net realizable value.

Inventories mainly comprise crude oil, fuels and petrochemicals, and consumable inventories (spares and supplies).

The cost of crude oil includes to the production costs and the transportation costs related to the process of giving to the products the current conditions and locations.

The cost of other inventories is determined based on the weighted average cost method, which includes acquisition costs (deducting commercial discounts, rebates, and other similar items), transformation, and other costs incurred to bring inventory to their current location and condition, such as transportation costs.

Consumable inventories (spares and supplies) are recognized as inventory and then charged to expense, maintenance, or project to the extent that such items are consumed.

Ecopetrol Business Group estimates the net realizable value of inventories at the end of the period. When the circumstances that previously caused inventories to be written down below cost no longer exist, or when there is clear evidence of an increase in the net realizable value because of a change in economic circumstances, the amount of the write down is reversed. The reversal cannot be greater than the amount of the original write-down, so that the new carrying amount will always be the lower of the cost and the revised net realizable value.

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4.3 Related parties

Related parties are considered those where one of the parties can control the other, has joint control, or exercises significant influence in the financial or operational decision making of the investee or is a member of key management personnel (or close family member of key personnel). Ecopetrol Business Group has considered as related parties the associated companies, joint businesses, key management executives, the entities managing the resources for payment of post-employment benefit plans for employees and some relevant transactions entered with entities of the Colombian Government, such as the purchase of hydrocarbons and the oil stabilization fund. (See Note 31 – Related Parties).

4.3.1 Investments in associates

An associate is an entity over which the Ecopetrol Business Group has significant influence but not control. Significant influence is the power to participate in the financial and operational policy decisions of the investee, but it is not control or joint control over those policies. Generally, these entities are those in which the Ecopetrol Business Group holds an equity interest with voting rights of 20% to 50%. See Exhibit 1 – Consolidated subsidiaries, associates, and joint ventures.

Investments in associates are accounted for using the equity method. Under this method, the investment in an associate is initially recognized at cost. The carrying amount of the investment is adjusted to recognize changes in the Ecopetrol Business Group's share of net assets of the associate since the acquisition date. Goodwill related to the associate is included in the carrying amount of the investment and it is not tested for impairment separately.

The Ecopetrol Business Group's share of the results of operations of the associate is recognized in the consolidated statement of profit or loss. Any change is recognized in other comprehensive income of the Ecopetrol Business Group.

After application of the equity method, the Ecopetrol Business Group determines if it is necessary to recognize an impairment on its investment in its associate. The Ecopetrol Business Group determines whether there is objective evidence that the investment is impaired. If there is such evidence, the amount of the impairment is calculated as the difference between the recoverable amount and the carrying value, and then the impairment is recognized in the consolidated profit or loss statement.

When necessary, the Ecopetrol Business Group adjusts the accounting policies of associates to ensure consistency with the policies adopted by the Ecopetrol Business Group. Additionally, the equity method of these companies is measured on their most recent financial statements.

4.3.2 Joint ventures

A joint venture is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint arrangement. Joint control exists only when decisions about the relevant activities require unanimous consent of the parties sharing such control. The accounting treatment for the recognition of joint ventures is the same as investments in associates (see Note 31).

4.4 Joint operations

A joint operation is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets and obligations for the liabilities, relating to the arrangement.

Joint operation contracts are entered into between Ecopetrol Business Group and third parties to share risk, secure capital, maximize operating efficiency, and optimize the recovery of reserves. In these joint operations, one party is designated as the operator to execute the operations and report to partners according to their participating interests. Likewise, each party takes its share of the produced hydrocarbons (crude oil or gas), according to their share in production.

When Ecopetrol Business Group participates as a non-operator partner, it recognizes the assets, liabilities, sales revenues, cost of sales, and expenses based on the operator partner's report. When Ecopetrol Business Group is the direct operator of joint venture contract, it recognizes its percentage of assets, liabilities, sales revenues, costs, and expenses, based on the participation of each partner in the items corresponding to assets, liabilities, sales revenues, costs, and expenses.

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When the Ecopetrol Business Group acquires or increases its participation in a joint operation in which the activity constitutes a business combination, such transaction is recognized applying the acquisition method in accordance with IFRS 3 – Business combination. The acquisition cost is the sum of the consideration transferred, which corresponds to the fair value, on the date of acquisition of the assets transferred and the liabilities incurred. Any transaction cost related to the acquisition or increased share in the joint operation that constitutes a business combination is recognized in the consolidated statement of profit or loss.

The excess of the sum of the consideration transferred and the amount paid in the operation is recognized as goodwill. If the result is in an excess value of the net assets acquired over the amount paid in the purchase transaction, the difference is recognized as income in the consolidated statement of profit or loss on the date of recognition of the transaction.

4.5 Non-current assets held for sale

Non-current assets are classified as held for sale if their carrying values will be recovered principally through a sale transaction rather than through continued use. Non-current assets are classified as held for sale only when the sale is highly probable within one year from the classification date and the asset (or group of assets) is available for immediate sale in its present condition. These assets are measured at the lower of their carrying amount and fair value less related costs of disposal.

4.6 Property, plant, and equipment

Recognition and measurement

Property, plant, and equipment are stated at cost less accumulated depreciation and impairment losses. Tangible components related to natural and environmental resources are part of property, plant, and equipment.

The initial cost of an assets comprises its purchase price or construction cost, including import duties and non-refundable purchase taxes, any costs directly attributable to bringing the asset into operation, costs of employee benefits arising directly from the construction or acquisition, borrowing costs incurred that are attributable to the acquisition and construction of qualifying assets and the initial estimate of the costs of dismantling and abandonment of the item.

Spare parts and servicing equipment are recorded as inventories and recognized as an expense as they are used. Major spare parts and stand-by equipment that Ecopetrol Business Group expects to use during more than one period are recognized as property, plant, and equipment.

Any gain or loss arising from the disposal of a property, plant, and equipment is recognized in profit or loss of the period.

Subsequent disbursements

Subsequent disbursements correspond to all payments to be made on existing assets to increase or extend the initial expected useful life, increase productivity or productive efficiency, allow for significant reduction of operating costs, increase the level of reserves in exploration or production areas or replace a part or component of an asset that is considered critical for the operation.

The costs of repair, conservation and maintenance of a day-to-day nature are expensed as incurred. However, disbursements related to major maintenance are capitalized.

Depreciation

Property, plant, and equipment is depreciated using the straight-line method, except for those associated with exploration and production activities which are depreciated using the units-of-production method. Technical useful lives are updated annually considering factors such as: additions or improvements (due to parts replacement or critical components for the asset's operation), technological advances, obsolescence, and other factors; the effect of this change is recognized from the period in which it was executed. Depreciation of an asset starts when it is ready to be used.

Useful lives are determined based on the period over which an asset is expected to be available for use, physical exhaustion, technical or commercial obsolescence and legal limits or restrictions over the use of the asset.

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The estimated useful life of assets fluctuates in the following ranges:

Plant and equipment	10 – 66 years
Pipelines, networks, and lines	6 – 63 years
Buildings	9 – 100 years
Other	3 – 35 years

Lands are recognized separately from buildings and facilities, have unlimited useful lives, and they are not subjected to depreciation.

Depreciation methods and useful lives are reviewed annually and adjusted if appropriate.

Impairment

Non-current assets are subject to review for possible impairment in their recoverable value. See notes 3.2 – Impairment (recovery) of non-current assets and 4.13 – Impairment of non-current assets.

4.7 Natural and environmental resources

Recognition and measurement

Ecopetrol Business Group uses the successful efforts method to account for exploration and production of crude oil and gas activities, following the provisions of IFRS 6 – Exploration for the evaluation of mineral resources.

Exploration costs

Acquisition and exploration costs are recorded as exploration and evaluation assets until the determination of whether the exploration drilling is successful or not; if determined to be unsuccessful, all costs incurred are recognized as expenses in the statement of profit or loss.

Exploration costs are those incurred with the objective of identifying areas that are considered to have prospects of containing oil and gas reserves, including geological and geophysical, seismic costs, viability, and others, which are recognized as expenses when incurred. Furthermore, disbursements associated with the drilling of exploratory wells and those related to stratigraphic wells of an exploratory nature are charged as assets until it is determined if they are commercially viable; otherwise, they are expensed in the consolidated statement of profit or loss as dry wells expense. Other expenditures are recognized as expenses when incurred.

An exploration and evaluation asset will not be classified as such when the technical feasibility and commercial viability of extracting a mineral resource are demonstrable. Exploration and evaluation assets are reclassified to the natural and environmental resources account after being assessed for impairment.

All capitalized costs are subjected to technical and commercial revisions at least once a year to confirm the evaluation and exploration efforts continue the fields; otherwise, these costs are written off through to profit or loss.

Exploration costs are net of the revenues obtained from the sale of crude oil during the extensive testing period, net of cost of sales since they are considered necessary to complete the asset.

Development costs

Development costs correspond to those costs incurred to obtain access to proved reserves and to provide facilities for extracting, treating, gathering, and storing. When a project is approved for development, the corresponding capitalized acquisition and exploration costs are classified as natural and environmental resources and costs after the exploration phase are capitalized as development costs of the properties that contain such natural resources. All development costs are capitalized, including drilling costs of unsuccessful development wells.

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Production costs

Production costs are those incurred to operate and maintain productive wells and are part of the corresponding equipment and facilities. Production activity includes extraction of oil and gas to the surface, its gathering, treatment, and processing as well as storage in the field. Production costs are expenses recorded in the consolidated statement of profit or loss as incurred unless they add oil and gas reserves, in which case they are capitalized.

Production and support equipment is recognized at cost and is part of property, plant, and equipment subject to depreciation.

Capitalized costs also include decommissioning, dismantling, retiring, and restoration costs, as well as the estimated cost of future environmental obligations. The estimation includes plugging and abandonment costs, facility dismantling and environmental recovery of areas and wells. Changes arising in new abandonment liability estimations and environmental remediation are capitalized in the carrying amount of the related asset.

Depletion

Depletion of natural and environmental resources is determined using the unit-of-production method per field, using proved developed reserves as a base, except in limited exceptional cases that require greater judgment by Management to determine a better amortization factor of future economic benefits over the useful life of the asset. Depreciation/depletion rates are reviewed annually, based on reserves reports and the impact of any changes is recognized prospectively in the financial statements.

Reserves are independently estimated by internationally recognized external consultants and approved by Ecopetrol's Board of Directors. Proved reserves consist of the estimated quantities of crude oil and natural gas demonstrated with reasonable certainty by geological and engineering data to be recoverable in future years from known reserves under existing economic and operating conditions, which are at the prices and costs that apply for the date of the estimation.

Impairment

Assets associated to exploration, evaluation and production are subject to review for possible impairment in their carrying amount. See Notes 3.2 — *Impairment (recovery) of non-current assets* and 4.13 — *Impairment of non-current assets*.

4.8 Capitalization of borrowing costs

Borrowing costs related to the acquisition, construction or production of a qualifying asset that requires a substantial period to get ready for its intended use are capitalized as part of the cost of such asset when it is probable that future economic benefits associated with the item will flow to the Ecopetrol Business Group and costs can be measured reliably. Other borrowing costs are recognized as financial costs. Projects that have been suspended but that the Ecopetrol Business Group intends to continue to pursue their development in the future, are not considered qualifying assets for the purpose of capitalization of borrowing costs.

4.9 Intangible assets

Intangible assets with a defined useful life, are stated at cost less accumulated amortization and any impairment loss. Intangible assets are amortized under the straight-line method, over their estimated useful lives. The estimated useful lives and amortization method are revised at the end of each reporting period; any change in estimates is recognized on a prospective basis.

The disbursements related to research activities are recognized as expense as incurred.

Easements

Easements are rights obtained for the use part of land for the installation of a transmission line. This implies restrictions on the use of the land by the owner and authorizations to Ecopetrol Business Group to build, operate, or maintain the transmission lines. These intangible assets are permanent rights with an indefinite term of use. Although the transmission lines to which these easements are related have a finite useful life, the rights do not expire, and Ecopetrol Business Group may replace the transmission lines at the end of their useful life or make use of said rights for any other service related to transmission electricity and telecommunications. Easements have an indefinite useful life, so they are not amortized and are reviewed annually for impairment.

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4.10 Concessions

Ecopetrol Business Group operates concessions under public service concession agreements, in which the grantor controls or regulates the services provided by the concessionaire, whom they are provided to, and price of the service.

Concessions that meet the above criteria are recorded according IFRIC 12 - Concession Agreements of services.

IFRIC 12, Service Concession Arrangements, establishes general guidelines for the recognition and measurement of rights and obligations related to concession agreements and applies when the granting authority controls or regulates which services the concessionaire should provide with the infrastructure, to whom the services should be provided and at what price, and controls any significant residual interest in the infrastructure at the end of the concession period.

Ecopetrol Business Group's assets that were built to operate concessions where the grantor has no residual interest in the infrastructure and Ecopetrol Business Group has no obligation to return the assets are recognized under IFRS 16 - Leases. In these cases, the construction of the infrastructure is a service provided to the grantor, different from the operation and maintenance service. Revenue from services is measured and recorded in accordance with IFRS 15 – Revenue from Contracts with Customers and IFRS 9 – Financial Instruments, depending on the asset model.

Concessions in which the Ecopetrol Business Group does not have a contractual right to receive money or another financial asset from the grantor, but has the right to charge users in exchange for services provided, are accounted for under the intangible asset model.

Concessions assets are subject to impairment test in their recoverable value. See notes 3.2 – Impairment (recovery) of non-current assets and 4.13 – Impairment of non-current assets.

The detail of each type of concession by country is disclosed in Note 25 and Exhibit 3.

Intangible asset model

Considering IFRIC 12, concessions in which Ecopetrol Business Group does not have a contractual right to receive cash or another financial asset from the grantor but has the right to charge users in exchange for the services provided, are recognized under the intangible asset model. The costs incurred by Ecopetrol Business Group for the construction of the concession infrastructure are on a straight-line basis over the term of the concession period. Revenue from construction or improvement services is recognized according to the level of completion of the construction, based on the costs actually incurred, including at construction margin.

The operation and maintenance costs related to the concession are recognized in the statement of profit or loss once the infrastructure of the concession is ready for its use and Ecopetrol Business Group receives from the grantor the right to receive a fee for the services. Revenues are recognized based on the services provided as established in the concession agreements.

Infrastructure expansions are recognized as intangible asset when they are expected to generate future economic benefits. The renovations costs, improvements and additions are capitalized, while routine maintenance and repairs that do not extend the useful life of the assets are recognized in the profit or loss statement.

Financial asset model

Concessions in which Ecopetrol Business Group has a contractual right to receive cash or another financial asset from the grantor for the services provided under the concession agreements and the grantor has little or no power to avoid payment are recognized under financial asset model. In this model the financial asset is classified as a financial asset concession, according to IFRS 9 – Financial Instruments, and it will be represented as current and non-current concessions in the financial position of Ecopetrol Business Group. This asset accrues interest using the effective interest rate method (see Note 4.1).

Mixed model for concessions

This model is applied when the contract simultaneously includes remuneration commitments guaranteed by the grantor and remuneration commitments that depend on the level of use of the concession infrastructure.

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4.11 Goodwill

Goodwill is initially measured at cost (being the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interest and any previous interest held over the net identifiable assets acquired and liabilities assumed). After initial recognition goodwill is measured at cost less any accumulated impairment loss, which cannot be reversed in subsequent periods according to IAS 36. Goodwill is not amortized but tested for impairment annually.

4.12 Leases

At the beginning of a contract, Ecopetrol Business Group assesses whether a contract is, or contains, a lease. This situation arises if the contract transfers the right to control the use of an identified asset for a period in exchange for a consideration. To assess whether a contract conveys the right to control an identified asset, the regulations of IFRS 16 are used.

Ecopetrol Business Group applies the guidance of IFRS 16 – Leases on concessions contracts that do not meet the criteria of the guidance of IFRIC 12.

Ecopetrol Business Group as a lessee

On the commencement date of the lease, Ecopetrol Business Group recognizes lease liabilities to make lease payments and right-of-use assets representing the right to use the underlying asset during the lease term. The interest expense on the lease liability and the depreciation expense on the right-of-use asset are recognized separately.

In subsequent recognition, Ecopetrol Business Group makes a remeasurement of the lease obligation upon the occurrence of events such as: a) changes in the lease term and b) changes in future lease payments resulting from variations in an index or in the rate used for determining the payments. The amount of the remeasurement of the obligation will be recognized as an adjustment to the asset for the right of use.

Ecopetrol Business Group as a lessor

Ecopetrol Business Group classifies as financial leases those contracts in which the terms of the lease substantially transfer to the lessees all the risks and inherent rewards to ownership of the asset. All other leases are classified as operational.

If the lease is classified as financial, an account receivable is recorded in the statement of financial position, for an amount equal to the net investment in the lease.

For leases classified as operating leases, income from payments is recognized on a straight-line basis in the profit and loss statement.

Right-of-use assets

The Ecopetrol Business Group recognizes right-of-use assets on the commencement date of the lease (that is, the date on which the underlying asset is available for use). The right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of the lease liabilities. Right-of-use assets are amortized in a straight-line basis during the lease term. Right-of-use assets are subject to impairment assessment. The cost of right-of-use assets includes the amount of lease liabilities recognized, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received.

Lease liabilities

At the commencement date of the lease, the Ecopetrol Business Group recognizes lease liabilities measured at the present value of the lease payments to be made during the term of the lease. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. Variable payments that do not depend on an index or rate are recognized as expenses in the period in which an event or condition indicates that the payment will occur.

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To calculate the present value of the lease payments, the Ecopetrol Business Group uses the incremental borrowing rate on the lease's commencement date. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the lease payments or a change in the assessment of an option to purchase the underlying asset.

Current leases and low-value asset leases

The Ecopetrol Business Group elected to use the recognition exemptions for lease contracts that, at the commencement date, have a lease term of 12 months or less and do not contain a purchase option (short-term leases), and lease contracts for which the underlying asset is of low value (low-value assets).

Joint Operating Agreements (JOA)

In JOA agreements, the Ecopetrol Business Group assesses whether it controls the use of the asset. If the Ecopetrol Business Group, as the operator, controls the use of the asset, it recognizes the entire right-of-use and lease liability in the financial statements. If it is the JOA who controls, it is analyzed whether the contract meets the characteristics of a sublease, and in that case each party must recognize the right of use in proportion to their participation. Ecopetrol Business Group recognizes 100% of the right-of-use in joint venture agreements in which the Groups is the operator.

4.13 Impairment of non-current assets

In order to evaluate if any non-current assets are impaired, Ecopetrol Business Group compares its carrying amount with its recoverable amount at least annually or earlier, if there is any indicator that an asset may be impaired.

For purposes of impairment testing, assets are grouped into cash generating units (CGU), provided that those assets individually considered do not generate cash inflows that, to a greater extent, are independent from those generated by other assets or CGUs. The grouping of assets in different CGUs requires the exercise of professional judgment and the consideration, among other parameters, of the business segments. In this sense, in the Exploration and Production segment, each CGU corresponds to each one of the different contractual areas commonly called "fields"; by exception, in those cases where the cash inflows generated by several fields are interdependent from each other, those fields are grouped into a single CGU. In the case of the Refining and Petrochemicals, each CGUs corresponds to each one of the refineries, petrochemical plants, and companies in this segment of the Ecopetrol Business Group, for the Transportation and logistics segment, each pipeline system is considered an independent CGU, and for the Electric power transmission and toll roads concessions segment, which also includes telecommunication business, the CGUs correspond to three groups: energy power transmission, toll roads and telecommunications; these units are distributed in identified and independent groups of assets, agreements, subsidiaries, associates, and joint ventures defined within Interconexión Eléctrica S.A. E.S.P.

The recoverable amount of an asset is the higher amount of the fair value less costs of disposal or its value in use. If the recoverable amount of an asset (or of a CGU) is lower than its net carrying amount, such amount (or that of the CGU) is reduced to its recoverable amount, recognizing an impairment loss in profit or loss.

Fair value less costs of disposal is usually higher than the value in use for the asset in the production segment due to some significant restrictions in the estimation of future cash flows, such as: a) future capital expenses that improve the CGU performance, which could result in expected increase of net cash flows, and b) items that reflect specific business risks, resulting in a higher discount rate.

Fair value less costs of disposal is determined as the sum of the future discounted cash flows adjusted to the estimated risk. The estimations of expected future cash flows used in the assessment of impairment of the assets include estimates of futures commodity prices, supply and demand estimations, and the margins of the products.

Fair value less costs of disposal, as described above, is compared to valuation multiples and quoted prices of shares in companies comparable to Ecopetrol Business Group to determine if it is reasonable. In the case of assets or CGUs that participate in the evaluation and exploration of reserves, proven, probable, and possible reserves are considered, with a risk factor associated with them.

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When an impairment loss is recorded, future amortization expenses are calculated based on the adjusted recoverable amount. Impairment losses may be recovered only if the reversal is related to a change in estimations used after impairment loss was recognized in previous periods. These recoveries do not exceed the carrying amount of the assets net of depreciation or amortization that would have been determined if such impairment had not been recognized.

The carrying amount of non-current assets reclassified as assets held-for-sale is compared to its fair value less costs of disposal. No other provision for depreciation, depletion, or amortization is recorded if the fair value less costs of sale is lower than the carrying amount.

For the case of concessions, Ecopetrol Business Group periodically performs a qualitative impairment test on the assets related to the concession to identify events or circumstances, at the CGU level, which is the concession contract with its corresponding amendments, if any, events that indicate that the carrying amount exceeds the recoverable amount. When such events are identified, the quantitative calculation is made, and any impairment is recognized in profit or loss statement.

4.14 Provisions and contingent liabilities

Provisions are recognized when the Ecopetrol Business Group has a current obligation (legal or constructive) because of a past event, it is probable that Ecopetrol will be required to settle the obligation, and a reliable estimation can be made of the amount of the obligation. Where applicable, they are recorded at present value, using a rate reflecting the risk specific to the liability.

If the effect of the temporary value of money over time is significant, the provisions are discounted using a current market rate before taxes that reflects, when applicable, the specific risks of the liability. When the discount is recognized, the increase in the provision is recognized as a financial expense in the statement of profit and loss.

Disbursements related to environmental conservation, linked to revenue from current or future operations, are recognized as expenses or assets, as appropriate. Disbursements related to past operations, which do not contribute to obtaining current or future revenue, are recorded as expenses.

The recognition of these provisions coincides with the identification of an obligation related to environmental remediation and Ecopetrol Business Group uses all available information to determine a reasonable estimate of their respective cost.

Contingent liabilities are not recognized but are subject to disclosure in the explanatory notes when an outflow of resources is possible; including those whose amounts cannot be estimated.

In cases where the provision is expected to be reimbursed in whole or in part, for example under an insurance contract, the reimbursement is recognized as a separate asset only in cases where such reimbursement is practically certain. The amount recognized for the asset should not exceed the amount of the provision.

Asset retirement obligation

Liabilities associated with the retirement of assets are recognized when there are current obligations, either legal or constructive, related to the abandonment and dismantling of wells, facilities, pipelines, buildings, and equipment.

The obligation is usually recorded when the assets are installed or when the surface or the environment are altered at the operating sites. These liabilities are calculated using the discounted cash flow method, using a pre-tax rate reflecting current market conditions similar liabilities and considering the economic limits of the field or the useful life of the respective asset. When it is not possible to determine a reliable estimation in the period in which the obligation originates, a provision is recognized when there is enough information available to make the best estimation.

The carrying amount of the provision is reviewed and adjusted annually considering changes in the assumptions used for its estimation, using a risk-free rate adjusted by a premium that reflects the risk and the company credit rating under the current market conditions. Any change in the present value of the estimated expenditure is reflected as an adjustment to the provision and the corresponding property, plant, and equipment and natural and environmental resources. When a decrease in the asset retirement obligation related to a producing asset exceeds the carrying amount of the asset, the excess is recognized in the statement of profit or loss. The increase in the provision due to the passage of time is recognized in results for the period as a financial expense.

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4.15 Income tax and other taxes

Income tax expense is comprised of income tax payable for the period and the effect of deferred taxes in each period.

Current income taxes are recognized in income except when they relate to items recognized in other comprehensive income, in which case the corresponding tax effect is also recognized in other comprehensive income. Income tax assets and liabilities are presented separately in the consolidated statement of financial position, except where there is a right of setoff within fiscal jurisdictions and an intention to settle such balances on a net basis.

4.15.1 Current income tax

The Ecopetrol Business Group determines the provision for income tax based on the highest amount between taxable income and presumptive income (the minimum estimated amount of taxable profit on which the law expects to quantify and collect income taxes). Taxable income differs from profit before tax as reported in the consolidated statement of profit or loss, because of items of income or expense that are taxable or deductible in other periods, special taxable deductions, tax losses and income and line items measured that, according to applicable tax laws in each jurisdiction, are considered nontaxable or nondeductible.

4.15.2 Deferred income tax

Deferred tax is provided using the liability method for temporary differences between the carrying amounts of existing assets and liabilities in the consolidated financial statements and their respective tax bases. A deferred tax liability is recognized for all taxable temporary differences. A deferred tax asset is recognized for all deductible temporary differences and for all accumulated tax losses, if there is a reasonable expectation that the Ecopetrol Business Group will generate future tax profits against which they will be used.

Deferred taxes on assets and liabilities are calculated based on the tax rates that are expected to apply during the years in which temporary differences between the carrying amounts and tax bases are expected to be reversed.

The carrying amount of a deferred tax asset is subject to review at the end of each reporting period, and it is reduced to the extent it is no longer probable that the corresponding legal entity will generate enough future taxable profit to realize such deferred tax asset.

In the statement of financial position, deferred tax assets are reflected net and as an offset against deferred tax liabilities, depending on the overall tax position in a particular jurisdiction and on the same taxable entity.

Deferred taxes are not recognized when they arise in the initial recognition of an asset or liability in a transaction (except in a business combination) and at the time of the transaction, do not affect the accounting or tax profit, or in respect of the taxes on the possible future distribution of accumulated profits of subsidiaries or investments accounted for by the equity method, if at the time of the distribution it may be controlled by Ecopetrol and it is probable that the retained earnings will be reinvested by the Ecopetrol Business Group companies and, therefore, will not be distributed to the Group.

4.15.3 Other taxes

The Ecopetrol Business Group recognizes in profit or loss the costs and expenses related to other taxes than the income tax, such as the wealth tax, which is determined based on the tax equity, the industry and commerce tax on income obtained in the municipalities for performance of commercial, industrial, and service activities, and the transport tax on volumes loaded in the transport systems. Taxes are calculated in accordance with current tax regulations.

4.16 Employee benefits

Salaries and benefits for Ecopetrol Business Group's employees are governed by the Colombian Collective Labor (Agreement 01 of 1977), and, by the Colombian Substantive Labor Code. In addition to the benefits determined by labour laws, employees are entitled to fringe benefits which are subject to the place of work, type of work, length of service, and basic salary. An annual interest of 12% is recognized on accumulated severance amounts for each employee, and the payment of compensation is provided for when special circumstances arise resulting in the non-voluntary termination of the contract, without justified cause, and in periods other than the probationary period.

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Ecopetrol belonged to the special pension regime under which pension liabilities are Ecopetrol's responsibility and not pension fund's responsibility. However, Law 797 of January 29, 2003, and Legislative Act 001 of 2005 determined that Ecopetrol will no longer belong to the said regime and that from that point on employees would be part of the General Pension Regime. Consequently, pension obligations related to employees pensioned until July 31, 2010, are still Ecopetrol's responsibility. Employees are entitled to such pension bonus if they worked with Ecopetrol prior to January 29, 2003, but whose labor agreement expired without renewal before that date.

All labor benefits of employees who joined Ecopetrol before 1990 are Ecopetrol's responsibility, without the involvement of any social security entity or institution. Service cost for the employee and his/her relatives registered with Ecopetrol is determined by means of a mortality table, prepared based on facts occurring during the year.

For employees who joined Ecopetrol after the Act 50 of 1990 went in effect, Ecopetrol makes periodic contributions for severance payments, pensions, and labor risks to the respective funds.

In 2008, Ecopetrol partially settled the value corresponding to monthly pension payments from its pension liabilities, transferring such liabilities and their underlying amounts to autonomous pension funds (PAP, for its acronym in Spanish). The funds transferred, and returns on those funds, cannot be redirected, nor can they be returned to the Ecopetrol Business Group, until all of the pension obligations have been fulfilled. The settled obligation covers allowances and pension bonds payments, with health and education remaining Ecopetrol's responsibility.

Employee benefits are divided into four groups comprised as follows:

a) Short-term employee benefits and post-employment defined benefits:

Benefits to employees in the short term mainly correspond to those which payment will be made in the term of twelve months following the closing of the period in which the employees have rendered their services. These mainly include salaries, severance payments, vacation, bonuses, and other benefits.

Post-employment benefits of defined contributions plans correspond to the periodic payments for severance, pensions, and labor risk payments that the Ecopetrol Business Group makes to the respective funds that assume these obligations in their entirety.

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The above benefits are recognized as an expense with an associated liability after deducting any already paid amounts.

b) Post-employment defined benefit plans:

In the defined benefits plan, the Ecopetrol Business Group provides the benefits agreed to current and former employees and assumes the actuarial and investment risks.

The following benefits are classified as long-term defined benefit plans recognized in the financial statements according to the calculations of an independent actuary:

- Pensions
- Pension bonds
- Pension incentives
- Health
- Educational plan
- Retroactive severances

Liabilities recognized in the statement of financial position with respect to these benefit plans are determined based on the present value of the defined benefit obligation at the date of the statement of financial position less the fair value of plan assets.

The defined benefit obligation is calculated annually by independent actuaries using the projected credit unit method, which considers employees' years of service and, for pensions, average or final pensionable remuneration. This obligation is discounted at its present value using interest rates of high-quality government bonds denominated in the currency in which the benefits will be paid and of a duration consistent with the plan obligations.

These actuarial calculations involve several assumptions that could differ from the events that will effectively take place in the future. Said assumptions include the determination of a discount rate, future salary increases, mortality rates and future pension increases. Because of the complexity of the calculation, the underlying assumptions and long-term nature of these plans, the obligations for defined benefits are extremely sensitive to changes in assumptions. All key assumptions are revised at the end of the reported period.

In determining the appropriate discount rate, in absence of a broad high quality bond market, Management considers interest rates corresponding to the class B TES bonds issued by the Colombian Government as its best reference, at an appropriate discount rate with maturities extrapolated in line with the term expected for each benefit plan. The mortality rate is based on the country's rate, the latest version of which is the RV08 mortality table published in resolution 1555 of October 2010. The future salary and pension increases are linked to the country's future inflation rates. Note 22 – *Provisions for employee benefits* provides further details on key assumptions used.

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The amounts recognized in the consolidated statement of profit or loss related to employees defined benefit plans are comprised mainly by service cost and the net financial expense. Service cost includes mainly the increase in present value of the benefit obligation during the period (current service cost) and the amount resulting from a new benefit plan. Plan amendments correspond to changes in benefits and are usually recognized when all legal and regulatory approvals have been obtained and the effects have been conveyed to the employees involved. The net financial expense is calculated using the net liability for defined benefits as compared with the yield curve of the discount rate at the beginning of each year for each plan. The net defined benefit obligation or asset resulting from actuarial profits and losses, the asset ceiling effect, and the asset profitability, excluding the value of recognized in the consolidated statement of profit or loss, are recognized in other comprehensive income.

When the plan assets exceed the gross obligation, the recognized asset is limited to the lower of the surplus in the defined benefits plan and the ceiling of assets determined using a discount rate based on Colombian Government bonds.

(a) Others long-term benefits

Others long-term benefits include the five-year term bonus which also considered in the actuarial calculation. This benefit is a cash bond that accumulates annually and is paid every five years to employees. The Ecopetrol Business Group recognizes in the consolidated statement of profit or loss the service cost, the net financial cost and the adjustment to the obligation of the defined benefit plan.

(b) Termination benefits

Termination benefits are recognized only when a detailed plan exists and there is no possibility to withdraw the offer. The Ecopetrol Business Group recognizes a liability and an expense for termination benefits at the earliest date between the date when the offer of such benefits cannot be withdrawn and the date when the restructuring costs are recognized.

4.17 Revenue from contracts with customers

The Ecopetrol Business Group's business is based on four principal sources of revenue from customer contracts: 1) sales of crude oil and natural gas, 2) services associated with the transport of hydrocarbons, 3) sales of refined and petrochemical products, and biofuels, and 4) electric power transmission and toll roads concessions. Revenue from customer contracts is recognized when control of the goods or services are transferred to the customer at an amount that reflects the consideration that the Ecopetrol Business Group expects to receive in exchange for those goods or services (See notes 7 and 25).

Sales of crude oil and natural gas

Revenue from sales of crude oil and natural gas is recognized upon transfer of control to the buyer. This generally occurs when the product is physically transferred into a vessel, pipeline or by another delivery method, thus fulfilling the Ecopetrol Business Group's performance obligations to its customers.

For some natural gas supply contracts with a replacement period, a distinction is made between quantities of gas consumed and not consumed to recognize the respective revenue or liability relating to quantities that will be requested in the future. Once the customer claims such natural gas, the revenue is recognized.

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Services associated with the transport of hydrocarbons

Revenue from hydrocarbons transport services is recognized when the service is provided to the customer and there are no contractual conditions that prevent recognition of the revenue. Ecopetrol Business Group companies are principal in providing these services.

Ship/ Take-or-Pay contracts for the sale of refined products, storage and transport specify minimum quantities of products or services for which a customer will pay, even if the latter does not receive them or use them ("deficient quantities"). Although the Ecopetrol Business Group expects customers to recover all deficient quantities to which they are contractually entitled, any load revenue received related to temporary shortfalls that will be offset in a future period will be deferred and that amount recognized as revenue in the event any of the following scenarios occurs:

- a) The customer exercises its right to deficient volumes or services, or
- b) The possibility is remote that the customer will exercise its right to deficient volumes or services.

Refined and petrochemical products and biofuels

In the case of refined products and petrochemicals, such as fuel oil, asphalt, polyethylene, LPG and propane and gasoline, etc., revenue is recognized when the products are shipped and delivered by the refinery; subsequently, they are adjusted for price changes, in the case of products with regulated prices. In the case of the companies that distribute natural gas and LPG, the revenue from the services is recognized when the service is provided to the customer.

In other cases, Ecopetrol Business Group recognizes revenue when the performance obligation is satisfied, giving rise to the certain, probable, and quantifiable right to demand payment.

Under current local regulation, Ecopetrol Business Group sells regular gasoline and ACPM in Colombia at a regulated price.

In accordance with Decree 1068 of 2015, the Ministry of Mines and Energy semiannually calculates and settles Ecopetrol's net position to be stabilized for each fuel by the Fuel Price Stabilization Fund (FEPC, for its acronym in Spanish). The net position corresponds to the sum of the spreads throughout the period, the result of which is the amount in pesos owed to the Company and charged to the resources of the FEPC. The differential corresponds to the product between the volume reported by the Company at the time of sale and the difference between the parity price and the reference price, the parity price being that which corresponds to the daily prices of motor and diesel gasoline observed during the month, expressed in pesos, referenced to the Gulf of the United States market, calculated by applying Resolution 18 0522 of 2010, and the reference price is the Producer Income defined by the Ministry of Mines and Energy for these purposes. Therefore, this differential constitutes a greater or lesser value of sales revenue and a receivable or payable account for Ecopetrol.

Electric power transmission and toll roads concessions

This group refers to 1) supplying of electricity transmission services in Latin America through the operation and maintenance of high-voltage transport networks and interconnections 2) design, construction, operation, and maintenance of road infrastructures, 3) supplying of information technology, and (4) telecommunications services.

The recognition of revenue from electric power transmission services occurs according to the performance obligations based on the conditions of the contracts that include requirements established by the electricity market regulators in the countries in which Ecopetrol Business Group operates. This is generally achieved when the performance obligations agreed with the regulatory entities are executed, considering the period and the quality of the service established in the contracts. Technology and telecommunications services revenue is also recognized according to the performance obligations defined in contracts with customers.

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For service concession agreements, Ecopetrol Business Group measures the revenue in accordance with IFRIC 12 at the fair value of the consideration received or receivable, considering the payment defined in the contracts.

- Recognize revenues and costs for project construction services in results for the period, according to the percentage completion method of the projects at the reporting date, which includes an estimated profit margin determined based on the macroeconomic characteristics and the conditions of the project, and the weighting of the estimated receivable cash flows related to the estimated cash flows of the construction.
- Recognize revenues and costs for operation and maintenance services of third-party facilities in the profit or loss statement for the period, as the service is provided, based on the performance obligations established in the contracts.
- Recognize the financial returns of concession agreements classified as financial assets in the statement of profit or loss for the period using the effective interest rate method.

The business model developed under electric power transmission concession agreement, associated with the obligation to build, and implement the electric power transmission infrastructure and is classified under the asset according to IFRS 15 – Revenue from contracts with customers. The asset is recognized while the obligation to build and implement the infrastructure is satisfied, and revenue is recognized over the life of the project.

Significant financing component

Payments received from customers are generally short term (except for revenue of concessions). Using the practical expedient in IFRS 15, Ecopetrol Business Group does not adjust the promised amount of consideration for the effects of a significant financing component if it expects, at contract inception, that the period between the transfer of the promised good or service to the customer and the customer's payment for that good or service to be one year or less.

Considering that revenues related to concessions generates long term accounts receivables, a financial component is applied considering the measurement of the asset as amortized cost, defining the future cash flows, and applying and discount rate, according to IFRS 9 – Financial Instruments.

Variable considerations

Upon fulfillment of the obligations set forth in agreements with customers, via delivery of the product or provision of the service, variable components of the transaction price may exist, such as the exchange rate for crude exports or international price fluctuations. In these cases, the Ecopetrol Business Group makes its best estimate of the transaction price that reflects the goods and services transferred to customers.

Agreements signed with customers do not include material variable considerations such as rebates, refunds, or discounts.

Customer advances

They correspond to contractual obligations in which the Ecopetrol Business Group receives monetary resources from customers to subsequently transfer goods and services. These advances made by customers are part of the policies and risk assessment defined by the Ecopetrol Business Group.

4.18 Costs and expenses

Costs and expenses are presented according to their function; they are detailed in the related disclosures in cost of sales, and administrative, operating, projects, and other associated expenses.

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4.19 Finance income (expenses)

Finance income and expenses include mainly: a) borrowings costs on loans and financing, except for those that are capitalized on qualifying asset, b) gains and losses on changes in fair value of financial instruments measured at fair value through profit or loss, c) currency exchange differences of financial assets and liabilities, except for debt instruments designated as hedging instruments, d) interest expenses as a result of discounting long-term liabilities (abandonment costs and pension liabilities), e) dividends derived from equity instruments measured at fair value with changes in other comprehensive income.

4.20 Information by business segment

Ecopetrol Business Group presents the information related to its business segments in its consolidated financial statements in accordance with paragraph 4 of IFRS 8 – Operation segments.

The operations of the Ecopetrol Business Group are performed through four business segments: 1) Exploration and Production, 2) Transport and Logistics, 3) Refining and Petrochemical, and 4) Electric Power Transmission and Toll Roads Concessions.

Segments are determined based on Ecopetrol Business Group Management objectives and corporate strategic plans, considering that these businesses: (a) are engaged in different commercial activities, which generate sales revenue and incur costs and expenses; (b) the operational results are revised regularly by the Ecopetrol Business Group's Governance that makes operational decisions to allocate resources to the various segments and assess their performance; and (c) there is differentiated financial information available. Internal transfers represent sales to inter-company segments and are recognized and presented at market prices.

- a) Exploration and production:** This segment includes activities related to the exploration and production of oil and gas. Revenues are derived from sales of oil and natural gas at market prices to other segments and to third parties (domestic and foreign distributors). Costs include costs incurred in production. Expenses include all exploration costs that are not capitalized.
- b) Transport and logistics:** This segment includes sales revenue and costs associated with the transport and distribution of hydrocarbons and derivative products in operation.
- c) Refining and petrochemicals:** This segment mainly includes activities performed at the Barrancabermeja and Cartagena refineries, where crude oil from production fields is refined or processed. Additionally, this segment includes distribution of natural gas and LPG activities performed by Invercolsa Group. Revenues are derived from the sale of products to other segments and to domestic and foreign customers and include refined and petrochemical products at market prices and some fuels at regulated price. This segment also includes industrial service sales to customers.
- d) Electric power transmission and toll roads concessions:** This segment includes activities of supplying electric power transmission services, design, development, construction, operation, and maintenance of road and energy infrastructure projects. Revenues come from the supplying of these services to domestic and foreign clients (mainly Latin America). This segment also includes the supplying of information technology and telecommunications services.

See information by segments in Note 33.

4.21 Business combinations

The Ecopetrol Business Group accounts for business combinations using the acquisition method. Identifiable assets acquired and liabilities assumed are initially measured at fair value on the acquisition date. Ecopetrol Business Group recognizes separately, at the acquisition date, the identifiable assets, and liabilities of the acquiree that meet the appropriate criteria for recognition, regardless of whether they had been previously recognized in the financial statements of the acquiree.

On the acquisition date, the acquirer will recognize separately the identifiable assets acquired, the liabilities assumed, and any non-controlling interest in the acquiree.

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The company that acts as buyer will recognize the goodwill generated as an asset on the acquisition date, measured as the difference between (i) the sum of the consideration transferred, the amount of any non-controlling interest, and the fair values on the date of acquisition of the shareholding in the acquiree, and (ii) the net amount of the acquisition date of the identifiable assets acquired and the liabilities assumed.

The cost of an acquisition is measured as the aggregate of the consideration transferred, which is measured at acquisition date fair value, and the amount of any non-controlling interests in the acquiree. For each business combination, the Ecopetrol Business Group elects whether to measure the non-controlling interests in the acquiree at fair value or at the proportionate share of the acquiree's identifiable net assets. Acquisition-related costs are expensed as incurred and included in administrative expenses.

The Ecopetrol Business Group determines that it has acquired a business when the acquired set of activities and assets include an input and a substantive process that together significantly contribute to the ability to create outputs. The acquired process is considered substantive if it is critical to the ability to continue producing outputs, and the inputs acquired include an organized workforce with the necessary skills, knowledge, or experience to perform that process or it significantly contributes to the ability to continue producing outputs and is considered unique or scarce or cannot be replaced without significant cost, effort, or delay in the ability to continue producing outputs.

When Ecopetrol Business Group acquires a business, it assesses the financial assets and liabilities assumed for appropriate classification and designation in accordance with the contractual terms, economic circumstances and pertinent conditions as at the acquisition date.

Goodwill is initially measured at cost (being the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interests and any previous interest held over the net identifiable assets acquired and liabilities assumed). If the fair value of the net assets acquired is in excess of the aggregate consideration transferred, the Ecopetrol Business Group re-assesses whether it has correctly identified all of the assets acquired and all of the liabilities assumed and reviews the procedures used to measure the amounts to be recognized at the acquisition date. If the reassessment still results in an excess of the fair value of net assets acquired over the aggregate consideration transferred, then the gain is recognized in profit or loss.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of Ecopetrol Business Group's cash-generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units.

Where goodwill has been allocated to a cash-generating unit (CGU) and part of the operation within that unit is disposed of, the goodwill associated with the disposed operation is included in the carrying amount of the operation when determining the gain or loss on disposal. Goodwill disposed in these circumstances is measured based on the relative values of the disposed operation and the portion of the cash-generating unit retained.

5. New standards and regulatory changes

5.1 New standards adopted by the Group, effective as of January 1, 2024

The IASB issued amendments to the following standards, with an effective date on January 1, 2024, or later periods:

- Amendment to IAS 1 - Classifications of liabilities as current or non-current, modifies the requirement to classify a liability as current, by establishing that a liability is classified as current when it does not have the right at the end of the reporting period to defer the liquidation of the liability during, at least, the twelve months following the date of the reporting period.

Under legacy IAS 1, a company classified a liability as current unless, among other things, it had an *unconditional* right to defer settlement of the liability for at least 12 months from the reporting date. The IAS 1 amendments remove the requirement that the right to defer settlement be unconditional; instead, now the right must have substance and must exist at the reporting date.

In addition, an entity is required to disclose when a liability arising from a loan agreement is classified as non-current and the entity's right to defer settlement is contingent on compliance with future covenants within twelve months.

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There is no relevant impact from this modification of IAS 1, neither regarding the classification of liabilities between current and non-current nor with respect to covenants.

- IAS 12 Amendment: The IASB issued the amendment in May 2023, which provides to the companies a temporary exemption from accounting of deferred taxes arising from the international tax reform of the Organization for Economic Co-operation and Development (OECD), which published the rules to ensure that large multinational companies would be subject to a minimum tax rate of 15%. The adoption of this amendment is not expected to generate a material impact on the disclosure of information in the Financial Statements since there are no active financing agreements.
- Amendment IAS 7 - Cash Flow Statement and IFRS 7 - Financial instruments: Disclosures. The IASB issued the amendment on disclosure requirements to improve the transparency of suppliers financing arrangements and their effects on a company's liabilities, cash flows and liquidity risk exposure.
- Modifications to IFRS 16 - Lease Liability in a Sale and Leaseback Transaction. In September 2022, the IASB issued amendments to IFRS 16 to specify the requirements that a seller-lessee uses in measuring the lease liability arising in a sale and leaseback transaction, to ensure that the seller-lessee does not recognize any amount for profit or loss related to the right of use that it maintains.

There is no relevant impact from these new standards adopted by the business Group.

5.2 New standards issued but not yet adopted

- Amendment IAS 21 - Effects of Variations in Foreign Currency Exchange Rates. The Amendment establishes criteria that allows assessing whether a currency is interchangeable and knowing when it is not. Thus, it will be possible to determine the exchange rate to be used and the disclosures to be provided. The Amendment applies to annual periods beginning on January 1, 2025.
- Issuance of IFRS 18 Presentation and disclosure in financial statements. This new IFRS standard aims to improve the usefulness of the information presented and disclosed in financial statements and will provide investors with more transparent and comparable information on the financial performance of companies, allowing them to make better investment decisions. This new standard is effective internationally for reporting periods beginning on or after January 1, 2027, but companies can apply it early. It should be noted that IFRS 18 replaces IAS 1 - Presentation of financial statements.
- Issuance of IFRS 19 – Non-Public Interest Subsidiaries: Disclosures, this new standard allows subsidiaries to disclose reduced information, instead of disclosures in accordance with other IFRSs. Thus, the application of this standard will reduce the costs of preparing the financial statements of subsidiaries, while maintaining the usefulness of the information for users of their financial statements.
- Limited-scope amendments to IFRS 7 and IFRS 9: These amendments will improve the consistency and understanding of accounting requirements by clarifying terms and procedures, introducing detailed disclosure requirements and allowing flexible early application, which will reduce diversity in accounting practice and increase transparency and consistency of financial reporting. Amendments effective from 1 January 2026 and early application is allowed.
- Volume 11 of the annual improvements to IFRS. The document includes clarifications, simplifications, corrections and changes intended to improve the consistency of the following standards:
 - IFRS 1 – First-time adoption of International Financial Reporting Standards
 - IFRS 7 – Financial instruments: disclosures
 - IFRS 9 – Financial instruments
 - IFRS 10 – Consolidated financial statements
 - IAS 7 – Statement of cash flows

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- Sale or Contribution of Assets between an Investor and its Associate or Joint Venture - Amendments to IFRS 10 and IAS 28. The amendments address an acknowledged inconsistency between the requirements in IFRS 10 and those in IAS 28 (2011), in dealing with the sale or contribution of assets between an investor and its associate or joint venture.

The main consequence of the amendments is that a full gain or loss is recognized when a transaction involves a business (whether it is housed in a subsidiary or not). A partial gain or loss is recognized when a transaction involves assets that do not constitute a business, even if these assets are housed in a subsidiary.

- Power Purchase Agreements – Amendments to IFRS 9 and IFRS 7. The amendment helps the companies to report the financial effects of nature-dependent electricity contracts, which are often structured as power purchase agreements (PPAs). The IASB acted swiftly in the light of the increased use of these contracts.

Nature-dependent electricity contracts help companies to secure their electricity supply from sources such as wind and solar power. The amount of electricity generated under these contracts can vary based on uncontrollable factors such as weather conditions. Current accounting requirements may not adequately capture how these contracts affect a company's performance.

To allow companies to better reflect these contracts in the financial statements, the IASB has made targeted amendments to IFRS 9 Financial Instruments and IFRS 7 Financial Instruments: Disclosures. The amendments include:

- o clarifying the application of the 'own use' requirements;
- o permitting hedge accounting if these contracts are used as hedging instruments; and
- o adding new disclosure requirements to enable investors to understand the effect of these contracts on a company's financial performance and cash flows.

5.3 New standards issued by the ISSB that with effect in future periods

The International Sustainability Standards Committee, in June 2023 issued the first international sustainability and climate standards: IFRS S1 General Requirements for the Information to be Disclosed on Sustainability related to Financial Information and IFRS S2 Weather-related Disclosures. The purpose of these standards is for entities to disclose information about their risks and opportunities related to sustainability and climate that is useful to the primary users of financial information for decision-making. An entity will apply these standards for reports for annual periods beginning on or after January 1, 2024.

In August 2023, the Ecopetrol Business Group began assessing and understanding the new corresponding regulations, identifying the information requested in the standards in its different pillars (Governance, Strategy, Risks and Metrics and Objectives) versus the information already contained in the ESG reports adopted by the Business Group in order to draw up the roadmap for its implementation.

6. Cash and cash equivalents

	2024	2023
Banks	8,990,139	7,525,552
Short-term investments	5,061,940	4,808,610
Cash	2,396	1,953
	14,054,475	12,336,115

As of December 31, 2024, the balance of cash and cash equivalents (short-term investments) includes an amount of total restricted cash for \$1,905,664 (\$1,724,488 as of December 2023), mainly in a) Interconexión Eléctrica S.A. E.S.P. for \$1,904,745 (\$1,580,106 as of December 31, 2023), b) Cenit (\$143,464 as of December 31, 2023, which corresponded to Oleoducto Bicentenario), and c) other companies for \$919 (\$918 as of December 2023). The restricted cash amounts will be used in the next 12 months to: i) the payment of principal and interest on loans, ii) meet short-term business needs, and iii) exclusively for specific activities related to the operation of the concessions.

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The fair value of cash and cash equivalents approximates its book value due to its short-term nature (less than three months) and its high liquidity. Cash equivalents are convertible to a known amount of cash and are subject to a non-significant risk of changes in value. The effective rate of return on cash and cash equivalents as of December 31, 2024, was 6.7% (2023 – 9.8%).

The following table reflects the credit quality of banks in which Ecopetrol Business Group has deposits and check accounts, and issuers of investments included in cash and cash equivalents:

Rating	2024	2023
AAA	1,994,024	993,553
F1	1,887,118	2,133,937
A+	1,791,193	—
F3	1,419,481	70,055
A-1	1,107,673	1,498,034
P-1	1,058,446	741,041
F1+	1,027,253	2,349,260
A	701,821	—
BRC1+	526,853	378,077
BBB	352,609	68,378
F2	331,879	630,089
Ba1	156,726	—
AA	123,665	—
A1	85,050	—
P AAA	38,398	1,475,084
BB	12,461	103,066
AAAmf	5,496	4,562
AAAF	5,439	64,518
B	3,785	670,268
BRC1	1,090	1,513
Aaa	8	1,798
AAAm	—	51,710
C	—	3,156
Not available rating	1,424,007	1,098,016
	14,054,475	12,336,115

See credit risk policy in Note 30.7.

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7. Trade and other receivables

	2024	2023
Current		
Fuel Price stabilization fund (1)	7,622,673	20,505,603
Concessions (2)	4,391,617	4,054,429
Customers		
Foreign	4,737,451	4,220,537
Domestic	2,606,216	3,087,463
Related parties (Note 31)	166,631	123,058
Accounts receivable from employees	125,946	106,022
Industrial services	81,000	40,729
Other	1,037,703	1,329,565
	20,769,237	33,467,406
Allowance for doubtful accounts (3)	(343,597)	(156,764)
	20,425,640	33,310,642
Non-current		
Concessions (2)	28,269,820	26,323,424
Accounts receivable from employees	709,836	565,914
Related parties (Note 31)	347,326	143,238
Customers		
Foreign	86,073	150,033
Domestic	137,764	75,419
Other (4)	3,190,044	3,180,581
	32,740,863	30,438,609
Allowance for doubtful accounts (3) (4)	(604,502)	(657,521)
	32,136,361	29,781,088

- (1) Corresponds to the application of Resolution 180522 of March 29, 2010, and other regulations that modify and add it (Decree 1880 of 2014 and Decree 1068 of 2015), which establishes the procedure to recognize the subsidy for refiners and importers of motor gasoline current and ACPM, and the methodology for calculating the net position (value generated between the parity price and the regulated price, which can be positive or negative).

The movement of the account receivable from the Fuel Price Stabilization Fund is as follows:

	2024	2023
Opening balance	20,505,603	26,296,870
Settlements for the period (Note 25)	7,525,429	20,531,095
Mobilizations and others	105,678	24,168
Collections (1.1)	(20,514,037)	(4,770,351)
Offsetting (1.2)	—	(21,576,179)
Closing balance	7,622,673	20,505,603

1.1 During 2024, the Ministry of Finance and Public Credit paid \$20,514,037 (2023 - \$4,770,351) to the Ecopetrol Business Group as follows:

- Payments to Ecopetrol for \$16,449,821 (2023 - \$2,876,149), corresponding to the settlements of the first, second, third, and fourth quarters of 2023. Payments received in 2024 include \$6,305,038 in cash and \$10,144,782 in National Government Treasury Bonds (TES).
- Payments to Refinería de Cartagena for \$4,064,216 (2023 - \$1,894,202), corresponding to settlement of the first, second, third, and fourth quarters of 2023.

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- Payments received in 2024 include \$10,369,254 in cash and \$10,144,782 in National Government Treasury Securities (TES).

1.2 During 2023, the Ministry of Finance and Public Credit paid \$26,346,530 to the Ecopetrol Business Group as follows;

- Payments to Ecopetrol for \$2,876,149 in cash and \$21,576,179 through offsetting with dividends payable to the Ministry of Finance and Public Credit, this operation did not generate cash flows, and its effect implies an increase in the variation in working capital in the cash flow statement of the Ecopetrol Business Group. These payments correspond to the settlements of the second, third and fourth quarters of 2022.
- Payments to Reficar for \$1,894,202 in cash in August 2023, corresponding to settlement of the fourth quarter of 2022.

The recognition of revenue associated with the price differential is detailed in note 25.

- (2) Includes electric power transmission and toll roads concessions.
- (3) Corresponds to the recognition of the Company's client portfolio that is at risk of non-payment. The credit risk policies applied by the Company are detailed in Note 30.7.
- (4) Corresponds mainly to accounts receivable from the Government of Brazil for employee benefits governed by Law 4819 of 1958 to ISA CTEEP, and crude loan agreements of the Business Group for transportation systems. The balance of these accounts receivable is \$2,193,633 (2023: \$2,279,637) and the related provision for expected losses established, included in the provision line for expected credit losses, is \$367,593 (2023: \$407,567), representing a net book value of \$1,826,040 (2023: \$1,872,070). The administration monitors the progress and developments related to the legal aspect of the matter and continuously evaluates the possible impacts on its consolidated financial statements. The company will continue to comply with the monthly payment in accordance with the law. In addition, the process of collecting these amounts from the Government of the State of Sao Paulo and their recoverability assessment will continue.

The book value of trade and other receivables approximates their fair value.

The changes in the allowance for doubtful accounts for the year ended December 31, 2024, 2023 and 2022 are as follows:

	2024	2023	2022
Opening balance	(814,285)	(906,118)	(750,191)
Additions	(131,731)	(57,895)	(46,690)
Currency translation	(10,421)	111,013	(131,270)
Accounts receivable write-off and uses	8,338	38,715	22,033
Closing balance	(948,099)	(814,285)	(906,118)

8. Inventories

The inventories balance is presented net of the allowance for inventory losses.

	2024	2023
Crude oil (1)	3,935,595	4,715,047
Fuels and petrochemicals	2,783,249	2,356,585
Materials for goods production	3,308,987	3,130,816
	10,027,831	10,202,448

- (1) The variation is primarily due to increased export inventory, closing the year with no stock in transit and connected inventories.

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The following are the changes of the allowances for losses for the years ended December 31, 2024, 2023 and 2022:

	2024	2023	2022
Opening balance	(189,878)	(128,797)	(127,662)
Additions	(155,364)	(23,373)	(18,236)
Foreign currency translation	(21,945)	6,873	(3,591)
Other	32,316	(44,581)	20,692
Closing balance	(334,871)	(189,878)	(128,797)

Crude oil, fuel, and petrochemicals inventories are adjusted to the lower of cost and net realizable value, mainly due to fluctuations in international crude oil prices. The amount recorded for this in 2024 was \$100,894 (2023 - \$(10,660); 2022 - \$133,164).

9. Other financial assets

	2024	2023
Assets measured at fair value		
Investments in equity securities and trust funds (1)	331,318	1,210,138
Investment Portfolio – Foreign currency	693,745	364,962
Hedging instruments (2)	65,797	231,463
Investment Portfolio – Local currency	31,819	54,887
	1,122,679	1,861,450
Assets measured at fair value through other comprehensive income		
Investment Portfolio – Local currency (3)	2,676,959	—
Shares and other (4)	1,035,871	2,007
	3,712,830	2,007
Assets measured at amortized cost (5)	404,941	369,318
	5,240,450	2,232,775
Current	851,543	1,860,928
Non-current	4,388,907	371,847
	5,240,450	2,232,775

- (1) They include deposits in trusts companies and restricted funds in Brazil, Peru, Chile, and Colombia. See note 9.1.
- (2) Corresponds to swap contracts to hedge commodity price risk and forwards contracts to hedge exchange rate risk mainly in Ecopetrol S.A. and Interconexión Eléctrica S.A. E.S.P.
- (3) Corresponds to National Government TES securities to meet liquidity needs at Ecopetrol S.A.
- (4) Corresponds mainly to the recognition of McDermott shares in Refinería de Cartagena S.A.S. (see note 23.4)
- (5) Includes investments with maturities greater than 90 days, in Chile and Colombia.

The average return of the investment portfolio in Colombian pesos (local currency) and U.S. dollars (foreign currency) were 10.2% (2023 – 12.9%) and 4.8% (2023 – 7.7%), respectively.

The fair value measurement is recognized against other comprehensive income (Note 24.5) or financial result (Note 29), in accordance with the business model established by the Business Group.

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9.1 Restrictions

As of December 31, 2024 and 2023, there were restricted funds for \$39,414 and \$68,069 respectively, which have a specific destination, mainly in: i) ISA, for \$12,780 (2023: \$11,547), associated with administration and payment trusts established for the projects of the Mining and Energy Planning Unit (UPME), resources retained by judicial seizures and the resources to develop the Conexión Jaguar program and, ii) Interligação Elétrica Norte e Nordeste, for \$11,585 (2023: \$12,743), related to a guarantee granted to Banco do Nordeste do Brasil (BNB) until the debt with the bank is paid.

9.2 Maturity

The following is the balance of other financial assets by date to maturity as of December 31, 2024, and 2023:

	2024	2023
Up to 1 year	851,543	1,860,928
1 – 2 years	1,001,466	291,392
2 – 5 years (1)	1,177,748	28,186
> 5 years (2)	2,209,693	52,269
	5,240,450	2,232,775

(1) This corresponds mainly to the recognition of McDermott's shares in Refinería de Cartagena S.A.S. (see Note 23.4).

(2) Corresponds to TES maturities of the National Government.

9.3 Fair value

The following is the balance of other financial assets by fair value hierarchy level as of December 31, 2024, and 2023:

	2024	2023
Level 1	3,052,575	1,526,458
Level 2	748,876	336,999
Level 3 (1)	1,034,058	—
	4,835,509	1,863,457

(1) Corresponds to the recognition of McDermott's shares in Refinería de Cartagena S.A.S. (see note 23.4). These shares were accounted as an equity instrument recognized at fair value in hierarchy level 3, they are not listed on a stock exchange and the refinery is a minority investor. After analyzing the information available for the valuation update as of December 31, 2024, it is concluded that the company does not have enough information available in the market to allow an update of the financial valuation of McDermott's results in 2024 and its projected cash flows.

There were no transfers between hierarchy levels for the years ended December 31, 2024, and 2023.

The securities in the Ecopetrol Business Group's portfolio are valued daily in accordance with the provisions of the Colombian Financial Superintendency. For this purpose, information provided by authorized entities is used, which collect data from active markets. In cases where market data is unavailable, other directly or indirectly observable data are used.

For investments denominated in dollars, Bloomberg is the information provider, and for those denominated in pesos, Precia is the entity authorized by the Colombian Financial Superintendency to provide this service.

Within the investment ranking process, in addition to the information used for valuation, other relevant aspects are taken into account, such as the issuer rating, investment classification, liquidity, active market, and the issuer risk analysis conducted by the Ecopetrol Business Group, which allows for the appropriate investment ranking level to be reached.

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9.4 Credit rating

The following table reflects the credit quality of the issuers of other financial assets:

	2024	2023
BB+ (1)	3,060,884	13,921
AA+	253,423	—
F1	173,128	259,003
P-1	136,222	150,905
B	100,962	1,263,144
F2	66,535	55,606
AAA	14,429	22,864
F1+	4,364	—
Baa3	2	3
F3	1	—
BB	—	296,394
A-2	—	116,738
A1	—	13,904
BBB	—	302
Not available rating (2)	1,430,500	39,991
	<u>5,240,450</u>	<u>2,232,775</u>

(1) Corresponds to National Government TES securities in local currency.

(2) Corresponds mainly to the recognition of McDermott's shares in Refinería de Cartagena S.A.S. (see note 23.4)

See credit risk policy in Note 30.7.

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10. Taxes

10.1 Current and non-current tax assets and liabilities

	2024	2023
Current tax assets		
Income tax (1)	3,446,414	1,228,477
VAT refund (2)	5,423,689	4,548,264
Other taxes (3)	2,585,790	2,334,338
	11,455,893	8,111,079
Non-current tax assets		
Deferred tax assets (4)	12,875,766	10,522,725
Income tax credits	32,358	7,332
	12,908,124	10,530,057
Current tax liabilities		
Income tax payable	1,551,099	1,746,972
National tax and surcharge on gasoline	239,680	211,819
Industry and commerce tax	377,055	367,861
Value added tax	140,617	103,724
Carbon tax	104,938	92,736
Other taxes	355,990	346,113
	2,769,379	2,869,225
Non-current tax liabilities		
Deferred tax liabilities (5)	12,955,929	11,824,515
Income tax	1,972,736	1,742,998
	14,928,665	13,567,513

- (1) The variation corresponds to the balance in favor of the income tax generated in Ecopetrol for \$1,957,626 due to the lower net profit, considering the lower average prices in crude oil, natural gas and refined products. Additionally, Refinería de Cartagena is offsetting tax losses for \$209,592, among others.
- (2) The variation corresponds mainly to the balance in favor in value added tax (VAT) in Ecopetrol S.A. for \$1,024,550, Esenttia S.A. for \$(105,684), ISA for \$(41,209), among others.
- (3) Includes the potential tax credit for the VAT paid on the acquisition of real productive fixed assets, in accordance with the section 258-1 of the Colombia Tax Code. Additionally, it includes advances and self-withholdings of territorial taxes.
- (4) The variation corresponds mainly to: i) the effect of the exchange rate on loans and borrowings in US dollars, the update of the actuarial calculation, variations in the items to calculate the present value of the technical costs of the abandonment provision, the acquisition of 45% of block CPO09 and the update of the projected surcharges in Ecopetrol S.A. for \$2,478,546; ii) increase in tax losses in Refinería de Cartagena for \$(429,047), and Ecopetrol USA \$394,968 ; iii) and the temporary differences related to IAS 12.41 and the deferred tax of Refinería de Cartagena, iv) effect to unrealized profits (\$111,459) among others.
- (5) The variation mainly corresponds to the temporary differences related to IAS 12.41 and the deferred tax of ISA, represented by the changes related to the contractual asset CPC 47 and the deferral of income in accordance with Law 12,973/2014 in Companhia de Transmissao de Energia Eletrica Paulista (CTEEP); in AGUAPEI for the recognition of deferred tax due to the change in presumed profit regime for \$533,993; in Cenit for \$139,837, considering the decrease in property, plant, and equipment; and Ecopetrol Permian for \$353,025, for the use of lower tax losses and the decrease in capital in the investment with OXY.

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10.2 Income tax

In accordance with Law 2010/2019 and Laws 2155/2021 and 2277/2022, the tax provisions applicable in Colombia for taxable years 2022 and 2023, are the following:

The income tax rate applicable to national companies and foreign entities operating in Colombia will be 35% for 2022 and beyond.

From the year 2021, the presumptive income rate was 0% of the taxpayer's net equity from the immediately previous year.

The income tax for tax free trade zone users will be 20%. If the company located in the free zone has a Legal Stability Agreement (hereinafter LSA), the income tax rate is 15% during the term of said contract. This is the case of Refinería de Cartagena S.A.S. until 2023 and Esenttia Masterbatch Ltda. until 2028.

For fiscal years 2023 and 2024, Ecopetrol Business Group has subsidiaries that are subject to 35% income tax rate, subsidiaries located in free trade zones, Refinería de Cartagena and Esenttia Masterbatch Ltda., which were subject to 20% and 15% income tax rate, respectively, and other subsidiaries in Brazil, Chile, Peru, United States of America, that were subject to 34%, 27%, 29.5%, 21%, respectively.

For Ecopetrol S.A. and Hocol, additional surcharge must be added to the general income tax rate of 35%. This surcharge will be calculated taking as reference the average Brent price of the last 10 years, which will be updated by the inflation index of the United States of America to update them to values constants. Based on these, the percentiles that give rise to the additional surcharge to the general rate are determined as indicated below:

< percentile 30	0 %
> = to percentile 30 and < to percentile 45	5 %
> = to percentile 45 and < to percentile 60	10 %
> = to percentile 60	15 %

The tax depreciation percentages are adjusted based on the table established in Law 1819 of 2016. On the other hand, oil investments depletion will be calculated based on the technical production units as it is recorded for accounting purposes.

Expenses for the acquisition of exploration rights, geology and geophysics, exploratory drilling, among others, are capitalizable until the technical feasibility and commercial viability of extracting the resource are determined.

Fluctuations in items expressed in foreign currency will only have tax effects at the time of disposal or payment in the case of assets, or liquidation or partial payment in the case of liabilities.

Tax losses generated as of January 1, 2017, may be offset against ordinary net income obtained in the following 12 taxable years, except for companies that have signed a legal stability contract, and included within it the article that they contemplated that tax losses did not have an expiration date.

Statute of limitations of tax returns

In Colombia, the income tax returns of the taxable years 2015, 2017, 2018, 2019, 2020, 2021, 2022, and 2023 and income tax for equality - CREE - of the taxable years 2016 can still be reviewed by the tax authorities. The management of Ecopetrol Business Group considers that the amounts recorded as liabilities for taxes payable are sufficient and are supported by the law to meet any claim that may be established with respect to such years.

In Colombia, as of January 1, 2017, the statute of limitations for the income tax return corresponds to three-year (3) counted from the due date to file the return or the filing date, when these have been lately filed. In the case of Ecopetrol S.A., because it is subject to compliance with transfer pricing rules, the final term is 6 years. However, Law 2010 of 2019 established that this term will be 5 years, for returns submitted after January 1, 2020.

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For the years 2023 and 2024, in accordance with Law 2155 of 2021, the time in which the tax authorities can audit an income tax return is reduced, which goes from 5 years to between 6 to 12 months, depending on if the net income increased to 35% or 25% compared to that was declared in the immediately previous year.

Regarding those returns in which balances are presented in favor, the final term is 3 years, from the date of presentation of the request for refund or compensation.

Starting in 2020, tax returns that present tax losses can be reviewed by tax authorities within 5 years from the date of filing and/or correction.

Income tax expense

	2024	2023	2022
Current income tax (1)	8,972,186	12,807,005	16,791,619
Deferred income tax (2)	1,748,039	(3,310,147)	2,813,817
Deferred income tax – rate change	1,510,121	1,941,995	(658,919)
Adjustments to prior years' current and deferred tax (3)	(21,806)	77,022	17,421
Income tax expenses	<u>12,208,540</u>	<u>11,515,875</u>	<u>18,963,938</u>

- (1) The variation between 2024 and 2023 by (\$3,834,819) corresponds mainly to the decrease in results obtained in the year in Ecopetrol S.A., generated by the decrease in revenues given the lower average prices of the crude basket oil, natural gas, and products, among others.
- (2) The variation between 2024 and 2023 of \$5,058,186 corresponds mainly to the effect of the exchange rate applied on loans and borrowings in US dollar, the update of the actuarial calculation, variations in the items to calculate the present value of the technical costs of the abandonment provision, the acquisition of 45% of block CPO09 and the update of the projected surcharges for Ecopetrol S.A and Hocol, among others.
- (3) The balance for \$ (21,806) corresponds to the difference between the provision and the income tax return for the 2023 taxable year filed in 2024 by \$ (18,197) and \$(3,609) by effect to the deferred tax.

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Reconciliation of the income tax expenses

The reconciliation between the income tax expense and the current tax applicable to the Ecopetrol Business Group is as follows:

	2024	2023	2022
Net income before income tax	30,707,415	36,898,946	54,163,418
Statutory rate (Colombia)	35.0 %	35.0 %	35.0 %
Income tax at statutory rate	10,747,595	12,914,631	18,957,196
Effective tax rate reconciliation items:			
Adjustment - IAS 12.41	1,096,113	(2,032,193)	1,946,269
Non-deductible expenses	290,009	646,616	448,433
Rate differential adjustment	(442,135)	(1,630,935)	(670,080)
Non-taxable income	(1,204,985)	(1,080,149)	(739,243)
Prior years' taxes	(21,806)	77,022	17,421
Foreign currency translation and exchange difference	124,753	577,949	(82,028)
Tax discounts and tax credit	(11,309)	(18,215)	(184,054)
Others	244,662	119,154	(71,057)
Effect of recognition of shares of McDermott International, Ltd.	(124,478)	—	—
Effect of tax reform	1,510,121	1,941,995	(658,919)
Income tax calculated	12,208,540	11,515,875	18,963,938
Effective tax rate	39.8 %	31.2 %	35.0 %
Current	8,954,180	12,867,278	16,801,363
Deferred	3,254,360	(1,351,403)	2,162,575
	12,208,540	11,515,875	18,963,938

The effective tax rate as of December 31, 2024, is 39.8% (2023 – 31.2%, 2022 –35.0%). The 8.6% variation compared to the previous period is mainly i) the effect of the companies of the Group that have a nominal tax rate different from the parent company (Refinería de Cartagena \$99,766 Ecopetrol Capital AG - \$25,607, Esentia MB - \$58,633, Ecopetrol USA - \$87,965, Ecopetrol Permian - \$134,252, Ecopetrol Trading Asia - \$137,610 and others - \$119,291) ii) due to lower profits generated by lower average prices for the basket of crude oil, natural gas and refined products, iii) the adjustment in the projections for the calculation of the surcharge for the following years and the effect of the acquisition of 45% of block CPO09 for Ecopetrol S.A, among others.

Deferred income tax

	2024	2023
Deferred tax assets (1)	12,875,766	10,522,725
Deferred tax liabilities (2)	(12,955,929)	(11,824,515)
Net deferred income tax	(80,163)	(1,301,790)

- (1) The variation corresponds mainly to: i) the effect of the exchange rate on loans and borrowings in US dollars, the update of the actuarial calculation, variations in the items to calculate the present value of the technical costs of the abandonment provision, the acquisition of 45% of block CPO09 and the update of the projected surcharges in Ecopetrol S.A. for \$2,478,546; ii) increase in tax losses in Refinería de Cartagena for \$(429,047), and Ecopetrol USA \$394,968 ; iii) and the temporary differences related to IAS 12.41 and the deferred tax of Refinería de Cartagena, iv) effect to unrealized profits \$(111,459) among others.

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- (2) The variation mainly corresponds to the temporary differences related to IAS 12.41 and the deferred tax of ISA, represented by the changes related to the contractual asset CPC 47 and the deferral of income in accordance with Law 12,973/2014 in Companhia de Transmissao de Energia Eletrica Paulista (CTEEP); in AGUAPEI for the recognition of deferred tax due to the change in presumed profit regime for \$533,993; in Cenit for \$139,837, considering the decrease in property, plant, and equipment; and Ecopetrol Permian for \$353,025, for the use of lower tax losses and the decrease in capital in the investment with OXY.

The financial projections of the Ecopetrol Business Group suggest that, in the future, sufficient profits will be generated to ensure the recoverability of the active deferred tax asset.

The detail of deferred tax assets and liabilities is as follows:

	2024	2023
Deferred tax assets (liabilities)		
Loans and borrowings (1)	3,425,024	192,923
Loss carry forwards (2)	6,891,980	5,519,519
Provisions (3)	4,659,532	5,063,332
Other assets (4)	296,206	689,369
Employee benefits (5)	2,894,690	3,623,801
Accounts payable	58,338	(60,255)
Goodwill	(693,385)	(603,445)
Intangibles	(1,402,760)	(1,208,349)
Other	(343,127)	(387,146)
Other liabilities	(3,448,143)	(3,429,662)
Accounts receivable	(3,761,091)	(3,766,299)
Property plant and equipment and Natural and environmental resources (6)	(8,657,427)	(6,935,578)
	(80,163)	(1,301,790)

- (1) The variation corresponds mainly to the effect of exchange difference of loans and borrowings, considering the revaluation of the Colombian peso against the US dollar.
- (2) In 2024, a deferred tax asset for tax losses carryforwards was recognized for \$6,891,980 (2023 - \$5,519,519) in the following companies:
- Tax losses that do not expire: Ecopetrol USA for \$1,088,178 (2023 - \$60,568); Refinería de Cartagena for \$2,236,467 (2023 - \$1,916,114); and ISA Group companies in Chile for \$65,715 (2023 - \$7,610).
 - Tax losses that expire in 12 years in Invercolsa for \$15,567 (2023 - \$16,112) and Esenttia for \$117,754 (2023 - \$76,337).
 - Tax losses that expire in 20 years from the date they were recognized by Ecopetrol USA Inc. for \$1,164,546 (2023 - \$1,499,997).
 - Tax losses expiring in 2025 of Ruta de la Araucanía for \$39,404 (2023 - \$45,147); 2027: Ruta Costera for \$241,434 (2023 - \$174,855); 2029: Ruta del Maipó for \$704,941 (2023 - \$759,609); 2040: from ISA Interchile for \$1,157,358 (2023 - \$933,113); and 2044: Ruta del Loa for \$60,616 (2023 - \$30,057).
- (3) Corresponds to non-deductible accounting provisions, mainly by uploading (economic limit of the oil field, market rate, discount rate) the asset retirement obligation (ARO) provision.
- (4) The variation corresponds mainly to the effect of the uploading and increase of the financial asset due to UF readjustment in Maipó (Chile) in 2022.
- (5) Corresponds to update of the actuarial calculations for health, pensions and bonds, education, and other long-term benefits to employee.
- (6) For tax purposes, natural and environmental resources, and property, plant, and equipment have a useful life and a depreciation and amortization methodology different from those determined under international accounting standards, mainly in Ecopetrol and ISA Group.

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The Ecopetrol Business Group offsets tax assets and liabilities only if it has a legally enforceable right to offset current tax assets and liabilities, and to the extent that they relate to income taxes required by the same tax jurisdiction and by the same tax authority.

The movements of deferred income tax for the years as of December 31, 2024, 2023 and 2022 are as follows:

	2024	2023	2022
Opening balance	(1,301,790)	(86,856)	(1,825,605)
Deferred tax recognized in profit or loss	(3,254,360)	1,351,403	(2,162,575)
Increase due to business combination	—	—	96,767
Deferred tax recognized in other comprehensive income (a)	4,259,216	(3,726,415)	4,769,474
Other	—	—	(24,132)
Foreign currency translation	216,771	1,160,078	(940,785)
Closing balance	(80,163)	(1,301,790)	(86,856)

(a) The following is the detail of the income tax recorded in other comprehensive income:

December 31, 2024	Pre-tax	Deferred tax	After tax
Actuarial valuation gains (losses) (Note 22.1)	(1,681,591)	374,059	(1,307,532)
Cash flow hedging for future crude oil exports (Note 30.3)	3,653,649	(1,472,447)	2,181,202
Hedge of a net investment in a foreign operation (Note 30.4)	6,305,555	(2,979,130)	3,326,425
Hedge with derivative instruments	172,326	(87,204)	85,122
Valuation of financial instruments	237,211	(94,494)	142,717
	8,687,150	(4,259,216)	4,427,934
December 31, 2023	Pre-tax	Deferred tax	After tax
Actuarial valuation gains (losses) (Note 22.1)	4,460,534	(1,726,261)	2,734,273
Cash flow hedging for future crude oil exports (Note 30.3)	(5,695,565)	2,624,019	(3,071,546)
Hedge of a net investment in a foreign operation (Note 30.4)	(8,973,471)	2,760,084	(6,213,387)
Hedge with derivative instruments	(242,284)	68,573	(173,711)
	(10,450,786)	3,726,415	(6,724,371)
December 31, 2022	Pre-tax	Deferred tax	After tax
Actuarial valuation gains (losses) (Note 22.1)	1,254,514	(586,260)	668,254
Cash flow hedging for future crude oil exports (Note 30.3)	3,167,351	(1,638,602)	1,528,749
Hedge of a net investment in a foreign operation (Note 30.4)	7,526,124	(2,538,389)	4,987,735
Hedge with derivative instruments	(111,690)	(6,223)	(117,913)
	11,836,299	(4,769,474)	7,066,825

Deferred tax assets not recognized

Deferred tax assets related to tax loss carryforwards incurred by the subsidiaries of ISA Group: Ruta del Bosque (Chile) for \$107,006 (2023 – \$100,356), Ruta del Maule (Chile) for (2023 - \$36,138), ISA Interconexiones Viales for \$2,926 (2023: \$3,094), ISA Inversiones Costeras Chile for 37,345 (2023: \$39,221), ISA Inversiones Tolken for \$18, Internexa Chile for(2023: \$12,859), ISA Inversiones Chile Ltda. For 18,935 (2023: \$39,161), Ruta Costera \$391, ISA Intervial Colombia for \$528 (2023: \$542), ISA Capital Do Brasil for \$19,072 (2023: \$17,093), Internexa Brasil Operadora de Telecomunicações for \$95,226 (2023: \$95,226), Internexa Participações (Brasil) for \$2,641 (2023: \$2,579) and ISA Bolivia for \$7,867 (2023: \$4,934), are not recognized, since Management has assessed and reached the conclusion that it is not probable that the deferred tax asset related to these tax losses and presumptive excess income is recoverable in foreseeable future.

If Ecopetrol Business Group had been able to recognize the unrecognized deferred tax asset, the profit for the year ended December 31, 2024, would have increased by \$196,543 (2023 - \$351,203).

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With respect to the additional income surtax, deferred tax assets corresponding to the estimated surcharge for the years 2026 and following are not recognized because there is no certainty about the proportion of the deferred that will be recovered in each of these years.

Deferred tax liabilities (assets) not recognized in subsidiaries

As of December 31, 2024, in connection with paragraph 39 of IAS 12 deferred tax liabilities are not recognized on the difference between the accounting and tax bases associated with investments in subsidiaries, joint ventures of Ecopetrol S.A. (Base: \$-69,951 Tax: \$-10,493).

Dividends received in the year 2024 were untaxed. The Company expects this same treatment for the dividends it receives in 2024.

Additionally, in connection with paragraph 44 of IAS 12 deferred tax assets are not recognized on the difference between the accounting and tax bases associated with investments in subsidiaries, joint ventures of Ecopetrol S.A. (Base: \$90.771 Tax: \$13,616).

Minimum Tax Rate (Colombia Tax Law)

In accordance with numeral 2 of paragraph 6 of article 240 of the Tax Code, taxpayers who are tax residents in Colombia whose financial statements are subject to consolidation must calculate the adjusted tax rate in a consolidated manner.

For the taxable year 2024, according to the calculation made by Ecopetrol, the minimum tax rate of the companies with tax residence in Colombia of the Ecopetrol Group is greater than 15%. Given the above, the company does not recognize an additional expense for this concept.

	2024
Adjusted tax	
Net income tax of Colombia Business Group companies	12,208,540
(+) Tax discounts or tax credits	72,213
(-) Income tax on passive income from controlled entities abroad	(257)
Total Tax Adjusted	12,280,496
Adjusted profit	
Profit before income tax expense of Colombia Business Group companies	39,147,205
(+)Permanent differences enshrined in law and that increase net income	8,038,051
(-) Income that does not constitute income or occasional profit, which affects accounting or financial profit	(8,732,469)
(-)Share of profits of associates and joint ventures of the respective taxable year of Colombia Business Group companies	(764,366)
(-) Net value of income from occasional gains that affect accounting or financial profit	(143,116)
(-) Exempt income due to the application of treaties to avoid double taxation	(2,144,184)
(-) Offsetting of tax losses or excesses of presumptive income taken in the taxable year and that did not affect the accounting profit of the period	(2,513)
Total Adjusted Profit	35,398,608
Adjusted tax rate	34.69 %
Income tax to add	—

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Pillar II

The Ecopetrol Group has a presence in the jurisdictions of Argentina, Bahamas, Brazil, Bolivia, Cayman Island, Chile, Colombia, Spain, United States, Mexico, Panama, Peru, United Kingdom, Singapore, and Switzerland. The Ecopetrol Group reviewed its corporate structure in order to determine possible impacts of the introduction of the Pillar model rules, as well as to determine the progress of each jurisdiction in implementing this international standard.

The ongoing assessment is based on the most recent tax returns and country-by-country report for the year 2023, as well as the most up-to-date financial information for the year 2024.

From the analysis executed on the implementation of Pillar II, the Company observes that: i) Spain has implemented an IIR that will begin to apply as of January 1, 2025; ii) Brazil, Switzerland, Singapore, and Spain have implemented a QDMTT that will begin to apply as of January 1, 2025, and in Bermuda said QDMTT will begin in 2026; and iii) the United Kingdom will implement the UTPR as of January 1, 2025. It has already implemented the IIR and the QDMTT in fiscal year 2024.

For the above reasons, in the jurisdictions where the Ecopetrol Business Group is present, the tools associated with Pillar II have not been implemented, which would allow, in a certain jurisdiction, access to the tax from other jurisdictions whose Effective Tax Rate is less than 15%.

Currently, the Ecopetrol Business Group is unable to provide information on potential exposure to Pillar II income taxes, considering that in the jurisdictions in which Ecopetrol operates, although countries such as Spain and Switzerland have adopted Pillar II in their domestic legislation, there are still delays in the implementation of the payment rules as of December 31, 2024. The Business Group will continue monitoring the implementation of BEPS 2.0 in jurisdictions that already have progress. Additionally, the Company will work in 2025 on the assessment and calculation of the global minimum tax rate.

Notwithstanding, based on the mandatory temporary exception contemplated in the Amendment to IAS12, Ecopetrol Business Group does not recognize deferred tax assets or liabilities associated with the Pillar II income taxes, in its consolidated financial statement for taxable year 2024.

Uncertain tax positions - IFRIC 23

Ecopetrol Business Group's strategy is to avoid making aggressive tax decisions that may cause questioning of its tax returns, by tax authorities.

Regarding uncertain tax positions where it has been determined that there may be a possible controversy with the tax authority that could result in an income tax increase, a success threshold has been established by IFRIC 23, which has been calculated based on current regulations and tax opinion provided by our tax advisors.

In accordance with the aforementioned interpretation, the Ecopetrol Business Group considers that uncertain tax positions included in its determination of income tax will not affect the results if it is probable that the position will be accepted by the tax authorities. Notwithstanding, the Ecopetrol Business Group will continue to monitor new tax regulations and ruling issued by the tax authority and other entities.

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10.3. Other taxes

Dividend taxes

Starting on the profits generated from the year 2017, the tax on dividends applies to resident natural persons, national companies, and foreign entities.

Law 1943 of 2018 established that, as of January 1, 2019, dividends and participations paid or credited to the account from profit distributions that have been considered as income that does not constitute income or occasional profit between Colombian companies, are subject to a withholding for dividend tax at a rate of 10% from 2022 according to Law 2277 of 2022. This withholding is transferable to the final beneficiary, foreign entity, or natural person tax resident in Colombia. On the other hand, if the profits charged to which the dividends were distributed were not subject to tax at the company level, said dividends are taxed with the income tax applicable in the period of distribution. In this case, the 10% withholding will apply to the value of the dividend once decreased with the income tax (35% for the year 2024).

The non-taxed dividends that the Ecopetrol Business Group will receive will not be subject to withholding at source by express provision of the regulation, which states that dividends distributed within business groups duly registered with the Chamber of Commerce, to decentralized entities or Colombian Holding Companies, they will not be subject to withholding at source for this concept.

Transfer prices

In Colombia, income taxpayers who enter into operations with economic associates or related parties from abroad and located in free zones, or with residents located in countries considered non-cooperative jurisdictions with low or no taxation, are required to determine for income tax purposes, their ordinary and extraordinary revenue, their costs and deductions, assets and liabilities, considering for these operations the prices and profit margins that would have been used in comparable operations with or between those not economically related.

Ecopetrol Business Group submitted in 2024 the transfer pricing information for 2023 corresponding to the informative return, the supporting documentation, the country-by-country report, and the master file, in accordance with current tax regulations.

For the taxable year 2024, the transactions with economic related parties abroad, as well as the business conditions under which such operations were made and the general structure, did not vary significantly with respect to the previous year. For this reason, it is possible to infer that said transactions were recognized in accordance with the arm's length principle. It is estimated that no adjustments related to the transfer pricing analysis of the year 2024 will be required, which imply changes in the income provision of the same year.

Value Added Tax

The VAT already paid by the user of the free zone is excluded from the basis to settle the VAT on imports of goods from the free zone. Article 491 of the Tax Code expressly prohibits the possibility to consider the VAT paid on the acquisition of fixed assets as deductible tax. In addition, three VAT exemption days a year are established in Colombia for certain products, with limits depending on the units purchased.

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Additionally, the list of goods and services excluded from VAT enshrined in articles 424, 426, and 476 of the Tax Code was modified, and article 437 of the Tax Code was added, regarding guidelines on compliance with formal duties regarding to VAT on the part of service providers from abroad and it was indicated that VAT withholding may be up to 50% of the value of the tax, subject to regulation by the National Government. The VAT rate remains at 19%. (Art. 424, Art. 426, Art. 476 Tax Code).

Tax procedures

In terms of procedure, there are modifications: (i) withholding that, despite being ineffective, will be enforceable, (ii) electronic notification of administrative acts, (iii) payment of glosses in the statement of objections to avoid default interest, (iv) elimination of the extension of the finality to additional three years for offsetting of tax losses, and (v) the term of the finality will be 5 years, compared to the years in which there is an obligation to comply with the transfer pricing regime.

In addition, an audit benefit was included for taxable years 2020 and 2021. By virtue of this benefit, the private settlement of income taxpayers and complementary taxpayers who increase their net income tax by at least a percentage a minimum of 30%, related to the net income tax of the immediately preceding year, will become final within six months after the date of presentation if a notification to correct or special requirement has been notified, or provisional settlement and, considering that the declaration must be presented in a timely manner and the payment must be made within the established deadlines.

If the increase in the net income tax is at least 20% over the net income tax of the immediately preceding year, shall be considered for twelve (12) months, after the date the presentation if not notified of a deadline for correction or special requirement, or a special deadline or provisional settlement, provided that the return is filed timely, and the payment is made within the established deadlines.

The above benefit does not apply to: (i) taxpayers who enjoy tax benefits due to their location in a specific geographical area; (ii) when it is shown that declared withholdings are non-existent; (iii) when the net income tax is less than 71 UVT. The term set forth in this regulation does not extend to declarations of withholding or sales tax, which will be governed by the general regulations.

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Law 2155 of September 14, 2021 - Colombia

In general terms, this reform increased the general income tax rate to 35% as of January 1, 2022 and maintained the discount for the Industry and Commerce Tax at 50%. This Tax Reform introduced other changes in value added tax and tax procedure obligations. Before the passing of this Law, the rate from the year 2022 was 30% and the discount of the Industry and Commerce Tax was 100%.

Audit benefit: For the fiscal years 2022 and 2023, this Law reduces the time in which the tax authorities can audit an income tax return, from 5 years to between 6 to 12 months, depending on whether the net income tax increased to 35% or 25% with respect to that income tax return in the last fiscal year.

Works for Taxes Mechanism: The assumptions under which the “works for taxes” can be accessed are expanded, including those territories that, not being ZOMAC, are in some of these situations: (i) They have high rates of poverty, (ii) totally or partially lack infrastructure for the provision of residential public services, (iii) are in non-interconnected areas and (iv) are in Orange Development Areas (ADN acronyms in Spanish).

This mechanism will also be applicable to those projects declared of national importance that are strategic for the economic and/or social reactivation of the Nation, even if they are not located in the previous territories (subject to the approval of the Ministry of Finance and Public Credit in Colombia).

Tax reform Law 2277 of December 13, 2022

The most relevant aspects of this reform in the Business Group’s taxes.

Non-deductibility of royalties: The deductibility of oil royalties paid to the Colombian Government for the exploitation of non-renewable resources is restricted, regardless of the denomination of the payment.

On November 16, 2023, the Constitutional Court in Colombia issued ruling C-489 in which it determined that royalties are a deductible cost of income tax.

In December 2023, the Ministry of Mines and Energy and the Ministry of Finance and Public Credit requested the Constitutional Court to review the ruling issued, alleging a fiscal impact and its nullity. Given that the National Government has not filed the corresponding request, the Constitutional Court has not issued any consideration. If the Court decides to modulate the effects of the judgment issued in November 2023, the effects must be reflected in 2024.

Free zone rate: The rate of taxable income and complementary taxes applicable to offshore free zones; industrial users of special permanent free zones for port services, industrial users of special permanent free zones, whose main corporate purpose is the refining of petroleum-derived fuels or refining of industrial biofuels; industrial users of services that provide the logistics services of numeral 1 of article 3 of Law 1004 of 2005 and operator users, will be 20%.

Minimum tax rate: A minimum tax rate is established for income taxpayers, which will be calculated from the adjusted financial profit, which may not be less than 15% and will be the result of dividing the adjusted tax on the net profit.

A minimum tax rate of 15% is introduced for income taxpayers. This minimum rate is called the adjusted tax rate and cannot be less than 15%. This rate is determined by dividing the adjusted tax by the adjusted profit. In turn, the factors that make up the adjusted profit and the tax are established to delimit their determination. If the adjusted tax rate is less than 15%, there must be an adjusted to recognize the minimum 15%.

This minimum taxation does not apply in several cases, including foreign legal entities without residence in the country; Special Economic and Social Zones, during the period that their income tax rate is 0%; the ZOMAC; income from hotel services subject to a 15% rate; publishing companies with the exclusive corporate purpose of publishing books; industrial and mixed economy companies in the Government with a 9% rate; and concession contracts.

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Taxation of non-resident entities with significant economic presence in Colombia: Non-residents that sell goods and/or provide certain digital services (listed in the standard) to people located in Colombia, could have a significant economic presence in the country and would be subject to a withholding tax of 10%, or they could choose to file an income tax return and apply a 3% rate on gross income.

Significant economic presence would exist when the non-resident (also considering its related parties):

- Obtains gross income greater than 31,300 UVT for transactions with people located in Colombia.
- Has a systematic and deliberate interaction with the Colombian market. The above is presumed to happen if an interaction or marketing deployment is maintained with 300,000 or more users located in Colombia, or if there is the possibility of viewing prices in Colombian pesos (COP) or allowing payment in this currency.

Discount for investments made in research, technological development, or innovation: Investments in projects qualified by the National Council of Tax Benefits in Science and Technology in Innovation will have the right to discount 30% of the value invested in said income tax projects in the taxable period in which the investment was made. It is not possible to take the cost or deduction simultaneously with the discount.

Tax benefits and incentives limits: For income taxpayers, other than natural persons and illiquid successions, the value of income that does not constitute income for tax purposes or occasional gain, special deductions, exempt income, and tax discounts may not exceed the 3% per year of ordinary liquid income before deducting the special deductions contemplated in the regulations.

Industry and commerce tax deduction: The industry and commerce tax paid will be 100% deductible as of taxable year 2023, it can no longer be treated as a tax discount.

Dividend tax: Dividends and shares paid to national companies will be subject to the rate of ten percent (10%) as withholding tax on income, which will be transferable and attributable to the natural person (resident or resident investor abroad).

The income tax rate applicable to dividends and shares paid to permanent establishments in Colombia of foreign companies will be 20%.

Concurrent benefits: The prohibition of taking concurrent tax benefits is extended to exempt income, revenue that does not constitute income for tax purposes or occasional gain, and the reduction of the income tax rate.

11. Other assets

	2024	2023
Current		
Partners in joint operations	1,144,637	845,590
Prepaid expenses	1,595,206	789,029
Advanced payments to contractors and suppliers	422,533	553,356
Trust funds	593,942	547,439
Related parties (Note 31)	91	84
Other assets	41,268	33,531
	<u>3,797,677</u>	<u>2,769,029</u>
Non-current		
Abandonment and pension funds	691,656	648,980
Trust funds	346,232	245,790
Employee benefits	383,977	332,710
Advanced payments and deposits	46,840	55,178
Judicial deposits and attachments	42,574	47,264
Other assets	325,974	303,891
	<u>1,837,253</u>	<u>1,633,813</u>

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12. Business combination

CPO-09 Partnership Agreement

On December 29, 2024, Ecopetrol signed a binding sale and purchase agreement (SPA) with Repsol Colombia Oil & Gas Limited (“Repsol”) to acquire a 45% interest in Block CPO-09 for USD \$452 million, making it the owner of 100% of the participating interest in said block. As established in the agreement, December 31, 2024, was defined as the economic and control date of operations, on which Ecopetrol S.A. assumed the rights, responsibilities and obligations, including any income, costs and expenses of the asset. Therefore, this is the acquisition date for accounting recognition purposes.

Block CPO-09 is in Colombia, in the department of Meta, covering the municipalities of Villavicencio, Acacías, Guamal, Castilla La Nueva, San Martín, Lejanías, El Dorado, El Castillo and Granada. Within the block is the Acacías production area, a key asset in the operation of the Orinoquía region. It also has an ongoing exploratory activity, with key prospects such as Lorito, Lorito Este, Tinamú and Tejón, among others, which confirm its high potential. In addition, its infrastructure has the capacity to expand to support new discoveries and optimize its future development.

For accounting purposes, this transaction is configured as a step acquisition. The fair value of the assets acquired and liabilities assumed, including the previously held interest, was determined using the income approach applying the discounted cash flow methodology. The fair values of property, plant and equipment, natural resources and the environment have been determined, in compliance with the clauses of the agreement and the guidelines defined in IFRS 3 – Business Combinations.

Identifiable assets acquired and liabilities assumed

The amounts recognized for acquired and existing assets and assumed liabilities at the acquisition date are summarized below:

	Fair value
Assets	
Cash and cash equivalents	152,422
Inventories	10,354
Trade and other receivables	218,417
Property, plant, and equipment	3,505,760
Natural and environmental resources	2,241,810
Total Assets	6,128,763
Liabilities	
Trade and other payables	388,007
Retirement obligation	178,555
Total Liabilities	566,562
Fair value of identifiable net assets	5,562,201

The fair value of property, plant, and equipment reflects the value of the proven reserves of the acquired interest, while the fair value of the natural and environmental resources includes the risk-adjusted value of the asset’s probable and possible reserves and the residual value of the exploratory assets.

The trade and other receivables correspond to the contractual amounts of the cash call agreed between both companies in favor of Ecopetrol, intended to offset outstanding obligations at the closing of the partnership agreement. Trade and other payables, cash and cash equivalents, and inventories reflect the acquired economic right over 45% of the working capital of the partnership agreement, in which Ecopetrol is the operator and manages these resources.

The retirement obligation has been valued at fair value, reflecting the obligations to dismantle the acquired interest. Its valuation incorporates a discount, considering its long-term execution.

The deferred tax liability mainly comprises temporary differences arising between the tax bases of property, plant, and equipment, natural and environmental resources, and intangible assets measured at fair value.

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The effect on operating results as of December 31, 2024, is as follows:

	As of December, 2024
Fair value of net assets acquired and existing	5,562,201
Book value of net assets	(1,873,644)
Consideration for the acquisition of assets (1)	(1,989,695)
(=) Net income from business combination	1,698,862
Recognized in:	
Profit before tax on business combinations (Note 28)	1,698,862
(-) Deferred tax expense	(723,693)
(=) Net profit from acquisition after deferred tax	975,169

(1) As of December 31, 2024, \$880,396 has been paid and the remaining \$1,109,299 will be paid in 2025.

The gain of \$975,169, recognized under IFRS 3, reflects the difference between the fair value of the asset and the acquisition price of the 45% stake from Repsol for \$309,233 and the revaluation at market prices of the pre-existing 55% of Ecopetrol S.A. for \$665,936.

The positive financial impact of the transaction is the result of i) the exercise of the right of preference by Ecopetrol, within the framework of the Joint Operating Agreement (JOA), which allowed it to access the negotiation with more updated and precise information and ii) the improved performance of reserves in the Akacías field was reflected in the update of the valuation cash flows.

As part of the acquisition process of the 45% in CPO-09, transaction costs of around \$265 were incurred, which were recognized as expenses in the period in which the acquisition took place. The main transaction costs are associated with legal and financial advice.

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13. Investments in associates and joint ventures

13.1 Composition and movements

	2024	2023
Joint ventures		
Interligação Elétrica do Madeira S.A.	1,698,178	1,705,188
Transmissora Aliança de Energia Elétrica S.A.	1,513,758	1,513,497
Equion Energía Limited	1,178,279	1,037,418
Interligação Elétrica Paraguaçu S.A.	514,509	526,294
Interligação Elétrica Ivaí S.A.	488,211	456,076
Interligação Elétrica Garanhuns S.A.	478,839	500,889
Interligação Elétrica Aimorés S.A.	323,434	335,995
Conexión Kimal Lo Aguirre S.A.	163,339	119,069
Ecodiesel Colombia S.A.	69,054	85,030
Consorcio Eléctrico Yapay S.A.	23,505	—
PA Energía para la paz	8,657	—
Transnexa S.A. E.M.A.	8,545	8,545
Interconexión Eléctrica Colombia Panamá S.A.	4,995	2,544
Derivex S.A.	1,243	1,123
Parques de Rio	59	71
Interconexión Eléctrica Colombia Panamá S.A.S E.S.P.	4	4
	6,474,609	6,291,743
Less impairment:		
Equion Energía Limited	(392,809)	(408,183)
Transnexa S.A. E.M.A.	(8,545)	(8,545)
	6,073,255	5,875,015
Associates		
Gases del Caribe S.A. E.S.P.	1,529,219	1,527,699
ATP Tower Holdings	755,632	720,332
Gas Natural del Oriente S.A. E.S.P.	154,746	156,353
Gases de la Guajira S.A. E.S.P.	71,073	69,996
Extrucol S.A.	32,137	30,147
E2 Energía Eficiente S.A. E.S.P.	31,783	34,432
Serviport S.A.	9,399	9,399
Sociedad Portuaria Olefinas y Derivados S.A.	4,028	4,658
	2,588,017	2,553,016
Less impairment: Serviport S.A.	(9,399)	(9,399)
	2,578,618	2,543,617
	8,651,873	8,418,632

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The following is the movement of investments in associates and joint ventures:

For the year ended December 31, 2024:

	Associates	Joint ventures	Total
Opening balance	2,543,617	5,875,015	8,418,632
Capital contributions	—	20,430	20,430
Effects of equity method through:			
Profit or loss	135,144	629,222	764,366
Other comprehensive income	78,450	(117,716)	(39,266)
Dividends declared (1)	(178,593)	(349,070)	(527,663)
Impairment recovery (Note 18)	—	15,374	15,374
Closing balance	2,578,618	6,073,255	8,651,873

- (1) During 2024, dividends of \$425,191 (2023:482,124) were received from: i) the joint ventures of Interconexión Eléctrica S.A.: Transmissora Aliança de Energia Elétrica, Interligação Elétrica Paraguaçu Interligação Elétrica Aimorés, Interligação Elétrica do Madeira S.A., and Interligação Elétrica Ivaí S.A. and ii) of the associates of Invercolsa: Gases del Caribe, Gas Natural del Oriente, Gases de la Guajira, and Extrucol.

For the year ended December 31, 2023:

	Associates	Joint ventures	Total
Opening balance	2,692,999	6,803,601	9,496,600
Capital contributions	—	853	853
Effects of equity method through:			
Profit or loss	197,732	607,617	805,349
Other comprehensive income	(168,566)	(1,181,002)	(1,349,568)
Dividends declared (1)	(178,548)	(348,067)	(526,615)
Impairment (Note 18)	—	(7,987)	(7,987)
Closing balance	2,543,617	5,875,015	8,418,632

- (1) During 2023, Ecopetrol Business Group received dividends of \$482,124 (2022: \$1,471,134) from its investments Transmissora Aliança de Energia Elétrica, Interligação Elétrica Paraguaçu, Interligação Elétrica Aimorés, Gases del Caribe, Gas Natural del Oriente, Gases de la Guajira and Extrucol.

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For the year ended December 31, 2022:

	Associates	Joint ventures	Total
Opening balance	2,608,156	5,749,030	8,357,186
Capital contributions	—	329,377	329,377
Effects of equity method through:			
Profit or loss	126,329	642,093	768,422
Other comprehensive income	149,165	1,450,948	1,600,113
Dividends declared (1)	(190,651)	(1,365,755)	(1,556,406)
Impairment (Note 18)	—	(2,092)	(2,092)
Closing balance	2,692,999	6,803,601	9,496,600

(1) During 2022, Ecopetrol Business Group received dividends of \$1,471,134 (2021: \$206,048) from its investments Transmissora Aliança de Energia Elétrica S.A., Interligação Elétrica do Madeira S.A., Gas Natural del Oriente S.A. E.S.P, Gases del Caribe S.A. E.S.P., Extrucol S.A., Gases de la Guajira S.A. E.S.P. and E2 Energía Eficiente S.A. E.S.P.

13.2 Additional information about associates and joint ventures

The following is the detail of assets, liabilities, and results of the main investments in associates and joint ventures, as of December 31, 2024, and 2023:

	2024			2023		
	Interligação Elétrica do Madeira	Transmissora Aliança de Energia Elétrica	Equion Energia Limited	Interligação Elétrica do Madeira	Transmissora Aliança de Energia Elétrica	Equion Energia Limited
Statement of financial position						
Current assets	650,066	1,648,936	104,545	675,192	2,167,294	1,395,515
Non-current assets	4,729,026	11,582,196	1,563,339	5,064,524	11,709,871	5,661
Total assets	5,379,092	13,231,132	1,667,884	5,739,716	13,877,165	1,401,176
Current liabilities	416,641	1,412,355	41,600	290,292	1,276,744	29,726
Non-current liabilities	1,843,439	6,875,987	29,121	2,288,606	7,327,321	42,056
Total liabilities	2,260,080	8,288,342	70,721	2,578,898	8,604,065	71,782
Equity	3,119,012	4,942,790	1,597,163	3,160,818	5,273,100	1,329,394
Other complementary information						
Cash and cash equivalents	121,823	3,858	25,394	193,009	624	34,378

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	2024			2023		
	Interligação Elétrica do Madeira	Transmissora Aliança de Energia Elétrica	Equion Energia Limited	Interligação Elétrica do Madeira	Transmissora Aliança de Energia Elétrica	Equion Energia Limited
Statement of profit or loss						
Sales revenue	572,619	1,757,883	125	613,807	1,165,129	11
Costs	(27,966)	(260,523)	(22,189)	(33,798)	(191,359)	(23,815)
Other operating expenses, net	—	(168,309)	(722)	—	(133,717)	(2,579)
Financial (expenses) income	(91,419)	81,962	95,397	(125,247)	327,744	82,424
Income tax	(92,027)	(70,168)	(22,673)	(97,899)	(46,465)	(17,323)
Financial year results	361,207	1,340,845	49,938	356,863	1,121,332	38,718
Other comprehensive results	—	10,073	1,014,048	—	(46,177)	796,213
Other complementary information						
Depreciation and amortization	728	42,834	—	804	30,875	21

This is a reconciliation of equity of the significant investments and the carrying amount of investments as of December 31:

	2024			2023		
	Interligação Elétrica do Madeira	Transmissora Aliança de Energia Elétrica	Equion Energia Limited	Interligação Elétrica do Madeira	Transmissora Aliança de Energia Elétrica	Equion Energia Limited
Equity of the joint venture	3,119,012	4,942,790	1,597,163	3,160,818	5,273,100	1,329,394
% of Ecopetrol's ownership	51.00 %	14.88 %	51.00 %	51 %	14.88 %	51 %
Ecopetrol's ownership	1,590,696	735,487	814,553	1,612,017	784,637	677,991
Additional value of the investment	—	142,820	375,694	—	177,988	375,694
Impairment	—	—	(392,809)	—	—	(408,183)
Unrealized gain	—	—	(11,968)	—	—	(16,267)
Carrying amount of the investment	1,590,696	878,307	785,470	1,612,017	962,625	629,235

The information on assets, liabilities, and profit of the other associated companies and joint ventures is found in exhibit 1.

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14. Property, plant, and equipment

	Plant and equipment	Pipelines, networks, and lines	Work in progress	Buildings	Lands	Other	Total
Cost							
Balance as of December 31, 2023	54,897,509	58,584,853	15,519,986	16,668,026	4,832,650	3,337,999	153,841,023
Additions/capitalizations (1)	2,998,597	2,427,231	3,120,613	892,401	12,043	70,156	9,521,041
CPO-09 asset acquisition	715,573	—	275,432	248,467	—	—	1,239,472
Abandonment cost update (Note 23)	(10,565)	1,858	—	—	—	—	(8,707)
Capitalized financial interests (2)	253,457	96,580	36,695	41,015	596	106	428,449
Exchange differences capitalized	1,215	463	348	197	3	1	2,227
Disposals	(917,845)	(276,179)	(12,522)	(70,846)	(2,043)	(104,877)	(1,384,312)
Fair value adjustment in business combination	1,011,253	—	74,575	349,709	—	—	1,435,537
Field reversal	4,726	5,617	—	4,668	—	47	15,058
Foreign currency translation	4,509,197	2,639,095	184,020	1,099,990	291,441	142,843	8,866,586
Reclassifications/transfers (3)	(279,096)	21,569	(895,632)	296,130	1,387	(156,585)	(1,012,227)
Balance as of December 31, 2024	63,184,021	63,501,087	18,303,515	19,529,757	5,136,077	3,289,690	172,944,147
Accumulated depreciation and impairment losses							
Balance as of December 31, 2023	(24,981,482)	(23,488,683)	(1,687,758)	(7,146,337)	(168,099)	(1,197,362)	(58,669,721)
Depreciation expense	(2,820,925)	(2,353,808)	—	(734,220)	—	(158,593)	(6,067,546)
Recovery (loss) impairment (Note 18)	807,549	299,451	(138,139)	275,235	14,547	3,016	1,261,659
Disposals	833,625	224,039	—	51,365	3,305	84,432	1,196,766
Foreign currency translation	(1,722,232)	(1,045,849)	(65)	(411,176)	(14,821)	(82,700)	(3,276,843)
Reclassifications/transfers	(290,955)	315,671	166,666	(173,685)	(2,219)	50,618	66,096
Balance as of December 31, 2024	(28,174,420)	(26,049,179)	(1,659,296)	(8,138,818)	(167,287)	(1,300,589)	(65,489,589)
Balance as of December 31, 2023	29,916,027	35,096,170	13,832,228	9,521,689	4,664,551	2,140,637	95,171,302
Balance as of December 31, 2024	35,009,601	37,451,908	16,644,219	11,390,939	4,968,790	1,989,101	107,454,558

(1) Mainly includes: i) Ecopetrol S.A. projects in progress associated with the Akacías, Caño Sur, Rubiales, Castilla, Chichimene, Cupiagua fields and the Barrancabermeja Refinery ii) Interconexión eléctricas S.A. E.S.P projects in progress: UPME 09-2016 Copey–Cuestecitas, 500 kV and Copey–Fundación, 220 kV, UPME 04-2019 La Loma - Sogamoso 500 kV Transmission Line, Connection of the Alpha and Beta wind farms to the Nueva Cuestecitas substation, Copey - Cuestecitas 500kV Second Circuit Project, Connection of the Windpeshi wind farm to the Cuestecitas 200kV substation and asset optimization plan.

(2) Financial interest is capitalized based on the weighted average rate of borrowing costs.

(3) Corresponds mainly to i) recognition of McDermott's shares in Refinería de Cartagena S.A.S. (see Note 23.4) and ii) additions and transfers in transmission lines of Interconexión eléctricas S.A. E.S.P due to the entry into operation of the projects.

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	Plant and equipment	Pipelines, networks, and lines	Work in progress	Buildings	Lands	Other	Total
Cost							
Balance as of December 31, 2022	62,807,662	60,287,768	13,462,321	15,354,065	5,199,069	3,225,278	160,336,163
Additions/capitalizations (1)	2,592,249	2,257,397	3,510,753	552,852	15,489	421,145	9,349,885
Abandonment cost update (Note 23)	55,694	221,944	—	(7,505)	—	(29)	270,104
Capitalized financial interests (2)	101,125	80,720	92,816	12,930	137	9,902	297,630
Exchange differences capitalized	457	365	659	58	1	45	1,585
Disposals	(653,972)	(266,862)	(15,128)	(13,398)	(498)	(70,430)	(1,020,288)
Foreign currency translation	(7,966,666)	(4,448,755)	(226,974)	(1,844,094)	(479,724)	(277,409)	(15,243,622)
Reclassifications/transfers	(2,039,040)	452,276	(1,304,461)	2,613,118	98,176	29,497	(150,434)
Balance as of December 31, 2023	54,897,509	58,584,853	15,519,986	16,668,026	4,832,650	3,337,999	153,841,023
Accumulated depreciation and impairment losses							
Balance as of December 31, 2022	(27,513,889)	(22,870,508)	(1,418,040)	(6,230,154)	(53,514)	(1,252,560)	(59,338,665)
Depreciation expense	(2,916,507)	(2,319,289)	—	(626,962)	—	(153,357)	(6,016,115)
Recovery (loss) impairment (Note 18)	765,513	(212,245)	(360,367)	136,123	(132,149)	8,905	205,780
Disposals	625,848	228,151	—	12,898	155	53,098	920,150
Foreign currency translation	3,039,353	1,722,919	5,207	678,512	17,409	158,678	5,622,078
Reclassifications/transfers	1,018,200	(37,711)	85,442	(1,116,754)	—	(12,126)	(62,949)
Balance as of December 31, 2023	(24,981,482)	(23,488,683)	(1,687,758)	(7,146,337)	(168,099)	(1,197,362)	(58,669,721)
Balance as of December 31, 2022	35,293,773	37,417,260	12,044,281	9,123,911	5,145,555	1,972,718	100,997,498
Balance as of December 31, 2023	29,916,027	35,096,170	13,832,228	9,521,689	4,664,551	2,140,637	95,171,302

(1) Mainly includes: i) Ecopetrol S.A. ongoing projects associated with the Caño Sur, Castilla, Chichimene, Cusiana and Rubiales fields and Barrancabermeja Refinery, ii) Interconexión Eléctrica S.A. E.S.P projects in progress: UPME 09-2016 Copey–Cuestecitas, 500 kV, Copey–Fundación, 220 kV, UPME 04-2019 Transmission line La Loma - Sogamoso 500 kV, Connection of the Alpha and Beta wind farms to the Nueva Cuestecitas substation, Copey Second Circuit Project - Cuestecitas 500kV and asset optimization plan.

(2) Financial interest is capitalized based on the weighted average rate of borrowing costs.

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15. Natural and environmental resources

	Oil investments	Asset retirement cost	Exploration and evaluation	Total
Cost				
Balance as of December 31, 2023	94,175,842	10,146,543	9,718,731	114,041,116
Additions/capitalizations (1)	9,101,220	23,475	1,416,141	10,540,836
CPO-09 asset acquisition	424,451	—	325,772	750,223
Abandonment cost update (Note 23)	—	(2,084,907)	(3,313)	(2,088,220)
Disposals	(117,146)	—	—	(117,146)
Write off exploratory assets and dry wells (2)	—	—	(1,108,134)	(1,108,134)
Capitalized financial interests (3)	344,925	—	36,186	381,111
Exchange differences capitalized	1,653	—	173	1,826
Fair value adjustment in business combination	207,570	—	88,205	295,775
Field reversal	15,764	2,295	—	18,059
Foreign currency translation	4,507,413	156,821	54,759	4,718,993
Transfers/reclassifications	193,836	4,469	(476,634)	(278,329)
Balance as of December 31, 2024	108,855,528	8,248,696	10,051,886	127,156,110
Accumulated depletion and impairment losses				
Balance as of December 31, 2023	(63,009,839)	(5,478,111)	(337,033)	(68,824,983)
Depletion expense	(7,083,306)	(874,349)	—	(7,957,655)
Loss of impairment (Note 18)	(254,073)	—	(78,895)	(332,968)
Disposals	91,270	—	—	91,270
Foreign currency translation	(2,431,237)	(79,882)	—	(2,511,119)
Transfers/reclassifications	(242,912)	(11,879)	299,930	45,139
Balance as of December 31, 2024	(72,930,097)	(6,444,221)	(115,998)	(79,490,316)
Net balance as of December 31, 2023	31,166,003	4,668,432	9,381,698	45,216,133
Net balance as of December 31, 2024	35,925,431	1,804,475	9,935,888	47,665,794

- (1) Includes mainly: a) Ecopetrol Permian for investments made in the drilling of wells and construction of facilities executed in Midland/Delaware, b) Ecopetrol S.A. mainly Caño Sur, Rubiales, Floreña and Castilla fields and c) Hocol S.A. mainly for the execution of the Llanos, Guarrojo, Perdices, Cor 9, VIM8, SN-18, Upar, Malacate, Guajira, Ocelote, Rancho Hermoso, and SSJN1 projects.
- (2) Includes: a) Ecopetrol S.A. mainly the Orca1, Arantes1, Machin1, and Morito1 wells b) Hocol S.A. mainly the Milonga, Yoda A, Arbolito Norte, Sabanales, Toritos, and Saltador wells and exploration and seismic expenses mainly in Llanos, VIM8, Perdices, Cor-9, SN-18, SSJN1, Upar, YD SN-1, SN-15, RC-7, c) Ecopetrol Brasil Pau Brasil well.
- (3) Financial interest is capitalized based on the weighted average rate of borrowing costs.

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	Oil investments	Asset retirement cost	Exploration and evaluation	Total
Cost				
Balance as of December 31, 2022	88,338,471	7,104,903	10,480,025	105,923,399
Additions/capitalizations (1)	11,899,832	3,197	2,061,406	13,964,435
Abandonment cost update (Note 23)	—	3,262,348	(67,112)	3,195,236
Disposals	(503,017)	—	—	(503,017)
Write off exploratory assets and dry wells (2)	—	—	(1,472,397)	(1,472,397)
Capitalized financial interests (3)	256,382	—	89,952	346,334
Exchange differences capitalized	1,158	—	404	1,562
Foreign currency translation	(6,179,993)	(220,433)	(875,454)	(7,275,880)
Transfers/reclassifications	363,009	(3,472)	(498,093)	(138,556)
Balance as of December 31, 2023	94,175,842	10,146,543	9,718,731	114,041,116
Accumulated depletion and impairment losses				
Balance as of December 31, 2022	(58,382,473)	(5,088,086)	(129,230)	(63,599,789)
Depletion expense	(6,098,607)	(507,651)	—	(6,606,258)
Loss of impairment (Note 18)	(1,898,824)	—	(254,708)	(2,153,532)
Disposals	79,824	—	—	79,824
Foreign currency translation	3,249,017	117,626	—	3,366,643
Transfers/reclassifications	41,224	—	46,905	88,129
Balance as of December 31, 2023	(63,009,839)	(5,478,111)	(337,033)	(68,824,983)
Net balance as of December 31, 2022	29,955,998	2,016,817	10,350,795	42,323,610
Net balance as of December 31, 2023	31,166,003	4,668,432	9,381,698	45,216,133

- (1) Mainly includes a) Ecopetrol Permian for investments made in the drilling of wells and construction of facilities in RODEO, b) Ecopetrol S.A. mainly Caño Sur, Castilla, Chichimene, Floreña, and Rubiales fields, c) Hocol S.A. mainly to the execution of projects in Ocelote, Llanos 87 (Koala, Picabuey, Zorzal), Llanos 123 (Saltador and Toritos), SSNN, VIM 8, SN-18, and d) Ecopetrol America mainly on Gunflint, Dalmatian, and K2.
- (2) Mainly includes: a) Ecopetrol S.A. mainly Cupiagua XD45, Cusiana Subthrust, Cusiana Profundo, Turupe, La Luna, Kale and Kinacú, b) Hocol S.A. mainly in Sabanales wells, the failure of wells LLa-87.2 A3, (Koala), LLan-87-3-a3 (Picabuey), LLan- 124 (Cucarachero), Merecumbé, Bullerengue, Yd-SN1 pozo Yoda B, and exploratory expenses in LLan-104- SSJN1, VIM8.
- (3) Financial interest is capitalized based on the weighted average rate of borrowing costs.

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Accounting for suspended exploratory wells

The following table shows the classification by age, from the completion date, of the exploratory wells that are suspended as of December 31, 2024, 2023 and 2022:

	2024	2023	2022
Between 1 and 3 years (a)	75,708	—	48,206
More than 5 years (b)	—	—	650,767
Total suspended exploratory Wells	75,708	—	698,973
Number of projects exceeding 1 year	11	—	8
Projects under 1 year of suspended (c)	21,025	230,376	990

- a) For 2024, the suspended exploratory wells mainly correspond to Ecopetrol: Gibraltar, Hocol: Pollera Norte 1, which were under evaluation. For 2022, the balance mainly corresponds to Hocol: Bullerengue South West-1 and Merecumbe 1, which were under evaluation.
- b) For 2022, it mainly corresponds to i) Ecopetrol S.A.: Orca 1, Purple Angel, and Gordon.
- c) For 2024, it mainly corresponds to Ecopetrol: Atalayas, Hocol: Toritos Sur 2. For 2023, it corresponds mainly to 1) Ecopetrol: Kale and Gibraltar, 2) Hocol: SSJN1 BO5, Pollera Norte A3 and YDSN-1 Yoda A. For 2022, the balance corresponds to Ecopetrol: Magallanes. For 2022, the balance corresponds to Hocol: Merecumbe 1 -SSJN1.

16. Right-of-use assets

The following is the movement of right-of-use assets for the years ended December 31, 2024 and 2023:

	Pipelines	Lands and buildings	Plant and equipment	Vehicles	Right-of-use assets	Lease liabilities
Balance as of December 31, 2023	11,925	244,789	435,984	148,938	841,636	1,382,636
Additions	29,882	52,022	96,645	235,366	413,915	413,915
Amortization of the period	(20,518)	(51,388)	(140,588)	(106,641)	(319,135)	—
Remeasurements (1)	811	2,734	89,064	(5,870)	86,739	86,739
Impairment loss (Note 18)	—	(6,450)	(20,462)	(41)	(26,953)	—
Disposals	(10,240)	(1,742)	(3,467)	(591)	(16,040)	(26,828)
Effect of loss of control in subsidiaries	—	—	(2,881)	—	(2,881)	—
Finance cost	—	—	—	—	—	132,601
Repayment of borrowings (capital)	—	—	—	—	—	(452,111)
Payment of interests	—	—	—	—	—	(110,390)
Transfers	—	(389)	527	(252)	(114)	10,946
Exchange difference	2,528	(11,931)	4,708	7,939	3,244	68,964
Balance as of December 31, 2024	14,388	227,645	459,530	278,848	980,411	1,506,472

- (1) Corresponds mainly to updating rates and conditions in lease contracts.

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	Pipelines	Lands and buildings	Plant and equipment	Vehicles	Right-of-use assets	Lease liabilities
Balance as of December 31, 2022	96,234	244,058	119,534	167,987	627,813	1,212,346
Additions	(31,998)	117,708	402,914	136,814	625,438	625,438
Amortization of the period	(25,234)	(58,019)	(84,161)	(130,407)	(297,821)	—
Remeasurements (1)	(7,031)	3,578	26,259	13,059	35,865	109,926
Impairment loss (Note 18)	—	(2,672)	(6,632)	(16,759)	(26,063)	—
Disposals	(11,958)	(10,899)	(10,369)	(2,861)	(36,087)	(64,232)
Finance cost	—	—	—	—	—	105,710
Repayment of borrowings (capital)	—	—	—	—	—	(458,404)
Payment of interests	—	—	—	—	—	(75,236)
Transfers	—	—	—	(20)	(20)	(13,842)
Exchange difference	(8,088)	(48,965)	(11,561)	(18,875)	(87,489)	(59,070)
Balance as of December 31, 2023	11,925	244,789	435,984	148,938	841,636	1,382,636

(1) Corresponds mainly to updating rates and conditions in lease contracts.

17. Intangible assets

The following is the movement of intangibles and their amortization and impairment for the years ended December 31, 2024, and 2023:

	Licenseses and software	Other intangibles	Concessions and rights	Easements (1)	Total
Cost					
Balance as of December 31, 2023	1,659,452	969,856	13,659,149	1,556,960	17,845,417
Acquisitions	529,722	—	322,263	13,723	865,708
Disposals	(152,677)	—	(14,781)	(2,941)	(170,399)
Foreign currency translation	38,644	(96,488)	2,054,908	68,581	2,065,645
Transfers/reclassifications	50,370	336,282	3,796	25,858	416,306
Balance as of December 31, 2024	2,125,511	1,209,650	16,025,335	1,662,181	21,022,677
Accumulated amortization and impairment losses					
Balance as of December 31, 2023	(961,414)	(255,928)	(1,780,989)	(132,277)	(3,130,608)
Amortization	(263,172)	(14,870)	(568,260)	(6,645)	(852,947)
Impairment (loss) recovery	(2,583)	(297)	(42,862)	218	(45,524)
Disposals	69,888	(52)	6,782	600	77,218
Foreign currency translation	(25,229)	90,779	(712,998)	(3,320)	(650,768)
Transfers/reclassifications	(2,118)	2,118	—	(6,763)	(6,763)
Balance as of December 31, 2024	(1,184,628)	(178,250)	(3,098,327)	(148,187)	(4,609,392)
Net balance as of December 31, 2023	698,038	713,928	11,878,160	1,424,683	14,714,809
Net balance as of December 31, 2024	940,883	1,031,400	12,927,008	1,513,994	16,413,285

(1) Easements are acquired rights for the passage of its operating assets, mainly electric power transmission lines. These assets are acquired in perpetuity, so they do not have a specific term or contractual limit established and the right is maintained over time.

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	Licensees and software	Other intangibles	Concessions and rights	Easements (1)	Total
Cost					
Balance as of December 31, 2022	1,512,614	1,282,752	17,568,081	1,637,444	22,000,891
Acquisitions	235,031	8,270	515,975	17,320	776,596
Disposals	(23,443)	(62)	—	(755)	(24,260)
Foreign currency translation	(95,373)	(312,512)	(4,295,705)	(113,875)	(4,817,465)
Transfers/reclassifications	30,623	(8,592)	(129,202)	16,826	(90,345)
Balance as of December 31, 2023	1,659,452	969,856	13,659,149	1,556,960	17,845,417
Accumulated amortization and impairment losses					
Balance as of December 31, 2022	(884,160)	(446,671)	(2,394,057)	(129,398)	(3,854,286)
Amortization	(165,635)	(25,625)	(693,587)	(7,346)	(892,193)
Losses for impairment	(4,418)	(89)	(13,215)	(197)	(17,919)
Disposals	22,687	62	—	—	22,749
Foreign currency translation	69,810	216,395	1,319,870	5,153	1,611,228
Transfers/reclassifications	302	—	—	(489)	(187)
Balance as of December 31, 2023	(961,414)	(255,928)	(1,780,989)	(132,277)	(3,130,608)
Net balance as of December 31, 2022	628,454	836,081	15,174,024	1,508,046	18,146,605
Net balance as of December 31, 2023	698,038	713,928	11,878,160	1,424,683	14,714,809

(1) Easements are acquired rights for the passage of its operating assets, mainly electric power transmission lines. These assets are acquired in perpetuity, so they do not have a specific term or contractual limit established and the right is maintained over time.

18. Impairment of non-current assets

As mentioned in Note 4.13, each year the Ecopetrol Business Group assesses whether there is an indication that an asset or cash-generating unit may be impaired or if impairment losses recognized in previous periods should be reversed.

The impairment of non-current assets includes property, plant, and equipment, natural resources, investments in companies, goodwill, and other non-current assets. Ecopetrol Business Group is exposed to future risks derived mainly from variations in (a) the estimate of future oil prices, (b) the refining margins and profitability, (c) the cost profile, (d) the investments and maintenance expenses, (e) the amounts of recoverable reserves, and (f) the market and country risk assessments reflected in the discount rate, (g) changes in national and foreign regulations, among others.

Any changes in the above estimates used to calculate the recoverable amount of a non-current assets can have a material impact on the recognition impairment losses or reversals in profit or loss statement. Highly sensitive significant estimates affecting each business segments, among others include (a) in the exploration and production segment, variations of hydrocarbon prices, (b) in the refining segment, changes in finished products and crude oil prices, the discount rate, refining margins, (c) in the transport and logistics segment, transported volumes and exchange rate, and (d) in electric power transmission and toll roads concessions, internal and external factors that affect the recoverable value of the assets versus the book value of the assets, such as currency devaluation, network capacity, modest economic growth, among others.

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Based on the impairment tests conducted by the Ecopetrol Business Group, the following are the impairments or reversals for the years ended on December 31, 2024, 2023 and 2022:

Impairment (loss) reversal by segment	2024	2023	2022
Exploration and Production	(480,180)	(2,741,092)	(890,248)
Refining and Petrochemicals	1,265,753	1,482,444	1,096,021
Transport and Logistics	127,206	(630,134)	(406,229)
Electric power transmission and toll roads concessions	(45,351)	(209,551)	(87,543)
	867,428	(2,098,333)	(287,999)
Recognized in:			
Property, plant, and equipment (Note 14)	1,261,659	205,780	399,218
Natural resources (Note 15)	(332,968)	(2,153,532)	(623,074)
Investment in joint ventures and associates (Note 13)	15,374	(7,987)	(2,092)
Right of use assets (Note 16)	(26,953)	(26,063)	(10,785)
Other non-current assets	(49,684)	(116,531)	(51,266)
	867,428	(2,098,333)	(287,999)

18.1 Exploration and production

The impairment (loss) reversal of assets of the Exploration and Production segment for the years ended December 31 of 2024, 2023 and 2022 is the following:

	2024	2023	2022
Oilfields	(495,554)	(2,733,105)	(888,156)
Investment in joint ventures	15,374	(7,987)	(2,092)
	(480,180)	(2,741,092)	(890,248)

18.1.1 Oilfields

In 2024, a net impairment expense of \$495,554 was recognized; generated in: i) in the K2 and Gunflint fields of Ecopetrol America, ii) Ecopetrol S.A. due to the offsetting effect between an impairment mainly in the Llanito, Orito, and Sur cash-generating units; and a recovery mainly in assets such as Suria, Dina Cretaceo, Jazmin, and San Francisco; and iii) in Hocol S.A. due to the offsetting effect between the impairment of the Espinal cash-generating unit and the recovery in La Hocha, Chenche, Toldado, Cicuco, and Upía. The lower impairment compared to the previous year is mainly due to the successful in the implementation of plans to mitigate the impairment loss for lower future hydrocarbon prices in the short and medium term. The plans considered the following aspects: acceleration in the addition of incremental volumes through profitable projects and decision-making, efficiencies, the decrease of fixed costs, optimization of technical abandonment costs, net book value management, among others.

In 2023, an impairment loss was recognized, considering CAPEX variables, OPEX effects and prices mainly in the cash-generating units (CGU) Casabe, Llanito, Suria, and Tibú; and a recovery mainly in the Piedemonte unit, which was the subject of unification of Floreña, Cupiagua and Cusiana assets during 2023, considering that these fields share facilities with each other, possess synergies, and jointly manage the surface fluids across the three large infrastructures. Likewise, impairment losses were recognized in Hocol S.A. in the Cicuco, Toldado, La Hocha, Espinal, and Chenche CGUs and a recovery in Upía CGU. In the CGUs abroad, an impairment loss was recognized in K2 CGU of Ecopetrol America.

In 2022, an impairment loss was recognized, mainly the Cusiana, Llanito, Sur, Cicuco-Boquete, and Upia fields (mainly associated with a decrease in reserve volumes) and a recovery in Tibú, Oripaya, and Arrayán (mainly associated with the better projection of market prices and higher volumes of reserves).

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The following is the breakdown of oilfields impairment losses or reversals for the years ended December 31, 2024, 2023 and 2022:

2024

Cash generating units	Carrying amount	Recoverable amount	Impairment reversal (loss)
Oil fields in Colombia			
Reversal	3,108,746	6,131,355	879,849
Loss	3,738,997	2,363,594	(1,375,403)
			(495,554)

2023

Cash generating units	Carrying amount	Recoverable amount	Impairment reversal (loss)
Oil fields in Colombia			
Reversal	9,815,365	18,112,635	363,911
Loss	10,048,388	6,951,372	(3,097,016)
			(2,733,105)

2022

Cash generating units	Carrying amount	Recoverable amount	Impairment reversal (loss)
Oil fields in Colombia			
Reversal	3,540,732	5,563,724	250,306
Loss	4,870,976	3,732,514	(1,138,462)
			(888,156)

The assumptions used to determine the recoverable amount include the following:

- The fair value less costs of disposal of the Exploration and Production segment assets was determined based on cash flows after tax derived from the business plans approved by Ecopetrol Business Group's Management, which are developed based on long-term macroeconomic policies and fundamental assumptions of supply and demand. The fair value hierarchy is 3.
- Balance of oil and gas reserves, in addition to proven reserves, probable and possible reserves were also considered (See Note 34), adjusted by different risk factors.
- The discount rate in real terms was determined as the weighted average cost of capital (WACC) and corresponds to a differential rate depending on the projected tax surcharge for each year, as follows: 5.98% (2023: 7.15%) with tax surcharge of 0%, 5.75% (2023: 6.9%) with a tax surcharge of 5%, 5.52% (2023: 6.65%) with a tax surcharge of 10% and 5.28% (2023: 6.40%) with a tax surcharge of 15%. For fields located in the United States, the discount rates used were: 7.93% (Rate with tax) and 8.54% (Rate without tax).
- Oil price – Brent: Projections for Ecopetrol S.A. and Hocol S.A. include USD\$69.81/barrel for the first year, USD\$71.14/barrel average for the medium term, and USD\$73.23/barrel as of 2035. In 2023, the assumptions made took a price of USD\$83.35/barrel for the first year, USD\$78.05/barrel average for the medium term, and USD\$77.81/barrel as of 2034. For Ecopetrol América Inc. the prices used were USD\$66.60/barrel average for the short term and USD\$67.18/barrel average for the long term.

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- The projection of international crude oil prices is carried out by an independent agency specialized in Oil & Gas, which has been considering the current scenarios of the OPEC (Organization of Petroleum Exporting Countries) oil quota agreements and the balance between supply and demand in the short and long term for the industry.

18.1.2 Investments in joint ventures

Investments in joint ventures in the Exploration and Production segment are recorded using the equity method of accounting. Ecopetrol Business group evaluates if there is any objective evidence that indicate that the fair value of such investments has impaired in the period, especially those for which goodwill has been recorded.

As a result, Ecopetrol Business Group recognized a recovery (loss) of impairment on the carrying value as of December 31, as follows:

	2024	2023	2022
Equion Energía Limited	15,374	(7,987)	(2,092)
	<u>15,374</u>	<u>(7,987)</u>	<u>(2,092)</u>

In 2024, an impairment recovery was recognized on the investment in Equion, which adjusts the book value of the assets evaluated to their current fair value.

In 2023, an impairment loss was recognized on the investment in Equion, mainly due to the update of its non-current assets in the model.

In 2022, an impairment loss was recognized on the investment in Equion, mainly due to the increase in the discount rate, as well as the sale of the Alto Magdalena Pipeline (OAM) at a lower value than expected.

18.2 Refining and Petrochemical

Ecopetrol Business Group recognized a reversal (loss) of impairment on the carrying value as of December 31, as follows:

	2024	2023	2022
Refinería de Cartagena S.A.S.	1,265,753	1,482,512	1,096,024
Invercolsa S.A.	—	(68)	(3)
	<u>1,265,753</u>	<u>1,482,444</u>	<u>1,096,021</u>

The following is the Cash Generating Units impairment or reversals in the refining and petrochemical segment for the years ended December 31, 2024, 2023 and 2022:

2024

Cash-generating units	Carrying amount	Recoverable amount	Impairment reversal (loss)
Refinería de Cartagena S.A.S.	28,237,532	35,329,614	1,265,753
			<u>1,265,753</u>

2023

Cash-generating units	Carrying amount	Recoverable amount	Impairment reversal (loss)
Refinería de Cartagena S.A.S.	26,423,190	27,905,702	1,482,512
Invercolsa S.A.	273	205	(68)
			<u>1,482,444</u>

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2022

Cash-generating units	Carrying amount	Recoverable amount	Impairment reversal (loss)
Refinería de Cartagena S.A.S.	31,750,957	32,846,981	1,096,024
Invercolsa S.A.	276	273	(3)
			1,096,021

The grouping of assets to determine the CGUs is consistent with prior periods.

18.2.1 Refinería de Cartagena S.A.S.

The recoverable amount of the Refinería de Cartagena was calculated based on its fair value less costs of disposal, which is higher than its value in continued use. The fair value less costs of disposal of the Refinería de Cartagena was determined based on cash flows after taxes that are derived from business plans approved by the Ecopetrol Business Group's Management, which are developed based on market prices provided by a third-party expert, which considers long-term macroeconomic variables and fundamental supply and demand assumptions for crude oil and refined products. The fair value hierarchy is 3.

The operating assets considered in this valuation are those that make up the refinery and that as a whole are considered a Cash Generating Unit (CGU), and have not changed with respect to 2023.

The estimates derived from the valuation of the impairment of the assets of Refinería de Cartagena S.A.S. were carried out based on: i) exogenous and market variables that are outside the control of the Administration, such as the prices that define the income (refined products) and costs of the refinery (raw materials) and the macroeconomic variables that impact the discount rate of their cash flows for the purpose of asset valuation, and ii) the operational and corporate variables subject to the Company's management, such as the efficiency of the plants, its operational availability and the corresponding management of costs and expenses. The assumptions used in the model to determine recoverable values include:

- **Volumes:** They correspond to the volumetric balances determined based on prices, availability of crude oil, local market demand, refinery utilization factor and particular characteristics of the system.
- **Prices:** The set of prices used to estimate the flow of sales income and the cost of raw materials are provided by the specialist IHS Market, a third party specialized in price projections. Long-term price forecasts are based on many assumptions and are therefore subject to change over time. Factors that affect forecasts, such as gross domestic product, changes in regulation, technology, and consumer preferences, are examples of assumptions that can have a major impact on a long-term forecast.
- **OPEX:** For the short and medium term projection, the OPEX per barrel included in the budget 2025, 2026 and 2027 is considered. For the purposes of the long-term projection, from 2028 to the evaluation limit, the OPEX per barrel, taking into consideration the current contracts and costs of the refinery and the latest study carried out by the specialist Solomon (a third party expert in global refinery benchmarking), adjusting the energy costs with the information included in the contracts of gas supply.
- **CAPEX:** Includes maintenance CAPEX (capitalizable), defined as the investments in major maintenance required to maintain the Refinery at its current operating level and optimal production level and operational continuity investments, also in according to the study of comparable entities by Solomon. The maintenance CAPEX is estimated in the 2025-2027 budget year. Starting in 2028, this indicator is estimated based on the same methodology used for OPEX.
- **Capex SosTECnibilidad:** Reficar's investment plan, aligned with the Ecopetrol Business Group strategy, includes investments focused on the implementation of new technologies. These technologies aim to adjust the current operation of the refinery in line with the country's fuel demands and to enter new markets such as petrochemicals.

It is relevant to mention that the refining business is highly sensitive to the volatility of margins and the macroeconomic variables implicit in the determination of the discount rate, therefore, any change in these assumptions generates significant variations in the amount of impairment or recovery calculated.

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In 2024, there is a recovery of impairment of \$1,271,120 mainly due to: i) higher price differentials in mid-distillates in the medium and long term projection, ii) greater participation of national crude oils in the refinery diet, iii) inclusion of energy efficiency initiatives and entry into operation of the project to expand the capacity of unit U-111 to 50 kilobarrels per day in the medium and long term to maintain operating efficiency conditions, and iv) decrease in the discount rate according to market conditions. Additionally, there is an expense for impairment in surpluses from the expansion project for \$5,367.

During 2023 there is a recovery of \$1,494,224 mainly due to: i) higher price differentials in mid-distillates in the medium and long-term projection, ii) imported crude oils more discounted on the brent marker, and iii) operational improvements executed in 2024, which together with energy efficiency initiatives have managed to optimize the operational costs of the refinery and reduce energy consumption. Additionally, a loss for impairment of office-type containers was recognized as a result of their appraisals and leftovers from the expansion project for \$11,712.

In 2022, there is a reversal of impairment of \$1,107,101 mainly due to i) favorable market conditions, ii) high differentials of distilled products sustained in the short term due to conjunctural impacts of the Ukraine-Russia crisis, and iii) differential in national crudes allow diet optimization. Additionally, a loss is presented for impairment in office-type containers because of the appraisals made to these and surpluses from the expansion project for \$11,077.

18.2.2 Refinería de Barrancabermeja

As of December 31, 2024, 2023, and 2022, qualitative assessment of the assets associated with the refining segment were executed, including the Barrancabermeja Refinery Modernization Project. As a result, there are no indicator of impairment loss or recovery.

18.3 Transport and Logistics

The recoverable amount of these assets was determined based on its fair value with costs of disposal, which corresponds to discounted cash flows based on the hydrocarbon production curves and refined products transport curves. The fair value hierarchy is 3.

The assumptions used in the model to determine the recoverable value included: i) the tariffs regulated by the Ministry of Mines and Energy and the Energy and Gas Regulation Commission - CREG and National Infrastructure Agency (ANI), ii) the actual discount rate used in the valuation was 6.00% (2023 – 5.88% and 2022 – 4.73%) and iii) volumetric projection based on the financial plan and the long-term volumetric balance, and iv) exchange rate at the end of the year 2024, equivalent to \$4,409.15.

In 2024, there was an impairment reversal of \$127,206 due to the effect of: i) tariff update in oil pipelines, ii) better results in volumetric projections, and iii) higher closing exchange rate for 2024 versus 2023.

In 2023, for the volumetric projection exercise until 2040, there is a decrease in the North, South and Yaguará-Tenay CGUs compared to 2022. This means that by 2024, an impairment loss of \$630,134 will be recognized, mainly caused the variation in the exchange rate.

For 2022, the volumetric projection up to 2040 shows a decrease in crude oil exploratory prospects in the southern and northern fields of Colombia because of contractual uncertainties and socio-environmental viability, which represented an impairment loss for the CGUs by 2022 of Cenit Transporte y Logística S.A.S. in the South, North, and Yaguará-Tenay for \$405,357, and Oleoducto de Colombia S.A. for \$872.

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18.4 Energy transmission and roads

According to the impairment test, as of December 31, 2024, 2023 and 2022, ISA and its companies considered that there are no operational or economic issues indicating that the net book value of its non-current non-financial assets cannot be recovered, except for the facts evidenced in the period, which were recognized and assessed in accordance with the applicable accounting standard.

Cash-generating units	2024	2023	2022
Non-current asset held for sale	(42,862)	(98,543)	—
Property, plant and, equipment	(4,161)	(97,760)	(38,821)
Intangibles	1,672	(13,248)	(48,722)
	<u>(45,351)</u>	<u>(209,551)</u>	<u>(87,543)</u>

The recoverable value was determined using the discounted free cash flow methodology, based on the projection of revenues, OPEX and CAPEX, and operating taxes.

In 2024, ISA Bolivia recognized an impairment in the concession assets due to the update of the business plan, which reflects the operating margins and the increase in country risk of \$26,606, and in Internexa Colombia, impairment in submarine capacity rights, because of the impact in market prices due to the substantial increase in supply of \$16,256. In terms of property, plant, and equipment, the effective sale of the interest in the net assets that Internexa Participações and Internexa Perú owned in Internexa Brasil, was concluded and the effect corresponds to \$4,161. Finally, Consorcio Transmantaro updated the book value of the Yaros land, of the Nueva Yanango project, recognizing a recovery of the impairment of \$1,672.

As of December 31, 2023, the impairment loss was allocated to non-current assets held for sale and subsequently to property, plant, and equipment and intangible assets based on their book values. An impairment of non-current assets in the electric power transmission and toll roads concessions segment of \$209,551 mainly due to: (i) impairment \$85,168 in Consorcio Transmantaro due to lower fair market value in Yaros project, (ii) impairment of \$85,568 in Internexa Brazil and \$12,593 in Intenexa Argentina, considering the update of the business plan that reflected a decrease in revenues and operating margins.

As of December 31, 2022, an impairment loss of \$87,543 was recognized, which \$85,568 corresponds to Internexa Brasil, due to updating the business plan that reflects a decline in revenues and operating profit margins, and \$1,975 from Internexa Argentina, due to cost capital increase.

19. Goodwill

	2024	2023
Interconexión Eléctrica S.A. E.S.P. (1)	3,551,506	3,252,388
Oleoducto Central S.A.S.	683,496	683,496
Hocol Petroleum Ltd.	537,598	537,598
Invercolsa S.A.	434,357	434,357
Andean Chemical Ltd	127,812	127,812
Esentia S.A.	108,137	108,137
	<u>5,442,906</u>	<u>5,143,788</u>
Less impairment Hocol Petroleum Ltd.	(297,121)	(297,121)
	<u>5,145,785</u>	<u>4,846,667</u>

(1) The variations correspond to the effect of currency translation applied on the goodwill in origin currency.

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20. Loans and borrowings

20.1 Composition of loans and borrowings

	Weighted average effective interest rate as of December 31		2024	2023
	2024	2023		
Local currency (1)				
Bonds	9.8 %	12.4 %	5,193,284	5,172,256
Commercial and syndicated loan	11.7 %	12.9 %	5,301,424	4,323,198
Lease liabilities	9.2 %	8.9 %	876,234	922,536
			11,370,942	10,417,990
Foreign currency (1)				
Bonds	7.0 %	6.4 %	88,881,027	72,774,985
Commercial and syndicated loans	6.5 %	7.2 %	18,253,490	21,478,503
Loans from related parties (Note 31)	6.0 %	6.0 %	829,334	683,949
Lease liabilities	6.5 %	6.0 %	630,238	460,100
			108,594,089	95,397,537
			119,965,031	105,815,527
Current			11,287,944	15,550,008
Non-current			108,677,087	90,265,519
			119,965,031	105,815,527

(1) During 2024, Ecopetrol S.A. implemented a set of strategic financing operations to optimize its debt structure, reduce costs, and strengthen the Company's liquidity. The main transactions include:

- Contracting of a local loan with banks of Grupo Aval for COP \$1 trillion for a term of 7 years, resources destined to finance the bonds maturing in 2026 through the execution of the early redemption mechanism called make-whole.
- Renegotiation of the local loan contracted with Bancolombia for COP \$1 trillion, achieving a reduction in the interest rate and generating financial savings.
- Issuance of External Public Debt Bonds in the international capital market on January 9, 2024, for USD\$1,850 million for a term of 12 years with a rate of 8.375%, resources intended to finance the repurchase of bonds maturing in 2025 and cover nearby debt maturities, mitigating the refinancing risk and improving the Company's maturity profile.
- Issuance of External Public Debt Bonds in the international capital market on October 21, 2024, for USD\$1,750 million for a term of 7.3 years with a rate of 7.75%, resources intended to finance the total repurchase of bonds maturing in 2026 and the total and early payment of the credit contracted in September 2023 with international banks.
- Refinancing of the Committed Line by contracting an external credit for USD\$1,200 million for a term of 5 years, improving the maturity profile of the debt.
- Contracting of an external loan with the Sumitomo Mitsui Banking Corporation for USD\$250 million for a term of 5 years, resources intended to partially replace the international loan contracted in September 2023, allowing to improve the debt profile and reduce the financial cost.

The increase in foreign currency debt is mainly due to the rise in the exchange rate, from \$3,822.05 to \$4,409.15 between December 31, 2023, and 2024, respectively.

During 2024, loans and borrowings for \$27,155,189 were acquired mainly: in Ecopetrol S.A. for \$22,352,453 and Interconexión Eléctrica S.A. E.S.P. for \$4,410,500.

As a result of the Business Group's strategy, related to the comprehensive management of maturities, during 2024 capital payments were made for \$26,157,908; mainly in Ecopetrol S.A. for \$22,887,005, and Interconexión Eléctrica S.A. E.S.P. for \$2,476,782. Likewise, interest payments were made for \$7,526,172 mainly in Ecopetrol S.A. for \$5,361,447, and in Interconexión Eléctrica S.A. E.S.P. for \$2,023,663.

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20.2 Fair value of loans

The fair value of loans and borrowings is \$117,136,938 and \$104,223,267 as of December 31, 2024, and 2023, respectively.

20.3 Maturity of loans and borrowings

The following are the maturities of loans and borrowing as of December 31, 2024:

	Up to 1 year	1 – 5 years	5-10 years	> 10 years	Total
Local currency					
Bonds	374,791	1,255,832	1,385,204	2,177,457	5,193,284
Commercial and syndicated loan	553,574	3,298,708	1,324,142	125,000	5,301,424
Lease liabilities	225,327	441,420	208,619	868	876,234
	1,153,692	4,995,960	2,917,965	2,303,325	11,370,942
Foreign currency					
Bonds	5,548,061	24,885,853	37,936,556	20,510,557	88,881,027
Commercial and syndicated loans	3,631,745	13,827,493	461,881	332,371	18,253,490
Lease liabilities	125,112	250,546	205,240	49,340	630,238
Loans from related parties	829,334	—	—	—	829,334
	10,134,252	38,963,892	38,603,677	20,892,268	108,594,089
	11,287,944	43,959,852	41,521,642	23,195,593	119,965,031

The following are the maturities of loans and borrowing as of December 31, 2023:

	Up to 1 year	1 – 5 years	5-10 years	> 10 years	Total
Local currency					
Bonds	580,737	1,330,184	1,411,988	1,849,347	5,172,256
Commercial and syndicated loan	772,216	1,929,871	1,262,816	358,295	4,323,198
Lease liabilities	245,673	452,320	223,372	1,171	922,536
	1,598,626	3,712,375	2,898,176	2,208,813	10,417,990
Foreign currency					
Bonds	4,147,341	28,047,668	24,479,647	16,100,329	72,774,985
Commercial and syndicated loans	9,023,629	10,639,912	1,524,418	290,544	21,478,503
Loans from related parties	683,949	—	—	—	683,949
Lease liabilities	96,463	146,826	145,956	70,855	460,100
	13,951,382	38,834,406	26,150,021	16,461,728	95,397,537
	15,550,008	42,546,781	29,048,197	18,670,541	105,815,527

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20.4 Breakdown by type of interest rate and currency

The following is the breakdown of loans and borrowing by type of interest rate as of December 31, 2024, and 2023:

	2024	2023
Local currency		
Fixed rate	1,799,807	2,030,378
Floating rate	9,571,135	8,387,612
	11,370,942	10,417,990
Foreign currency		
Fixed rate	83,480,636	70,956,700
Floating rate	25,113,453	24,440,837
	108,594,089	95,397,537
	119,965,031	105,815,527

20.5 Loans designated as hedging instrument

As of December 31, 2024, Ecopetrol Business Group designated USD\$17,612 million (2023 – USD\$16,535 million) of foreign currency debt as a hedging instrument, of which USD\$10,269 million (2023 - \$10,270 million) is used to hedge the net investment in foreign operations with the US dollar as their functional currency, and USD\$7,343 million (2023 – USD\$6,265 million) is used to hedge the cash flows of future crude oil exports. See Notes 30.4.

20.6 Guarantees and covenants

As of December 31, 2024, the estimated value of the current guarantees granted by ISA and its companies, within the framework of the definition in paragraph 14 of IFRS 7, used to support growth in its different business units and to ensure commercial, operational, and strategic viability amounts to \$22,664,577 (2023 - \$20,607,822), mainly in i) Chile for \$15,799,052 (2023 - \$14,899,609) in ISA Intervial, Ruta del Loa, Ruta de los Ríos, Ruta de la Araucaria and Ruta del Maipo, b) Brazil in ISA CTEEP for \$4,186,525 (2023 - \$3,029,213), and c) Colombia on the Ruta Costera for \$2,679,000 (2023 - \$2,679,000).

ISA and its companies have commitments (covenants) related to the delivery of periodic financial information and the fulfillment of the obligations originated in the credit contracts with the financial entities, the Ministry of Public Works of Chile, the bondholders, the rating agencies risks, auditors, and municipalities, among others.

Ecopetrol USA and its companies have commitments (covenants) related to the delivery of periodic financial information and compliance with the obligations arising from a volumetric prepayment agreement with a third party.

During the reporting period, Ecopetrol Business Group has complied with its payment obligations, guarantees and commitments acquired with its bondholders and local and/or international financing entities.

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21. Trade and other payables

	2024	2023
Current		
Suppliers	15,072,171	13,704,819
Dividends payable (1)	629,458	668,383
Withholding tax	1,341,174	2,099,847
Partners' advances	982,022	1,270,721
Insurance and reinsurance	279,945	274,739
Deposits received from third parties	184,837	180,065
Related parties (Note 31)	65,387	64,766
Hedging operations	1,471	—
Agreements in transport contracts	61,273	38,920
Various creditors	684,386	589,174
	19,302,124	18,891,434
Non - current		
Suppliers	992	8
Deposits received from third parties	—	3,673
Various creditors	13,819	23,599
	14,811	27,280

(1) Corresponds to dividends payable from Interconexión Eléctrica S.A. for \$609,535 (2023: \$636,081), Inversiones de Gases de Colombia S.A. for \$1,853 (2023: \$1,747), Oleoducto de Colombia S.A. \$14,110 (2023: \$26,608), and Ecopetrol S.A. for \$3,960 (2023: \$3,947). See Note 24.4.

The carrying amount of trade accounts and other accounts payable approximates their fair value due to their short-term nature.

22. Provisions for employees' benefits

	2024	2023
Post-employment benefits		
Healthcare	11,449,945	11,234,939
Pension	2,788,326	4,013,542
Education	469,681	490,877
Bonds	349,933	424,199
Other plans	166,805	158,644
Termination benefits – Voluntary retirement plan	905,428	828,007
	16,130,118	17,150,208
Social benefits and salaries	1,206,242	1,109,363
Other employee benefits	39,851	13,142
	17,376,211	18,272,713
Current	3,368,547	3,059,204
Non-current	14,007,664	15,213,509
	17,376,211	18,272,713

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22.1 Post-employment benefits liability (asset)

The following table shows the movement in liabilities and assets, net of post-employment benefits and termination benefits, as of December 31:

	Pension and bonds		Other		Total	
	2024	2023	2024	2023	2024	2023
Liabilities for employee benefits						
Opening balance	16,411,708	12,840,148	12,749,767	9,465,024	29,161,475	22,305,172
Current service cost	34,132	20,583	174,415	94,448	208,547	115,031
Past service cost	—	—	216,993	107,231	216,993	107,231
Interest expense	1,163,282	1,152,125	928,339	866,111	2,091,621	2,018,236
Actuarial (gains) losses	(1,519,800)	3,560,843	(298,064)	2,891,216	(1,817,864)	6,452,059
Benefits paid	(1,232,066)	(1,140,003)	(742,485)	(673,280)	(1,974,551)	(1,813,283)
Foreign currency translation	(25,989)	(21,988)	662	(983)	(25,327)	(22,971)
Closing balance	14,831,267	16,411,708	13,029,627	12,749,767	27,860,894	29,161,475
Plan assets						
Opening balance	11,973,967	10,367,472	37,300	31,338	12,011,267	10,398,810
Return on assets	848,103	928,278	1,861	1,709	849,964	929,987
Contributions to funds	—	—	163,629	149,168	163,629	149,168
Benefits paid	(1,182,824)	(1,085,236)	(167,621)	(150,228)	(1,350,445)	(1,235,464)
Actuarial gains	53,762	1,763,453	2,599	5,313	56,361	1,768,766
Closing balance	11,693,008	11,973,967	37,768	37,300	11,730,776	12,011,267
Net post-employment benefits liability	3,138,259	4,437,741	12,991,859	12,712,467	16,130,118	17,150,208

The following table shows the movement in profit and loss and in other comprehensive income as of December 31, 2024, 2023 and 2022:

	2024	2023	2022
Recognized in profit or loss			
Interest expense	1,240,757	1,088,249	679,098
Current service cost	208,547	115,031	147,480
Past service cost	216,993	107,231	114,162
	1,666,297	1,310,511	940,740
Recognized in other comprehensive income			
Pension and pension bonds	258,498	(2,664,204)	156,755
Healthcare	1,404,182	(1,714,227)	(1,429,423)
Other	18,911	(82,103)	18,154
	1,681,591	(4,460,534)	(1,254,514)
Deferred tax	(374,059)	1,726,261	586,260
	1,307,532	(2,734,273)	(668,254)

22.2 Plan assets

Plan assets are resources held by pension trusts for payment of pension obligations. Payments for health and education post-employment benefits are Ecopetrol's responsibility. The destination of trust resources and its yields cannot be changed or returned to the Ecopetrol Business Group until all pension obligations have been fulfilled.

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The following is the composition of the plan assets of pension and pension bonds by type of investment as of December 31, 2024, and 2023:

	2024	2023
Other local currency	3,189,859	3,298,496
Bonds of private entities	2,932,226	3,118,893
Other foreign currency	2,935,450	1,980,308
Bonds issued by the national government	1,930,500	2,262,378
Variable yield	230,634	1,027,891
Other public bonds	—	197,044
Bonds of foreign entities	512,107	126,257
	<u>11,730,776</u>	<u>12,011,267</u>

The 58.09% (2023 – 55.70%) of plan assets are classified as level 1 in the fair value hierarchy where prices for the assets are directly observable on actively traded markets, and 41.91% (2023 – 44.30%) are classified as level 2.

The following table reflects the credit ratings of the issuers and counterparties in assets held by the autonomous pension funds:

	2024	2023
AAA	6,696,147	4,567,823
Nation	4,292,768	4,037,150
AA+	343,639	323,613
AA	124,386	155,628
F1+	45,233	64,624
BRC1+	32,022	15,506
BB+	—	407,183
BBB-	—	164,034
BBB+	—	24,796
BAA2	—	23,864
AA-	—	18,836
BAA1	—	16,728
A+	—	9,499
A	—	1,884
Other ratings	114,539	985,554
Rating not available	82,042	1,194,545
	<u>11,730,776</u>	<u>12,011,267</u>

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22.3 Actuarial assumptions

The following are the actuarial assumptions used in determining the present value of defined employee benefit obligations used for the actuarial calculations as of December 31, 2024, and 2023:

2024	Pension	Bonds	Health	Education	Others
Discount rate	6.85%-10.9 %	8.75 %	8.75%-11.2 %	9.0%-11.0 %	5.7%-11.6 %
Salary growth rate	2.0%-3.0 %	N/A	3.0%-4.0 %	N/A	4.0-5.0 %
Expected inflation rate	3.0%-4.0 %	3.0 %	3.0 %	3.0 %	3.0 %
Pension growth rate	3.0%-3.3 %	N/A	N/A	N/A	N/A
Cost trend					
Short-term rate	N/A	N/A	13.5 %	4.0 %	N/A
Long-term rate	N/A	N/A	4.0 %	4.0 %	N/A
2023	Pension	Bonds	Health	Education	Others
Discount rate	7.5%-11.7 %	7.25 %	11%-12 %	11%-12 %	7.4% - 12 %
Salary growth rate	3.5%-4.5 %	N/A	3.5%-4.5 %	N/A	3.5% - 4.61 %
Expected inflation rate	3.0%-4.5 %	3.00 %	3.00 %	3.00 %	3.0% - 3.5 %
Pension growth rate	3.0%-5.0 %	N/A	N/A	N/A	N/A
Cost trend					
Short-term rate	N/A	N/A	12.80 %	4.00 %	N/A
Long-term rate	N/A	N/A	4.00 %	4.00 %	N/A

N/A: Not applicable for this benefit.

The cost trend is the projected increase for the initial year, which includes the expected inflation rate.

22.4 Maturity of benefit obligation

The cash flows required for payment of post-employment obligations of Ecopetrol are the following:

Period	Pension and bonds	Other benefits	Total
2025	1,368,320	776,852	2,145,172
2026	1,405,208	815,042	2,220,250
2027	1,404,292	857,552	2,261,844
2028	1,398,966	908,778	2,307,744
2029	1,406,550	950,006	2,356,556
2030yss	7,229,963	5,541,375	12,771,338

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22.5 Sensitivity analysis

The following sensitivity analysis shows the effect of such possible changes on the obligation for defined benefits, while keeping the other assumptions constant, as of December 31, 2024:

	Pension	Bonds	Health	Education	Other
Discount rate					
–50 basis points	14,220,518	1,177,840	11,990,999	439,586	1,066,967
+50 basis points	12,827,176	1,129,211	10,575,117	409,005	1,033,436
Inflation rate					
–50 basis points	12,765,201	1,130,601	N/A	N/A	926,263
+50 basis points	14,283,629	1,176,205	N/A	N/A	950,381
Salary growth rate					
–50 basis points	N/A	N/A	N/A	N/A	108,169
+50 basis points	N/A	N/A	N/A	N/A	115,426
Cost trend					
–50 basis points	N/A	N/A	10,573,408	408,560	N/A
+50 basis points	N/A	N/A	11,988,936	439,908	N/A

N/A: Not applicable for this benefit.

23. Accrued liabilities and provisions

	Asset retirement obligation	Litigation	Environmental contingencies and others	Total
Balance as of December 31, 2023	13,102,128	722,788	2,317,724	16,142,640
Abandonment costs update	(2,096,927)	—	—	(2,096,927)
Additions (recoveries) (1)	147,826	(44,519)	208,821	312,128
Uses	(765,921)	(150,071)	(380,972)	(1,296,964)
Financial costs and interest	636,308	245,278	50,397	931,983
Fair value adjustment in business combination	32,450	—	—	32,450
Reversal of fields (2)	4,849	—	—	4,849
Foreign currency translation	151,292	24,974	57,536	233,802
Transfers	(608)	(610)	93,435	92,217
Balance as of December 31, 2024	11,211,397	797,840	2,346,941	14,356,178
Current	1,133,919	37,480	449,107	1,620,506
Non-current	10,077,478	760,360	1,897,834	12,735,672
	11,211,397	797,840	2,346,941	14,356,178

(1) It mainly includes the recognition of provisions related to potential obligations, provision forced environmental at Ecopetrol S.A., among others.

(2) Corresponds to the abandonment provision associated with the assets delivered to Ecopetrol S.A. of the La Cañada and La Hocha fields.

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	Asset retirement obligation	Litigation	Environmental contingencies and others	Total
Balance as of December 31, 2022	10,006,028	898,251	1,852,215	12,756,494
Abandonment costs update (1)	3,465,340	—	—	3,465,340
Additions (2)	71,001	27,250	755,114	853,365
Uses (3)	(680,283)	(905,351)	(382,828)	(1,968,462)
Financial costs and interest (3)	477,491	808,176	45,764	1,331,431
Foreign currency translation	(237,449)	(79,670)	(137,107)	(454,226)
Transfers	—	(25,868)	184,566	158,698
Balance as of December 31, 2023	13,102,128	722,788	2,317,724	16,142,640
Current	1,105,004	70,182	420,063	1,595,249
Non-current	11,997,124	652,606	1,897,661	14,547,391
	13,102,128	722,788	2,317,724	16,142,640

- (1) Main variations in the abandonment cost are due to 1) an increase in activity in Rubiales and Caño Sur, 2) an increase in operating costs in Cira-Infantas fields, and 3) upgrades in the equipment and tariff increases.
- (2) It mainly includes the recognition of provisions related to potential obligations, provision forced environmental at Ecopetrol S.A., among others.
- (3) It mainly includes uses and interest expenses originating from rulings against the claims of Ecopetrol S.A. related to public works contributions. The recognition applied Law 2277 of 2022 with which a benefit was obtained by reducing interest payable to the tax authority by 50%

	Asset retirement obligation	Litigation	Environmental contingencies and others	Total
Balance as of December 31, 2021	11,890,319	703,966	1,637,922	14,232,207
Abandonment costs update	(1,730,016)	—	—	(1,730,016)
Additions	93,704	153,786	468,341	715,831
Uses	(607,769)	(41,773)	(354,625)	(1,004,167)
Financial costs	333,688	10,293	17,322	361,303
Foreign currency translation	186,215	81,894	42,085	310,194
Reversal of provision for sale of assets (1)	(188,540)	—	—	(188,540)
Transfers	28,427	(9,915)	41,170	59,682
Balance as of December 31, 2022	10,006,028	898,251	1,852,215	12,756,494
Current	946,675	94,375	492,086	1,533,136
Non-current	9,059,353	803,876	1,360,129	11,223,358
	10,006,028	898,251	1,852,215	12,756,494

- (1) Corresponding to the abandonment provision associated with the assets related to the participation of Ecopetrol S.A. in Asociación Casanare, Estero, Garcero, Orocué and Corocora (CEGOC), which were sold to Perenco Oil and Gas Colombia. This trade closed on August 26, 2022.

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23.1 Asset retirement obligation

The estimated liability for asset retirement obligation costs corresponds to the future obligation that the Ecopetrol Business Group to restore environmental conditions to a level similar to that existing before the start of projects or activities, as described in Note 4.14. As these relate to long-term obligations, this liability is estimated by projecting the expected future payments and discounting at present value with a rate indexed to the Ecopetrol Business Group's financial obligations, considering the temporariness and risks of this obligation. The discount rates used in the estimate of the obligation as of December 31, 2024, were Exploration and Production 5.88% (2023 - 5.02%), Refining and Petrochemicals 6.59% (2023 - 5.51%), and Transportation and Logistics 6.94% (2023 - 5.20%).

23.2 Litigations

The following table details the main litigations recognized in the statement of financial position as of December 31, whose loss expectations are probable and could imply an outflow of resources:

	2024	2023
ISA Energía Brasil. Civil contingency: Nullity of merger of EPTE by CTEEP, issued by Joana D Arc Tensol Rodrigues Pereira. It corresponds to a declaratory action in which minority shareholders claim the nullity of the merger of the Paulista Electric Power Transmission Company (EPTE) by the company or, jointly and severally, the declaration of their right to withdraw and the determination of the payment of the redemption value of their shares. In 2023, the process was classified as a contingent liability.	49,577	—
CTEEP Regulatory Contingency: Billing Eletrobras – RBNI Corresponds to the collection action filed by Eletrobras against ISA CTEEP requesting the return of the value charged in excess by the company as part of the payment of the compensation resulting from the extension of Concession Contract No. 059/2001 under Law No. 12,783/201, relating to NI facilities (new investments) that had been transferred to the company by Eletrobras.	38,489	34,846
Unfavorable first instance ruling for Ecopetrol in the process of direct fixing for the damages associated with the hydrocarbon spill that occurred in Guaduas, Vereda Raizal and Cajón, in the property called “La Floresta” in May 2004.	14,245	14,245
Administrative processes of a sanctioning type issued by PRONATEL and OSIPTEL Internexa Peru: Procedure for failure to pay contributions during the years 2011 to 2022 or the provision of the Dark Optical Fiber service.	12,164	10,161
Transelca. Regulatory contingency: Unavailability of service. Compensation for energy not supplied. In June 2020, a shot occurred in the Bay of Line BL2 Sabanalarga-Fundación, at the Sabanalarga substation, 220 kV; the substation went out of operation, as well as other assets operated by Transelca and other third parties, leaving a large region of the Atlantic Coast without electricity service. In accordance with the provisions of Resolution GREC 011 of 2009, numeral 3.8.3, this event may cause the company to pay compensation for energy not supplied.	8,689	8,714
Ecopetrol S.A. as responsible for the damages caused by export activities in influence of the municipalities of Cicuco, Talaigua Nuevo and Mompos.	6,084	5,429

23.3 Environmental contingencies and others

These correspond to contingencies for environmental incidents and obligations related to environmental compensation and mandatory investment of 1% for the use of, exploitation of or effect on natural resources imposed by national, regional, and local environmental authorities. Mandatory investment of 1% is based on the use of water taken directly from natural sources in accordance with the provisions of Law 99 of 1993, Article 43, Decree 1900 of 2006, Decree 2099 of 2017 and 075 and 1120 of 2018 and article 321 of Law 1955 of 2019 in relation to the projects that Ecopetrol Business Group develops in Colombia.

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The Colombian Government, through the Ministry of Environment and Sustainable Development, issued Decrees 2099 and 075 in December 2016 and January 2017, through which it modifies the Single Regulatory Decree of the environment and sustainable development sector, Decree 1076 of 2015, in relation to the mandatory investment for the use of water taken directly from natural sources. The main changes established by these decrees were in relation to the areas of implementation, investment lines and the basis for liquidation of obligations. Likewise, June 30, 2017, was defined as the maximum date to modify the Investment Plans that are in execution.

From the Company's Environmental Management, with the regional environmental departments and allies in the territory, Ecopetrol executes more than 240 current plans for environmental offsetting and forced investment of 1%.

The resources allocated to environmental compensation and the mandatory investment of no less than 1% have been invested in protection, conservation and preservation actions through voluntary conservation agreements. Likewise, progress has been made in the purchase of lands for conservation, ecological restoration and reforestation. Additionally, through an agreement with IDEAM for the execution of the mandatory obligation of no less than 1%, a line of investment focused on the monitoring of water resources through the instrumentation and monitoring of climatological and hydrological variables with hydrometeorological stations was included.

23.4 Contingencies

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Arbitration tribunal:

On March 8, 2016, Reficar filed a request for arbitration with the International Chamber of Commerce (the "ICC") against Chicago Bridge & Iron Company NV, CB&I UK Limited and CBI Colombiana SA (jointly, "CB&I"), concerning a dispute related to the engineering, procurement, and construction agreements entered into by and between Reficar and CB&I for the expansion of the Refinería de Cartagena, Colombia. Reficar was the Claimant in the ICC arbitration and sought no less than USD\$2 billion in damages plus lost profits.

On May 25, 2016, CB&I filed its Answer to the Request for Arbitration and the preliminary version of its counterclaim against Reficar, for approximately USD 213 million. On June 27, 2016, Reficar filed its reply to CB&I's counterclaim denying and disputing the declarations and relief requested by CB&I.

On April 28, 2017, Reficar filed its non-detailed claim, and, on the same date, CB&I submitted its Statement of Counterclaim increasing its claims to approximately USD\$116 million and \$387,558 million, including USD\$70 million for a letter of credit compliance. On March 16, 2018, CB&I submitted its Exhaustive Statement of Counterclaim further increasing its claims to approximately USD\$129 million and \$432,303 million (including in each case interest) and filed its Exhaustive Statement of Defense to Reficar's claims. On this same date, Reficar filed its Exhaustive Statement of Claim seeking, among others, USD\$139 million for provisionally paid invoices under the Memorandum of Agreement ("MOA") and Project Invoicing Procedure ("PIP") Agreements and the EPC Contract.

On June 28, 2019, Chicago Bridge & Iron Company filed a response to Reficar's non-detailed defense of the counterclaim, updating the value of its claim to approximately USD \$137 million and \$503,241 million, including interest. Likewise, CB&I presented its detailed defense to Reficar's claim.

On this same date, Reficar filed its Reply to CB&I's Non-Exhaustive Statement of Defense and its Exhaustive Statement of Defense to CB&I's counterclaim, updating its claim for provisionally paid invoices under the MOA and PIP Agreements and the EPC Contract to approximately USD\$137 million.

In January 2020, McDermott International Inc. (now McDermott International Ltd and hereinafter "McDermott") – CB&I parent company – commenced a bankruptcy case under title 11 of the United States Code in the United States Bankruptcy Court for the Southern District of Texas. Faced with this situation, Refinería de Cartagena took actions to protect its interests and had a group of experts with whom it will continue to evaluate other measures it may adopt in this new circumstance.

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As a consequence of the initiation of the reorganization process, the arbitration was suspended until July 1, 2020, as described below.

On January 21, 2020, Comet II BV, the successor in interest to Chicago Bridge & Iron Company N.V., commenced a bankruptcy proceeding under title 11 of the Bankruptcy Code of the United States before the Bankruptcy Court for the Southern District of Texas. Before the beginning of the insolvency process of Comet II BV, an automatic suspension of the initiation or continuation of any action, process or execution of judgment or award against Comet II BV became effective, which suspended the arbitration.

On March 14, 2020, the Bankruptcy Court entered an order confirming a plan of reorganization, and the order provided for the stay against the arbitration to end upon the earlier of the effective date of the plan or August 30, 2020, whichever would occur first. On June 30, 2020, McDermott notified the occurrence of the effective date of the reorganization plan, thus the suspension of arbitration was lifted on July 1, 2020.

On May 6, 2020, the Superintendence of Companies of Colombia ordered the judicial liquidation of CBI Colombiana S.A., one of the defendants in the CB&I arbitration. On October 22, 2020, Reficar requested its recognition as a creditor of CBI Colombiana S.A., up to the maximum amount of its claims in the arbitration. On January 15, 2021, the liquidator of CBI Colombiana S.A. accepted Reficar's request.

On September 22, 2020, the tribunal scheduled the start of the hearings for May 2021.

Between May 17 and June 16, 2021, the first two blocks of the hearing were held, in which the evidence in the arbitration against CB&I was presented. On June 16, 2021, the tribunal ordered the submission of post-hearing briefs on October 15 and November 5, 2021. Likewise, the tribunal summoned the parties to a hearing on closing arguments for November 18, and 19, 2021.

On August 16, 2021, the parties requested the tribunal to modify the procedural calendar, consisting of slightly altering the dates of presentation of the post-hearing briefs. On August 26, 2021, the tribunal granted the request of the parties, so the post-hearing briefs were presented on October 22 and November 10, 2021, respectively. The closing arguments hearing was held in a single session on November 18, 2021, and the session scheduled for November 19, 2021, was cancelled.

Subsequently, on December 20, 2021, Refinería de Cartagena presented its memorial for costs in arbitration against CB&I. On February 11, 2022, CB&I presented its memorial for costs.

On September 7, 2023, Refinería de Cartagena S.A.S. was notified of the decision of the International Arbitration Court that resolved the claim filed against. The Arbitration Court ordered CB&I to pay approximately \$1,000 USD million plus interest in favor of Refinería de Cartagena. Similarly, the arbitral tribunal dismissed CB&I's claims for approximately to USD \$400 million. Chicago Bridge & Iron Company N.V. and CB&I UK Limited requested the annulment of the award on June 8, 2023, the before Southern District Court of New York.

On August 4, 2023, Refinería de Cartagena answered to the annulment request and, in addition, and likewise requested the confirmation of the award. Moreover, On January 10, 2025, the Southern District Court of New York confirmed the Arbitration Award and denied the request for annulment filed by Chicago Bridge & Iron Company N.V. and CB&I UK Limited.

On September 8, 2023, McDermott reported that it will initiate financial restructuring procedures for its subsidiaries in the United Kingdom and the Netherlands, CB&I UK Limited and Chicago Bridge & Iron Company N.V. respectively, considering the arbitral issued award against them and in favor of Refinería de Cartagena. The Company advised by a global team of lawyers and experts, became an active part of the business reorganization processes in said countries to defend its own interests.

Subsequently, on October 10, 2023, CB&I UK Limited and Chicago Bridge & Iron Company N.V. requested before the Texas Bankruptcy Judge the initiation of a procedure for recognition of financial restructuring processes abroad, known as Chapter 15 of the Bankruptcy Code of the United States of America. Specifically, they requested recognition of the financial restructuring processes that were announced by McDermott on September 8, 2023.

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Based on the above, the process of annulment and recognition of the Arbitration Award - which determines the possibility of executing it and therefore collecting the decreed sums – was temporarily suspended by order of the Bankruptcy Judge. In this regard, it should be noted that the judge only issued an order suspending proceedings in the United States of America and which intended to execute assets of CB&I UK Limited and Chicago Bridge & Iron Company N.V. located in the United States. go against the assets of the Convicted parties.

On February 27, 2024, Refinería de Cartagena was notified of the decision of the United Kingdom Court in which it was determined that the financial restructuring plan of CB&I UK Limited was approved by said court.

Regarding the reorganization process initiated by Chicago Bridge & Iron Company (now McDermott Holdings N.V.) in the Netherlands on September 8, 2023. On February 16, 2024, an independent restructuring expert appointed by the Court submitted to a vote an alternative reorganization plan under which Refinería de Cartagena would receive, among others, an equity stake in the McDermott. On March 21, 2024, Cartagena Refinery was notified of the decision of the Netherlands Court approving the alternative financial restructuring plan of Chicago Bridge & Iron Company N.V.

Given the sanction of the plan, Refinería de Cartagena was the beneficiary of (i) USD\$70 million and USD\$95 million arranged under two different letters of credit and (ii) USD\$9 million corresponding to reimbursement of legal fees. Likewise, by court order of the Amsterdam District Court dated March 21, 2024, arising from a judicial restructuring process before said jurisdiction, 75,000 redeemable Series B non-voting preferred shares (the “Series B Preferred Shares”) of McDermott were issued in favor of Refinería de Cartagena.

The Series B Preferred Shares have priority over the common shares and are on equal terms with respect to dividends and payments in the event of liquidation with the Series A Preferred Shares. They are entitled to cumulative quarterly dividends.

The holder of the Series B Preferred Shares may also require that all of the Series B Preferred Shares be converted at any time on or after June 30, 2028, into common shares representing up to 19.9% of the Company’s ownership interest, subject to adjustments pursuant to certain anti-dilution provisions.

The Series B Preferred Shares are subject to mandatory redemption requirements in the event of liquidation or change of control of the Company and other similar events.

As of September 30, 2024, Refinería de Cartagena performed the valuation of McDermott’s shares considering an income approach, projecting discounted cash flows at present value and aspects such as risk premiums, information available from McDermott, the absence of significant influence and control by Refinería de Cartagena and restructuring scenarios over time. As a result of the fair value valuation, the accounting record was made as a financial instrument for USD\$234.5 million (\$915,003), which represented for Refinería de Cartagena an increase in the financial assets account compared to a lower value of the property, plant, and equipment.

On December 9, 2024, McDermott announced that it has completed the sale of its storage business (CB&I’s tank business) to a consortium of financial investors led by Mason Capital Management. Under the terms of the agreement announced on October 7, 2024, McDermott will receive \$475 in proceeds before taxes and transaction expenses. Pursuant to the terms of McDermott’s credit agreement, the proceeds from the sale will be used to repay CB&I’s existing tank business term loan, cash guarantee certain McDermott letters of credit and reduce an existing McDermott term loan.

Ecopetrol S.A. continuously monitors the operations of McDermott International Ltd. to identify and measure any potential changes in the fair value of the investment and/or risk premiums associated with the valuation model.

Investigations of control entities – Reficar

Refinería de Cartagena is a wholly owned subsidiary of Ecopetrol, and since Ecopetrol is majority owned by the Government of Colombia, both companies manage public resources. In this context and in accordance with Colombian regulations, the employees of Ecopetrol and Refinería de Cartagena are considered public servants and, as such, may be held responsible for the negligent use or management of public resources.

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Consequently, the employees of Ecopetrol and Refinería de Cartagena, in general, are subject to the control and supervision of the control entities.

Currently, derived from the Expansion and Modernization Project of the Refinería de Cartagena (hereinafter, the “Project”), the processes described below are underway:

1. Office of the Comptroller General (Contraloría General de la República – CGR):

- PRF-80011-2018-33300

Through Order No. 1328 of August 24th, 2021, the CGR closed the preliminary investigation UCC-IP-005-2019 and opened a new fiscal responsibility process. In this, eight former officials of Refinería de Cartagena (three former presidents and five former financial vice-presidents) are investigated.

In this process, 8 former officials of the Refinería de Cartagena are being investigated (3 former presidents and 5 former financial vice presidents).

The CGR made a special visit to the refinery facilities between February 20 and 24, 2023, which focused on two main points related to: (i) unidentified expenses, for \$22 MUSD from the periods 2015 to 2018 and, (ii) \$269 MUSD that, according to the CGR, entered the Project, and its use could not be identified.

On March 1, 2023, through Auto No. 0335, the CGR decreed the preparation of a technical report by the CGR team that participated in the visit.

On April 14, 2023, the officials assigned by the CGR presented the technical report in which, based on the information provided and the explanations provided by the Refinería de Cartagena, it was concluded that in all records the destination of the associated expense was identified to each of the third parties.

On April 19, 2023, by Order No. 0665, it was ordered to incorporate the technical report into the process and make it available to the procedural subjects. It is expected that, based on the conclusions of the report, the CGR will make the decision to charge or archive the process.

On October 2, 2024, by means of Order No. 1762, the ordinary fiscal responsibility process was ordered to be archived, considering that the facts investigated did not constitute damage to public property.

Procedurally, the file had to be sent, within 3 business days following notification by status, to the Fiscal and Sanctioning Chamber of the CGR, in consultation status.

On October 31, 2024, by Order ORD-801119-257-2024, the Decision Chamber of the Fiscal and Sanctioning Chamber of the CGR ordered the total archiving of the proceedings carried out related to this process, confirming, in consultation status, Order No. 1762 of October 2, 2024, issued by the Intersectoral Delegate Comptroller's Office No. 15 of the Special Investigations Unit Against Corruption of the CGR.

2. Prosecutor's Office (Fiscalía General de la Nación - FGN)

Proceeding 1 – 110016000101201600023 - MOA - PIP and EPC

This process is being carried out against some ex-members of the Board of Directors and ex-employees of Refinería de Cartagena, workers of the Chicago Bridge and Iron Company (CB&I) and the Statutory Auditor of Refinería de Cartagena between 2013 and 2015, for crimes of undue interest in the execution of contracts, embezzlement by appropriation in favor of third parties, illicit enrichment of individuals in favor of third parties and ideological falsehood in a public document.

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On May 31, 2018, the hearing for the formulation of accusations was held; however, on this date the jurisdiction of the judge in the case was challenged. For this reason, it was only possible to start the hearing on November 29, 2018. On August 22, 2019, the hearing for the formulation of accusations ended and Refinería de Cartagena and Ecopetrol were officially recognized as victims.

On November 25, 2019, the trial preparatory hearing was installed and is currently taking place.

On February 2, 2024, the hearing was held to read the decision of the Criminal Chamber of the Superior Court of the Judicial District of Bogotá, which resolved the appeals filed against the decision issued on July 26, 2021 by the 31st Criminal Circuit Court, in which it ruled by admitting and denying the evidentiary requests submitted by the parties in the preparatory hearing.

With this, the preparatory hearing of the trial was concluded; to date, the oral trial hearings are being held. The oral trial hearing resumed in February. The defendants' defense is currently presenting evidence.

As of December 31, 2024, there were no changes to the process.

Proceeding 2 - 110016000101201800132 Business line

This process is being carried out against ex-members of the Board of Directors and a ex-president of Refinería de Cartagena, for the crimes of aggravated unfair administration, and obtaining a false public document. In this process, Refinería de Cartagena and Ecopetrol S.A. were officially recognized as victims.

On November 18, 2019, the preparatory hearing for the trial was held and has been resumed on several occasions. As of December 31, 2023, there have been no changes in the process.

On April 19, 2024, the 34th Criminal Circuit Court declared the annulment of the order that ordered the evidence for trial and issued a new order, which was appealed by the defendants and after the transfers were revoked, the appeal was granted before the Superior Court of Bogotá, Criminal Chamber.

On July 5, 2024, the Criminal Chamber of the Superior Court of Bogotá resolved the appeals filed by the defendants, confirming the first instance decision that denied the exclusion of evidence from the Prosecutor's Office.

On October 28, 2024, at the beginning of the oral trial hearing, the defendants requested the foreclosure of the investigation, when the prescription of the criminal action. The 34th Criminal Circuit Judge denied the request; the defendants filed appeals.

On December 10, 2024, the Superior Court of Bogotá held a hearing to read the decision on the appeals filed by the defendants, in which it confirmed in its entirety the decision of the 34th Court and ordered the case to be returned to the Court of Knowledge so that the oral trial hearing could continue.

Proceeding 3 – 110016000101201800134 – Subscription of contract PMC - Foster Wheeler

This process is being carried out against two ex-employees of Refinería de Cartagena who acted as ex-president on property and ex-president in charge, for the crime of entering into a contract without legal requirements. In this process, Refinería de Cartagena and Ecopetrol S.A. were officially recognized as victims.

On August 18, 2022, a sentence was handed down imposing the minimum penalty for the crime charged, equivalent to 64 months in prison and a fine of (66.66) SMLMV. On August 25, 2023, the defenders of the defendants supported the appeal briefs, and the parties were notified to rule.

On October 19, 2023, the Criminal Chamber of the Superior Court of Bogotá confirmed the first instance ruling.

Against this ruling, the attorneys of the convicted persons filed an extraordinary appeal for cassation before the Supreme Court of Justice.

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On February 23, 2024, the Superior Court of the Judicial District of Bogota granted the appeal and referred the case to the Criminal Chamber of the Supreme Court of Justice.

On February 26, 2024, the Court acknowledged receipt of the file, the distribution was made in April and the decision to admit or reject the claims is awaited.

As of December 31, 2024, there were no changes in the process.

Proceeding 4 - 110016000000201702546 – Principle of opportunity.

This process is being executed against a ex-employee of the Refinería de Cartagena, for charges related to crimes against the public administration, and illegal interest in the execution of contracts.

On December 5, 2024, by Resolution No. 549, one year was set as the term for the extension of the suspension of the exercise of criminal action.

23.5 Detail of contingent liabilities

The following is a summary of the main contingent liabilities that have not been recognized in the statement of financial position as, according to the evaluations made by internal and external advisors of the Ecopetrol Business Group, the expectation of loss is not probable as of December 31:

Type of process	2024		2023	
	Number of processes	Proceedings	Number of processes	Proceedings
Constitutional	75	644,298	115	644,398
Ordinary administrative	148	2,980,078	145	3,092,308
Labor	667	105,142	645	78,432
Civil	44	2,679	57	17,350
Arbitration	1	80,263	1	449,781
Penal	4	22	1	—
	939	3,812,482	964	4,282,269

23.6 Details of contingent assets

The following is a breakdown of the Ecopetrol Business Group's principal contingent assets, where the associated contingent gain is likely, but not certain:

Type of process	2024		2023	
	Number of processes	Proceedings	Number of processes	Proceedings
Ordinary administrative	113	772,430	94	662,350
Arbitration	1	—	1	300,846
Civil	311	1,074,544	268	31,136
Penal	159	36,418	116	35,561
Labor	526	1,847,242	488	18,424
Constitutional	5	—	6	—
	1,115	3,730,634	973	1,048,317

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24. Equity

24.1 Subscribed and paid-in capital

Ecopetrol's authorized capital amounts to \$36,540,000, and is comprised of 60,000,000,000 ordinary shares, of which 41,116,694,690 are outstanding, and 11.51% (4,731,906,273 shares) are held privately and 88.49% (36,384,788,417 shares) are held by the Colombian Government. The value of the reserve shares amounts to \$11,499,933 comprised of 18,883,305,310 shares. As of December 31, 2024, and 2023, subscribed and paid-in capital amounts to COP\$25,040,067. There are no potentially dilutive shares.

24.2 Additional paid-in capital

Additional paid-in capital mainly corresponds to: (i) share premium from the Ecopetrol Business Group's capitalization in 2007, for \$4,457,997, (ii) share premium from the sale of shares awarded in the second capitalization, which took place in September 2011, of \$2,118,468, (iii) a \$31,377 share premium from the placement of shares on the secondary market, arising from the calling of guarantees from debtors in arrears, according to the provisions of Article 397 of the Code of Commerce, and (iv) additional paid-in capital receivables for (\$143).

24.3 Equity reserves

The following is the composition of the Ecopetrol Business Group's reserves as of December 31, 2024, and 2023:

	2024	2023
Legal reserve	11,654,095	9,747,885
Fiscal and statutory reserves	509,082	509,082
Occasional reserves	11,993,230	7,665,758
	24,156,407	17,922,725

The General Shareholders' Meeting of Ecopetrol S.A., held on March 22, 2024, approved the 2023 profit distribution project and the establishment of a reserve for \$11,993,230, to support the financial sustainability of the Company and flexibility in the development of its strategy.

The movement of equity reserves is the following for the years ended December 31, 2024, and 2023:

	2024	2023
Opening balance	17,922,725	8,898,633
Release of reserves	(8,174,839)	(2,491,377)
Allocation to reserves	14,408,521	11,515,469
Closing balance	24,156,407	17,922,725

24.4 Retained earnings and dividends

Ecopetrol Business Group distributes dividends based on its financial statements prepared under International Financial Reporting Standards accepted in Colombia (NCIF, as its acronym in Spanish).

The Ordinary General Assembly of Shareholders of Ecopetrol S.A., held on March 22, 2024, approved the profit distribution project for fiscal year 2023 and defined the distribution of dividends in the amount of \$12,828,409 (distribution during 2023: \$24,382,199).

The payment of dividends to minority shareholders was made in two equal installments on April 3 and June 26, 2024.

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Dividends were paid as follows:

	2024	2023	2022
Ecopetrol S.A.	12,802,893	2,747,231	11,622,778
Interconexión Eléctrica S.A. ESP	1,426,106	1,506,799	572,260
Oleoducto Central S.A. - Ocesa	852,318	809,302	752,530
Oleoducto de los Llanos Orientales S.A. - ODL	213,457	254,464	179,202
Invercolsa S.A.	201,511	171,290	138,939
Oleoducto de Colombia S.A. - ODC	68,779	81,790	91,238
Total	15,565,064	5,570,876	13,356,947

(1) Of the total amount paid to the majority shareholder Ecopetrol S.A., \$7,352,053 was paid with National Government Securities (TES), obtained as part of the collections of the Price Stabilization Fund and which were immediately allocated to the payment of dividends.

In July 2024, Oleoducto Central S.A. acquired 100% of the shares of the company Repsol Ductos de Colombia – RDC (named as of October 2, 2024, as Ocesa Ductos S.A.S), an entity dedicated to investment activities that currently has a 7.14% investment in Oleoducto de Colombia (ODC), which is a subsidiary of the Ecopetrol Business Group. The effect of this transaction on retained earnings was (\$102,329) and on non-controlling interest (\$55,990).

24.5 Other comprehensive income attributable to owners of parent

The following is the composition of the other comprehensive income attributable to the shareholders of the parent, Ecopetrol, net of tax:

	2024	2023	2022
Foreign currency translation	22,661,759	15,055,305	28,816,983
Hedge of a net investment in a foreign operation	(6,396,431)	(3,165,320)	(9,219,271)
Actuarial gain on defined benefit plans	(2,691,402)	(3,942,417)	(1,331,361)
Cash flow hedges for future exports	(1,577,649)	601,744	(2,473,999)
Cash flow hedge with derivative instruments	57,453	124,384	1,290
Others	(141,521)	952	3,077
	11,912,209	8,674,648	15,796,719

24.6 Earnings per share

	2024	2023	2022
Profit attributable to Ecopetrol's shareholders	13,841,153	21,060,798	31,604,781
Weighted average number of outstanding shares	41,116,694,690	41,116,694,690	41,116,694,690
Net basic earnings per share (Colombian pesos)	COP \$ 336.6	COP \$ 512.2	COP \$ 768.7

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25. Revenue from contracts with customers

	2024	2023	2022
National sales			
Mid-distillates (1)	28,672,298	32,605,842	39,182,510
Gasoline and turbo fuels (1)	17,804,372	23,129,025	27,620,199
Natural gas	4,096,126	4,358,266	4,162,876
Services	3,877,130	3,232,784	3,601,681
Electric power transmission services (2)	3,226,557	2,769,897	2,595,505
Plastic and rubber	919,788	1,225,223	1,568,816
LPG and propane	630,570	762,349	1,094,332
Asphalts	794,111	938,185	897,200
Fuel gas service	1,082,710	989,084	860,102
Crude oil	302	128,416	375,790
Roads and Construction Services (2)	330,053	349,834	355,737
Aromatics	246,612	297,957	343,792
Polyethylene	328,649	314,184	302,630
Fuel oil	20,527	36,298	9,213
Other income gas contracts	—	30	1,940
Other products	626,068	607,708	679,183
	62,655,873	71,745,082	83,651,506
Foreign sales			
Crude oil	48,805,672	49,559,864	56,651,753
Electric power transmission services (2)	6,134,698	5,666,389	5,114,783
Roads and Construction Services (2)	5,465,389	4,761,317	4,676,822
Fuel oil	3,920,500	4,028,908	4,348,312
Diesel	1,203,562	4,097,117	2,324,861
Plastic and rubber	1,230,748	1,393,669	2,036,201
LPG and propane	346,908	302,159	339,837
Natural gas	43,539	105,413	254,054
Gasoline and turbo fuels	360,438	193,394	157,685
Cash flow hedges (3)	(345,499)	(468,407)	(1,578,246)
Other products	3,508,600	1,804,697	1,633,510
	70,674,555	71,444,520	75,959,572
	133,330,428	143,189,602	159,611,078

- (1) Includes the corresponding value to the application of Decree 180522 of March 29, 2010, and other standards that modify and add (Decree 1880 of 2014 and Decree 1068 of 2015), which establishes the procedure to recognize the subsidy for refiners and importers of ordinary motor gasoline and ACPM, and the methodology for calculating the net position, which can be positive or negative. As of December 31, 2024, the value recognized by price differential corresponds to \$7,525,429 (2023: \$20,531,095; 2022: \$36,532,743). The balance receivable for this concept is detailed in Note 7.
- (2) Corresponds to the revenue related to the electric power transmission contracts and toll roads concessions of Interconexión Eléctrica S.A. E.S.P.
- (3) Includes the result of hedging for future exports (Note 30.3) for \$(238,943) (2023: \$(479,779)); (2022: \$(1,143,287)) and operations with derivative financial instruments for \$(106,556) (2023: \$11,372); (2022: \$(434,959)).

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Sales by geographic areas

	2024	%	2023	%	2022	%
Colombia	62,655,873	47.0 %	71,745,082	50.1 %	83,651,506	52.4 %
Asia	24,295,815	18.2 %	28,841,440	20.1 %	22,547,997	14.1 %
United States	27,094,454	20.3 %	24,991,770	17.5 %	27,120,783	17.0 %
South America and others	16,209,032	12.2 %	12,223,922	8.5 %	13,609,587	8.5 %
Central America and the Caribbean	412,408	0.3 %	2,637,460	1.9 %	9,841,202	6.2 %
Europe	2,662,846	2.0 %	2,749,928	1.9 %	2,840,003	1.8 %
	133,330,428	100.0 %	143,189,602	100.0 %	159,611,078	100 %

Concentration of customers

During 2024, Organización Terpel S.A. represented 11% of sales revenue for the period (2023 – 10% and 2022 – 9%); no other customer represented more than 10% of total sales. There is no risk of the Ecopetrol Business Group's financial situation being affected by a potential loss of the client. The commercial relationship with this customer is for the sale of refined products and transportation services.

Revenues from concession contracts

ISA, through its companies, promotes development in several countries through concessions acquired for the supplying of public energy transport services, services associated with the Management of Real Time Systems in Colombia and public road transport, through concessionaires in Chile and Colombia.

The ISA concessions contain the obligation to carry out major works and at the end of the concession to deliver the asset to the grantors in optimal conditions. These major maintenance works are accounted for i) at the moment in which the works are executed and ii) when the value of the outflow of resources is known.

The current contracts signed by the ISA, except the contracts from Peru and Bolivia, have guaranteed cash flows.

ISA meets its obligations under the concession contracts and provides the contracted services with the use of infrastructure assets determined in each concession contract. Upon the expiration of each concession, ISA can present a bid for its renewal.

The main concessions are the following:

Concessions in Colombia

Inteia S.A.S (before Sistemas Inteligentes en Red)

Through a business collaboration agreement entered into with UNE EPM Telecomunicaciones S.A. and Consorcio ITS, executes the addendum number 5 of the Inter-administrative Agreement 5400000003 of 2006 with the Municipality of Medellín to “provide under the concession modality, the necessary technological infrastructure, the services for its modernization and optimization of the management of the administrative services of the Secretaría de Transporte y Tránsito of Medellín, through a complete solution of technology, information, communications and operation of the information and communications technology (ICT's)”. As payment for such services, Intelligent Network Systems receives a portion of the penalty fees collected through the photodetection system within the municipality.

This contract is within the scope of IFRIC 12 under the intangible model, considering the following aspect: The Municipality of Medellín, as the grantor of the concession, controls the services provided by the concessionaire, including the corresponding infrastructure. The value of fines and the method of imposing them are defined at the national level. The Municipality of Medellín controls, through ownership of the right of use, any significant residual interest in the infrastructure at the end of its useful life, as established in the agreement. Upon termination of this agreement, all goods, equipment, technology, and software use licenses will be reverted to the Municipality.

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Ruta Costera

In accordance with Law 1508 of 2012 which regulates public-private partnerships, the National Infrastructure Agency (“ANI”), by means of Resolution No. 862 of July 2, 2014, awarded Public Tender No. VJ-VE-IP-LP-0011-2013 and, on September 10, 2014, executed Concession Contract No. 004 of 2014 with Concesion Costera Cartagena-Barranquilla, an indirect subsidiary of ISA. The contracted services consist of executing “the final studies and designs, environmental management, property, social management, construction, rehabilitation, improvement, operation, and maintenance of the corridor Cartagena-Barranquilla Project and Circunvalar de la Prosperidad”.

This contract is within the scope of IFRIC 12 under the financial asset model for investment in construction (construction services). As compensation, the concessionaire receives: revenues from commercial exploitation, including toll collections, and payments from ANI, to the extent applicable. If the concessionaire does not achieve the expected revenue from toll collection, the grantor (ANI) will pay the concessionaire a collection differential in years 8, 13 and 18. Such collection differential has been contractually defined as the present value of toll collections for any given reference month. This revenue arrangement represents an unconditional contractual right to receive a specific and determinable amount of cash or other financial assets for the construction services provided.

As of December 31, 2024, the concession is in the operation and maintenance stage of all six functional units that comprise the project.

In addition to the concession contract, Unit Price Fixing Acts have been signed with the ANI, for the development of the following projects on the road:

- Construction of the Crespo Linear Park.
- Operation and Maintenance Activities of the Crespo Linear Park.
- Design, dismantling, construction, and maintenance of solar lighting at UF4.
- Construction of the elevated intersection “Puente Caracolí”

Concessions in Brazil

As concessionaires for power transmission services in Brazil, the Company has the obligation to build and operate the transmission infrastructure, while the grantor retains ownership rights to the concession assets. Upon expiration of the concession, concession assets are to be transferred back to the grantor who must pay any pending compensation to the concessionaire.

The concession contracts of ISA CTEEP and TAESA were analyzed and classified in accordance with IFRS 15 - Revenue from contracts with customers within the contractual asset model as of January 1, 2018.

The value of the contractual asset of the electric power transmission concessions is equal to the present value of future cash flows, which are determined at the beginning of any given concession or renewal. Such future cash flows are revaluated periodically, in previously determined tariff review periods.

Cash flows are defined based on payments received by concessionaires for supplying power transmission services to end-users. Such payments are known as Receita Anual Permitida or “RAP” and serve to compensate the cost of investments made in the transmission infrastructure. Any investment costs that are not fully compensated through the receipt of RAPs trigger the right to receive payment from the grantor. This flow of future collections is updated for inflation (IPCA/IGPM) and paid at a discount rate at the beginning of each project.

During the construction stage, the concessionaire has the right to receive consideration in accordance with progress made on construction of the network and the performance of its obligations, and not only in accordance with the time used for construction. Revenue is equivalent to the value of construction expenses plus a construction margin, as a result of the application of the pronouncement of the CVM (Brazilian Securities and Exchange Commission) on the accounting treatment for contract assets (CVM Official Communication 4/2020)

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Revenues from these concession assets generate taxes under the Social Integration Program and the Contribution for the Financing of Social Security (Cofins) program. These may be registered as deferred taxes (non-current liabilities).

Concessions in Chile

Road concession contracts for the supply of road infrastructure in Chile, may be remunerated in one or two ways: variable revenues, which may account for traffic risk (the variation of projected demand) or fixed revenue, that is, a guaranteed total amount subject to a revenue distribution mechanism or calculated at the present value of future cash flows. In the latter cases, the total revenue is guaranteed at present value. Additionally, in some concession contracts other concepts are included, such as the minimum guaranteed revenue and subsidies (both in construction and in operation stages); both correspond to payments from the State, subject to specific compliance of conditions by the concessionaire.

The model applied to concessions in Chile will depend on whether revenue is guaranteed or not (whether it is subject to traffic risk or not) and whether it is enough to pay for the investment. On one hand, if the concession contract considers traffic risk, it is recognized according to IFRIC 12 as an intangible asset. This asset is amortized over the life of the concession operation. On the other hand, if the contract establishes income and compensation guarantee mechanisms, it is recognized as a financial asset. This asset is extinguished through payments received from road users, through the collection of tolls, or directly through payments from the Ministry of Public Works. Currently, ISA has road concessions in Chile applying the financial asset model.

Concessions in Peru

Due to their terms and conditions, as well as the rights and obligations of concessionaires, the concession contracts of ISA REP, ISA Perú, and Consorcio Transmantaro are recognized as intangible assets. The intangible asset model applies when the services provided by the concessionaire are paid by end-users or when the grantor does not unconditionally guarantee the collection of revenues. These contracts grant the concessionaire the right to charge end-users for the energy transmission service, but do not establish an unconditional right to receive cash.

In November 2020, through a corporate reorganization process (merger by absorption), ISA Perú acquired the companies Etenorte S.R.L. (220 KV Carhuaquero - SE Chiclayo Oeste lines and 138 KV Huallanca - SE Chimbote 1 and SE Chimbote 2 lines) and Eteselva S.R.L. (SE Aguaytia - SE Tingo María - SE Paramonga Nueva 220 lines), which have an unlimited useful life.

All the concession contracts for the supply of power transmission services in Peru contain similar terms and conditions.

Concessions in Bolivia

Similar to concession contracts in Peru, concessions to provide public energy services in Bolivia do not guarantee the unconditional receipt of cash by the concessionaire. In these concession contracts, we assume the credit risk associated with the collection of amounts invoiced and may not be able to recover the entire value of the investment made. Additionally, the Bolivian State is not obliged to guarantee shortages, either due to the non-existence of demand or due to non-payment by any of the market agents; therefore, the grantor has no obligation to pay for the construction services received and, in this sense, the model that adjusts to the contractual conditions by IFRIC 12 is the intangible asset model, framed by IFRIC 12.

The balances of assets and income from concessions accounted for under IFRIC 12 are disclosed in Exhibit 3. Quantitative information on service concession contracts.

Committed investments

ISA and its companies have committed investments of \$27.3 trillion pending execution in the 2025-2030 period. These investments correspond to the balance pending execution of contracts already awarded, and to estimated needs for reinforcements and expansions of existing infrastructure and replacement of assets. These investments represent a strategic commitment to expand and modernize infrastructure, improve operational efficiency, and promote the adoption of sustainable technologies, increasing cash flow generation and the value of ISA for its shareholders.

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The committed investments pending of execution for 2025-2030 period are distributed as follows:

- Projects awarded for \$22.7 trillion in the energy transmission (83.3%), \$3.6 trillion in construction and improvement businesses roads (13.3%) and \$0.9 trillion in telecommunications business development (3.4%).
- Reinforcement and improvements for the existing network of ISA Brasil and subsidiaries for \$6.2 trillion.
- Capital contributions of \$1.4 trillion to Conexión Kimal Lo Aguirre in Chile and to TOCE CEPI energy transmission project in Peru.
- Projection of investments related to the maintenance and optimization plan of existing assets for \$0.9 trillion and investments in technological developments and headquarters conservation for \$1 trillion.

The value of committed investments pending execution may vary, among other things, due to adjustments in the scope of the projects, equipment and material prices, and variations in macroeconomic estimates, such as exchange rates and price indexes.

26. Cost of sales

	2024	2023	2022
Variable costs			
Imported products (1)	20,528,459	24,204,342	31,230,405
Purchases of crude	12,434,565	13,389,646	16,223,628
Purchases of hydrocarbons – ANH (2)	8,232,227	8,518,700	9,219,215
Depreciation amortization and depletion	9,779,970	8,125,774	6,774,770
Electric energy	2,359,490	2,294,253	1,540,452
Gas royalties in cash	995,254	1,293,138	1,149,664
Taxes and economic rights	67,915	419,145	360,601
Process materials	1,558,739	1,563,802	1,260,608
Purchases of other products and natural gas	1,478,560	1,201,349	1,244,765
Hydrocarbon transport services	1,728,912	1,586,553	1,219,818
Services contracted in associations	337,924	284,104	311,107
Others (3)	822,515	1,151,536	(2,354,814)
	60,324,530	64,032,342	68,180,219
Fixed costs			
Depreciation and amortization	4,865,856	5,079,308	4,635,601
Maintenance	5,301,672	4,642,710	3,771,137
Labor costs	4,298,874	3,976,370	3,436,167
Construction services	3,585,331	2,600,184	2,802,486
Services contracted	3,763,659	3,523,125	2,870,890
Services contracted in associations	1,376,402	1,467,693	1,566,562
Taxes and contributions	1,170,897	1,123,475	914,455
Materials and operating supplies	851,342	880,729	684,679
Hydrocarbon transport services	335,027	249,414	179,082
General costs	607,564	602,848	416,870
	26,156,624	24,145,856	21,277,929
	86,481,154	88,178,198	89,458,148

- (1) Imported products correspond mainly to mid-distillates, gasolines and thinner, the variation occurs due to lower requirements due to greater operations in Barrancabermeja Refinery.
- (2) Corresponds to purchases of crude oil by Ecopetrol Business Group from the National Hydrocarbons Agency derived from national production.
- (3) Corresponds to i) result of the process of use and valuation of core inventories, ii) measurement at net realizable value, and iii) other capitalizable charges to projects.

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27. Administrative, operative, and project expenses

	2024	2023	2022
Administrative expenses			
Labor expenses	2,193,890	2,029,110	1,663,464
General expenses	2,402,505	2,378,606	2,040,773
Taxes	80,480	82,692	57,944
Depreciation and amortization	426,228	535,389	573,514
	5,103,103	5,025,797	4,335,695
Operations and project expenses			
Exploration costs (1)	1,769,785	2,088,922	1,512,268
Commissions fees freights and services	1,685,112	1,682,602	1,326,184
Taxes	819,480	838,977	781,181
Labor expenses	440,670	393,595	363,838
Fee for regulatory entities	219,079	288,212	192,094
Maintenance	173,113	107,832	162,383
Depreciation and amortization	125,229	71,916	145,106
Others	415,183	230,106	260,574
	5,647,651	5,702,162	4,743,628

- (1) As of December 31, 2024, exploration expenses mainly include: i) the disposals of the Orca1, Arantes1, Machin1, and Morito1 wells and seismic work and studies at Ecopetrol S.A., ii) at Hocol S.A. the disposals of the Milonga, Yoda A, Arbolito Norte, Sabanales, Toritos, and Saltador wells and exploration and seismic expenses mainly at Llanos, VIM8, Perdices, Cor-9, SN-18, SSJN1, Upar, YD SN-1, SN-15, RC-7, and iii) the Pau Brasil well and exploration and seismic expenses at Ecopetrol Brasil.

28. Other operating income (expenses)

	2024	2023	2022
Expense for legal provisions	(66,819)	(686,430)	(516,288)
(Loss) gain on sale of assets	(148,300)	121,309	(86,954)
Impairment loss of current assets (1)	(262,010)	(95,902)	(101,871)
Profit in business combinations and field reversal (2)	1,727,130	—	—
Other income	247,048	234,892	149,258
	1,497,049	(426,131)	(555,855)

- (1) Corresponds mainly to the impairment of 96.82% of the receivables of the client AIR-E S.A.S. E.S.P. in the companies ISA, Intercolombia, and Transelca; the intervention process of the client is the main indicator to determine that there is a high credit risk.
- (2) Includes the profit from: a) the acquisition of Repsol's 45% of Block CPO-09 by Ecopetrol S.A. and the revaluation at fair value of the pre-existing 55% (\$1,698,862 – Note 12), and b) the reversion of the San Jacinto field (\$28,268).

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29. Financial result

	2024	2023	2022
Finance income			
Yields and interests	1,627,135	1,884,445	965,952
Results from financial assets	74,498	329,061	178,212
Gain on derivatives valuation	4,931	4,454	18,099
Other financial income	41,237	103,009	154,882
	1,747,801	2,320,969	1,317,145
Finance expenses			
Interest (1)	(7,377,086)	(6,923,831)	(5,517,417)
Financial cost of other liabilities (2)	(2,465,600)	(2,196,936)	(2,003,687)
Results from financial assets	(31,391)	(246,155)	(152,355)
Other financial expenses	(445,239)	(1,017,143)	(353,793)
	(10,319,316)	(10,384,065)	(8,027,252)
Foreign exchange gain			
Gain (loss) from exchange difference	51,567	2,397,712	(124,650)
	51,567	2,397,712	(124,650)
Financial result	(8,519,948)	(5,665,384)	(6,834,757)

- (1) As of December 31, 2024, interests on natural and environmental resources and property, plant, and equipment were capitalized for \$809,560 (2023 \$643,964).
- (2) Includes the financial expense for the update of the liability for cost of retirement obligation and the net interest on post-employment benefits and other long-term employee benefits.

30. Risk management

30.1 Exchange rate risk

The Ecopetrol Business Group operates mainly in Colombia and makes sales in the local and international markets, for that reason, it is exposed to exchange rate risk.

As of December 31, 2024, the Colombian peso depreciated 15.36%, going from a closing rate as of December 31, 2023, of COP\$3,822.05 to COP\$4,409.15 pesos per dollar. When the Colombian peso depreciates, export earnings, when converted to pesos, increase, and imports and external debt service become more expensive.

The balance of financial assets and liabilities denominated in foreign currency for the years ended December 31, is presented in the following table:

(in US\$Million)	2024	2023
Cash and cash equivalents	650	554
Other financial assets	735	1,188
Trade receivables and payables, net	(495)	(973)
Loans and borrowings	(18,320)	(18,470)
Other assets and liabilities, net	117	268
Net liability position	(17,313)	(17,433)

Of the total net position, USD\$(16,972) million correspond to net liabilities of companies with Colombian peso functional currency, of which USD\$(17,612) million correspond to loans used as hedging instruments whose valuation is recognized in other comprehensive income, the exchange difference valuation of the remaining net assets for USD\$640 million affects the statement of profit and loss. Likewise, USD\$(341) million of the net position correspond to monetary assets and liabilities of Business Group companies with a functional currency other than the Colombian peso, whose valuation is recognized in the profit or loss statement.

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30.2 Sensitivity analysis for exchange rate risk

The following is the effect of a change of 1% and 5% in the exchange rate of the Colombian peso as compared with the U.S. dollar, on the balance of financial assets and liabilities denominated in foreign currency as of December 31, 2024:

Scenario / Variation in the exchange rates	Effect on income before taxes +/-	Effect in other comprehensive income +/-
1%	13,188	776,544
5%	65,940	3,882,721

30.3 Cash flow hedge for future exports

To express in the consolidated financial statements, the effect of the existing natural hedge between exports and indebtedness, understanding that the exchange rate risk materializes when exports are made, On September 30, 2015, the Board of Directors made the first designation of Ecopetrol's debt as a hedging instrument for its future income from crude oil exports.

The following is the movement of this non-derivative hedging instrument:

(US\$Million)	2024	2023
Hedging instrument at the beginning of the period	6,265	5,572
Reassignment of hedging instruments	1,200	970
Realization of exports	(1,207)	(970)
Designation of new coverage	1,085	693
Hedging instrument at the end of the period	7,343	6,265

The following is the movement in other comprehensive income for the years ended December 31, 2024, 2023 and 2022:

	2024	2023	2022
Opening balance	601,744	(2,473,999)	(945,250)
Exchange difference	(3,897,441)	5,194,529	(4,317,263)
Reclassification to profit or loss (Note 25)	238,943	479,779	1,143,287
Ineffectiveness	6,658	25,454	6,625
Deferred income tax (Note 10)	1,472,447	(2,624,019)	1,638,602
Closing balance	(1,577,649)	601,744	(2,473,999)

The expected reclassification of the cumulative exchange difference from other comprehensive income to the profit or loss is as follows:

Year	Before taxes	Taxes	After taxes
2025	(853,665)	328,723	(524,942)
2026	(841,876)	326,614	(515,262)
2027	(147,788)	57,336	(90,452)
2028	(146,929)	57,003	(89,926)
2029	(145,666)	56,513	(89,153)
2030	(144,694)	56,135	(88,559)
2031	(143,798)	55,788	(88,010)
2032	(140,312)	54,435	(85,877)
2033	(8,932)	3,464	(5,468)
	(2,573,660)	996,011	(1,577,649)

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30.4 Hedge of a net investment in a foreign operation

The Board of Directors approved the application of net investment hedge accounting from June 8, 2016. The measure is intended to reduce the volatility of non-operating income due to exchange rate variations. The net investment hedge will be applied on a portion of the Ecopetrol Business Group's investments in foreign operations, in this case on investments in subsidiaries which have the U.S. dollar as their functional currency, using a portion of the Ecopetrol Business Group's U.S. dollar denominated debt as the hedging instrument.

As of December 31, 2024, the total hedged balance is USD\$10,269 million, which includes: i) Ecopetrol S.A. USD\$9,939 million and ii) ISA Colombia for USD\$330 million in net investment coverage on investments in the companies ISA REP, ISA Perú, Consorcio Transmantaro and Proyectos de Infraestructura del Perú.

The following is the movement in other comprehensive income attributable to owners of parent:

	2024	2023	2022
Opening balance	3,140,684	9,354,071	4,366,336
Exchange difference	6,305,555	(8,973,471)	7,526,124
Deferred income tax (Note 10)	(2,979,130)	2,760,084	(2,538,389)
Closing balance	6,467,109	3,140,684	9,354,071

30.5 Hedging with financial derivatives to mitigate exchange rate and interest rate risk

The ISA Group and Oleoducto Central S.A. have hedges with derivative financial instruments – CCS (Cross Currency Swaps) and nondelivery forward to hedge exchange rates. These hedges are recognized as cash flow hedges.

Company	Derivative instrument	2024	2023
Intervial Chile (1)	Cross currency swap	35,520	44,134
Oleoducto Central S.A.	Non-delivery forward	—	223,091

(1) As of December 2024, it corresponds to a cross-currency swap ISA Intervial, which belongs to the **toll roads** segment in Chile. This derivative contract was signed in May 2021 with Itaú Corpbanca, to exchange the flows of debt contracted in Chilean pesos to Unidades de Fomento (UF).

30.6 Commodity price risk

The price risk of raw materials is associated with Ecopetrol Business Group's operations, both exports and imports of crude oil, natural gas, and refined products. To mitigate this risk, the Group has implemented hedges to partially protect the results from price fluctuations, considering that part of the financial exposure under contracts for the purchase of crude oil and refined products depends on the international oil prices.

The risk of such exposure is partially hedged in a natural way, as an integrated Business Group (with operations in the exploration and production, transportation and logistics and refining segments) and carries out both crude exports at international market prices and sales of refined products at prices correlated with international prices.

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Ecopetrol Business Group has a policy for the execution of (strategic and tactical) hedges and implemented processes, procedures, and controls for their management:

- The main purpose of the strategic hedging program is to protect the separate and consolidated financial statements against the volatility of market variables in each period, protect income and thus cash flow. Hedging plan has been executed to protect the cash and cash equivalents against low price scenarios below the budget base price, in this sense, put options were purchased. As of December 31, 2024, there was no balance of these financial instruments on the balance sheet.
- On the other hand, tactical hedges allow capturing value in trading operations and Asset Backed Trading (ABT), mitigating the market risk of specific operations. In the trading activity, the commitments in spot and forward physical contracts imply an exposure to commodity price risk, particularly the risk associated with the volatility of the price of crude oil and refined products. Although said exposure is part of the natural risk of the production, refining and marketing activity carried out by the Business group, sometimes marketing, to maximize value capture, can concentrate risk exposure in terms of term and/or or indicator that differs from the Company's natural price risk profile.

As of the date of this report, the Ecopetrol Business Group recognized a total net liability position in swaps of \$29,209 (Dec 2023: passive \$6,350). The constitution of these operations with derivatives is recognized under cash flow hedge accounting.

30.7 Credit risk

Credit risk is the risk that the Ecopetrol Business Group may suffer financial losses because of default of: (a) payments by its clients for the sale of crude oil, gas, products, or services; (b) financial institutions in which it keeps investments, or (c) by counterparties with which it has contracted financial instruments.

Credit risk related to customers

In the selling process of crude oil, gas, refined products and petrochemicals, transport services, energy transmission, roads and telecommunications, the Ecopetrol Business Group may be exposed to credit risk if customers fail to fulfill their payment obligations. The Ecopetrol Business Group's risk management strategy has designed mechanisms and procedures that aim to minimize such events, thus safeguarding the Ecopetrol Business Group's cash flow.

The Ecopetrol Business Group performs a continuous analysis of the financial strength of its counterparties, by classifying them according to their risk level and financial guarantees in the event of a default of payments. Similarly, the Ecopetrol Business Group continuously monitors national and international market conditions for early alerts of major changes that may have an impact on the timely payment of obligations from customers.

For the receivables that are considered exposed to credit risk (Note 7), Ecopetrol Business Group make individual analysis of each customer's situation to determine the value of impairment to recognize in financial statements. The Ecopetrol Business Group performs administrative and legal actions required to recover amounts past due and charges interest from customers that fail to comply with payment policies.

An aging analysis of the accounts receivable portfolio in arrears, but not impaired, as of December 31, 2024, and 2023 is as follows:

	2024	2023
Less than 3 months overdue	178,476	119,608
Between 3 and 6 months overdue	14,717	56,615
More than 6 months overdue	65,296	181,012
	<u>258,489</u>	<u>357,235</u>

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Credit risk in financial assets

Following the promulgation of Decree 1525 of 2008, which provides general rules on investments for public entities, Ecopetrol's management established guidelines for its investment portfolios. These guidelines determine that investments in Ecopetrol's U.S. dollar portfolios are generally limited to investments of cash excess in fixed-income securities issued by entities rated A or higher in the long term and A1/P1/F1 or higher in the short term (international scale) by Standard & Poor's Ratings Services, Moody's Investors Service or Fitch Ratings.

In addition, Ecopetrol Business Group may also invest in securities issued or guaranteed by the United States of America or Colombia governments, without regard to the ratings assigned to such securities. In Ecopetrol's Colombian Peso portfolio, it must invest the cash excess in fixed-income securities of issuers rated AAA in the long term, and F1+/BRC1+ in the short term (local scale) by Fitch Ratings Colombia or BRC Standard & Poor's. Likewise, the Company may also invest in securities issued or guaranteed by the National Government of Colombia without qualification restrictions.

To diversify the risk in the Colombian Peso portfolio, Ecopetrol Business Group does not invest more than 10% of the cash excess in one specific issuer. In the case of the U.S. dollar portfolio, Ecopetrol Business Group does not invest more than 5% of the cash excess in one specific issuer in the short term (up to one year), or 1% in the long term.

The credit rating of issuers and counterparties in transactions involving financial instruments is disclosed in Note 6 – Cash and cash equivalents, Note 9 – Other financial assets, and Note 22.2 – Plan assets.

30.8 Interest rate risk

Interest rate risk arises from Ecopetrol's exposure to changes in interest rates because the Ecopetrol Business Group has investments in fixed and floating-rate instruments and has issued floating rate debt linked to SOFT, DTF, and CPI interest rates. Thus, interest rate volatility may affect the fair value and cash flows of the Ecopetrol Business Group's investments and the financial expense of floating rate loans and financing.

As of December 31, 2024, 28.91% (2023, 31.02% and 2022, 26.4%) of the Ecopetrol Business Group's indebtedness is linked to floating interest rates. As a result, if market interest rates rise, financing expenses will increase, which could have an adverse effect on the results of operations.

Ecopetrol Business Group controls the exposure to interest rate risk by establishing limits to the portfolio duration, Value at Risk – VAR and tracking error.

Autonomous equities linked to Ecopetrol Business Group's pension obligations are also exposed to changes in interest rate, as they include fixed and floating rate instruments that are recognized according to the mark to market. Colombian regulation for pension funds, as stipulated in the Decree 941 of 2002 and Decree 1861 of 2012, indicates that they must follow the same regime as the regular obligatory pension funds in their moderate portfolio.

The following table provides information about the sensitivity of the Ecopetrol Business Group's results and other comprehensive income for the next 12 months to variations in interest rate of 100 basis points:

	Effect on profit or loss (+/-)		Effect on Other Comprehensive Income (+/-)
	Financial Assets *	Financial Liabilities	Plan Assets
+100 basis points	(168,032)	(1,800,691)	476,735
-100 basis points	162,600	(2,216,778)	(489,096)

(*) This sensitivity was executed for portfolios of Ecopetrol S.A. and Black Gold Re. These are the most relevant of the Ecopetrol Business Group.

A sensitivity analysis of discount rates on pension plan assets and liabilities is disclosed in Note 22 – Provisions for employees' benefits.

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30.9 Liquidity risk

The ability to access credit and capital markets to obtain resources for the investment plan execution for Ecopetrol Business Group may be limited due to adverse changes in market conditions. A global financial crisis could worsen risk perception in emerging markets.

Events that could affect the political and regional environment of Colombia may make it difficult for our subsidiaries to access the capital markets. These conditions, together with potential significant losses in the financial services sector and changes in credit risk assessments, may make it difficult to obtain resources on favorable terms. As a result, the Ecopetrol Business Group may be forced to review the conditions of the investment plan, or access financial markets under unfavorable terms, thereby negatively affecting the Ecopetrol Business Group's results of operations and financial results.

Liquidity risk is managed in accordance with the Ecopetrol Business Group's policies aimed at ensuring that enough cash flows to comply with the Ecopetrol Business Group's financial commitments within the established dates and with no additional costs. The main method for the measurement and monitoring of liquidity is cash flow forecasting.

The following is a summary of the maturity of financial liabilities as of December 31, 2024. The amounts disclosed in the table are the contractual undiscounted cash flows. The payments in foreign currency were restated taking a constant exchange rate of COP\$4,409.15 per U.S. dollar:

	Up to 1 year	1-5 years	5-10 years	> 10 years	Total
Loans (payment of principal and interest)	10,439,654	57,688,188	57,688,188	48,280,088	174,096,118
Trade and other payables	19,302,124	14,811	—	—	19,316,935
	<u>29,741,778</u>	<u>57,702,999</u>	<u>57,688,188</u>	<u>48,280,088</u>	<u>193,413,053</u>

30.10 Risk and opportunities related to climate (Unaudited)

The Ecopetrol Business Group carries out two types of analysis for climate-related risks and opportunities. The first seeks to adapt the business strategy to the energy transition and the other focuses on climate scenarios to identify the level of risk.

- **Physical risks:** They are related to the exposure and vulnerability of the Ecopetrol Business Group to the impacts of climate change and climate variability, which could affect operational continuity and increase the exposure of assets to possible damage and loss. Physical risks are classified as acute and chronic.
 - Acute risks are those caused by extreme weather events, the frequency and intensity of which have been increasing due to the gradual rise in global temperature. In Colombia, they are mainly reflected in the occurrence of the climate variability phenomenon "El Niño" and its opposite phase "La Niña". These conditions could result in, among others, water shortages, heat waves, floods and fires.

For the fourth quarter, the phenomenon of "La Niña" continues to be monitored, and the Ecopetrol Business Group has an action plan in place in case the phenomenon materializes.

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- Chronic risks, arising from a sustained medium- and long-term change in climate conditions, which for the Ecopetrol Business Group can be reflected in rising sea levels, thermal overload and droughts beyond 2050.

The physical risk analysis considered the following climate change scenarios from the Intergovernmental Panel on Climate Change (IPCC), with a horizon up to 2100, inclusive: (i) Aligned with the objective of the Paris Agreement (SSP 1 / RCP 2.6), (ii) Peak emissions in 2040 (SSP2 / RCP4.5), and (iii) 'Business as Usual' (SSP5 / RCP8.5). Under these scenarios, seven (7) chronic (drought and thermal stress) and acute (precipitation, coastal and river flooding, fires and winds) threats were evaluated at 95 points associated with the main assets of the Ecopetrol Business Group. The results of the analysis must provide an additional local-scale analysis, prioritizing the assets with the greatest exposure and vulnerability.

- **Transition risk:** They are related to the challenges that the Ecopetrol Business Group has identified to transition towards a low-carbon, sustainable and competitive operation. Ecopetrol carried out a prioritization of transition risks to establish their financial impact, identifying the following:

- Regulatory risk, associated with regulatory changes that may directly affect the Company in the short and medium term. Among the regulatory changes, the following can be highlighted: (i) new information requirements associated with mitigation and adaptation for the application or modification of current and future licenses, (ii) greater demands associated with the regulations for the detection and repair of leaks, flaring and gas venting, (iii) Limitations on the use of compensation to meet decarbonization goals, (iv) new requirements for the validation and verification of reduction projects and their registration in the National Registry of Greenhouse Gas Emission Reductions (RENARE), (v) launching of the National Program of Tradable Emissions Quotas (PNCTE), similar to an Emissions Trading System, in which emission rights would be assigned. This program is currently in the design and development phase of the regulatory framework and is scheduled to come into effect in 2025 with full implementation in 2030. At the international level, the SEC (Securities Exchange Commission) rule on disclosure of climate-related information is under review, which may be adopted by the Colombian Financial Superintendence and modify current circulars.

During 2023, the National Environmental Licensing Authority (ANLA) incorporated into applications for environmental licenses, license modifications or minor changes in production and exploration, requirements associated with the quantification of GHG emissions, mitigation actions, vulnerability and climate risk analysis, and adaptation actions, within the framework of the Comprehensive Business Climate Change Management Plan (PIGCCe). The report on compliance with these requirements must be presented in the Environmental Compliance Reports (ICAs). As of December 31, 2024, no modification requests were submitted. The document associated with the PIGCCe is available for public consultation.

- Legal risk, associated with the negative reactions and lawsuits against the climate action of the company.
- Risk of assets trapped in the traditional business of hydrocarbon production, transportation, and refining, considering factors such as fuel demand prospects and asset profit horizons.
- Market risk, related to the change in preferences in the use of low-carbon products in the long term, which implies a risk for Ecopetrol Business Group of not being able to meet market demand and of not advancing effectively in the development of these products.
- Reputational risk, associated with the impossibility of responding in a timely way to the expectations and demand of investors and other interest groups to establish ambitious objectives regarding climate change, which would affect the image of Ecopetrol Business Group.
- Technological risk, associated with the negative effects on the profitability of the business if there is no preparation and capacity to adapt to new technologies because of the transition process.

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The transition risk analysis considered the market and regulatory risks with the highest probability of materialization and were evaluated under the three scenarios of the International Energy Agency's (IEA) World Energy Outlook 2022: (i) Net Zero Emissions (NZE), (ii) Announced Pledges Scenario (APS), and (iii) Stated Policies Scenario (STEPS). In market risk, as a first approach, the impact on the value of the assets of the Upstream segment and their resilience to different expectations of hydrocarbon demand were analyzed. In the APS and STEPS scenarios, the oil business shows resilience to volatility. However, this exercise cannot be considered absolute, since the IEA scenarios do not consider the dynamics of local energy demand, especially in the natural gas market. Regarding regulatory risk, the regulatory evolution related to the energy transition and climate change involves regulatory changes that may directly affect the Ecopetrol Business Group in the short and medium term. The Ecopetrol Business Group is committed to making a significant contribution to national and sectoral goals, which in the future may be reflected in potential mandatory requirements. Faced with this risk, the Ecopetrol Business Group evaluated two routes: i) quantification of the impact on costs associated with a potential change in carbon prices and ii) quantification of the financial repercussions derived from higher abatement costs, due to limitations in the use of offsets, to analyze the effects on cash flow and potential capital allocation needs to enable the entry of new abatement opportunities to achieve decarbonization goals.

Additionally, in regulatory terms, the Ministry of Environment and Sustainable Development of Colombia has launched a public consultation on the draft decree that will regulate the National Program of Tradable Greenhouse Gas Emission Quotas (PNCTE), an economic instrument established as one of the means of implementing Colombia's Nationally Determined Contribution (NDC). This future regulation could have an impact on the decarbonization goals of the Ecopetrol Business Group.

To manage the risks identified, Ecopetrol Business Group defined the strategic risk as "Inadequate response to challenges associated with climate change, water, and biodiversity", which includes treatment actions, Key Risk Indicators (KRI) and controls to effectively manage the causes and mitigate the materialization of the risk. This definition as a corporate risk allows the Ecopetrol Business Group to define actions to advance towards decarbonization and the fulfillment of medium and long-term goals and adaptation to climate variability and normal weather conditions in the country, to mitigate the effects associated with water availability and security in the regions, energy security, among others.

- **Climate-related opportunities:** these arise from the analysis of climate-related risks, the review of energy transition scenarios, the implementation of the decarbonization plan and the alignment with the 2040 "Energy that Transforms" strategy. In the process of identifying and assessing opportunities, Ecopetrol Business Group monitors and evaluates the energy market and the business environment by defining energy transition scenarios that guide the long-term strategic analysis of the Ecopetrol Business Group (2040). Opportunities related to the diversification of traditional business, diversification into sustainable businesses, energy efficiency, and renewable energy have been identified.
 - **Diversification of traditional business:** Ecopetrol Group has identified opportunities to make its hydrocarbon business more resilient, taking advantage of the gas outlook, the need for logistics and transportation for other types of fuels and energy, and the growing demand for more sustainable petrochemical products.
 - **Diversification into sustainable businesses:** Considering that the demand for solutions and services in this line will increase in the coming decades, the Group defines, within its pillar of "Growing with the energy transition", the potential for generating EBITDA in the following business lines: Transmission, roads, and telecommunications (through ISA) and Energies for the transition (natural gas, hydrogen, Carbon Capture, Use and Storage, mainly).
 - **Energy efficiency:** Ecopetrol, being one of the largest consumers of energy in Colombia and representing a tenth of the country's consumption, is committed to the Energy Transition. This forces the Company to be an example of how to optimize consumption as a key lever to face climate change.
 - **Renewable energy:** This is one of the Group's strategic levers. The Business Group seeks to have an installed capacity of 30% to 40% of the total group associated with this type of energy, including solar, wind, biomass and hydro.

During 2024, progress was made in reviewing the long-term strategy, to analyze other opportunities associated with the energy transition.

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30.11 Capital management

The main objective of the capital management of the Ecopetrol Business Group is to ensure a financial structure that optimizes the cost of capital, maximizes the rate of return to its shareholders and allows access to financial markets at a competitive cost to cover financial needs.

The following is the leverage ratio as of December 31:

	2024	2023
Loans and borrowings (Note 20)	119,965,031	105,815,527
Cash and cash equivalents (Note 6)	(14,054,475)	(12,336,115)
Other financial assets (Note 9)	(5,240,450)	(2,232,775)
Net financial debt	100,670,106	91,246,637
Equity (Note 24)	105,913,439	100,252,480
Leverage (1)	48.73 %	47.65 %

(1) Net financial debt / (Net financial debt + Equity)

31. Related parties

Balances with associates and joint ventures as of December 31, 2024, and 2023 are as follows:

	Accounts receivable	Accounts receivable – Loans	Other assets	Accounts payable	Loans
Joint Ventures					
Equion Energía Limited	169	—	91	890	829,334
Ecodiesel Colombia S.A.	4,099	—	—	59,094	—
Interligação Elétrica do Madeira S.A.	36,830	—	—	—	—
Interligação Elétrica Garanhuns S.A.	10,261	39	—	—	—
Interligação Elétrica Paraguaçu S.A.	21,812	29	—	—	—
Interligação Elétrica Aimorés S.A.	13,323	29	—	—	—
Interligação Elétrica Ivaí S.A.	17,363	1,752	—	—	—
Transmissora Aliança de Energia Elétrica S.A.	54,409	—	—	—	—
Consortio Eléctrico Yapay	—	3,313	—	—	—
Conexión Kimal Lo Aguirre S.A.	—	347,325	—	—	—
Associates					
Gases del Caribe S.A. E.S.P.	—	—	—	3,786	—
Extracol S.A.	—	—	—	439	—
E2 Energía Eficiente S.A. E.S.P.	3,204	—	—	1,178	—
Balance as of December 31, 2024	161,470	352,487	91	65,387	829,334
Current	161,470	5,161	91	65,387	829,334
Non-current	—	347,326	—	—	—
	161,470	352,487	91	65,387	829,334
	(Note 7)	(Note 7)	(Note 11)	(Note 21)	(Note 20)

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	Accounts receivable	Accounts receivable – Loans	Other assets	Accounts payable	Loans	Other liabilities
Joint Ventures						
Equion Energía Limited	—	—	84	6,327	683,949	423
Ecodiesel Colombia S.A.	4,953	—	—	49,429	—	—
Interligação Elétrica do Madeira S.A.	35,100	—	—	—	—	—
Interligação Elétrica Garanhuns S.A.	10,292	41	—	—	—	—
Interligação Elétrica Paraguau S.A.	11,366	25	—	—	—	—
Interligação Elétrica Aimorés S.A.	7,612	25	—	—	—	—
Interligação Elétrica Ivaí S.A.	18,316	1,097	—	—	—	—
Transmissora Aliança de Energia Elétrica S.A.	26,783	—	—	—	—	—
Conexión Kimal Lo Aguirre S.A.	—	143,236	—	—	—	—
Associates						
Gas Natural del Oriente S.A. E.S.P.	—	—	—	7,560	—	—
Extracol S.A.	—	—	—	1,028	—	—
E2 Energía Eficiente S.A. E.S.P.	7,215	—	—	422	—	—
Internexa Brasil Operadora de Telecomunicaciones	—	235	—	—	—	—
Balance as of December 31, 2023	121,637	144,659	84	64,766	683,949	423
Current	121,637	1,421	84	64,766	683,949	423
Non-current	—	143,238	—	—	—	—
	121,637	144,659	84	64,766	683,949	423
	(Note 7)	(Note 7)	(Note 11)	(Note 21)	(Note 20)	

Loans:

(1) Resources deposited by Equion in Ecopetrol Capital AG.

The main transactions with related parties as of December 31 are detailed as follows:

	2024		2023		2022	
	Sales and services	Purchases and others	Sales and services	Purchases and others	Sales and services	Purchases and others
Joint Ventures						
Equion Energy Limited	62	43,452	731	2,578	33	23,845
Ecodiesel Colombia S.A.	39,119	516,341	25,032	540,987	21,234	619,286
	39,181	559,793	25,763	543,565	21,267	643,131
Associates						
Gases del Caribe S.A. E.S.P.	—	34,486	—	—	—	—
Gas Natural del Oriente S.A. E.S.P.	—	5,394	—	39,659	—	53,994
Extracol S.A.	—	3,239	16	4,591	20	3,411
E2 Energía Eficiente S.A. E.S.P.	84,820	3,924	91,105	3,045	90,117	7,908
	84,820	47,043	91,121	47,295	90,137	65,313
	124,001	606,836	116,884	590,860	111,404	708,444

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31.1 Directors and key management personnel

In accordance with the approval given by the shareholders' meeting in 2012, which was recorded in Minute No. 026, the directors' fees for attending the meetings of the Board of Directors and / or the committees increase from four to six legal monthly minimum legal monthly salaries in force.

On the other hand, in the General Shareholders' Meeting of 2018, the amendment of the Corporate Bylaws that appears in Minute No. 036 was approved, by virtue of which, the fourth paragraph of article 23 was eliminated that made the differentiation between the fees for face-to-face and non-face-to-face meetings. The members of the Board of Directors do not have any kind of variable remuneration. The amount paid in 2024 for fees to members of the Board of Directors amounted to \$6,139 (2023 - \$4,983).

The total compensation paid to Executive Officers and Senior Managers as of December 31, 2024, amounted to \$23,186 (2023 – \$35,906). Executive Officers and Senior Managers are not eligible to receive pension and retirement benefits.

As of December 31, 2024, Germán González, one of the key directors of management, owned shares of Ecopetrol S.A., which are equivalent to 1% of the outstanding shares of the Company.

31.2 Post-employment benefit plans

The administration and management of resources for payment of Ecopetrol's pension obligations are managed by autonomous pension funds (PAPs, by its acronym in Spanish) which serve as guarantee and payment sources. In 2008, Ecopetrol S.A. received the authorization to partially commute the value corresponding to monthly payments, bonds, and quotas, transferring said obligations and the money that support them to autonomous patrimonies of a pension nature, in accordance with the requirements of Decree 1833 of 2016.

Since 2016, the entities that manage the resources are: Fiduciaria Bancolombia, Fiduciaria de Occidente, and Consorcio Ecopetrol PACC (formed by Fiduciaria La Previsora, Fiduciaria Bancoldex, Fiduagraria, and Fiduciaria Central). These fiduciaries will manage the pension resources for a period of five years (2016-2021) and as compensation they receive remuneration with fixed and variable components, the latter being settled on the gross returns of the portfolios and charged to the managed resources.

Starting in 2023, and after a rigorous selection and asset allocation process, the new administrators of the Pension Liabilities until December 2028 are: BBVA Asset Management, Fiduciaria Bogotá, Fiduciaria BBVA and the Ecopetrol PACC 2022 Consortium made up of Fiduciaria La Previsora, Fiduciaria Bancoldex, Fiduagraria, and Fiduciaria Central.

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31.3 Government related parties

The Colombian Government controls Ecopetrol S.A. with a stock ownership of 88.49%. The most significant transactions with governmental entities are comprised as follows:

(a) Purchase of oil from the National Hydrocarbons Agency – ANH

The ANH, an entity which operates under the rules of the Ministry of Mines and Energy, has as objective to manage the oil and gas reserves and resources owned by the Colombian Nation.

In accordance with the nature of the purchase and sale contract business, Ecopetrol purchases the crude oil from ANH that it receives from some producers in Colombia at prices set in accordance with an established formula, which reflects the sales prices, with adjustment to the quality of API gravity, sulfur content, transportation rates, to export ports or to the Barrancabermeja and/or Cartagena refineries.

The purchase value of oil and gas from ANH is detailed in Note 26 - Cost of sales.

(b) Refined Price Stabilization Fund

The sale prices of regular gasoline and diesel are regulated by the National Government. In that way, there are differentials between the volume reported by the companies at the time of sale and the difference between the parity price and the reference price, the parity price being the one that corresponds to the daily prices of motor gasoline and diesel observed during the month. This differential can be for or against the producers. The value of this differential is detailed in Note 25 - Revenue from contracts with customers and in Note 7 - Trade and other receivables.

(c) National Tax and Customs Direction

Ecopetrol Business Group, just like any other company in Colombia, has tax obligations that it must comply with and does not have any other kind of association or commercial relationship with the National Tax and Customs Direction of Colombia.

(d) Comptroller General of the Republic

Ecopetrol Business Group, just like any other state entity in Colombia, is obliged to comply with the requirements set out by the Comptroller General of the Republic and make an annual payment to this entity on account of a maintenance fee. Ecopetrol Business Group does not have any other kind of association or commercial relationship with this entity.

32. Joint operations

The Ecopetrol Business Group carries out exploration and production operations through Exploration and Production (E&P) Contracts, Technical Evaluation (TEA) Contracts and Agreements signed with the National Hydrocarbons Agency or ANH, as well as through Partnership Contracts and other types of contracts.

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The main joint operations in 2024 are as follows:

32.1 Contracts in which Ecopetrol Business Group is not the operator

Partners	Contract	Type	% Participation	Geographic area of operations
SierraCol Energy Arauca, LLC	Chipirón	Production	30+Factor R	Colombia
	Cosecha		30%	
	Cravo Norte Rondón		55%+PAP 65%	
Frontera Energy Colombia Corp	Quifa	Production	40%+PAP	Colombia
Union Temporal Ismocol Joshi Parko	CPI Palagua	Production	100% According amendment number 5	Colombia
Parex Resources Colombia LTD	Capachos	Production	50%	Colombia
	LLA-121	Exploration		
	LLA-4-1	Exploration		
	LLA-16-1	Exploration		
Anadarko Colombia Company (OXY)	LLA-122	Exploration	40%	Offshore North Caribe
	E&P COL 1	Exploration		
	E&P COL 2			
	E&P COL 6			
Petrobras	E&P COL 7	Exploration	40%	Offshore North Caribe
	Tayrona		55.6%	
Shell EP Offshore ventures Limited	Fuerte Sur	Exploration	50%	Offshore North Caribe
	Purple Angel		50%	
	Col-5		50%	
Interoil Colombia	Mana	Production	30%	Colombia
	Rio Opia		30%	
	Ambrosia		30%	
Geopark Colombia SAS	Llanos 86	Exploration	50%	Colombia
	Llanos 87		50%	
	Llanos 104		50%	
	Llanos 123		50%	
	Llanos 124		50%	
Lewis Energy Colombia	SSJN1	Production	50%	Colombia
	Perdices	Exploration	50%	
	VIM-42		50%	
	SSJN3-1		50%	
Quarter North Energy	Gunflint	Production	32%	Gulf of Mexico
Murphy Exploration and Production Company – USA	Dalmatian	Production	30%	Gulf of Mexico
OXY (Anadarko) - K2	K2	Production	21%	Gulf of Mexico
HESS	ESOX	Production	21%	Gulf of Mexico
Shell	S-M-1707	Exploration	30%	Brazil
	S-M-1715		30%	
	S-M-1717		30%	
	S-M-1719		30%	
	S-M-1709		30%	
	S-M-1908		30%	
	S-M-1601		30%	
	S-M-1713		30%	
	S-M-1817		30%	
	S-M-1599		30%	
	S-M-1910		30%	
	S-M-1910		30%	
	Sul de Gato do Mato		30%	
	BM-S-54		30%	
	BM-S-72		30%	
Occidental Midland Basin, LLC (Oxy)	Rodeo Midland Basin	Production	49%	Midland, Texas, USA
Occidental Midland Basin, LLC (Oxy)	Delaware Basin	Production	49%	Delaware, TX/NM, USA
Pemex Exploration y Production	Bloque 8	Exploration	50%	Gulf of Mexico
PC Carigali Mexico Operation SA	Bloque 6	Exploration	50%	Gulf of Mexico

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32.2 Contracts in which Ecopetrol Business Group is the operator

Partners	Contract	Type	% Participation	Geographic area of operations
	VMM29		50%	
ExxonMobil Exploration Colombia	CR2	Exploration	50%	Colombia
	C62		50%	
CPVEN E&P Corp Sucursal Colombia	VMM32	Exploration	51%	Colombia
Repsol Exploration Colombia S.A.	Catleya	Exploration	50%	Colombia
Emerald Energy PLC Suc. Colombia	Cardon	Exploration	50%	Colombia
Parex Resources Colombia Ltd.	ORC401 CRC-2004-01	Exploration	50%	Colombia
			52%+PAP	
SierraCol Energy Arauca, LLC	La Cira Infantas	Production	100% Basic	Colombia
	Teca		60% incremental	
Total Colombia				
Repsol Colombia Oil & Gas	Niscota**	Exploration	20%	Colombia
Emerald Energy				
Frontera Energy	Oleoducto Alto Magdalena	Production	45%	Colombia
Perenco Oil and Gas				
CNOOC International	Asociación Boquerón	Production	68%	Colombia
Lewis Energy Colombia	Clarinero**	Exploration	50%	Colombia
Perenco Oil and Gas				
Cedco	Río Paez	Exploration	68%	Colombia

** Fields in abandonment process.

The Group acquires investment commitments at the moment of receiving the exploration and/or exploitation rights of a determined area by the competent authority. As of December 31, 2024, investment commitments with the ANH reach USD \$469 million (2023 - USD \$802.3 million).

Ecopetrol Permian LLC has commitments related to the five-year business plan in the Permian Basin under the Rodeo Midland Basin LLC formation agreement, which may be modified annually by contract members, and Ecopetrol América LLC commitments derived from the joint operations in the Gulf of Mexico through authorizations for expenditures (AFE) for projects of both a capital nature and operating expenses.

33. Information by segments

A description of the Ecopetrol Business Group's business segments is in Note 4.20 - Information by business segment.

The following segment information is reported based on the information used by the Board of Directors as the top body to make strategic and operational decisions of these business segments. The performance of the segments is based primarily on an analysis of income, costs, expenses, and results for the period generated by each segment which are regularly monitored.

The information disclosed in each segment is presented net of transactions between the Ecopetrol Business Group companies.

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33.1 Statement of profit or loss

Below are the consolidated statements of profit or loss by segment for the years ended December 31, 2024, 2023 and 2022:

	For the year ended on December 31, 2024					
	Exploration and Production	Refining and Petrochemicals	Transport and Logistics	Electric power transmission and toll roads concessions	Eliminations	Total
Third-party sales	52,559,851	62,251,340	2,716,164	15,803,073	—	133,330,428
Inter-segment sales	28,527,672	6,968,866	12,417,557	2,574	(47,916,669)	—
Revenue from contracts with customers	81,087,523	69,220,206	15,133,721	15,805,647	(47,916,669)	133,330,428
Variable cost	(40,326,798)	(62,841,448)	(848,032)	—	43,691,748	(60,324,530)
Fixed cost	(14,536,250)	(4,876,309)	(3,529,865)	(6,952,104)	3,737,904	(26,156,624)
Cost of sales	(54,863,048)	(67,717,757)	(4,377,897)	(6,952,104)	47,429,652	(86,481,154)
Gross profit	26,224,475	1,502,449	10,755,824	8,853,543	(487,017)	46,849,274
Administrative expenses	(2,665,275)	(959,147)	(717,926)	(1,150,596)	389,841	(5,103,103)
Operation and project expenses	(3,843,280)	(1,457,106)	(552,785)	—	205,520	(5,647,651)
Impairment (loss) reversal of non-current assets	(480,180)	1,265,753	127,206	(45,351)	—	867,428
Other operating (expenses) income net	1,583,005	21,847	(17,557)	(2,025)	(88,221)	1,497,049
Operating income	20,818,745	373,796	9,594,762	7,655,571	20,123	38,462,997
Financial result net						
Financial income	1,121,377	166,900	239,915	721,086	(501,477)	1,747,801
Financial expenses	(5,037,086)	(1,678,692)	(325,557)	(3,766,580)	488,599	(10,319,316)
Foreign exchange (loss) gain net	(30,253)	(177,464)	298,935	(39,651)	—	51,567
	(3,945,962)	(1,689,256)	213,293	(3,085,145)	(12,878)	(8,519,948)
Share of profits of associates and joint ventures	29,766	194,498	—	540,102	—	764,366
Income before tax	16,902,549	(1,120,962)	9,808,055	5,110,528	7,245	30,707,415
Income tax	(7,826,203)	(88,916)	(3,485,808)	(807,613)	—	(12,208,540)
Net profit (loss) for the period	9,076,346	(1,209,878)	6,322,247	4,302,915	7,245	18,498,875
Profit (loss) attributable to:						
Group owners of parent	9,162,709	(1,407,810)	5,112,271	966,738	7,245	13,841,153
Non-controlling interest	(86,363)	197,932	1,209,976	3,336,177	—	4,657,722
	9,076,346	(1,209,878)	6,322,247	4,302,915	7,245	18,498,875
Supplementary information						
Depreciation, depletion and amortization	10,478,049	2,070,605	1,320,920	1,327,709	—	15,197,283

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For the year ended on December 31, 2023						
	Exploration and Production	Refining and Petrochemicals	Transport and Logistics	Electric power transmission and toll roads concessions	Eliminations	Total
Third-party sales	52,429,502	73,616,641	2,978,937	14,164,522	—	143,189,602
Inter-segment sales	29,085,413	8,531,285	12,530,795	3,744	(50,151,237)	—
Revenue from contracts with customers	81,514,915	82,147,926	15,509,732	14,168,266	(50,151,237)	143,189,602
Variable cost	(37,643,759)	(71,009,974)	(885,109)	—	45,506,500	(64,032,342)
Fixed cost	(14,184,125)	(4,706,479)	(3,495,086)	(5,928,905)	4,168,739	(24,145,856)
Cost of sales	(51,827,884)	(75,716,453)	(4,380,195)	(5,928,905)	49,675,239	(88,178,198)
Gross profit	29,687,031	6,431,473	11,129,537	8,239,361	(475,998)	55,011,404
Administrative expenses	(2,605,190)	(962,063)	(621,341)	(1,182,380)	345,177	(5,025,797)
Operation and project expenses	(4,102,410)	(1,392,588)	(426,821)	—	219,657	(5,702,162)
Impairment (loss) reversal of non-current assets	(2,741,092)	1,482,444	(630,134)	(209,551)	—	(2,098,333)
Other operating (expenses) income net	(148,314)	(103,563)	34,835	(201,141)	(7,948)	(426,131)
Operating income	20,090,025	5,455,703	9,486,076	6,646,289	80,888	41,758,981
Financial result net						
Financial income	1,473,523	197,186	431,593	870,897	(652,230)	2,320,969
Financial expenses	(4,872,501)	(1,748,454)	(349,340)	(3,984,198)	570,428	(10,384,065)
Foreign exchange gain (loss) net	2,009,356	657,678	(272,900)	3,578	—	2,397,712
	(1,389,622)	(893,590)	(190,647)	(3,109,723)	(81,802)	(5,665,384)
Share of profits of associates and joint ventures	26,927	251,769	—	529,536	(2,883)	805,349
Income before tax	18,727,330	4,813,882	9,295,429	4,066,102	(3,797)	36,898,946
Income tax	(8,610,599)	753,038	(3,129,197)	(529,117)	—	(11,515,875)
Net profit (loss) for the period	10,116,731	5,566,920	6,166,232	3,536,985	(3,797)	25,383,071
Profit (loss) attributable to:						
Group owners of parent	10,208,130	5,352,446	4,829,051	674,968	(3,797)	21,060,798
Non-controlling interest	(91,399)	214,474	1,337,181	2,862,017	—	4,322,273
	10,116,731	5,566,920	6,166,232	3,536,985	(3,797)	25,383,071
Supplementary information						
Depreciation, depletion and amortization	8,657,782	2,184,053	1,487,501	1,483,051	—	13,812,387

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For the year ended on December 31, 2022						
	Exploration and Production	Refining and Petrochemicals	Transport and Logistics	Electric power transmission and toll roads concessions	Eliminations	Total
Third-party sales	60,719,903	82,728,875	2,807,031	13,355,269	—	159,611,078
Inter-segment sales	30,300,562	6,450,072	11,148,961	2,237	(47,901,832)	—
Revenue from contracts with customers	91,020,465	89,178,947	13,955,992	13,357,506	(47,901,832)	159,611,078
Variable cost	(34,649,988)	(76,341,169)	(720,247)	—	43,531,185	(68,180,219)
Fixed cost	(12,099,432)	(3,990,829)	(3,172,963)	(5,854,832)	3,840,127	(21,277,929)
Cost of sales	(46,749,420)	(80,331,998)	(3,893,210)	(5,854,832)	47,371,312	(89,458,148)
Gross profit	44,271,045	8,846,949	10,062,782	7,502,674	(530,520)	70,152,930
Administrative expenses	(2,489,557)	(823,349)	(499,801)	(965,314)	442,326	(4,335,695)
Operation and project expenses	(3,221,678)	(1,387,064)	(327,952)	—	193,066	(4,743,628)
Impairment loss (reversal) of non-current assets	(890,248)	1,096,021	(406,229)	(87,543)	—	(287,999)
Other operating expenses net	(310,628)	(37,959)	(96,239)	(104,664)	(6,365)	(555,855)
Operating income	37,358,934	7,694,598	8,732,561	6,345,153	98,507	60,229,753
Financial result net						
Financial income	1,011,182	89,173	157,264	577,743	(518,217)	1,317,145
Financial expenses	(2,894,636)	(1,381,682)	(287,889)	(3,883,596)	420,551	(8,027,252)
Foreign exchange gain (loss) net	(44,302)	(289,105)	10,080	198,677	—	(124,650)
	(1,927,756)	(1,581,614)	(120,545)	(3,107,176)	(97,666)	(6,834,757)
Share of profits of associates and joint ventures	30,197	222,460	—	515,746	19	768,422
Income before tax	35,461,375	6,335,444	8,612,016	3,753,723	860	54,163,418
Income tax	(13,829,885)	(1,464,380)	(2,962,021)	(707,652)	—	(18,963,938)
Net profit (loss) for the period	21,631,490	4,871,064	5,649,995	3,046,071	860	35,199,480
Profit (loss) attributable to:						
Group owners of parent	21,761,164	4,686,009	4,483,060	673,688	860	31,604,781
Non-controlling interest	(129,674)	185,055	1,166,935	2,372,383	—	3,594,699
	21,631,490	4,871,064	5,649,995	3,046,071	860	35,199,480
Supplementary information						
Depreciation depletion and amortization	7,304,525	1,960,399	1,448,626	1,415,441	—	12,128,991

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33.2 Sales by product

The sales by product for each segment are detailed below for the years ended December 31, 2024, 2023 and 2022:

	For the year ended on December 31, 2024					
	Exploration and Production	Refining and Petrochemicals	Transport and Logistics	Electric power transmission and toll roads concessions	Eliminations	Total
Local sales						
Mid-distillates	—	28,687,217	—	—	(14,919)	28,672,298
Gasoline and turbo fuels	—	21,936,821	—	—	(4,132,449)	17,804,372
Roads and construction services	—	—	—	330,053	—	330,053
Gas natural	5,252,959	—	—	—	(1,156,833)	4,096,126
Services	520,053	536,096	15,133,721	444,901	(12,757,641)	3,877,130
Fuel gas service	—	1,093,363	—	—	(10,653)	1,082,710
LPG and propane	396,262	250,568	—	—	(16,260)	630,570
Asphalts	88,263	705,848	—	—	—	794,111
Plastic and rubber	—	919,788	—	—	—	919,788
Crude oil	27,190,210	—	—	—	(27,189,908)	302
Electric power transmission services	—	—	—	3,226,557	—	3,226,557
Polyethylene	—	327,405	—	—	1,244	328,649
Aromatics	—	246,612	—	—	—	246,612
Fuel oil	18,425	2,102	—	—	—	20,527
Other products	11,872	3,239,581	—	—	(2,625,385)	626,068
	33,478,044	57,945,401	15,133,721	4,001,511	(47,902,804)	62,655,873
Foreign sales						
Crude oil	47,533,707	1,281,956	—	—	(9,991)	48,805,672
Electric power transmission services	—	—	—	6,134,698	—	6,134,698
Roads and Construction Services	—	—	—	5,465,389	—	5,465,389
Diesel	—	360,438	—	—	—	360,438
Fuel oil	—	1,203,562	—	—	—	1,203,562
Plastic and rubber	—	1,230,748	—	—	—	1,230,748
LPG and propane	346,908	—	—	—	—	346,908
Gasoline and turbo fuels	43,539	—	—	—	—	43,539
Natural gas	—	3,924,217	—	—	(3,717)	3,920,500
Cash flow hedging	(345,499)	—	—	—	—	(345,499)
Other products	30,824	3,273,884	—	204,049	(157)	3,508,600
	47,609,479	11,274,805	—	11,804,136	(13,865)	70,674,555
	81,087,523	69,220,206	15,133,721	15,805,647	(47,916,669)	133,330,428

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	Exploration and Production	Refining and Petrochemicals	Transport and Logistics	Electric power transmission and toll roads concessions	Eliminations	Total
Local sales						
Mid-distillates	—	32,638,191	—	—	(32,349)	32,605,842
Gasoline and turbo fuels	—	26,965,667	—	—	(3,836,642)	23,129,025
Natural gas	5,551,389	—	—	—	(1,193,123)	4,358,266
Services	(53,379)	1,441,770	15,509,732	335,812	(14,001,151)	3,232,784
Electric power transmission services	—	—	—	2,769,897	—	2,769,897
Plastic and rubber	—	1,225,223	—	—	—	1,225,223
Fuel gas service	—	998,367	—	—	(9,283)	989,084
Asphalts	65,574	872,611	—	—	—	938,185
LPG and propane	505,066	274,022	—	—	(16,739)	762,349
Roads and construction services	—	—	—	349,834	—	349,834
Polyethylene	—	313,535	—	—	649	314,184
Aromatics	—	297,957	—	—	—	297,957
Crude oil	27,870,500	(741)	—	—	(27,741,343)	128,416
Fuel oil	26,564	9,734	—	—	—	36,298
Other income gas contracts	30	—	—	—	—	30
Other products	15,861	3,691,674	—	—	(3,099,827)	607,708
	33,981,605	68,728,010	15,509,732	3,455,543	(49,929,808)	71,745,082
Foreign sales						
Crude oil	47,631,662	1,928,202	—	—	—	49,559,864
Electric power transmission services	—	—	—	5,666,389	—	5,666,389
Roads and Construction Services	—	—	—	4,761,317	—	4,761,317
Diesel	—	4,097,117	—	—	—	4,097,117
Fuel oil	(82,348)	4,315,286	—	—	(204,030)	4,028,908
Plastic and rubber	—	1,393,669	—	—	—	1,393,669
LPG and propane	302,159	—	—	—	—	302,159
Gasoline and turbo fuels	—	193,394	—	—	—	193,394
Natural gas	105,413	—	—	—	—	105,413
Cash flow hedging	(460,445)	(7,962)	—	—	—	(468,407)
Other products	36,869	1,500,210	—	285,017	(17,399)	1,804,697
	47,533,310	13,419,916	—	10,712,723	(221,429)	71,444,520
	81,514,915	82,147,926	15,509,732	14,168,266	(50,151,237)	143,189,602

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For the year ended on December 31, 2022						
	Exploration and Production	Refining and Petrochemicals	Transport and Logistics	Electric power transmission and toll roads concessions	Eliminations	Total
Local sales						
Mid-distillates	—	39,217,618	—	—	(35,108)	39,182,510
Gasoline and turbo fuels	—	32,022,556	—	—	(4,402,357)	27,620,199
Natural gas	5,250,577	—	—	—	(1,087,701)	4,162,876
Services	450,322	746,500	13,955,992	296,216	(11,847,349)	3,601,681
Electric power transmission services	—	—	—	2,595,505	—	2,595,505
Plastic and rubber	—	1,568,816	—	—	—	1,568,816
LPG and propane	739,323	385,178	—	—	(30,169)	1,094,332
Asphalts	47,224	849,976	—	—	—	897,200
Fuel gas service	—	869,101	—	—	(8,999)	860,102
Crude oil	28,725,485	491,440	—	—	(28,841,135)	375,790
Roads and Construction services	—	—	—	355,737	—	355,737
Aromatics	—	343,792	—	—	—	343,792
Polyethylene	—	302,630	—	—	—	302,630
Fuel oil	2,663	6,550	—	—	—	9,213
Other income gas contracts	1,940	—	—	—	—	1,940
Other products	20,204	2,164,882	—	—	(1,505,903)	679,183
	35,237,738	78,969,039	13,955,992	3,247,458	(47,758,721)	83,651,506
Foreign sales						
Crude oil	56,701,497	92,147	—	—	(141,891)	56,651,753
Electric power transmission services	—	—	—	5,114,783	—	5,114,783
Roads and Construction Services	—	—	—	4,676,822	—	4,676,822
Fuel oil	—	4,348,312	—	—	—	4,348,312
Diesel	—	2,324,861	—	—	—	2,324,861
Plastic and rubber	—	2,036,201	—	—	—	2,036,201
LPG and propane	339,837	—	—	—	—	339,837
Natural gas	254,054	—	—	—	—	254,054
Gasoline and turbo fuels	—	157,685	—	—	—	157,685
Other products	35,113	1,281,174	—	318,443	(1,220)	1,633,510
Cash flow hedging	(1,547,774)	(30,472)	—	—	—	(1,578,246)
	55,782,727	10,209,908	—	10,110,048	(143,111)	75,959,572
	91,020,465	89,178,947	13,955,992	13,357,506	(47,901,832)	159,611,078

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33.3 Capital expenditures by segments

The following are the investments amounts made by each segment for the years ended December 31, 2024, 2023 and 2022:

	Exploration and Production	Refining and Petrochemicals	Transport and Logistics	Electric power transmission and toll roads concessions	Total
2024					
Property, plant, and equipment	6,418,046	1,699,152	1,535,388	1,107,927	10,760,513
Natural and environmental resources	11,291,059	—	—	—	11,291,059
Intangibles	337,347	48,345	9,794	470,222	865,708
	18,046,452	1,747,497	1,545,182	1,578,149	22,917,280
	Exploration and Production	Refining and Petrochemicals	Transport and Logistics	Electric power transmission and toll roads concessions	Total
2023					
Property, plant, and equipment	4,258,469	738,161	2,702,091	1,651,164	9,349,885
Natural and environmental resources	13,964,435	—	—	—	13,964,435
Intangibles	59,870	84,268	622,559	9,899	776,596
	18,282,774	822,429	3,324,650	1,661,063	24,090,916
	Exploration and Production	Refining and Petrochemicals	Transport and Logistics	Electric power transmission and toll roads concessions	Total
2022					
Property, plant, and equipment	4,461,244	928,843	2,424,428	953,201	8,767,716
Natural and environmental resources	11,962,544	—	—	—	11,962,544
Intangibles	145,532	32,832	89,463	879,683	1,147,510
	16,569,320	961,675	2,513,891	1,832,884	21,877,770

34. Supplemental information on oil and gas producing activities (unaudited)

The information in this note is referred to as “unaudited” as a means of clarifying that it is not covered by the audit opinion of the independent registered public accounting firm that has audited and reported on the “Consolidated Financial Statements.”

In accordance with the requirements of the United States Securities and Exchange Commission (SEC), Rule 4–10(a) of Regulation S–X, Release 33–8879, Accounting Standards Codification 932 and the ASU– 2010–03 “Oil and Gas reserve Estimation and Disclosures” rule, this section provides supplemental information on oil and gas exploration and producing activities of the Ecopetrol Business Group. The information included in sections (1) to (3) provides historical cost information pertaining to costs incurred in exploration, property acquisitions and development, capitalized costs, and results of operations. The information included in sections (4) and (5) presents information on Ecopetrol’s estimated net proved reserve quantities, standardized measure of estimated discounted future net cash flows related to proven reserves and changes in estimated discounted future net cash flows.

The following information corresponds to Ecopetrol’s oil and gas producing activities as of December 31, 2024, 2023 and 2022, and includes information related to the Ecopetrol Business Group’s consolidated subsidiaries.

Under the SEC final rule optional disclosure of possible and probable reserves is allowed but, the Ecopetrol Business Group opted not to do so. Ecopetrol estimated its reserves without considering non–traditional resources.

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34.1 Capitalized costs relating to oil and gas exploration and production activities

	2024	2023	2022
Natural and environmental properties	109,005,280	96,856,236	90,284,366
Wells, equipment, and facilities – property, plant, and equipment	42,387,351	35,897,318	33,568,835
Exploration and production projects	19,488,784	17,372,792	16,451,284
Accumulated depreciation, depletion, and amortization	(96,990,855)	(84,413,729)	(79,744,788)
Net capitalized cost	<u>73,890,560</u>	<u>65,712,617</u>	<u>60,559,697</u>

It includes information of the Exploration and Production segment subsidiaries.

In accordance with IAS 37, costs capitalized to natural and environmental properties include provisions for asset retirement obligations of \$1,497,834, \$4,101,617, and \$1,979,749 during 2024, 2023 and 2022, respectively.

34.2 Costs incurred in oil and gas exploration and developed activities

Costs incurred are summarized below and include both amounts expensed and capitalized in the corresponding period.

	2024	2023	2022
Acquisition of proved properties (1)	1,972,255	37,419	141,928
Acquisition of unproved properties (2)	577,804	—	339,394
Exploration costs	3,378,446	2,911,974	3,322,055
Development costs	15,964,905	19,976,218	16,266,222
	<u>21,893,410</u>	<u>22,925,611</u>	<u>20,069,599</u>

- (1) For 2024, it corresponds to the acquisition of 45% interest in Block CPO-09. For 2023 and 2022, it corresponds to 49% of participation contract in Barnett, acquired by Ecopetrol Permian.
- (2) For 2024, it corresponds to the acquisition of 45% interest in Block CPO-09. During 2022, Ecopetrol Óleo e Gás do Brasil Ltda have acquired and capitalized seven offshore blocks in the Santos Basin. The blocks are operated by Shell, which holds a 70% of participation in the assets, with a 30% of participation held by Ecopetrol Brasil.

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34.3 Results of operations for oil and gas exploration and production activities

The Ecopetrol Business Group's results of operations from oil and gas exploration and production activities for the years ended December 31, 2024, 2023 and 2022 are as follows:

	2024	2023	2022
Net revenues			
Sales	67,410,322	66,258,193	71,223,307
Transfers	13,677,202	15,256,723	19,797,158
	81,087,524	81,514,916	91,020,465
Production costs (1)	21,568,517	20,544,682	22,152,495
Depreciation, depletion, and amortization (2)	10,356,534	8,531,483	7,138,902
Other production costs (3)	22,937,996	22,751,720	20,741,550
Exploration expenses (4)	1,769,785	2,088,922	1,512,385
Other expenses (5)	3,635,945	7,508,085	5,399,726
	60,268,777	61,424,892	56,945,058
Income before income tax expense	20,818,747	20,090,024	34,075,407
Income tax expense	(9,627,028)	(9,250,450)	(13,026,271)
Results of operations for exploration and production activities	11,191,719	10,839,574	21,049,136

- (1) Production costs are lifting costs incurred to operate and maintain productive wells and related equipment and facilities including costs such as operating labor, materials, supplies, and fuel consumed in operations and the costs of operating natural gas liquids plants. In addition, they include expenses related to the asset retirement obligations that were recognized during 2024, 2023 and 2022 of \$636,308, \$477,511 and \$333,683, respectively.
- (2) In accordance with IAS 37, the expense related to asset retirement obligations that were recognized during 2024, 2023 and 2022 in depreciation, depletion, and amortization, were 704,084, \$438,675, and \$768,466, respectively.
- (3) Includes transportation costs and naphtha that are not part of the Ecopetrol Business Group's lifting cost.
- (4) Exploration expenses include the costs of geological and geophysical activities, as well as the non-productive exploratory wells.
- (5) Corresponds to administration, marketing expenses, and impairment.

During 2024, 2023, and 2022, the Ecopetrol Business Group transferred approximately 16.9%, 18.7%, and 21.8%, respectively, of its crude oil and gas production; (percentages based on the value sales in Colombian pesos) to intercompany business units. Those transfers were 55.5%, 57.0%, and 50.4%, respectively, of crude oil and gas production volume.

The intercompany transfers were realized at market prices.

34.4 Reserve information

The Ecopetrol Business Group follows international standards for estimating, classifying, and reporting reserves framed under SEC definitions. Corporate Reserve Management of Ecopetrol Business Group, Upstream Management and the Vice-Presidency of Development and Production, present the reserves balance to the Board of Directors, which approved it in February 2025.

The reserves were estimated at a level of 99% by specialized firms: DeGolyer and MacNaughton, Ryder Scott Company, and Gaffney and Cline. According to these certifications the reserves report complies with the content and guidelines set forth in Rule 4-10 of Regulation S-X issued by the United States SEC.

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The following information relates to the net proven reserves owned by the Ecopetrol Business Group in 2024, 2023 and 2022, and corresponds to the official reserves statements prepared by the Ecopetrol Business Group:

	2024			2023			2022		
	Oil (Mbls)	Gas (Gpc)	Total (Mbe)	Oil (Mbls)	Gas (Gpc)	Total (Mbe)	Oil (Mbls)	Gas (Gpc)	Total (Mbe)
Proved reserves:									
Opening balance	1,471	2,346	1,883	1,515	2,828	2,011	1,449	3,151	2,002
Revisions of previous estimates (1)	94	(55)	84	38	(165)	9	81	(104)	63
Improved recovery	79	102	97	91	9	93	77	21	81
Purchases	35	5	35	—	—	—	39	50	48
Extensions and discoveries	42	40	49	17	—	17	52	33	57
Sales	(5)	(5)	(6)	—	—	—	—	—	—
Production	(194)	(317)	(250)	(190)	(326)	(247)	(183)	(323)	(240)
Closing balance	1,522	2,116	1,892	1,471	2,346	1,883	1,515	2,828	2,011
<i>Proved developed reserves:</i>									
Opening balance	1,083	2,007	1,435	995	2,174	1,376	921	2,561	1,370
Closing balance	1,087	1,750	1,394	1,083	2,007	1,435	995	2,174	1,376
<i>Proved undeveloped reserves:</i>									
Opening balance	388	339	448	520	654	635	528	590	632
Closing balance	435	366	498	388	339	448	520	654	635

Some values were rounded for presentation purposes.

Mbls = Million barrels

Gpc: Giga cubic feet

Mbe = Million barrels of oil equivalent

(1) Represents changes in previous proved reserves, upward or downward, resulting from new information (except for an increase in a proved area), usually obtained from development drilling and production history or result from changes in economic factors.

For additional information about the changes in Proved Reserves and the process for estimating reserves, see section 3.1 – Oil and Gas Reserves.

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34.5 Standardized measure of discounted future net cash flows relating to proven oil and gas quantities and changes therein

The standardized measure of discounted future net cash flows related to the above proved crude oil and natural gas reserves is calculated in accordance with the requirements of ASU 2010-03. Estimated future cash inflows from production under SEC requirements are computed by applying unweighted arithmetic average of the first day-of-the-month for oil and gas price to year-end quantities of estimated net proved reserves, with cost factors based on those at the end of each year, currently enacted tax rates and a 10% annual discount factor. In our view, the information so calculated does not provide a reliable measure of future cash flows from proved reserves, nor does it permit a realistic comparison to be made of one entity with another because the assumptions used cannot reflect the varying circumstances within each entity. In addition, a substantial but unknown proportion of future real cash flows from oil and gas production activities is expected to derive from reserves which have already been discovered, but which cannot yet be regarded as proved.

	2024	2023	2022
Future cash inflows	493,144,459	425,761,732	685,716,359
Future costs			
Production (1)	(193,522,901)	(158,870,388)	(182,522,131)
Development	(49,298,761)	(40,675,517)	(58,332,264)
Income taxes	(84,245,300)	(80,373,445)	(201,912,509)
Future net cash flow	166,077,497	145,842,382	242,949,455
10% discount factor	(48,561,554)	(49,557,596)	(86,340,334)
Standardized measure of discounted net cash flows	<u>117,515,943</u>	<u>96,284,786</u>	<u>156,609,121</u>

(1) Production future costs include the estimated costs related to assets retirement obligations in the amount of \$25,448,529, \$22,615,261, and \$23,234,408, as of December 31, 2024, 2023, and 2022, respectively.

The following are the principal sources of change in the standardized measure of discounted net cash flows in 2024, 2023 and 2022:

	2024	2023	2022
Net change in sales and transfer prices and in production cost (lifting) related to future production	41,742,427	(123,240,049)	158,798,134
Changes in estimated future development costs	(15,349,339)	(10,624,343)	(52,166,780)
Sales and transfer of oil and gas produced net of production costs	(59,519,007)	(60,970,234)	(68,867,970)
Net change due to extensions, discoveries, and improved recovery	3,723,233	6,173,144	9,993,781
Net change due to purchase and sales of minerals in place	1,501,219	—	1,767,856
Net change due to revisions in quantity estimates	8,877,125	967,150	10,807,453
Previously estimated development costs incurred during the period	27,041,713	34,815,000	69,458,458
Accretion of discount	14,934,714	28,676,517	15,360,418
Timing and other	4,828,442	(13,215,214)	(11,990,359)
Net change in income taxes	(6,549,370)	77,093,694	(84,908,732)
Aggregate change in the standardized measure of discounted future net cash flows for the year	<u>21,231,157</u>	<u>(60,324,335)</u>	<u>48,252,259</u>

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35. Subsequent and relevant events

- **Decision adopted by the Southern District Court of New York related to an arbitration award issued in favor of Refinería de Cartagena S.A.S.**

On January 16, 2025, Ecopetrol reported that the Southern District Court of New York denied the request filed by Chicago Bridge & Iron Company N.V., CB&I UK Limited to annul the arbitration award dated June 2, 2023. With this judicial ruling and with the decision of the Netherlands Court on March 21, 2024, regarding the approval of the alternative financial restructuring plan of Chicago Bridge & Iron Company N.V., Refinería de Cartagena manages to consolidate the defense of its interests and those of the Nation, marking the end of a long legal process.

- **Ecopetrol and OXY agree to extend the development plan in the Midland area of the Permian basin**

On February 3, 2025, Ecopetrol S.A. reported that its subsidiary Ecopetrol Permian LLC and Occidental Petroleum Corp reached an agreement for the extension of the development plan of Rodeo Midland Basin LLC, in the Permian basin, in Texas, United States, within the contract signed since July 2019.

- **Application of Decree 0175 of February 14, 2025 – State of Internal Unrest**

The National Government, protected by the state of internal unrest decreed in the Catatumbo Region, issued Decree No. 0175 on February 14, 2025, which includes the following tax measures:

1. Special tax for Catatumbo: this tax taxes, with a rate of 1% (i) the first sale within or from the national territory of hydrocarbons (tariff item: 27.09) and (ii) the export of crude oil.
2. Stamp tax: The stamp tax rate has been updated to 1%.
3. The decree will be in force between February 22 and December 31, 2025.

- **Requirements related to VAT by the National Tax Authority of Colombia**

Refinería de Cartagena and Ecopetrol S.A. received customs requirements REA 211, REA 264 and REA 289, respectively, from the National Tax Authority of Colombia (DIAN) in 2025. The National Tax Authority of Colombia (DIAN) proposed an official corrective liquidation and a penalty on certain gasoline import filings for the period of 2022 to 2024, due to the failure to pay VAT on these filings. Refinería de Cartagena and Ecopetrol consider that their filings were prepared in accordance with current customs legislation and are preparing their response to the requirements indicated by the National Tax Authority of Colombia (DIAN).

- **Fuel Price stabilization fund**

On March 28, 2025, the Ministry of Finance and Public Credit paid \$2,229,051 in National Government Treasury Bonds (TES) and cash to Ecopetrol Business Group as follows: i) payments to Ecopetrol for \$1,727,183 and ii) payments to Reficar for \$501,868. These payments correspond to the settlements of the first quarters of 2024.

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● **Shareholders' General Assembly in Ecopetrol S.A.**

The Ecopetrol Shareholders General Assembly was held on March 28, 2025, and the following matters were discussed and approved, among others:

- o The plan for distribution of the Company's profits, which establishes the distribution of an ordinary dividend per share of COP 214, as follows: payment of dividends to minority shareholders to be made in two equal installments on April 4, 2025 and April 29, 2025; and the payment to the majority shareholder will be made in three installments as follows: 1) COP \$2,200,000,000,000 on April 4, 2025, 2) COP \$2,300,000,000,000 on April 29, 2025, and 3) COP \$3,286,344,378,880 on June 27, 2025.
- o The establishment of a special reserve of COP \$16,635,492,094,077 to support Ecopetrol S.A.'s financial sustainability and flexibility in the execution of its strategy.
- o Election of Deloitte & Touche S.A.S., as the statutory auditor for the 2025 – 2029 period and assignment of its remuneration.
- o Election of Board Members for the 2025 - 2029 period.
- o Approval of amendments to the Internal Regulations of the General Shareholder's Meeting.
- o Approval of amendments to the succession policy for the members of the Board of Directors.

● **Temporal reduction in the conversion cost of Ecopetrol's ADR**

On January 15, 2025, Ecopetrol reached an agreement with JPMorgan Chase Bank N.A., the depositary bank of its American Depositary Receipts (ADR) program, to reduce 50% of the conversion cost for the purchase and sale of ADRs in the United States. The measure is temporary and is expected to be effective until July 10, 2025.

● **Investment framework agreement with AES Colombia & CIA SCA E.S.P.**

On April 14, 2025, Ecopetrol S.A. signed an investment framework agreement with AES Colombia & CIA SCA E.S.P. to build 49% of the Jemeiwaa Ka'I wind cluster located in La Guajira, subject to the fulfillment of condition precedents and other legal requirements. Jemeiwaa Ka'I comprises a portfolio of wind projects located in the upper and middle Guajira, in the municipality of Uribia, with an approximate capacity of 1,087 MW, along with a 35 km transmission line.

● **Gato do Mato project in Brazil**

Regarding the Gato do Mato project in Brazil, operated by Shell and associated with Total Energies, the project has made steady progress. In 2025 Ecopetrol Óleo e Gás do Brasil Ltda, a subsidiary of the Ecopetrol Group S.A., has already approved the Final Investment Decision (FID). The project completed the basic engineering "Front End Engineering Design" (FEED) for the subsea and floating production facilities, with the expectation of incorporating reserves during 2025.

The declaration of commerciality has already been filed, but the Development Plan is still awaiting approval from the ANP (National Agency of Petroleum, Natural Gas and Biofuels).

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Exhibit 1 – Consolidated subsidiaries, associates, and joint ventures

Company	Functional currency	Ownership interest Ecopetrol	Activity	Country/ Domicile	Geographic area of operations	Equity	Profit (loss) of the year	Total assets	Total liabilities
Subsidiaries									
Refinería de Cartagena S.A.S.	US Dollar		Refining of hydrocarbons, commercialization and distribution of products	Colombia	Colombia	24,523,635	(1,133,742)	36,605,614	12,081,979
Cenit transporte y logística de hidrocarburos S.A.S.	Colombian Peso	100 %	Storage and transport by pipelines of hydrocarbons	Colombia	Colombia	16,883,376	5,211,389	19,875,855	2,992,479
Ecopetrol Global Energy S.L.U.	US Dollar	100 %	Investment Vehicle	Spain	Spain	17,394,898	381,272	17,395,245	347
Oleoducto Central S.A.S - Ocesa	US Dollar	72.65 %	Transportation by crude oil pipelines	Colombia	Colombia	3,628,322	3,003,613	7,555,797	3,927,475
Ocesa Ductos S.A.S.	US Dollar	72.65 %	Investment Vehicle	Colombia	Colombia	1,090	27,126	2,123	1,033
Hocol Petroleum Limited.	US Dollar	100 %	Investment Vehicle	Bermuda	Bermuda	4,058,521	75,873	4,129,198	70,677
Ecopetrol América LLC.	US Dollar		Exploration and exploitation of hydrocarbons						
Hocol S.A.	US Dollar	100 %	Exploration and exploitation of hydrocarbons	United States	United States	1,282,916	(517,319)	3,221,343	1,938,427
Esentia S.A.	US Dollar	100 %	Production and commercialization of polypropylene resin	Cayman Islands	Colombia	3,527,391	123,881	5,277,795	1,750,404
Ecopetrol Capital AG	US Dollar	100 %	Collection of surpluses from, and providing funds to, companies of Ecopetrol Business Group	Colombia	Colombia	2,786,401	2,684	3,351,597	565,196
Oleoducto de Colombia S. A. – ODC	Colombian Peso	100 %	Transportation by crude oil pipelines	Switzerland	Switzerland	3,342,023	70,314	10,424,269	7,082,246
Black Gold Re Ltd.	US Dollar	78.19 %	Reinsurer for companies of Ecopetrol Business Group	Colombia	Colombia	452,073	379,927	790,822	338,749
Andean Chemicals Ltd.	US Dollar	100 %	Investment Vehicle	Bermuda	Bermuda	1,412,560	160,839	1,687,390	274,830
Oleoducto de los Llanos Orientales S. A. - ODL	Colombian Peso	100 %	Transportation by crude oil pipelines	Bermuda	Bermuda	2,069,219	(8,618)	2,109,831	40,612
Interconexión Eléctrica S.A. E.S.P	Colombian Peso	65 %	Transportation by crude oil pipelines	Panama	Colombia	833,223	626,281	1,392,775	559,552
			Public transmission service of electric power, the development of infrastructure projects and their commercial exploitation and the development of information technology systems, activities and services and telecommunications.						
		51.41 %		Colombia	Latin-America	28,268,006	2,807,941	76,995,347	48,727,341

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Company	Functional currency	Ownership interest Ecopetrol	Activity	Country/ Domicile	Geographic area of operations	Equity	Profit (loss) of the year	Total assets	Total liabilities
Inversiones de Gases de Colombia S.A. Invercolsa S.A.	Colombian Peso		Holding with investments in natural gas and LPG transportation and distribution companies in Colombia	Colombia	Colombia	657,506	292,206	663,063	5,557
Alcanos de Colombia S.A. E.S.P.	Colombian Peso	51.88 %	Residential public fuel gas service, construction and operation of gas pipelines, distribution networks, regulation, measurement, and compression stations.	Colombia	Colombia	328,233	143,017	902,475	574,242
Metrogas de Colombia S.A. E.S.P.	Colombian Peso	29.61 %	Public service of commercialization and distribution of fuel gas; the exploration, exploitation, storage, use, transportation, refining, purchase, sale and distribution of hydrocarbons and their derivatives.	Colombia	Colombia	59,813	18,208	168,529	108,716
Gases del Oriente S.A. E.S.P.	Colombian Peso	33.49 %	Home public service of distribution of fuel gas and the development of all complementary activities to the supplying of said service.	Colombia	Colombia	95,123	52,629	305,458	210,335
Promotora de Gases del Sur S.A. E.S.P.	Colombian Peso	48.50 %	Promote the linking of national or foreign capital, public or private, to achieve the gas massification project.	Colombia	Colombia	56,128	42,502	86,215	30,087
Combustibles Líquidos de Colombia S.A. E.S.P.	Colombian Peso	31.44 %	Wholesale marketing of fuel gas, the supplying of the residential public service of LPG distribution and the development of complementary activities to supply the service.	Colombia	Colombia	60,706	396	80,612	19,906
		41.61 %							

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Company	Functional currency	Ownership interest Ecopetrol	Activity	Country/ Domicile	Geographic area of operations	Equity	Profit (loss) of the year	Total assets	Total liabilities
Ecopetrol USA Inc.	US Dollar	100 %	Exploration and exploitation of hydrocarbons	United States	United States	15,570,625	737,381	15,588,736	18,111
Ecopetrol Permian LLC.	US Dollar	100 %	Exploration and exploitation of hydrocarbons	United States	United States	11,514,549	726,650	15,493,572	3,979,023
Ecopetrol Oleo é Gas do Brazil Ltda.	Real	100 %	Exploration and exploitation of hydrocarbons	Brazil	Brazil	1,713,380	(349,526)	1,750,489	37,109
Esenttia Masterbatch Ltda.	Colombian Peso	100 %	Manufacture of polypropylene compounds and masterbatches	Colombia	Colombia	403,884	249,222	540,388	136,504
Ecopetrol del Perú S. A.	US Dollar	100 %	Exploration and exploitation of hydrocarbons	Peru	Peru	68,292	1,687	70,972	2,680
ECP Hidrocarburos de México S.A. de C.V.	US Dollar	100 %	Offshore exploration	Mexico	Mexico	42,665	(6,853)	45,541	2,876
Ecopetrol Costa Afuera S.A.S.	Colombian Peso	100 %	Offshore exploration	Colombia	Colombia	13,671	277	13,865	194
Esenttia Resinas del Peru SAC	US Dollar	100 %	Commercialization polypropylene resins and masterbatches	Peru	Peru	16,016	(710)	32,130	16,114
Esenttia Resinas de México	Mexican Peso	100 %	Commercialization polypropylene resins and masterbatches	Mexico	Mexico	(268)	(829)	5,825	6,093
Kalixpan Servicios Técnicos S de RL De CV.	Mexican Peso	100 %	Specialized services related to oil and gas industry	Mexico	Mexico	3	(82)	4	1
Ecopetrol US Trading LLC	US Dollar	100 %	International trading of crude oil and refined products	United States	United States	518,000	418,165	2,619,702	2,101,702
Econova Technology & innovation S.L.	US Dollar	100 %	Execution of activities related to science, technology, and innovation (ST+i)	Spain	Spain	2,083	(1,915)	3,739	1,656
Ecopetrol Singapore PTE. LTD	Singapore dollar	100 %	Holding company with investment in an international trading company for crude oil and refined products	Singapore	Asia	787,363	489,395	787,536	173
Ecopetrol Trading Asia PTE. LTD	Singapore dollar	100 %	International trading of crude oil and refined products	Singapore	Asia	786,909	489,565	2,850,765	2,063,856

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<u>Company</u>	<u>Functional currency</u>	<u>Ownership interest Ecopetrol</u>	<u>Activity</u>	<u>Country/ Domicile</u>	<u>Geographic area of operations</u>	<u>Equity</u>	<u>Profit (loss) of the year</u>	<u>Total assets</u>	<u>Total liabilities</u>
Associates									
Serviport S.A.	Colombian Peso		Services for the support of loading and unloading of oil ships, supply of equipment, technical inspections, and load measurements	Colombia	Colombia	17,309	(2,069)	35,953	18,644
Sociedad Portuaria Olefinas y Derivados S.A.	Colombian Peso	28 %	Construction, use, maintenance and administration of port facilities, ports, private docks.	Colombia	Colombia	6,761	(1,224)	8,500	1,739
Joint Ventures									
Equion Energía Limited	US Dollar	51 %	Exploration and exploitation of hydrocarbons	United Kingdom	Colombia	1,597,163	49,936	1,667,884	70,721
Ecodiesel Colombia S.A.	Colombian Peso	50 %	Production, trading, and distribution of biofuels and oleochemicals	Colombia	Colombia	138,108	30,895	253,132	115,024

Ecopetrol S.A.
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Company	Functional currency	Ownership interest ISA	Activity	Country/ Domicile	Geographic area of operations	Equity	Profit (loss) of the year	Assets	Liabilities
Subsidiaries Interconexión Eléctrica S.A. ESP									
Consorcio Transmataro	US Dollar	60.00 %	Electric power	Peru	Peru	2,173,161	494,905	8,642,239	6,469,078
Interligação Elétrica Evreçy	Brazilian real	35.82 %	Electric power	Brazil	Brazil	390,341	(18,030)	482,180	91,839
Fundo de Investimento Assis	Brazilian real	35.82 %	Autonomous Fund – Special Purpose Entity	Brazil	Brazil	10,509	31,153	10,509	—
Fundo de Investimento Barra Bonita Renda Fixa Referenciado	Brazilian real	35.82 %	Autonomous Fund – Special Purpose Entity	Brazil	Brazil	18,336	9,755	18,336	—
Fundo de Investimento Referenciado di Bandeirantes	Brazilian real	5.43 %	Autonomous Fund – Special Purpose Entity	Brazil	Brazil	80,323	47,653	80,323	—
Fundo de Investimento Xavantes Referenciado di	Brazilian real	7.72 %	Autonomous Fund – Special Purpose Entity	Brazil	Brazil	237,716	76,412	237,716	—
Interconexiones Viales	Chilean peso	100.00 %	Roads concessions	Chile	Chile	94	35	115	21
Interligação Elétrica Aguapeí	Brazilian real	35.82 %	Electric power	Brazil	Brazil	407,520	(18,694)	576,643	169,123
Interligação Elétrica Biguaçu	Brazilian real	35.82 %	Electric power	Brazil	Brazil	339,229	46,153	391,978	52,749
Interligação Elétrica De Minas Gerais	Brazilian real	35.82 %	Electric power	Brazil	Brazil	411,915	42,814	456,553	44,638
Interligação Elétrica Itapura	Brazilian real	35.82 %	Electric power	Brazil	Brazil	147,623	14,747	161,986	14,363
Interligação Elétrica Itaquaré	Brazilian real	35.82 %	Electric power	Brazil	Brazil	435,448	53,441	480,310	44,862
Interligação Elétrica Itaines	Brazilian real	35.82 %	Electric power	Brazil	Brazil	407,822	57,790	480,714	72,892
Interligação Elétrica Norte E Nordeste	Brazilian real	35.82 %	Electric power	Brazil	Brazil	311,573	34,327	414,482	102,909
Interligação Elétrica Pinheiros	Brazilian real	35.82 %	Electric power	Brazil	Brazil	46,320	6,376	57,739	11,419
Interligação Elétrica Riacho Grande	Brazilian real	35.82 %	Electric power	Brazil	Brazil	381,618	5,468	417,380	35,762
Interligação Elétrica Serra Do Japi	Brazilian real	35.82 %	Electric power	Brazil	Brazil	320,996	45,188	356,750	35,754
Interligação Elétrica Sul	Brazilian real	35.82 %	Electric power	Brazil	Brazil	164,100	12,080	190,646	26,546
Interligação Elétrica Tibagi	Brazilian real	35.82 %	Electric power	Brazil	Brazil	205,355	24,828	231,628	26,273
Internexa	Colombian peso	99.60 %	Telecommunications and ICT	Colombia	Colombia	206,940	45,847	677,606	470,666

Ecopetrol S.A.
Notes to the consolidated financial statements
(Figures expressed in millions of Colombian pesos, unless otherwise stated)

Company	Functional currency	Ownership interest ISA	Activity	Country/ Domicile	Geographic area of operations	Equity	Profit (loss) of the year	Assets	Liabilities
Subsidiaries Interconexión Eléctrica S.A. ESP									
Interligação Elétrica JAGUAR 6 S.A.	Brazilian real	35.82 %	Electric power	Brazil	Brazil	155,601	22,176	170,507	14,906
Interligação Elétrica JAGUAR 8 S.A.	Brazilian real	35.82 %	Electric power	Brazil	Brazil	97,484	7,983	114,562	17,078
Interligação Elétrica JAGUAR 9 S.A.	Brazilian real	35.82 %	Electric power	Brazil	Brazil	384,362	72,968	438,414	54,052
Internexa Participações	Brazilian real	99.60 %	Investment Vehicle	Brazil	Brazil	1,349	493	1,349	—
Internexa Peru	US Dollar	99.71 %	Telecommunications and ICT	Peru	Peru	66,467	14,029	352,713	286,246
ISA Bolivia	US Dollar	100.00 %	Electric power	Bolivia	Bolivia	56,607	(18,739)	68,649	12,042
ISA Capital Do Brazil	Brazilian real	100.00 %	Investment Vehicle	Brazil	Brazil	5,055,275	908,555	5,397,861	342,586
ISA CTEEP	Brazilian real	35.82 %	Electric power	Brazil	Brazil	14,037,522	2,643,130	29,906,469	15,868,947
ISA Interchile	US Dollar	100.00 %	Electric power	Chile	Chile	1,539,590	51,064	6,356,259	4,816,669
ISA Intercolombia	Colombian peso	100.00 %	Electric power	Colombia	Colombia	150,945	57,340	447,209	296,264
ISA Intervial Chile	Chilean peso	100.00 %	Roads concessions	Chile	Chile	4,065,409	468,012	4,750,255	684,846
ISA Intervial Colombia	Colombian peso	100.00 %	Roads concessions	Colombia	Colombia	667	28	667	—
ISA Inversiones Chile	Chilean peso	100.00 %	Investment Vehicle	Chile	Chile	2,026,692	72,844	2,513,076	486,384
ISA Inversiones Chile Vías SpA	Chilean peso	100.00 %	Investment Vehicle	Chile	Chile	4,073,599	467,432	4,074,122	523
ISA Inversiones Costera Chile	Chilean peso	100.00 %	Investment Vehicle	Chile	Chile	(107,958)	10,886	93,388	201,346
ISA Inversiones Tolten	Chilean peso	100.00 %	Investment Vehicle	Chile	Chile	691	13	693	2
ISA Investimentos E Participações	Brazilian real	100.00 %	Investment Vehicle	Brazil	Brazil	917,461	151,825	936,030	18,569
ISA Peru	US Dollar	99.98 %	Electric power	Peru	Peru	238,119	41,018	1,039,654	801,535
ISA REP	US Dollar	60.00 %	Electric power	Peru	Peru	686,374	325,713	2,032,726	1,346,352
ISA Transelca	Colombian peso	100.00 %	Electric power	Colombia	Colombia	935,321	206,032	2,004,643	1,069,322
Linear Systems RE	US dollar	100.00 %	Other business	Bermudas	Bermudas	48,273	6,620	191,987	143,714
Proyectos de Infraestructura del Perú	US Dollar	100.00 %	Electric power	Peru	Peru	21,829	(102)	21,894	65
Ruta Costera	Colombian peso	100.00 %	Roads concessions	Colombia	Colombia	198,139	25,127	2,669,249	2,471,110
Ruta de La Araucanía	Chilean peso	100.00 %	Roads concessions	Chile	Chile	285,470	6,014	461,522	176,052
Ruta de Los Rios	Chilean peso	75.00 %	Roads concessions	Chile	Chile	51,956	(7,087)	171,659	119,703
Ruta del Bosque	Chilean peso	100.00 %	Roads concessions	Chile	Chile	9,734	(1,472)	10,889	1,155
Ruta del Loa	Chilean peso	100.00 %	Roads concessions	Chile	Chile	369,858	52,782	1,695,956	1,326,098
Ruta del Maipo	Chilean peso	100.00 %	Roads concessions	Chile	Chile	2,917,795	405,418	7,487,407	4,569,612
Ruta del Este Sociedad Concesionaria S.A.	Chilean peso	100.00 %	Roads concessions	Chile	Chile	83,674	2,894	90,356	6,682
Sistemas Inteligentes en Red	Colombia peso	99.77 %	Other business	Colombia	Colombia	15,547	4,180	31,062	15,515
XM	Colombian peso	99.73 %	Electric power	Colombia	Colombia	58,175	14,920	358,695	300,520
Interconexiones del Norte S.A.	Chilean peso	100.00 %	Electric power	Chile	Chile	4,854	(743)	114,851	109,997
Ruta ORBITAL SUR Sociedad Concesionaria S.A.	Chilean peso	100.00 %	Roads concessions	Chile	Chile	68,267	3,057	73,441	5,174
Joint ventures Interconexión Eléctrica S.A. ESP									
Interligação Elétrica do Madeira	Brazilian real	51.00 %	Electric power	Brazil	Brazil	3,119,012	361,207	5,379,092	2,260,080
Interligação Elétrica Garanhuns	Brazilian real	51.00 %	Electric power	Brazil	Brazil	815,648	100,954	1,123,561	307,913
Interligação Elétrica Paraguaçu	Brazilian real	50.00 %	Electric power	Brazil	Brazil	834,943	145,307	1,269,518	434,575
Interligação Elétrica Aimorés	Brazilian real	50.00 %	Electric power	Brazil	Brazil	507,721	92,379	798,183	290,462
Interligação Elétrica Ivai	Brazilian real	50.00 %	Electric power	Brazil	Brazil	845,669	174,233	3,389,336	2,543,667
Transmissora Aliança de Energia Elétrica	Brazilian real	14.88 %	Electric power	Brazil	Brazil	4,942,790	1,283,190	13,231,132	8,288,342
Interconexión Eléctrica Colombia Panamá-Panamá	US Dollar	50.00 %	Electric power	Panamá	Panamá	7,090	(18,996)	9,899	2,809
Interconexión Eléctrica Colombia Panamá Colombia	Colombia peso	1.17 %	Electric power	Colombia	Colombia	264	(1)	266	2
Transnexa (1)	US Dollar	49.85 %	Transport and telecommunications	Ecuador	Ecuador	—	—	—	—
Derivex	Colombia peso	39.88 %	Manage the trading system for financial instruments derived from electricity	Colombia	Colombia	2,869	(750)	3,724	855
Parques del Rio	Colombia peso	33.00 %	Roads	Colombia	Colombia	30	(38)	30	—
Conexión Kimal Lo Aguirre S.A.	Chilena peso	33.33 %	Electric power	Chile	Chile	490,016	(1,789)	1,529,297	1,039,281
Consorcio Eléctrico Yapay S.A.	US Dollar	50.00 %	Electric power	Perú	Perú	47,009	(5,651)	314,839	267,830
PA Energia para la paz	Colombia peso	54.73 %	Special Purpose Entity	Colombia	Colombia	15,668	(37)	19,057	3,389
Associates Interconexión Eléctrica S.A. ESP									
ATP Tower Holdings	US Dollar	24.7 %	Transport and telecommunications	United States	United States	1,366,302	(173,438)	4,376,236	3,009,934

(1) Transnexa is in the liquidation process and its investment has been impaired in its entirety.

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Exhibit 2 – Conditions of the most significant debt

Type of debt	Company	Issue date	Maturity date	Currency	Disbursement	Outstanding balance Dec 31, 2024	Outstanding balance Dec 31, 2023	Interest rate	Amortization plan	Payment of interest
	Ecopetrol S.A.	Aug-13	Aug -28		347,500	347,500	347,500			
		Dec-10	Dec-40	COP	284,300	284,300	284,300	Floating	Bullet	Half-yearly
		Aug-13	Aug-43		262,950	262,950	262,950			
		Dec-11	Dec-41	COP	120,000	120,000	120,000	Floating	Bullet	Half-yearly
		May-13	May-28	COP	100,000	100,000	100,000	Floating	Bullet	Quarterly
		May-15	May-25	COP	100,000	100,000	100,000	Floating	Bullet	Quarterly
		May-15	May-30	COP	120,000	120,000	120,000	Floating	Bullet	Quarterly
		May-15	May-35	COP	280,000	280,000	280,000	Floating	Bullet	Quarterly
		Feb-16	Feb-24	COP	115,000	—	115,000	Floating	Bullet	Quarterly
		Feb-16	Feb-28	COP	152,000	152,000	152,000	Floating	Bullet	Quarterly
	Bonds, domestic currency	Feb-16	Feb-41	COP	133,000	133,000	133,000	Floating	Bullet	Quarterly
		Apr-17	Apr-24	COP	260,780	—	260,780	Fixed	Bullet	Quarterly
		Apr-17	Apr-32	COP	196,300	196,300	196,300	Floating	Bullet	Quarterly
		Apr-17	Apr-42	COP	242,920	242,920	242,920	Floating	Bullet	Quarterly
		Nov-17	Nov-25	COP	150,080	150,080	150,080	Fixed	Bullet	Quarterly
		Nov-17	Nov-31	COP	120,100	120,100	120,100	Floating	Bullet	Quarterly
		Nov-17	Nov-47	COP	229,820	229,820	229,820	Floating	Bullet	Quarterly
		Jul-18	Jul-27	COP	156,500	156,500	156,500	Floating	Bullet	Quarterly
		Jul-18	Jul-33	COP	142,063	142,063	142,063	Floating	Bullet	Quarterly
		Jul-18	Jul-43	COP	201,437	201,437	201,437	Floating	Bullet	Quarterly
		Aug-20	Aug-29	COP	160,000	160,000	160,000	Fixed	Bullet	Quarterly
		Aug-20	Aug-40	UVR (1)	192,073	192,073	182,416	Fixed	Bullet	Annual
		Nov-23	Nov-30	COP	176,000	176,000	176,000	Floating	Bullet	Quarterly
		Nov-23	Nov-37	COP	224,000	224,000	224,000	Floating	Bullet	Quarterly
		Nov-23	Nov-44	COP	100,000	100,000	100,000	Floating	Bullet	Quarterly
	Bonds, foreign currency	Jun-24	Jun-30	COP	150,000	150,000	224,000	Floating	Bullet	Quarterly
		Jun-24	Jun-39	COP	250,000	250,000	100,000	Floating	Bullet	Quarterly
		Jul-16	Jan-34	UVR	445,700	511,954	486,213	Fixed	Annual	Half-yearly
		Oct-11	Oct-26	COP	100,000	100,000	100,000	Floating	Bullet	Quarterly

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Type of debt	Company	Issue date	Maturity date	Currency	Disbursement	Outstanding balance Dec 31, 2024	Outstanding balance Dec 31, 2023	Interest rate	Amortization plan	Payment of interest
		Sep-13	Sep-43		850	850	850			
		May-14	May-45		2,000	2,000	2,000			
		Apr-20	Apr-30		2,000	2,000	2,000			
		Nov-21	Nov-31		1,250	1,250	1,250			
	Ecopetrol S.A.	Nov-21	Nov-51	USD	750	750	750	Fixed	Bullet	Half-yearly
		Jan-23	Jan-33		2,000	2,000	2,000			
		Jul-23	Jan-33		300	300	300			
		Jul-23	Jan-29		1,200	1,200	1,200			
		Jan-24	Jan-36		1,850	1,850	—			
		Oct-24	Feb-32		1,750	1,750	—			
	Oleoducto Central S.A.	Jul-20	Jul-27	USD	500	400	500	Fixed	Bullet	Half-yearly
		Jan-11	Jan-26		38	38	38	Fixed	Bullet	Quarterly
		Oct-12	Apr-31		40	40	40	Fixed	Bullet	Half-yearly
Bonds, foreign currency		Jul-16	Jan-34		151	125	134	Fixed	Annual	Half-yearly
		Mar-17	Feb-24		48	—	87	Floating	Bullet	Annual
		May-18	Apr-25		100	143	174	Floating	Bullet	Half-yearly
		Jun-18	Jun-25		224	75	162	Fixed	Annual	Half-yearly
	Interconexión Eléctrica S.A.	Jun-18	Dec30		231	383	416	Fixed	Half-yearly	Half-yearly
		Jun-18	Dec24		39	—	6	Fixed	Annual	Half-yearly
	E.S.P and subsidiaries	Jun-18	Dec30	USD	193	195	212	Fixed	Half-yearly	Half-yearly
		Apr-19	Apr-34		600	600	600	Fixed	Half-yearly	Half-yearly
		Dec19	Dec29		66	89	108	Floating	Annual	Half-yearly
		Dec20	Nov-28		129	129	165	Floating	Annual	Half-yearly
		Dec20	May-44		129	144	183	Floating	Half-yearly	Half-yearly
		Feb-21	Jun-50		34	34	37	Fixed	Annual	Half-yearly
		Feb-21	Jul-44		109	156	189	Floating	Half-yearly	Half-yearly
		Jul-21	Jun-56		1,200	1,073	1,073	Fixed	Annual	Half-yearly
		Oct-21	Oct-31		108	128	156	Floating	Bullet	Half-yearly
		Oct-21	Oct-38		45	54	65	Floating	Annual	Half-yearly

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Type of debt	Company	Issue date	Maturity date	Currency	Disbursement	Outstanding balance Dec 31, 2024	Outstanding balance Dec 31, 2023	Interest rate	Amortization plan	Payment of interest
		Apr-22	Apr-38		500	500	500	Fixed	Half-yearly	Half-yearly
		Apr-22	Apr-29		113	113	145	Floating	Annual	Half-yearly
		Nov-22	Jun-50		74	74	81	Fixed	Annual	Monthly
		Mar-23	Mar-30		89	89	114	Floating	Bullet	Half-yearly
		Sep-23	Jun-50		68	68	163	Fixed	Annual	Monthly
	Interconexión	Oct-23	Oct-33		127	133	232	Floating	Half-yearly	Half-yearly
Bonds, foreign currency	Eléctrica	Oct-23	Oct-38	USD	180	190	180	Floating	Half-yearly	Half-yearly
	S.A. E.S.P	Mar-24	Mar-29		111	111	—	Floating	Bullet	Half-yearly
		Mar-24	Mar-31		83	83	—	Floating	Annual	Half-yearly
		Mar-24	Mar-34		21	21	—	Floating	Annual	Half-yearly
		May-24	May-31		161	161	—	Floating	Annual	Half-yearly
		Jul-24	Jun-50		68	60	—	Fixed	Annual	Monthly
		Oct-24	Oct-36		170	171	—	Floating	Annual	Half-yearly
		Oct-24	Oct-39		122	122	—	Floating	Annual	Half-yearly
		May-10	May-30		36	15	22	Fixed	Monthly	Monthly
		Jan-14	Mar-29		46	14	21	Floating	Monthly	Monthly
		Feb-16	Jul-24		5	—	1	Floating	Quarterly	Quarterly
		Aug-17	Mar-32		44	23	34	Floating	Monthly	Monthly
		Sep-18	Jun-50		12	36	31	Fixed	Monthly	Annual
International commercial loans	Interconexión	Sep-18	Jun-50		5	14	13	Fixed	Monthly	Annual
	Eléctrica	Mar-19	Sep-25	USD	1	5	—	Floating	Quarterly	Quarterly
	S.A. E.S.P	Sep-19	Sep-25		70	35	—	Fixed	Half-yearly	Half-yearly
		May-21	May-25		89	27	50	Fixed	Half-yearly	Annual
		May-21	May-26		59	46	78	Fixed	Half-yearly	Half-yearly
		Mar-22	Dec41		37	67	69	Floating	Monthly	Monthly

Ecopetrol S.A.
Notes to the consolidated financial statements
(Figures expressed in millions of Colombian pesos, unless otherwise stated)

Type of debt	Company	Issue date	Maturity date	Currency	Disbursement	Outstanding balance Dec 31, 2024	Outstanding balance Dec 31, 2023	Interest rate	Amortization plan	Payment of interest
		Apr-22	Nov-26		66	58	62	Fixed	Bullet	Bullet
		Sep-22	Sep-32		20	76	76	Fixed	Half-yearly	Half-yearly
		Oct-22	Jun-27		5	2	4	Floating	Quarterly	Quarterly
		Dec22	Nov-30		40	40	30	Floating	Half-yearly	Half-yearly
International commercial loans	Interconexión Eléctrica S.A. E.S.P.	Feb-23	Nov-30	USD	30	30	30	Floating	Half-yearly	Half-yearly
		Mar-23	Nov-30		36	36	36	Floating	Half-yearly	Half-yearly
		Sep-23	Mar-25		39	22	43	Floating	Monthly	Half-yearly
		Sep-23	Mar-25		22	—	23	Floating	Monthly	Half-yearly
		Sep-23	Mar-25		16	6	18	Floating	Monthly	Half-yearly
		Dec23	Dec24		38	—	38	Fixed	Bullet	Bullet
		Apr-24	Apr-25		30	30	—	Fixed	Bullet	Bullet
		Jun-24	Nov-30		7	9	—	Floating	Quarterly	Quarterly
		Dec17	Dec25		359	114	132	Floating	Half-yearly	Half-yearly
		Jul-24	Apr-29		1,200	1,200	1,200	Floating	Half-yearly	Bullet
International commercial loans	Ecopetrol S.A.	Jul-24	Jul-25		160	160	160	Floating	Bullet	Quarterly
		Dec22	Dec27	USD	575	700	700	Floating	Half-yearly	Half-yearly
		Dec22	Dec27		247	300	300	Floating	Half-yearly	Half-yearly
		May-23	May-28		400	400	400	Floating	Bullet	Quarterly
		Oct-24	Oct-29		250	250	—	Floating	Bullet	Half-yearly

Ecopetrol S.A.
Notes to the consolidated financial statements
(Figures expressed in millions of Colombian pesos, unless otherwise stated)

Type of debt	Company	Issue date	Maturity date	Currency	Disbursement	Outstanding balance Dec 31, 2024	Outstanding balance Dec 31, 2023	Interest rate	Amortization plan	Payment of interest
		Dec16	Jan-28	COP	250,000	168,500	189,000	Floating	Half-yearly	Annual
		Dec16	Jan-34	COP	150,000	141,000	144,000	Floating	Half-yearly	Annual
		Dec16	Jan-34	COP	150,000	141,000	144,000	Floating	Half-yearly	Annual
		Dec16	Jan-34	UVR	511,954	211,357	200,730	Fixed	Half-yearly	Annual
		May-18	Nov-28	COP	59,467	33,981	42,476	Floating	Half-yearly	Half-yearly
		Jul-18	Jan-24	COP	217,500	—	3,595	Floating	Half-yearly	Half-yearly
		Nov-18	Nov-28	COP	23,000	—	16,429	Floating	Half-yearly	Half-yearly
		May-19	May-29	COP	9,000	5,786	7,071	Floating	Half-yearly	Half-yearly
		Apr-20	Apr-30	COP	10,000	7,857	9,286	Floating	Quarterly	Quarterly
		Sep-20	Sep-30	COP	3,800	3,121	3,664	Floating	Quarterly	Quarterly
		Nov-20	Sep-30	COP	8,000	6,571	7,714	Floating	Quarterly	Quarterly
		Dec20	Sep-30	COP	8,200	6,736	7,907	Floating	Quarterly	Quarterly
Domestic commercial loans	Interconexión Eléctrica S.A. E.S.P	Jun-21	Mar-31	COP	7,000	6,500	7,000	Floating	Quarterly	Quarterly
		Oct-21	Oct-28	COP	70,500	70,500	70,500	Floating	Quarterly	Quarterly
		Oct-21	Jun-31	COP	7,000	6,500	7,000	Floating	Quarterly	Quarterly
		Oct-21	Oct-31	COP	158,050	158,050	158,050	Floating	Quarterly	Quarterly
		Nov-21	Jun-31	COP	16,000	14,857	16,000	Floating	Quarterly	Quarterly
		Nov-21	Jun-31	COP	20,000	18,571	20,000	Floating	Quarterly	Quarterly
		Jun-22	Jun-27	COP	12,900	10,750	12,900	Floating	Quarterly	Quarterly
		Jul-22	Jul-27	COP	194,000	194,000	194,000	Floating	Quarterly	Bullet
		Aug-22	Aug-27	COP	51,085	51,085	51,085	Floating	Half-yearly	Half-yearly
		Apr-23	Apr-30	COP	450,000	450,000	450,000	Floating	Half-yearly	Half-yearly
		Oct-23	Apr-30	COP	150,000	150,000	150,000	Floating	Half-yearly	Half-yearly
		Nov-23	Oct-24	COP	208,670	—	208,670	Floating	Quarterly	Quarterly
		Dec23	Dec34	COP	250,000	—	250,000	Floating	Half-yearly	Half-yearly
		Dec23	Dec35	COP	250,000	250,000	250,000	Floating	Half-yearly	Half-yearly
		Jun-24	Dec34	COP	250,000	250,000	—	Floating	Half-yearly	Half-yearly
		Oct-24	Oct-34	COP	208,670	208,670	—	Floating	Quarterly	Quarterly
		Nov-24	Nov-34	COP	80,000	80,000	—	Floating	Quarterly	Quarterly

Ecopetrol S.A.
Notes to the consolidated financial statements
(Figures expressed in millions of Colombian pesos, unless otherwise stated)

Exhibit 3. Quantitative information of concession services contracts

Business line	Concession	Country	Maturity date	Tender at the end of the contract	Maintenance obligation for service condition	Concession Asset		Revenue From Concession	
						Y/N	2024	2023	2024
Intangible asset									
Energy transmission	Consortio Transmantaro	Peru	Sep-53	Y	Y	7,333,984	6,374,904	1,252,084	1,265,674
	ISA REP	Peru	Sep-32	Y	Y	1,448,924	1,317,431	811,312	779,025
	ISA Perú	Peru	Apr-33	Y	Y	739,721	652,309	131,870	142,174
Total Peru						9,522,629	8,344,644	2,195,266	2,186,873
Energy transmission	ISA Bolivia	Bolivia	Jan-39	Y	Y	48,429	42,488	30,981	32,148
	Inteia S.A.S.	Colombia	Dec-25	Y	Y	665	1,337	33,777	24,356
Total concessions, asset intangible						9,571,723	8,388,469	2,260,024	2,243,377
Contractual Asset									
Energy transmission	ISA Energia Brasil	Brazil	Sep-52	Y	Y	16,785,220	15,156,403	3,840,524	3,332,886
	Interligação Elétrica Aguapeí	Brazil	Aug-47	Y	Y	551,546	539,430	70,757	68,574
	Interligação Elétrica Itaquêrê	Brazil	Aug-47	Y	Y	471,989	507,600	54,788	59,958
	Interligação Elétrica Itaipues	Brazil	Feb-47	Y	Y	451,017	463,822	70,667	62,868
	Interligação Elétrica Biguaçu	Brazil	Sep-48	Y	Y	382,111	412,584	40,240	44,380
	Interligação Elétrica Norte e Nordeste	Brazil	Mar-38	Y	Y	385,827	420,774	51,461	54,346
	Interligação Elétrica Jaguar 9	Brazil	Oct-38	Y	Y	414,858	396,444	84,657	76,527
	Interligação Elétrica Serra Do Japi	Brazil	Nov-39	Y	Y	346,684	367,545	49,773	45,519
	Interligação Elétrica de Minas Gerais	Brazil	Mar-50	Y	Y	435,705	440,643	68,798	126,863
	Interligação Elétrica Tibagi	Brazil	Aug-47	Y	Y	230,114	218,670	50,635	26,472
	Interligação Elétrica Jaguar 6	Brazil	Aug-47	Y	Y	166,781	184,741	20,804	11,142
	Evrecy Participações	Brazil	Mar-50	Y	Y	441,438	325,208	194,823	116,542
	Interligação Elétrica Sul	Brazil	Oct-38	Y	Y	178,033	186,642	25,249	29,116
	Interligação Elétrica Itapura	Brazil	Sep-48	Y	Y	154,087	150,682	30,845	25,295
	Interligação Elétrica Jaguar 8	Brazil	Aug-47	Y	Y	110,630	108,798	20,489	32,448
	Interligação Elétrica Riacho Grande	Brazil	Mar-51	Y	Y	416,559	158,384	279,824	78,246
	Interligação Elétrica Pinheiros	Brazil	Oct-38	Y	Y	46,435	50,090	6,176	4,290
Total concession, Contractual asset						21,969,034	20,088,460	4,960,510	4,195,472

Ecopetrol S.A.
Notes to the consolidated financial statements
(Figures expressed in millions of Colombian pesos, unless otherwise stated)

Business line	Concession	Country	Maturity date	Tender at the end of the contract	Maintenance obligation for service condition Y/N	Concession Asset		Revenue From Concession	
						2024	2023	2024	2023
Financial Asset									
	ISA Energia Brasil	Brazil	Dec-42	Y	Y	143,786	81,660	940,992	1,045,884
	Interligação Elétrica Aguapeí	Brazil	Aug-47	Y	Y	5,482	7,225	12,099	14,563
	Interligação Elétrica Biguaçu	Brazil	Sep-48	Y	Y	3,547	2,881	10,629	12,447
	Interligação Elétrica Serra Do Japi	Brazil	Nov-39	Y	Y	3,310	2,947	6,943	8,049
	Interligação Elétrica Itaquê	Brazil	Aug-47	Y	Y	3,918	2,999	3,213	7,568
	Interligação Elétrica Jaguar 9	Brazil	Oct-38	Y	Y	8,496	12,051	12,549	16,016
	Interligação Elétrica Pinheiros	Brazil	Oct-38	Y	Y	254	728	713	10,877
Energy Transmission	Interligação Elétrica Jaguar 6	Brazil	Aug-47	Y	Y	2,574	1,263	3,189	2,165
	Evrecy Participações	Brazil	Mar-50	Y	Y	3,695	1,280	5,580	7,144
	Interligação Elétrica Sul	Brazil	Oct-38	Y	Y	1,699	1,795	2,661	3,389
	Interligação Elétrica Itapura	Brazil	Sep-48	Y	Y	1,504	1,735	6,197	7,398
	Interligação Elétrica de Minas Gerais	Brazil	Mar-50	Y	Y	3,531	3,963	6,002	6,589
	Interligação Elétrica Norte e Nordeste	Brazil	Mar-38	Y	Y	6,596	3,655	3,093	1,627
	Interligação Elétrica Jaguar 8	Brazil	Aug-47	Y	Y	1,103	896	1,769	658
	Interligação Elétrica Itaipas S. A.	Brazil	Sep-48	Y	Y	2,266	5,055	4,784	6,647
	Interligação Elétrica Tibagi	Brazil	Aug-47	Y	Y	822	(1,347)	6,434	4,104
Total Brazil						192,583	128,786	1,026,847	1,155,125
Roads	Ruta del Maipo	Chile	Apr-35	Y	Y	6,412,889	6,281,734	877,003	901,306
	Ruta del Loa	Chile	Apr-49	Y	Y	1,537,355	1,160,000	323,645	528,219
	Ruta de la Araucanía	Chile	Oct-26	Y	Y	224,489	344,439	191,956	269,324
	Ruta de los Ríos	Chile	Mar-26	Y	Y	79,482	62,050	208,587	252,171
	Ruta del Bosque	Chile	Feb-23	Y	Y	—	—	—	19,561
	Ruta orbital	Chile	Jun-70	Y	Y	23,523	—	22,862	—
Total Chile						8,277,738	7,848,223	1,624,053	1,970,581
Roads	Ruta Costera	Colombia	Feb-42	Y	Y	2,168,476	1,965,912	262,890	27,327
Total Colombia						2,168,476	1,965,912	262,890	27,327
Roads	Ruta del Este	Panama	Nov-42	Y	Y	53,605	—	49,512	—
Total Panama						53,605	—	49,512	—
Total concessions, financial assets						10,692,402	9,942,921	2,963,302	3,153,033
Total concessions						42,233,159	38,419,850	10,183,836	9,591,882

9. Signature Page

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

Ecopetrol S.A.

By: /s/ Ricardo Roa Barragán

Name: Ricardo Roa Barragán

Title: Chief Executive Officer

By: /s/ Alfonso Camilo Barco Muñoz

Name: Alfonso Camilo Barco Muñoz

Title: Chief Financial Officer

Dated: April 23, 2025

10. Exhibits

Exhibit No.	Description
1.1	Amended and Restated Bylaws of Ecopetrol S.A., dated March 26, 2021 (incorporated by reference to Exhibit 1.1 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 18, 2024 (File No. 001-34175)) (English Translation).
2.1	Form of Deposit agreement between Ecopetrol, JPMorgan Chase Bank as depository, and the holders from time to time of ADSs (incorporated by reference to Exhibit 99.A to our registration statement on Form F-6 filed with the U.S. Securities and Exchange Commission on December 29, 2017 (File No. 333-222378)).
2.2	Form of Amendment No. 1 to the Deposit Agreement between Ecopetrol, JPMorgan Chase Bank as depository, and the holders from time to time of ADSs (incorporated by reference to Exhibit (a)(2) to our registration statement on Form F-6 filed with the U.S. Securities and Exchange Commission on December 17, 2021 (File No. Form F-6 filed with the U.S. Securities and Exchange Commission on December 29, 2017 (File No. 333-222378)).
4.1	Transportation Agreement between Ecopetrol S.A. and Oleoducto Central S.A., dated March 31, 1995 (incorporated by reference to Exhibit 4.1 on Form 20-F filed with the U.S. Securities and Exchange Commission on September 12, 2008 (File No. 001-34175)) (English Translation).
4.2	Supplementary Agreement to Transportation Agreement between Ecopetrol S.A. and Oleoducto Central S.A., dated January 17, 2013 (incorporated by reference to Exhibit 4.2 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 29, 2013 (File No. 001-34175)) (English Translation).
4.3	Crude Oil Transportation Services Agreement between Ecopetrol S.A. and Cenit Transporte y Logística de Hidrocarburos S.A.S., dated April 1, 2013 (incorporated by reference to Exhibit 4.6 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 29, 2013 (File No. 001-34175)) (English Translation).
4.4	Refined Products Transportation Services Agreement between Ecopetrol S.A. and Cenit Transporte y Logística de Hidrocarburos S.A.S., dated April 1, 2013 (incorporated by reference to Exhibit 4.7 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 29, 2013 (File No. 001-34175)) (English Translation).
4.5	Bicentenario Transport Contract between Oleoducto Bicentenario de Colombia S.A.S. and Ecopetrol S.A., dated June 20, 2012 (incorporated by reference to Exhibit 4.9 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 25, 2014 (File No. 001-34175)) (English Translation).
4.6	Supplementary Agreement No. 2, dated March 28, 2014, to the Bicentenario Transport Contract between Oleoducto Bicentenario de Colombia S.A.S. and Ecopetrol S.A., dated June 20, 2012 (incorporated by reference to Exhibit 4.11 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 28, 2016 (File No. 001-34175)) (English Translation).
4.7	Supplementary Agreement No. 4, dated April 6, 2015, to the Bicentenario Transport Contract between Oleoducto Bicentenario de Colombia S.A.S. and Ecopetrol S.A., dated June 20, 2012 (incorporated by reference to Exhibit 4.12 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 28, 2016 (File No. 001-34175)) (English Translation).
4.8	Amendment No. 6, dated April 25, 2016, to the Crude Oil Transportation Services Agreement between Ecopetrol S.A. and Cenit Transporte y Logística de Hidrocarburos S.A.S., dated April 1, 2013 (incorporated by reference to Exhibit 4.13 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 5, 2019 (File No. 001-34175)) (English Translation).
4.9	Amendment No. 7, dated December 28, 2016, to the Crude Oil Transportation Services Agreement between Ecopetrol S.A. and Cenit Transporte y Logística de Hidrocarburos S.A.S., dated April 1, 2013 (incorporated by reference to Exhibit 4.14 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 5, 2019 (File No. 001-34175)) (English Translation).
4.10	Indenture, dated as of July 23, 2009, between the Company and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4.2 to the Company's Form F-4 filed with the U.S. Securities and Exchange Commission on July 31, 2009 (File No. 333-160965)).

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Exhibit No.	Description
4.11	<u>Amendment No. 1 to the Indenture, dated as of June 26, 2015, between the Company and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4.10 on Form 6-K of the Company furnished to the U.S. Securities and Exchange Commission on June 25, 2015 (File No. 001-34175)).</u>
4.12	<u>Prospectus Supplement relating to Ecopetrol S.A.'s 7.375% Notes due 2043 filed with the U.S. Securities and Exchange Commission on September 13, 2013 (incorporated by reference to the Company's Prospectus filed with the U.S. Securities and Exchange Commission on September 13, 2013 (File No. 333 - 190198)).</u>
4.13	<u>Prospectus Supplement relating to Ecopetrol S.A.'s 5.875% Notes due 2045 filed with the U.S. Securities and Exchange Commission on May 21, 2014 (incorporated by reference to the Company's Prospectus filed with the U.S. Securities and Exchange Commission on May 21, 2014 (File No. 333-190198)).</u>
4.14	<u>Prospectus Supplement relating to Ecopetrol S.A.'s 6.875% Notes due 2030 filed with the U.S. Securities and Exchange Commission on April 27, 2020 (incorporated by reference to the Company's Prospectus filed with the U.S. Securities and Exchange Commission on April 27, 2020 (File No. 333-225381)).</u>
4.15	<u>Prospectus Supplement relating to Ecopetrol S.A.'s 4.625% Notes due 2031 filed with the U.S. Securities and Exchange Commission on October 28, 2021 (incorporated by reference to the Company's Prospectus filed with the U.S. Securities and Exchange Commission on October 28, 2021 (File No. 333-256623)).</u>
4.16	<u>Prospectus Supplement relating to Ecopetrol S.A.'s 5.875% Bonds due 2051 filed with the U.S. Securities and Exchange Commission on October 28, 2021 (incorporated by reference to the Company's Prospectus filed with the U.S. Securities and Exchange Commission on October 28, 2021 (File No. 333-256623)).</u>
4.17	<u>Prospectus Supplement relating to Ecopetrol S.A.'s 8.875% Bonds due 2033 filed with the U.S. Securities and Exchange Commission on January 12, 2023 (incorporated by reference to the Company's Prospectus filed with the U.S. Securities and Exchange Commission on January 12, 2023 (File No. 333-256623)).</u>
4.18	<u>Prospectus Supplement relating to Ecopetrol S.A.'s 8.375% Bonds due 2036 filed with the U.S. Securities and Exchange Commission on January 9, 2024 (incorporated by reference to the Company's Prospectus filed with the U.S. Securities and Exchange Commission on January 11, 2024 (File No. 333-256623)).</u>
4.19	<u>Prospectus Supplement relating to Ecopetrol S.A.'s 7.750% Bonds due 2032 filed with the U.S. Securities and Exchange Commission on October 18, 2024 (incorporated by reference to the Company's Prospectus filed with the U.S. Securities and Exchange Commission on October 18, 2024 (File No. 333-278823)).</u>
4.20	<u>Inter-Administrative Share Purchase Agreement dated August 11, 2021 between Ecopetrol S.A. and the Ministerio de Hacienda y Crédito Público (incorporated by reference to Exhibit 4.20 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 25, 2022 (File No. 001-34175).(English translation).</u>
4.21	<u>Loan Agreement among Ecopetrol S.A., as borrower, the lenders party thereto, Mizuho Bank, Ltd., as administrative agent, and BBVA Securities Inc., Banco Santander, S.A., JPMorgan Chase Bank, N.A., Mizuho Bank, Ltd., Sumitomo Mitsui Banking Corporation and The Bank of Nova Scotia, as joint lead arrangers and joint bookrunners, dated as of August 17, 2021 (incorporated by reference to Exhibit 4.21 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 25, 2022 (File No. 001-34175)).</u>
4.22	<u>Loan Agreement among Ecopetrol, S.A., as borrower, UMB Bank, National Association, as Administrative Agent, Sumitomo Mitsui Banking Corporation and The Bank Of Nova Scotia, as Joint Lead Arrangers, and The Bank Of Nova Scotia, as Sole Bookrunner dated as of December 19, 2022 (incorporated by reference to Exhibit 4.22 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 18, 2024 (File No. 001-34175)).</u>
4.23	<u>Loan agreement among the Ecopetrol, S.A., as borrower, MUFG Bank, LTD, as administrative agent, and Banco Bilbao Vizcaya Argentaria, S.A. New York Branch and MUFG Bank, LTCD, as bookrunners and lead arrangers, dated as of May 15, 2023 (incorporated by reference to Exhibit 4.23 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 18, 2024 (File No. 001-34175)).</u>
4.24	<u>Loan agreement, executed among the Ecopetrol, S.A., as borrower, Deutsche Bank AG, Banco Inbursa, S.A., Institución de Banca Múltiple, Grupo Financiero Inbursa, Banco Latinoamericano de Comercio Exterior S.A., and ICBC Standard Bank PLC, as lenders, Deutsche Bank Trust Company Americas, as administrative agent, Deutsche Bank AG, as Global Coordinator and Joint Lead Arranger, and Banco Latinoamericano de Comercio Exterior, as joint lead arranger, dated as of September 7, 2023 (incorporated by reference to Exhibit 4.24 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 18, 2024 (File No. 001-34175)).</u>
4.25	<u>Amendment No. 3 to the transport agreement dated November 22, 2023, executed among Oleoducto Central S.A., and Ecopetrol, S.A. (English Translation).</u>

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Exhibit No.	Description
4.26	Amendment No. 3 to the transport agreement dated November 22, 2023, executed among Oleoducto Central S.A., and Ecopetrol, S.A. (English Translation).
4.27	Amendment No. 19 to the crude oil services framework agreement dated May 28, 2024, executed among Ecopetrol, S.A., and Cenit Transporte y Logística de Hidrocarburos S.A.S. (English Translation).
4.28	Amendment No. 22 to the products service framework agreement dated April 9, 2024, executed among Cenit Transporte y Logística de Hidrocarburos S.A.S., and Ecopetrol S.A. (English Translation).
4.29	Amendment No. 24 to the bicentenario transport agreement dated May 30, 2024, executed among Cenit Transporte y Logística de Hidrocarburos S.A.S., and Ecopetrol S.A. (English Translation).
4.30	Amendment No. 25 to the bicentenario transport agreement dated June 21, 2024, executed among Cenit Transporte y Logística de Hidrocarburos S.A.S., and Ecopetrol S.A. (English Translation).
4.31	Loan agreement, executed among Ecopetrol, S.A., as borrower, Banco Bilbao Vizcaya Argentina, S.A. New York Branch, as administrative agent, and The Bank of Nova Scotia, BBVA Securities Inc., Bank of America, N.A., JPMorgan Chase Bank, N.A., Itau Chile New York Branch, and Standard Chartered Bank (Hong Kong) Limited, as joint lead arrangers and joint bookrunners, dated as of April 12, 2024.
4.32	Loan agreement, executed among Ecopetrol, S.A., as borrower, Sumitomo Mitsui Banking Corporation, as lender, dated as of September 30, 2024.
4.33	First amendment dated October 4, 2024, to the loan agreement executed among Ecopetrol, S.A., as borrower, Sumitomo Mitsui Banking Corporation, as lender, dated as of September 30, 2024.
4.34	Purchase and sale agreement dated May 1, 2021, executed among Enterprise Products Operating LLC, and Esenttia S.A.
4.35	First amendment to the purchase and and sale agreement dated May 1, 2021, executed among Enterprise Products Operating LLC, and Esenttia S.A.
4.36	Second amendment dated December 19, 2022, to the purchase and and sale agreement dated May 1, 2021, executed among Enterprise Products Operating LLC, and Esenttia S.A.
4.37	Second amendment dated January 1, 2024, to the purchase and and sale agreement dated May 1, 2021, executed among Enterprise Products Operating LLC, and Esenttia S.A.
4.38	Prospectus Supplement relating to Ecopetrol S.A.'s 8.625% Notes due 2029 and 8.875% Bonds due 2033 filed with the U.S. Securities and Exchange Commission on January 12, 2023 (incorporated by reference to the Company's Prospectus filed with the U.S. Securities and Exchange Commission on June 30, 2024 (File No. 333-256623)).
7.1	Company Clawback Policy (incorporated by reference to Exhibit 7.1 on Form 20-F filed with the U.S. Securities and Exchange Commission on April 18, 2024 (File No. 001-34175))
7.2	Insider Trading Policy
8.1	List of subsidiaries of Ecopetrol S.A.
12.1	Section 302 Certification of the Chief Executive Officer.
12.2	Section 302 Certification of the Chief Financial Officer.
13.1	Section 906 Officer Certification.
23.1	Consent of Ernst & Young Audit S.A.S.
23.2	Consent of Ryder Scott Company, L.P.
23.3	Consent of DeGolyer and MacNaughton
23.4	Consent of Gaffney, Cline & Associates
99.1	Third-Party Reserve Report of Ryder Scott Company, L.P.
99.2	Third-Party Reserve Report of DeGolyer and MacNaughton
99.3	Third-Party Reserve Report of Gaffney, Cline & Associates
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Labels Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

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AMENDMENT No. 3 TO THE TRANSPORT AGREEMENT

ENTERED INTO BETWEEN

**OLEODUCTO CENTRAL S.A.
OCENSA**

AND

THE SHIPPER

AMENDMENT No. 3 TO THE TRANSPORT AGREEMENT

Between the undersigned **OLEODUCTO CENTRAL S.A.**, a company legally incorporated and existing pursuant to the laws of the Republic of Colombia, with its main domicile in the city of Bogotá D.C., represented in this act by JOSE ALEJANDRO ALZATE GIRALDO, of legal age, identified as shown below his signature, as attorney-in-fact, and duly authorized to enter into this Amendment, on the one hand, (the “Carrier”) and **ECOPETROL S.A.** a mixed economy company, represented in this act by REYNALDO PLATA CARREÑO, identified with citizenship card No. 91,489,924 of Bucaramanga, who acts in his capacity as Head of the Logistics Contracting Department, who is authorized to sign this Amendment, (the “Shipper” and together with the Carrier the “Parties”), have decided to execute this Amendment No. 3 (hereinafter the “Amendment”) to the Transport agreement (hereinafter the “Transport Agreement” or the “Agreement”).

The terms used with an initial capital letter will have the meaning attributed in the Transport Agreement, unless another is attributed to them in this Amendment, which is concluded based on the following considerations:

WHEREAS

- a. That the Parties executed the Transport Agreement on July 29, 2014.
- b. That the Transport Agreement had the Effective Date of July 1, 2017, the date on which the provision of the Service began.
- c. That the Transport Agreement has been modified by Amendment No. 1 executed on July 17, 2018, and Amendment No. 2 of November 9, 2020.
- d. That the Parties agreed that for cases in which the payment of invoices under the Transport Agreement is made in US dollars, the LIBOR rate will apply as follows: (i) LIBOR+2 for remunerative interest, and (ii) LIBOR + 4 for default interest.
- e. That, according to what was announced by the Federal Reserve, the LIBOR ceased to be published in 2023.
- f. That it is necessary to adjust the terms of the Agreement that refer to the LIBOR rate, for which OCENSA conducted the pertinent analysis based on which it was determined that the PRIME rate maintains conditions similar to those initially agreed upon, in the following terms: (i) Prime – 0.72% for remunerative interest and (ii) Prime + 1.28% for default interest.
- g. That the Parties, based on the foregoing Whereas section, have agreed to enter into this Amendment to the Agreement, which will be governed by the following:

CLAUSES

FIRST. - The Parties agree to modify letter (d) of section 4.2, which will read as follows:

“Section 4.2. Billing (...)

(d) If the Shipper does not agree with any invoice presented to it by the Carrier, it will inform the latter in writing, without prejudice to paying the entire invoice within the indicated period. The Parties shall act promptly and jointly to determine the reason for the difference within a term of thirty (30) calendar days following the communication of the Shipper. If the Parties establish that the Shipper paid in excess, the Carrier will return, within ten (10) days following the Carrier’s recognition of the excess payment, the corresponding value, along with the remunerative interest, which will be settled from the date on which the Shipper

made the excess payment, applying the current bank interest, certified by the Finance Superintendency if the payment is made in Colombian pesos, or at the Prime rate. -0.72% in the event that the payment is made in Dollars, without exceeding in any event the usury rate established by the Applicable Law, nor being lower than the Consumer Price Index ("CPI") for the immediately preceding calendar year."

SECOND: The Parties agree to amend letter (a) of section 4.3, which shall read as follows:

"Section 4.3 Carrier correctives. (...)

(a) If the Shipper has not paid the Rate or any sum of money owed to the Carrier, under this Contract, within the term established in Article Four, it will pay the Carrier default interest at the maximum rate permitted by law in case the payment is to be made in Colombian pesos and at the Prime rate +1.28% in case that the payment is to be made in Dollars, in no case exceeding the usury rate established by the Applicable Law, nor be lower than the Consumer Price Index for the immediately preceding calendar year, on the value of the debt pending payment for the number of days in which the default has been incurred."

THIRD: This Amendment does not constitute novation of the Transport Agreement, which clauses, annexes, terms, conditions, right and obligations continue in full force with respect to all that which has not been expressly modified in this document and shall continue the same until the termination of the Transport Agreement except for any modification that the Parties expressly agree to in writing.

In witness whereof, it is signed in two identical copies, on the 22nd day of November, 2023.

Oleoducto Central S.A, Ocesa

PETROL S.A.

/s/ Jose Alejandro Alzate Giraldo

JOSE ALEJANDRO ALZATE GIRALDO

C.C. 10.289.716

Attorney

/s/ Reynaldo Plata Carreño

REYNALDO PLATA CARREÑO

C.C. C.C. 91.489.924

Head of Logistics Contracting Department

AMENDMENT No. 3 TRANSPORT AGREEMENT

ENTERED INTO BETWEEN

**OLEODUCTO CENTRAL S.A.
OCENSA**

AND

THE SHIPPER

AMENDMENT No. 3 TO THE TRANSPORT AGREEMENT

Between the undersigned **OLEODUCTO CENTRAL S.A.**, a company legally incorporated and existing pursuant to the laws of the Republic of Colombia, with its main domicile in the city of Bogotá D.C., represented in this act by JOSE ALEJANDRO ALZATE GIRALDO, of legal age, identified as shown below his signature, as attorney-in-fact, and duly authorized to celebrate this Amendment, by one party (the “Carrier”) and **ECOPETROL S.A.** a mixed economy company, represented in this act by REYNALDO PLATA CARREÑO, identified with citizenship card No. 91,489,924 of Bucaramanga, who acts in his capacity as Head of the Logistics Contracting Department, who is authorized to execute this Amendment (hereinafter, the “Amendment”) to the Transport Agreement (hereinafter, the “Transport Agreement” or the “Agreement”).

The terms used with an initial capital letter will have the meaning attributed to them in the Transport Agreement, unless another is attributed to them in this Amendment, which is concluded based on the following considerations:

WHEREAS

- a. That the Parties executed the Transport Agreement on March 31, 1995.
- b. That on January 17, 2013, the Parties executed an amendment whereby the initial text of the Agreement was unified and integrated along with all its amendments; on May 24, 2013, the Parties executed Amendment No. 1 whereby the billing clause was modified and subsequently, on November 9, 2020, the Parties executed Amendment No. 2 by which certain security standards were included in the Sender’s supply chain.
- c. That the Parties agreed that for cases in which the payment of invoices under the Transport Agreement is made in US dollars, the LIBOR rate will apply as follows: (i) LIBOR+2 for remunerative interest, and (ii) LIBOR + 4 for default interest.
- d. That according to what was announced by the Federal Reserve, the LIBOR ceased to be published in 2023.
- e. That it is necessary to adjust the terms of the Agreement that refer to the LIBOR rate, for which OCENSA conducted the pertinent analysis based on which it was determined that the PRIME rate maintains conditions similar to those initially agreed upon, in the following terms: (i) Prime – 0.72% for remunerative interest and (ii) Prime + 1.28% for default interest.
- f. That the Parties, based on the foregoing Whereas section, have agreed to enter into this Amendment to the Agreement, which will be governed by the following:

CLAUSES

FIRST. - The Parties agree to modify letter (d) of section 4.2, which will read as follows:

“Section 4.2. Billing (...)

(d) If the Initial Shipper does not agree with any invoice presented to it by the Carrier, it will inform the latter in writing, without prejudice to paying the entire invoice within the indicated period. The Parties shall act promptly and jointly to determine the reason for the difference within a term of thirty (30) calendar days following the communication of the Initial Shipper. If the Parties establish that the Shipper paid in excess, the Carrier will return, within ten (10) days following the Carrier’s recognition of the excess payment, the corresponding value, along with the

remunerative interest, which will be settled from the date on which the Initial Shipper made the excess payment, applying the current bank interest, certified by the Finance Superintendency if the payment is made in Colombian pesos, or at the Prime rate. -0.72% in the event that the payment is made in Dollars, without exceeding in any event the usury rate established by the Applicable Law, nor being lower than the Consumer Price Index ("CPI") for the immediately preceding calendar year."

SECOND: The Parties agree to amend letter (a) of section 4.3, which shall read as follows:

"Section 4.3 Carrier correctives. (...)

(a) If the Initial Shipper has not paid the T Tariff or any sum of money owed to the Carrier, under this Contract, within the term established in Article Four, it will pay the Carrier default interest at the maximum rate permitted by law in case the payment is to be made in Colombian pesos and the Prime rate +1.28% in case that the payment is to be made in Dollars, in no case exceeding the usury rate established by the Applicable Law, nor be lower than the Consumer Price Index for the immediately preceding calendar year, on the value of the debt pending payment for the number of days in which the default has been incurred."

THIRD: This Amendment does not constitute novation of the Transport Agreement, which clauses, annexes, terms, conditions, right and obligations continue in full force with respect to all that which has not been expressly modified in this document and shall continue the same until the termination of the Transport Agreement except for any modification that the Parties expressly agree to in writing.

In witness whereof, it is signed in two identical copies, on the 22nd day of November, 2023.

Oleoducto Central S.A, Ocesa

ECOPETROL S.A.

/s/ Jose Alejandro Alzate Giraldo

JOSE ALEJANDRO ALZATE GIRALDO

C.C. 10.289.716

Attorney

/s/ Reynaldo Plata Carreño

REYNALDO PLATA CARREÑO

C.C. C.C. 91.489.924

Head of Logistics Contracting Department



AMENDMENT NO. 19
CRUDE OIL SERVICES FRAMEWORK AGREEMENT



AMENDMENT NO. 19
CRUDE OIL SERVICES FRAMEWORK AGREEMENT

Between

CENIT TRANSPORTE Y LOGÍSTICA DE HIDROCARBUROS S.A.S.

and

ECOPETROL S.A.

BOGOTÁ D.C., MAY 28, 2024



AMENDMENT NO. 19
CRUDE OIL SERVICES FRAMEWORK AGREEMENT



**AMENDMENT NO. 19
TO THE CRUDE OIL SERVICES FRAMEWORK AGREEMENT**

This Amendment No. 19 (the “Amendment”) to the Crude Oil Services Framework Agreement (hereinafter, the “Framework Agreement”), is executed on May twenty-eight (28) of two thousand twenty-four (2024) (hereinafter, the “Date of Execution”) by the following legal entities (hereinafter, the “Parties” and, each of them, one “Party” or the “Party”): whereas:

1. **ECOPETROL S.A.**, mixed economy company, attached to the Ministry of Mines and Energy, authorized by Law 1118 of 2006, which acts in accordance with its bylaws and has its main domicile in Bogota D.C., with NIT: 899.999.068-1, represented for the execution of this Amendment by REYNALDO PLATA CARREÑO, identified as shown below his signature, who acts in his capacity as Special Attorney, according to the power of attorney granted through public deed No. 0160 of February 3 of 2021 in Notary 31 of the Bogota Circle, empowered to execute this Amendment pursuant to the ample and sufficient Special Power granted by ECOPETROL S.A. (hereinafter “ECOPETROL”), and
2. **CENIT TRANSPORTE Y LOGÍSTICA DE HIDROCARBUROS S.A.S.**, mixed economy company, authorized by Decree 1320 of 2012, attached to the Ministry of Mines and energy, with main domicile in Bogotá D.C. and NIT. 900.531.210-3, represented for the execution of this Amendment by JOSÉ GUILLERMO MORENO GÓMEZ, identified as shown below his signature, who acts in his capacity as General Attorney, pursuant to a power granted by public deed No. 0160 of February 3, 2021 in Notary 31 of the Bogota Circle, empowered to execute this Amendment (hereinafter “CENIT”).

The Parties have agreed on aspects that are established hereinbelow, as per the following considerations

WHEREAS:

1. That the Parties executed on the first (1st) of April, two thousand thirteen (2013), the Framework Agreement, which has been previously modified by Amendments No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 18 in the aspects defined in each of them, an Agreement that is in force to date.
2. That ECOPETROL, for operational reasons and in accordance with the provisions of Chapter II “Crude Storage Service” of the Framework Contract, has requested CENIT to agree on the terms and conditions under which it will provide the crude oil storage service in the TK-705 Tank, which is located at the Vasconia Station.

Keeping in mind the foregoing whereas clauses, the Parties have agreed by means of this Amendment, to modify the Framework Agreement as set forth in the following



AMENDMENT NO. 19
CRUDE OIL SERVICES FRAMEWORK AGREEMENT



CLAUSES:

CLAUSE ONE: Rental of Tank TK-705 located at the Vasonia Sttion. -

Include in Chapter II “Crude Storage Service” of the Framework Agreement, the temporary Annex AC-6, related to the “*Destination, Term of Duration, Operation and Rental Fee of the TK-705 Tank at the Vasconia Station*”, which is incorporated into the Framework Agreement through this Amendment as **Annex 1**, by which the Parties agree to the particular conditions for the provision of ECOPETROL’s Crude Oil Storage Service.

CLAUSETHREE: The implementation of the changes made through this Amendment will come into force as of the Date of Execution of the Amendment.

CLAUSEFOUR: The Parties understand that the remaining clauses of the Framework agreement and its amendments continue in force as all that which has not been expressly modified by means of this Amendment.

Hence, this Amendment is signed electronically by the undersigned, in the city of Bogota D.C.; on the twenty-eight (28th) of May of two thousand twenty-four (2024).

For ECOPETROL:

For CENIT,

/s/ Reynaldo Plata Carreño
REYNALDO PLATA CARREÑO
C.C. 91.489.924 of Bucaramanga
Special Attorney

/s/ José Guillermo Moreno Gómez
JOSÉ GUILLERMO MORENO GÓMEZ
C.C. 80.412.522 de Bogotá
Attorney General

Annex 1
of Amendment No. 19 to the Crude Oil Services Framework Agreement entered into by Cenit Transporte y Logística de Hidrocarburos S.A.S. and Ecopetrol S.A.

ANNEX AC-6



**CRUDE STORAGE SERVICE
DESTINATION, TERM OF DURATION, OPERATION AND RATE FOR THE CONTRACTING OF STORAGE CAPACITY OF THE
TK-705 TANK LOCATED AT THE VASCONIA STATION.**

CENIT, in its capacity as holder of the right of ownership and possession of the TK-705 Tank (hereinafter, the “Tank”), grants ECOPETROL, as a lease, the use and enjoyment of the entire storage capacity (hereinafter, the “Storage Capacity”) of the Tank, which will be operated by CENIT for the period defined in this Annex and under the operating conditions stated hereunder.

CENIT, in its capacity as service provider, declares that the storage capacity of the Tank will be given in lease as of the Effective Date, as defined in Clause 2 of this Annex.

CHAPTER I

Clause 1. Destination: ECOPETROL will destine the Storage Capacity of the tank for storing crude belonging to ECOPETROL, as per definition contained in Clause 34 of the Crude Service Framework Agreement, executed on April 1, 2013 (hereinafter the “Services Framework Agreement”) which is transcribed herein below, and which meets the qualities demanded by Cenit for the Tank:

“ECOPETROL’s Crude Oil: Means (i) Crude oil owned by ECOPETROL and its Affiliates (not including CENIT), (ii) Fuel oil or fuel oil owned by ECOPETROL and its Affiliates (not including CENIT), (iii) Diluents owned by ECOPETROL and its Affiliates (not including CENIT) (iv) any other product that can technically be transported through the Pipeline owned by ECOPETROL and its Affiliated companies (not including CENIT), prior agreement with CENIT, and (v) Crude oil owned by third parties only for the Apiay – Monterrey – Altos del Porvenir system.”

Thus, ECOPETROL accepts and recognizes that, as for the use of the Tank’s storage Capacity, the following conditions are applicable:

- (i) The filling and evacuation of the Tank will be planned by CENIT in accordance with the transport schedule of the transport systems that use or can use the Tank.
- (ii) The monitoring and operating management of the Tank shall be the exclusive responsibility of CENIT.
- (iii) The connection, disconnection and/or blocking of the Tank’s afferent lines shall be made by CENIT. Thus, the technical, environmental, social and operating aspects are the responsibility of CENIT.
- (iv) Cenit will have custody and responsibility for the total volume stored in the Tank. The use of the storage capacity will be made in accordance with the nomination procedure of CENIT.
- (v) Whenever Ecopetrol has or does not have stored product, during the period agreed upon by the parties, based on the nomination, it must pay the indicated fixed monthly value.



AMENDMENT NO. 19
CRUDE OIL SERVICES FRAMEWORK AGREEMENT



- (vi) Once the deadline has expired, Cenit will be able to freely dispose of the use of the Tank and its capacity, and Ecopetrol must evacuate the entire product in a time not exceeding five (5) calendar days, counted from the first day following the end of the service agreed in this Annex. Otherwise, Cenit will evacuate the product, adhering to its Transport Manual or the document that takes its stead, and will request reimbursement of the respective cost to Ecopetrol.
- (vii) The remaining volume in the tank during the term of the lease will be the responsibility of Ecopetrol, as well as the quality variations that the tank may undergo because of tank conversions for the nominated product.

Clause 2. Duration: This annex will come into effect on the twenty-eight (28th) of May of two thousand twenty-four (hereinafter the “Effective Date”) and will be in force for the same period of the Valid Term set forth by the Service Framework Agreement.

Clause 3. Termination: Unless the service has been nominated by ECOPETROL and accepted by CENIT, both CENIT and ECOPETROL can opt for a unilateral, early termination of the rental of storage capacity agreed through this Annex, in such a way that the party willing to terminate it shall notify its wish to do so to the other party in writing through the most expeditious means.

Said statement must be issued at least three (3) months in advance of the date of expiration of the Annex.

Once the interest to terminate the lease for Tank storage capacity has been expressed, it will be understood that it will end following the last day of the three (3)-month previous notice.

CHAPTER II

Clause 1. Value and way of payment: The Parties agree that during the duration of the rental, ECOPETROL undertakes to pay monthly,

- (i) The monthly fixed price for availability of the Storage Capacity of the Tank payable by ECOPETROL will be sixty eight thousand seven hundred sixty one US Dollar (USD\$68,761), including the Rate (hereinafter the “Rate”).
- (ii) ECOPETROL shall pay the Rate only when it nominates and the nomination has been accepted by CENIT. Once the nomination has been accepted, whether ECOPETROL uses or not the Storage Capacity, it undertakes to pay the Rate established for the service during the month nominated for use of the tank.

Clause 2. Updating of the Rate: The Rate for availability of the Tank Storage Capacity will be adjusted annually as of the first (1st) of January of two thousand twenty-five (2025), using the *Consumer Price Index – All Urban Consumers* (CPI) of the United States of America, reported by the Bureau of Labor Statistics.



AMENDMENT NO. 19
CRUDE OIL SERVICES FRAMEWORK AGREEMENT



Clause 3. Billing: It will be performed in accordance with that set forth in Clause 6 of the Framework Agreement.

CHAPTER III

Clause 1. Services by CENIT to ECOPETROL: ECOPETROL expressly accepts that the lease of Tank Storage Capacity in its favor does not constitute default, novation, or amendment of the Framework agreement, which is in force in all its terms and conditions.

Clause 2. Annex Application: This Annex cancels or makes void any previous agreement or contract relating to the leasing of the Tank Storage Capacity.

Clause 3. Validity of the amendments: The amendments that the Parties want to introduce in this Annex must be stated in writing, pursuant to that agreed in the Framework Agreement, as it is the will of the Parties to recognize the validity of those made this way.

Clause 4. Payment of Costs and Taxes: Each Party shall bear the cost of taxes that correspond to it, by virtue of the entering into and execution of this Annex.

Clause 5. Dispute Settlement: Any dispute or controversy arising between the Parties in relation with the fulfillment of the provisions contained in this Annex shall be settled in accordance with that provided for in Clause 23 and Clause 25 of the General Conditions of the Framework Agreement.





PRODUCTS SERVICE FRAMEWORK AGREEMENT
AMENDMENT NO. 22



**AMENDMENT No. 22 to the Products Service Framework
Agreement**

Between

CENIT TRANSPORTE Y LOGÍSTICA DE HIDROCARBUROS S.A.S.

and

ECOPETROL S.A.

BOGOTÁ, D.C. APRIL 9, 2024



PRODUCTS SERVICE FRAMEWORK AGREEMENT
AMENDMENT NO. 22



**AMENDMENT No. 22
TO PRODUCTS SERVICE FRAMEWORK AGREEMENT**

This Amendment No. 22 to the Products Service Framework Agreement (the “Amendment”) is formalized on April nine (9), 2024 (the “Date of Execution”) by the following legal entities (hereinafter, the “Parties” and, each of them, a “Party” or the “Party”):

1. **ECOPETROL S.A.**, mixed economy company, attached to the Ministry of Mines and Energy, authorized by Law 1118 of 2006, which acts in accordance with its bylaws and has its main domicile in Bogota D.C., with NIT: 899.999.068-1, represented for the execution of this Amendment by **REYNALDO PLATA CARREÑO** identified as show below his signature, empowered to sign this Amendment in accordance with the broad and sufficient Special Power granted to him by ECOPETROL S.A. (hereinafter “ECOPETROL”).
2. **CENIT TRANSPORTE Y LOGÍSTICA DE HIDROCARBUROS S.A.S.**, a Colombian company, of a commercial nature, of the type of simplified stock companies, domiciled in Bogotá D.C. (hereinafter “CENIT”), represented for the execution of this Amendment by **JOSE GUILLERMO MORENO GÓMEZ**, who acts in his capacity as General Representative of CENIT.

The Parties have agreed to the terms and conditions described below, subject to the following considerations

WHEREAS:

1. That on April 1, 2013, CENIT and ECOPETROL entered into the Products Service Framework Agreement (hereinafter the “Agreement”).
 2. That on May 5, 2014, the Parties executed Amendment No. 1 to the Agreement, whereby annexes CPC-2, CPC-3, DPP-5 and TP-5 and Sections 1.01 of Chapter III, 6.04 and 6.05 of the General Conditions.
 3. That on January 24, 2018, the Parties executed Amendment No. 2 to the Agreement whereby Annex TP-1 was modified.
 4. That on December 26, 2018, the Parties executed Amendment No. 3, whereby they included a new point of departure of the Sebastopol – Apiay system in Monterrey and modified Annexes TP-2 and TP-5.
 5. That on March 1, 2019, the Parties executed Amendment No. 4 to the agreement, whereby they established the conditions for provision of the storage service in Buenaventura, for Ecopetrol to be able to import products to the Joint Plant of Buenaventura.
-



PRODUCTS SERVICE FRAMEWORK AGREEMENT
AMENDMENT NO. 22



6. That on June 28, 2019, the Parties executed Amendment No. 5 to the Agreement whereby they established the tariff for provision of the storage service in Buenaventura, in force between July 1-31 of 2019.
 7. That on August 6, 2019, the Parties executed Amendment No. 6 to the Agreement whereby they established the rate for provision of the storage service in Buenaventura in force as of August 6, 2019.
 8. That on November 6, 2019, the Parties executed Amendment No. 7 to the Agreement, whereby the nomination and transport of Products owned by third parties under the Contract Capacity were permitted.
 9. That on January 31, 2020, the Parties executed Amendment No. 8 to the Agreement, whereby the activity of receiving biofuel (B100) and the mix with diesel in the tank truck filling at the Pozos Colorados terminal was included; the provision of filling service to other companies; the Naphtha Quality Specifications established in Annex TP-1 of the Contract were modified, and the regulations regarding the issuance of electronic invoices were adopted.
 10. That on July 13, 2020, the Parties executed Amendment No. 9 to the Contract, whereby a temporary modification of the Agreement conditions was agreed, so that ECOPETROL could access commercial conditions that would allow it to mitigate the effects caused by the health emergency derived from the COVID-19 pandemic, a fact that CENIT has not accepted as a Justified Event.
 11. That on September 11, 2020, the Parties executed Amendment No. 10 to the agreement, whereby they established the rate for the provision of the storage service in Buenaventura valid between September 12 and July 31, 2021.
 12. That on November 4, 2020, the Parties executed Amendment No. 11 to the Contract, whereby they established numeral (xxiii) in Section 8.01 "Obligations of CENIT" of Clause 8 "Obligations of the Parties", with the aim of including obligations related to the security of the port operation.
 13. That on January 22, 2021, the Parties executed Amendment No. 12 to the agreement, whereby they included as Annex DPP-4 to the Agreement, a Procedure for Resolution of Delays and Attention to Claims for Quality and Quantity - Pozos Colorados Terminal.
 14. That on April 28, 2021, the Parties executed Amendment No. 13 to the Contract, updating Annexes AP-3 aimed at making it clear that the biofuel storage rate (B100) is included in the filling tariff for the Storage Service in Pozos Colorados, and they included the Galán-Rio Sogamoso segment within the list of Product Transport Systems by Polyduct, for which Annexes TP-2 and TP-5 and Section 1.02 of Chapter I Product Transportation Service by Pipeline were modified.
 15. That on August 9, 2021, the Parties executed Amendment No. 14 to the Contract, in which they included the Unloading Service at the Buenaventura
-



PRODUCTS SERVICE FRAMEWORK AGREEMENT
AMENDMENT NO. 22



Maritime Terminal, modifying Annex AP-3 of the Agreement related to the provision of the Storage Service in Buenaventura, intended for import/intern products through the Chevron-owned Plant as of August 9, 2021, they modified Annexes DPP-1, DPP-2, DPP-3 and DPP-6, of Chapter IV - Service of Product Unloading in Port, with the aim of regulating the Product Unloading in Port service at the Buenaventura Maritime Terminal.

16. That on August 9, 2021, the Parties executed Amendment No. 15 to the Contract, including the Buenaventura-Mulaló Segment within the list of Product Transport Systems by Polyduct, for which Annexes TP-2 and TP-5 and Section 1.02 of Chapter I Product Transportation Service by Polyduct were modified.
 17. That on January 24, 2022, the Parties executed Amendment No. 16 to the Contract, including the Buenaventura-Yumbo Segment within the list of Product Transport Systems by Polyduct, for which Annexes TP-2 and TP-5 and Section 1.02 of Chapter I Product Transport Service by Polyduct were modified.
 18. That on August 24, 2022, the Parties executed Amendment No. 17, with the aim of including in the agreement the particular conditions on which basis CENIT performs the Project, and provides ECOPETROL with the naphtha storage service in Tank 8168 located in the north gate of the GRB.
 19. That on December 26, 2022, the Parties executed Amendment No. 18, with the purpose of including in the Agreement the Pozos – Ayacucho Segment within the list of Measurement and Custody Transfer Points, as well as said segment within the Product Transport Systems by Polyduct, aimed at enabling the delivery of products in Ayacucho, for which Annexes TP-2 and TP-5 of the Contract were modified.
 20. That on January 25, 2023, the Parties executed Amendment No. 19, with the aim of including in the Agreement the Galán – Buenaventura and Galán – Yumbo routes, within the Product Transport Systems by Polyduct of the Agreement, as well as including and regulating the Loading Service at the Buenaventura Maritime Terminal in the Contract.
 21. That on July 31, 2023, the Parties executed Amendment No. 20, with the aim of modifying in the Contract Annexes AP-3 pertaining to the update of the Rate for the Product storage service in Buenaventura and DDP-2 related to the update of the Tank Loading Rate in Buenaventura.
 22. That on July 31, 2023, the Parties executed Amendment No. 21, with the aim of making it clear the storage rate in GRB Tank-8168 that was included in Amendment No. 17, executed on August 24, 2022, is in force since the execution of Amendment No. 17, as well as updating it.
 23. That the Parties, by common agreement, consider it necessary to modify the LIBOR reference interest rate for the collection of default interest to the reference interest rate “PRIME +2.65% of the Central Bank”, as well as to include the entry
-



PRODUCTS SERVICE FRAMEWORK AGREEMENT
AMENDMENT NO. 22



into operation of a new dynamic measurement skid for receiving vessels in Pozos Colorados.

24. That this Amendment and the aspects incorporated herein were thoroughly discussed, analyzed, and accepted by the executing Parties, without any exception.

Based on the whereas clauses above, the Parties have agreed to execute this Amendment No. 22 to the Agreement, which shall be ruled by the following

CLAUSES:

FIRST. – The Parties agree to modify Section 6.07 of the General Conditions of the Agreement, which from now on will read as follows:

“Section 6.07 Default: Without prejudice to that stated in Section 19.03 of the General Conditions of the Services Framework Agreement, in the event of unjustified delay in the payment of invoices that are not challenged timely by ECOPETROL, in accordance with the provisions of this Clause, ECOPETROL will recognize to CENIT, (i) as interest payable in pesos, the maximum default rate authorized by the Finance Superintendence, for the days of default that have actually elapsed, or (ii) as interest payable in dollars, the maximum interest of the annual default rate of PRIME +2.65% Central Bank, without in any case said rate exceeding the usury rate established by Colombian legislation, nor be lower than the consumer price index for the immediately preceding Calendar Year, for the days of default that have actually elapsed.

Invoices for charging interest shall be paid by ECOPETROL within thirty (30) days following their filing by CENIT.

The invoices issued, as well as this Framework Service Contract, will provide executive merit and ECOPETROL and CENIT expressly waive private or judicial requirements for being declared in default.”

SECOND. - The Parties agree to modify section 4.1. of Annex DPP-4 (SERVICE FOR UNLOADING OF PRODUCTS AT PORT, PROCEDURE FOR DELAY RESOLUTION AND QUANTITY AND QUALITY CLAIMS - POZOS COLORADOS TERMINAL) which shall from now on read as follows:

“4.1 In case of product unloading operation and if the shore receipt dynamic measurement system is working properly during unloading, or the product is unloaded in full to shore tank, if the claim is for quantity and the measurement difference between shore and vessel figures in “net standard volumes” after applying the “Vessel Experience Factor (VEF)” is equal or less than 0.5%, it shall be considered that there is no claim whatsoever.”

THIRD. - The Parties agree to amend Annex DPP-6 (Port Product Unloading Service, POINTS OF ENTRY AND POINTS OF DEPARTURE FROM PORTS), which is replaced in its entirety by Annex 1 hereto.



PRODUCTS SERVICE FRAMEWORK AGREEMENT
AMENDMENT NO. 22



Without prejudice to the modification of Annex DPP-6 referred to in the preceding paragraph, the Parties agree that CENIT shall communicate in writing to ECOPETROL the officialization of the start date of the Dynamic Measurement through the Measurement Skid at the Pozos Colorados Terminal within a period not exceeding ninety (90) calendar days following the signature referred to in this Amendment No. 22, with prior visit by the technical area of measurement, quality and balance of ECOPETROL to the area where the measurement system is located in the Pozos Colorados Terminal.

FOURTH. - NOVATION. This Amendment No. 22 does not constitute novation to the Agreement, nor to its previous amendments, thus all that which has not been modified expressly by this document continues in force.

In view of the foregoing, this Amendment is signed electronically by the undersigned on the ninth (9th) day of April of 2024.

For ECOPETROL:

For CENIT,

/s/ Reynaldo Plata Carreño
REYNALDO PLATA CARREÑO
C.C. 91.489.924 of Bucaramanga
Special Attorney

/s/ José Guillermo Moreno Gómez
JOSE GUILLERMO MORENO GÓMEZ,
C.C. 80.412.522 of Bogotá
Attorney General



PRODUCTS SERVICE FRAMEWORK AGREEMENT
AMENDMENT NO. 22



AMNEXO 1 TO AMENDMENT No. 22

ANNEX DPP-6
UNLOADING OF PRODUCTS AT PORT SERVICE
POINTS OF ENTRY AND POINTS OF DEPARTURE OF PORTS

Port	Origin of Refined	Service	Point of Entry	Point of Departure	Single point of measurement		Backup point of measurement	
					Amount	Quality	Amount	Quality
Pozos Colorados Terminal	Vessel	Hydrocarbons management	Flange of hose connection to the tanker.	Measurement system outlet flange for dynamic measurement on shore. Inlet flange of the Tanks of the Pozos Colorados Station.	Dynamic measurement system on shore for fir receiving tankers. Note: In case of detecting free water in the product, the free water volume quantified in tanks on shore will be deducted from the volume indicated by the dynamic measurement.	For settlement of volume with the dynamic measurement system, the density in line measurement will be used.	1. Measurement with static method in tanks receiving product from tankers in the Pozos Colorados Terminal. 2. Measurement by static method in tanker, applying the vessel experience factor "VEF".	1. Manual sampling in tanks receiving product in the Pozos Colorados Terminal for analyses in the Pozos Colorados laboratory. 2. Manual sampling in tanks receiving product in the Pozos Colorados Terminal for analyses in the Pozos Colorados laboratory.
Buenaventura Terminal	Vessel	Hydrocarbons management	Flange of hose connection to the tanker.	Inlet flange of the Tanks at the Buenaventura Terminal (Chevron): TK 428, TK 418, TK 374 for static measurement	Measurement by static method in tanks receiving product from tankers in the Buenaventura Terminal (Chevron).	Manual sampling in tanks receiving product in the Buenaventura Terminal (Chevron) for analyses at the laboratory.	Measurement by static method in tanker, applying the vessel experience factor "VEF".	Manual sampling in tanks receiving product in the Pozos Colorados Terminal for analyses in the Pozos Colorados laboratory.



AMENDMENT No. 24 TO THE BICENTENARIO TRANSPORT AGREEMENT

Between

Cenit Transporte y Logística de Hidrocarburos S.A.S.

and

ECOPETROL S.A.

BOGOTA D.C., MAY 30, 2024



AMENDMENT No. 24 TO THE BICENTENARIO TRANSPORT AGREEMENT

This Amendment No. 24 (hereinafter, the “Amendment”) to the Bicentenario Transport Agreement is entered into by the following parties:

1. **CENIT TRANSPORTE Y LOGÍSTICA DE HIDROCARBUROS S.A.S.**, company incorporated in accordance with the laws of the Republic of Colombia be means of a private document dated June 15, 2012, and registered in the mercantile registry on the same date, with NIT 900.531.210-3, represented in this act by EUGENIO GÓMEZ HOYOS, identified as shown below his signature, who acts in his capacity as general attorney, in accordance with the power granted by public deed No. 1910 of July 3, 2013 at Notary 51 of the Bogota Circle (hereinafter “Cenit”); and
2. **ECOPETROL S.A.**, Colombian company of mixed economy, of commercial nature, of the national order, attached to the Ministry of Mines and Energy in accordance with Law 1118 of 2006, domiciled in Bogotá D.C., represented in this act by REYNALDO PLATA CARREÑO, identified as shown below his signature, who acts in his capacity as Head of the Logistics Contracting Department, who is duly empowered, with broad and sufficient faculties, to execute this Agreement pursuant to the Special Power granted by Ecopetrol to represent it and bind it, (hereinafter, the “Shipper” and together with Cenit, the “Parties”, or each one referred to individually as “Party”).

The Parties have agreed to enter into this amendment to the Bicentenario Transport Agreement pursuant to the terms set forth hereinbelow, with the prior

WHEREAS CLAUSES:

1. That, on June 20, 2012, the Shipper and Oleoducto Bicentenario de Colombia S.A.S. (currently Cenit) entered into a contract for the transportation of crude oil through the pipeline Oleoducto Bicentenario de Colombia, modified by Amendments 1 to 23, (hereinafter, the “Agreement”).
2. That on August 22, 2023, through the General Shareholders Meeting of Cenit, the commitment for reorganization by absorption merger between Cenit y Oleoducto Bicentenario de Colombia S.A.S. was approved.
3. On November 30, 2023, the companies received authorization from the Superintendency of Companies to continue with the merger by absorption, which was officialized through Public Deed No. 4660 of December 21, 2023 of Notary 21 of the Bogotá D.C. Circle, which was registered in the mercantile registry of the Chamber of Commerce of Bogotá, as stated in the certificate of existence and legal representation, ending the merger by absorption process.
4. Thus, in view of the foregoing, Cenit, pursuant to that set forth in Resolution 72-145 of 2014 and since December 28, 2023, date of officialization of the merger, for all purposes, shall serves as owner and transporter of the Araguaney - Banadia segment, more often referred to as Oleoducto Bicentenario de Colombia.
5. That, by virtue of Amendment No. 23 to the Agreement, the Parties agreed to extend the Term of the Contingent Service until May 31, 2014.
6. That the General Shareholder Meeting of Cenit approved releasing the eventual conflict of interest that could exist with the administrators of Cenit.
7. That, because the Contingent Service has been provided satisfactorily and has generated benefits for both Parties, by means of this Agreement, the Parties intend to extend the term of validity of the Contingent Service until September 4, 2024.



Based on the foregoing Whereas section, the Parties have agreed to enter into this Amendment to the Agreement, which will be governed by the following:

CLAUSES:

CLAUSE ONE: MODIFICATIONS TO THE AGREEMENT: The Parties agree to amend the Agreement as per the following terms:

Section 1-01 - Definitions: *The Parties agree that the definition of “Term of Validity of the Contingent Service” and “Term of Provision of the Contingent Service” contained in Annex to the Agreement, shall read as follows:*

“Term of validity of the Contingent Service: It is the period between March 23, 2017 and September 4, 2024, or any of its extensions, in accordance with the provisions of Section 3.05.”

Section 1.02 - Term of the Contingent Service: The Parties agreed that Section (a) of the Agreement shall read as follows:

“Section 3.05 – Term of Contingent Service and Conditions Precedent to Contingent Service:

(a) Except as provided for in Section 3.05(e), the Contingent Service will be provided during the period between March 23, 2017, and September 4, 2024, and said period may be extended by mutual agreement of the Parties (...).”

CLAUSE TWO: INTEGRITY OF THE AGREEMENT. All other clauses in the Agreement continue in force in their entirety, not being understood as modified by this Amendment.

In witness whereof, this Amendment is signed on the thirtieth (30th) day of May of the year two thousand twenty-four (2024).

for the Shipper,

/s/ Reynaldo Plata Carreño

Name: REYNALDO PLATA CARREÑO

C.C.: 91.489.924 of Bucaramanga

Title: Head of Logistics Contracting Department

For Cenit,

/s/ Eugenio Gómez Hoyos

Name: EUGENIO GÓMEZ HOYOS

C.C.: 79.121.780 of Fontibón

Title: Attorney General



AMENDMENT NO. 25 TO THE BICENTENARIO TRANSPORT AGREEMENT

Between

Cenit Transporte y Logística de Hidrocarburos S.A.S.

and

Ecopetrol S.A.

Bogotá D.C., June 21, 2024



AMENDMENT NO. 25 TO THE BICENTENARIO TRANSPORT AGREEMENT

This Amendment No. 25 (hereinafter, the “Amendment”) to the Bicentenario Transport Agreement is entered into by the following parties:

1. **CENIT TRANSPORTE Y LOGÍSTICA DE HIDROCARBUROS S.A.S.**, company incorporated in accordance with the laws of the Republic of Colombia be means of a private document dated June 15, 2012, and registered in the mercantile registry on the same date, with NIT 900.531.210-3, represented in this act by EUGENIO GÓMEZ HOYOS, identified as appearing under his signature, who acts in his capacity as general attorney, in accordance with the power granted by public deed No. 1910 of July 3, 2013 at Notary 51 of the Bogota Circle (hereinafter “Cenit”); and
2. **ECOPETROL S.A.**, Colombian company of mixed economy, of commercial nature, of the national order, attached to the Ministry of Mines and Energy in accordance with Law 1118 of 2006, domiciled in Bogotá D.C., represented in this act by REYNALDO PLATA CARREÑO, identified as it appears under his signature, who acts in his capacity as Head of the Logistics Contracting Department, who is duly empowered, with broad and sufficient faculties, to execute this Agreement pursuant to the Special Power granted by Ecopetrol to represent it and bind it, (hereinafter, the “Shipper” and together with Cenit, the “Parties”, or each one referred to individually as “Party”).

The Parties have agreed to enter into this amendment to the Bicentenario Transport Agreement pursuant to the terms set forth hereinbelow, with the prior

WHEREAS CLAUSES:

1. That, on June 20, 2012, the Shipper and Oleoducto Bicentenario de Colombia S.A.S. (currently Cenit) entered into a contract for the transportation of crude oil through the pipeline Oleoducto Bicentenario de Colombia, modified by Amendments 1 to 24, (hereinafter, the “Agreement”).
2. That, on December 28, 2023, registry was completed of Public Deed No. 4660 of December 21, 2013, of Notary 21 of the Bogota D.C. Circle, in the mercantile registry of the Bogota Chamber of Commerce, whereby it officialized the merger by absorption between Cenit and Oleoducto Bicentenario de Colombia S.A.S.
3. That, in view of the foregoing, Cenit, pursuant to that set forth in Resolution 72-145 of 2014 and since December 28, 2023, date of officialization of the merger, for all purposes, it serves as owner and transporter of the Araguaney - Banadia segment, more often referred to as Oleoducto Bicentenario de Colombia.
4. That, by virtue of the foregoing, The Parties make it clear that every time that in the Agreement there is mention of “Bicentenario”, that is, of Oleoducto Colombia S.A.S., it shall be understood as mention of Cenit.
5. That, by virtue of Amendment No. 24 to the Agreement, the Parties agreed to extend the Term of the Contingent Service until September 4, 2024.
6. That the General Shareholder Meeting of Cenit approved releasing the eventual conflict of interest that could exist with the administrators of Cenit.

7. That the Parties are interest in agreeing, by mutual consent, on the date of termination of the *Ship or Pay Term* of the Agreement, and also to include the rules as per which use of the advance payment made by the shipper to Cenit can be made, as set out in Annex K.
8. That the amendments to be made pursuant to this Amendment do not affect Cenit's fulfillment of its obligations set out in the New Credit Agreement, which was entered into on April 6, 2015, between Oleoducto Bicentenario de Colombia S.A.S. (currently Cenit) and several banks.

Based on the foregoing Whereas section, the Parties have agreed to enter into this Amendment to the Agreement, which will be governed by the following:

CLAUSES:

CLAUSE ON: MODIFICATIONS TO THE AGREEMENT: The Parties agree to amend the Agreement as per the following terms:

Section 1-01 - Definitions: The Parties agree that the definitions of "*Ship or Pay Term*" and "*Ship and Pay Term*" contained in Annex A "Definitions" of the Agreement, shall read as follows:

"Ship and Pay Term: *It means the term that ends at twenty-four (24:00) hours of September four (4) of two thousand twenty-four (2024).*

Ship or Pay Term: *It means that the term that starts on the date that occurs first between the Start Date of Tariff Payment or the Start Date of the Service and ends at twenty-four (24) hours of September four (4) of two thousand twenty-four (2024).*

Section 1.02 - Valid term of the Contingent Service: The Parties agree to amend Section 4.1(d) "Value of Service and Contingent Service" of Clause 4 "Value and Way of Payment of the Service" in the Agreement, shall read as follows:

"Section 4.01 - Value of Service and the Contingent Service:

(...)

- (d) In the event that the Start Date of the Tariff Payment occurs before the Start Date of the Service and only with respect to the period between said dates, the Shipper is bound to pay a sum equivalent to the Tariff, multiplied by the Contracted Capacity of the Shipper by the number of Days of the corresponding Calendar Month, even if the provision of the Service has not started.*

Said payments will be treated as described herein below:

- (i) As long as Bicentenario is able to meet the principal and interest payments of the debt contracted with the Lenders, to comply with the hedging ratios established in the New Credit Agreement or in any other agreement with the Lenders, to comply with any other obligation or financial covenant established in said instrument, to meet all obligations assumed by Bicentenario with third parties and cover all the operating and maintenance costs of the Pipeline, the amounts corresponding to the Tariff paid by the Shipper between the Start Date of Payment of the Tariff and December 31, 2013, in accordance with the provisions of this Section 4.01(b), if any, will be considered as advance payments payable by the Shipper in favor of Bicentenario.*



(ii) Such payments can be accounted for as follows:

- (1) *During the Ship or Pay Term: The advance payments mentioned above will be charged in Colombian pesos upon payment of the Tariff as of July first (1st) of two thousand twenty-four (2024), until depleting the balances in favor of the Shipper,*
- (2) *During Provision of the Contingent Service: As of July first (1st) of twenty thousand twenty-four (2024), until depleting the balances in favor of the Shipper,*
- (3) *During the Ship or Pay Term provided for in the Crude Oil Transport Agreement entered into between Hocol S.A. (assigned in its entirety to the Shipper) and Oleoducto Bicentenario de Colombia S.A.S. (currently Cenit) on July 20, 2012: The aforementioned advance payments will be charged in Colombian pesos to the payment of the Tariff as of July first (1st) two thousand twenty-four (2024), until its date of termination,*
- (4) *During the Ship and Pay Term established in the Coveñas Terminal Storage Contract entered into by the Shipper and Oleoducto Bicentenario de Colombia S.A.S. (currently Cenit) on June 20, 2012: As of July fifth (5th) two thousand twenty-four; data on which the aforementioned Ship and Pay Term started under this storage contract and until its Date of Termination, and*
- (5) *If at the end of the Contract there are still pending balances in favor of the Shipper by virtue of the advance payments received, these may be charged to payment of transport services through Oleoducto Bicentenario, in which case the Parties shall enter into a new transport agreement”.*

Section 1.03 – The Guarantee: The Parties agree to modify Clause 5 “The Guarantee” of the Agreement, which shall read as follows:

“Clause 5. The Guarantee.

The Parties have established that, as they are companies belonging to the Ecopetrol Business Group, for the period between July four (4), two thousand twenty-four (2024) and the end of the Ship or Pay Term, that is, September four (4), two thousand twenty-four (2024), the Shipper shall not grant guarantees for this Contract.

The foregoing, considering that the date on which Fiduciaria Corficolombiana S.A., which serves as trustee and administrative agent as agreed in the New Credit Contract executed on April 6, 2015, will pay the total balance on July five (5), two thousand twenty-four (2024), it will not be necessary for this Agreement to continue being guaranteed by the issuance of the Guarantee, according to its definition set forth in Annex A”.

CLAUSE TWO: EARLY TERMINATION OF THE AGREEMENT. The Parties agree to end the Agreement as of September four (4) of two thousand twenty-four, that is, on the Date of Termination agreed on in this Amendment.



CLAUSE THREE: INTEGRITY OF THE AGREEMENT. All other clauses in the Agreement continue in force in their entirety, not being understood as modified by this Amendment.

In witness whereof, this Amendment is signed on the twenty-first (21st) day of June of the year two thousand twenty-four (2024).

By the Shipper,

By Cenit,

/s/ Reynaldo Plata Carreño

Name: REYNALDO PLATA CARREÑO

C.C.: 91.489.924 of Bucaramanga

Title: Head of Logistics Contracting Department

/s/ Eugenio Gómez Hoyos

Name: EUGENIO GÓMEZ HOYOS

C.C.: 79.121.780 de Fontibón

Title: Attorney General

LOAN AGREEMENT

among

ECOPETROL S.A.,

as **Borrower**,

THE LENDERS PARTY HERETO,

and

BANCO BILBAO VIZCAYA ARGENTARIA, S.A. NEW YORK BRANCH,

as **Administrative Agent**,

and

THE BANK OF NOVA SCOTIA, BBVA SECURITIES INC., BANK OF AMERICA, N.A.,
JPMORGAN CHASE BANK, N.A., ITAU CHILE NEW YORK BRANCH AND
STANDARD CHARTERED BANK (HONG KONG) LIMITED,

as **Joint Lead Arrangers** and **Joint Bookrunners**

Dated as of April 12, 2024

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This LOAN AGREEMENT (together with the Schedules and Exhibits attached hereto, this “*Agreement*”), dated as of April 12, 2024 is made by and among Ecopetrol S.A., a mixed economy company organized and existing under the laws of Colombia (the “*Borrower*”); the Lenders (as defined below) and Banco Bilbao Vizcaya Argentaria, S.A. New York Branch, as administrative agent (the “*Administrative Agent*”). Capitalized terms used herein shall be defined as provided in Section 1.

BACKGROUND

WHEREAS:

- (A) on August 17, 2021, as authorized by the Ministry of Finance pursuant to Resolution No. 1824 issued on July 30, 2021, the Borrower entered into a loan agreement with Mizuho Bank, Ltd., as administrative agent, and certain financial institutions party thereto as lenders (as amended, supplemented or modified from time to time, the “*2021 Loan Agreement*”);
- (B) by this Agreement, the Lenders agree to extend a senior unsecured term loan to the Borrower in accordance with the terms and conditions set forth herein for an aggregate principal amount up to one billion two hundred million Dollars (U.S.\$1,200,000,000);
- (C) such term loan may be utilized by the Borrower to voluntarily prepay the outstanding principal amount of the loan under the 2021 Loan Agreement due August 17, 2024; and
- (D) the Borrower has obtained all required approvals, including the approval from the General Directorate of Public Credit and National Treasury (*Dirección General de Crédito Público y Tesoro Nacional*) of the Ministry of Finance through Resolution No. 0652 of March 20, 2024, to enter into this Agreement.

NOW, THEREFORE, in consideration of the premises and the mutual covenants herein contained, the parties hereto agree as follows:

SECTION 1 DEFINITIONS AND PRINCIPLES OF CONSTRUCTION

1.01. Defined Terms. For the purposes of this Agreement, unless otherwise defined herein, the following terms have the meanings specified below.

“**2021 Loan Agreement**” has the meaning ascribed to such term in the preamble to this Agreement.

“**Administrative Agent**” has the meaning ascribed to such term in the preamble to this Agreement.

“**Administrative Agent Fee Letter**” means the Administrative Agent fee letter executed on or prior to the Agreement Date between the Borrower and the Administrative Agent.

“Affected Financial Institution” means (a) any EEA Financial Institution or (b) any UK Financial Institution.

“Affiliate” means, with respect to any Person, any other Person that, directly or indirectly through one or more intermediaries, Controls, or is Controlled by, or is under common Control with, such first Person.

“Agreement” means this Agreement, including any Annex, Exhibit, Schedule and other attachment thereto.

“Agreement Date” means the date first set forth above, such date being the date as of which this Agreement was executed and delivered by the parties hereto.

“Alternative Base Rate” means for any day, a fluctuating rate per annum equal to the highest of (a) the Federal Funds Rate plus 0.50%; (b) the last quoted prime rate in the United States of America published in *The Wall Street Journal*; provided that, if *The Wall Street Journal* ceases to publish for any reason such rate of interest, “Alternative Base Rate” shall mean the highest per annum interest rate published by the Federal Reserve Board in Federal Reserve Statistical Release H.15 (519) (Selected Interest Rates) as the “bank prime loan” rate or, if such rate is no longer quoted therein, any similar rate quoted therein (as determined by the Administrative Agent) or any similar release by the Federal Reserve Board (as determined by the Administrative Agent); and, (c) Term SOFR for a one-month tenor in effect on such day plus one percent (1%). Any change in the Alternative Base Rate due to a change of the Federal Funds Rate, in the prime rate or Term SOFR, respectively, shall be effective from and including the date such change is effective.

“Alternative Base Rate Loan” means a Loan that bears interest based on the Alternative Base Rate.

“Alternative Base Rate Term SOFR Determination Day” has the meaning specified in the definition of “Term SOFR”.

“Anti-Corruption Laws” means the FCPA, the UK Bribery Act of 2010, the Corruption of Foreign Public Officials Act (Canada) and the rules and regulations promulgated thereunder, the Colombian Criminal Code (*Código Penal Colombiano*), Law 1474 of 2011 (*Estatuto Anticorrupción*) of Colombia, Law 1778 of 2016 of Colombia, Law 2195 of 2022 of Colombia and all other laws, rules, and regulations of any jurisdiction from time to time applicable to the Borrower or any of its Subsidiaries concerning or relating to bribery or corruption.

“Anti-Money Laundering Laws” means, collectively, (a) Title III of the USA Patriot Act of 2001 (Pub. L. No. 107-56), (b) the Colombian Criminal Code (*Código Penal Colombiano*), (c) Chapter VII Title I Part III of Circular Externa 029 of 2014 (*Circular Básica Jurídica*) of the Superintendency of Finance, (d) the Proceeds of Crime (Money Laundering) and Terrorist Financing Act (Canada), and (e) any other law, regulation, order, decree or directive of any relevant jurisdiction applicable to the Borrower or any of its Subsidiaries having the force of law and relating to anti-money laundering.

“Applicable Law” means, with respect to any Person, any Colombian or other applicable constitution, statute, law, rule, regulation, ordinance, judgment, order, decree, or any published directive, guideline, requirement or other governmental rule or restriction which has the force of law, and any determination by, or interpretation of any of the foregoing by, any judicial authority or Governmental Authority, binding on a given Person whether in effect as of the date hereof or as of any date thereafter.

“Applicable Margin” means 3.80% *per annum*.

“Assignment and Assumption Agreement” means an assignment and assumption agreement substantially in the form of Annex E.

“Authorized Officer” means, with respect to any Person, the chief executive officer, the president, any vice president, any assistant vice president, the chief financial officer or treasurer, the assistant treasurer or equivalent officers of such Person, and any other officer or representative of such Person, who is duly authorized to act under such Person’s charter documents or Applicable Law, and to act in the capacity in which they are acting pursuant to the certificate referred to in Section 5.01(b).

“Availability Period” means the period from and including the Agreement Date to and including the earlier of (i) three (3) months after Agreement Date and (ii) the date on which the Total Commitment is reduced to zero or otherwise terminated.

“Available Tenor” means, as of any date of determination and with respect to the then-current Benchmark, as applicable, (x) if such Benchmark is a term rate, any tenor for such Benchmark (or component thereof) that is or may be used for determining the length of an interest period pursuant to this Agreement or (y) otherwise, any payment period for interest calculated with reference to such Benchmark (or component thereof) that is or may be used for determining any frequency of making payments of interest calculated with reference to such Benchmark pursuant to this Agreement, in each case, as of such date and not including, for the avoidance of doubt, any tenor for such Benchmark that is then-removed from the definition of “Interest Period” pursuant to clause (iv) of Section 2.07(d).

“Bail-In Action” means the exercise of any Write-Down and Conversion Powers by the applicable Resolution Authority in respect of any liability of an Affected Financial Institution.

“Bail-In Legislation” means (a) with respect to any EEA Member Country implementing Article 55 of Directive 2014/59/EU of the European Parliament and of the Council of the European Union, the implementing law, regulation rule or requirement for such EEA Member Country from time to time which is described in the EU Bail-In Legislation Schedule and (b) with respect to the United Kingdom, Part I of the United Kingdom Banking Act 2009 (as amended from time to time) and any other law, regulation or rule applicable in the United Kingdom relating to the resolution of unsound or failing banks, investment firms or other financial institutions or their affiliates (other than through liquidation, administration or other insolvency proceedings).

“**BASEL III**” means (a) the agreements on capital requirements, leverage ratio and liquidity standards contained in “Basel III: A global regulatory framework for more resilient banks and banking systems,” “Basel III: International framework for liquidity risk measurement, standards and monitoring” and “Guidance for national authorities operating the countercyclical capital buffer” published by the Basel Committee on Banking Supervision in December 2010, each as amended, supplemented or restated and (b) any further guidance or standards published by the Basel Committee on Banking Supervision relating to Basel III.

“**Benchmark**” means, initially, the Term SOFR Reference Rate; *provided* that if a Benchmark Transition Event has occurred with respect to the Term SOFR Reference Rate or the then-current Benchmark, then “Benchmark” means the applicable Benchmark Replacement to the extent that such Benchmark Replacement has replaced such prior benchmark rate pursuant to clause (i) of Section 2.07(d).

“**Benchmark Replacement**” means, with respect to any Benchmark Transition Event, the first alternative set forth in the order below that can be determined by the Administrative Agent for the applicable Benchmark Replacement Date:

(a) Daily Simple SOFR; or

(b) the sum of: (i) the alternate benchmark rate that has been selected by the Administrative Agent and the Borrower giving due consideration to (A) any selection or recommendation of a replacement benchmark rate or the mechanism for determining such a rate by the Relevant Governmental Body or (B) any evolving or then-prevailing market convention for determining a benchmark rate as a replacement to the then-current Benchmark for Dollar-denominated syndicated credit facilities and (ii) the related Benchmark Replacement Adjustment;

provided that, if the Benchmark Replacement as determined pursuant to clause (a) or (b) above would be less than the Floor, the Benchmark Replacement will be deemed to be the Floor for the purposes of this Agreement and the other Loan Documents.

“**Benchmark Replacement Adjustment**” means, with respect to any replacement of the then-current Benchmark with an Unadjusted Benchmark Replacement, the spread adjustment, or method for calculating or determining such spread adjustment, (which may be a positive or negative value or zero) that has been selected by the Administrative Agent and the Borrower giving due consideration to (a) any selection or recommendation of a spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of such Benchmark with the applicable Unadjusted Benchmark Replacement by the Relevant Governmental Body or (b) any evolving or then-prevailing market convention for determining a spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of such Benchmark with the applicable Unadjusted Benchmark Replacement for Dollar-denominated syndicated credit facilities at such time.

“**Benchmark Replacement Date**” means a date and time determined by the Administrative Agent, which date shall be no later than the earliest to occur of the following events with respect to the then-current Benchmark:

- (a) in the case of clause (a) or (b) of the definition of “Benchmark Transition Event,” the later of (i) the date of the public statement or publication of information referenced therein and (ii) the date on which the administrator of such Benchmark (or the published component used in the calculation thereof) permanently or indefinitely ceases to provide all Available Tenors of such Benchmark (or such component thereof); or
- (b) in the case of clause (c) of the definition of “Benchmark Transition Event,” the first date on which all Available Tenors of such Benchmark (or the published component used in the calculation thereof) have been determined and announced by the regulatory supervisor for the administrator of such Benchmark (or such component thereof) to be non-representative; *provided* that such non-representativeness will be determined by reference to the most recent statement or publication referenced in such clause (c) and even if any Available Tenor of such Benchmark (or such component thereof) continues to be provided on such date.

For the avoidance of doubt, the “Benchmark Replacement Date” will be deemed to have occurred in the case of clause (a) or (b) with respect to any Benchmark upon the occurrence of the applicable event or events set forth therein with respect to all then-current Available Tenors of such Benchmark (or the published component used in the calculation thereof).

“Benchmark Transition Event” means the occurrence of one or more of the following events with respect to the then-current Benchmark:

- (a) a public statement or publication of information by or on behalf of the administrator of such Benchmark (or the published component used in the calculation thereof) announcing that such administrator has ceased or will cease to provide all Available Tenors of such Benchmark (or such component thereof), permanently or indefinitely; *provided* that, at the time of such statement or publication, there is no successor administrator that will continue to provide any Available Tenor of such Benchmark (or such component thereof);
- (b) a public statement or publication of information by the regulatory supervisor for the administrator of such Benchmark (or the published component used in the calculation thereof), the Federal Reserve Board, the Federal Reserve Bank of New York, an insolvency official with jurisdiction over the administrator for such Benchmark (or such component), a resolution authority with jurisdiction over the administrator for such Benchmark (or such component) or a court or an entity with similar insolvency or resolution authority over the administrator for such Benchmark (or such component), which states that the administrator of such Benchmark (or such component) has ceased or will cease to provide all Available Tenors of such Benchmark (or such component thereof) permanently or indefinitely; *provided* that, at the time of such statement or publication, there is no successor administrator that will continue to provide any Available Tenor of such Benchmark (or such component thereof); or
- (c) a public statement or publication of information by the regulatory supervisor for the administrator of such Benchmark (or the published component

used in the calculation thereof) announcing that all Available Tenors of such Benchmark (or such component thereof) are not, or as of a specified future date will not be, representative.

For the avoidance of doubt, a “Benchmark Transition Event” will be deemed to have occurred with respect to any Benchmark if a public statement or publication of information set forth above has occurred with respect to each then-current Available Tenor of such Benchmark (or the published component used in the calculation thereof).

“**Benchmark Unavailability Period**” means, the period (if any) (a) beginning at the time that a Benchmark Replacement Date has occurred if, at such time, no Benchmark Replacement has replaced the then-current Benchmark for all purposes hereunder and under any Loan Document in accordance with Section 2.07(d) and (b) ending at the time that a Benchmark Replacement has replaced the then-current Benchmark for all purposes hereunder and under any Loan Document in accordance with Section 2.07(d).

“**Beneficial Ownership Certification**” means a certification regarding beneficial ownership as required by the Beneficial Ownership Regulation.

“**Beneficial Ownership Regulation**” means 31 C.F.R. § 1010.230.

“**Borrower**” has the meaning ascribed to such term in the preamble to this Agreement.

“**Borrower Financial Statements**” means the consolidated financial statements of the Borrower dated December 31, 2023 (audited).

“**Business Day**” means any day, except a day which is a Saturday or a Sunday, on which (a) the Federal Reserve Bank of New York is open for business and (b) commercial lenders in Bogota, Colombia, Toronto, Canada, Hong Kong, Special Administrative Region of China, and New York, New York (United States) are open for domestic and foreign exchange business.

“**Capital Adequacy Requirement**” means, with respect to any Person, any requirement of law or any regulation affecting the amount of capital required or expected to be maintained by such Person (or the lending office of such Person) or any Person Controlling such Person.

“**Capitalized Lease Obligation**” means, for any Person, the obligations of such Person to pay rent or other amounts under a lease of (or other agreement conveying the right to use) property (whether real, personal or mixed) acquired or leased (other than leases for transponders) by such Person to the extent such obligations are required to be classified and accounted for as a lease (or any successor classification that results in the reflection of a liability on such Person’s balance sheet) on a balance sheet of such Person under IFRS, and, for purposes of this Agreement, the amount of such obligations shall be the capitalized amount of such obligations, determined in accordance with the IFRS.

“**Code**” means the U.S. Internal Revenue Code of 1986, as amended.¹

“**Colombia**” means the Republic of Colombia (*República de Colombia*).

“**Colombian Central Bank**” means the Central Bank of Colombia (*Banco de la República de Colombia*), or any other Governmental Authority of Colombia charged with the responsibility of issuing, managing and controlling legal currency in Colombia and determining Colombian foreign exchange policy.

“**Colombian Peso**” means the lawful currency of Colombia.

“**Commercial Code**” means the Colombian Commercial Code (*Código de Comercio*).

“**Commitment**” means, for each Lender and on a several basis, the obligation of such Lender to make the Disbursement to the Borrower hereunder in an aggregate principal amount up to but not exceeding the amount set forth opposite such Lender’s name on Schedule 2 hereto.

“**Confidential Information**” means information that the Borrower furnishes to the Administrative Agent or any Lender in writing in connection with this Agreement, but does not include any such information (a) that is or becomes generally available to the public, (b) that is or becomes available to the Administrative Agent or any Lender from a source other than the Borrower not known to be bound by any confidentiality obligations to the Borrower, (c) that is in the Administrative Agent’s or any Lender’s possession including any such information in respect of which the Administrative Agent or such Lender does not know to be bound by any confidentiality obligations to the Borrower (but in any event excluding any information furnished by the Borrower that is designated as confidential in writing) or (d) is independently developed by the Administrative Agent or any Lender without reference to such information.

“**Conforming Changes**” means, with respect to either the use or administration of Term SOFR or the use, administration, adoption or implementation of any Benchmark Replacement, any technical, administrative or operational changes (including changes to the definition of “Alternative Base Rate,” the definition of “Business Day,” the definition of “U.S. Securities Business Day,” the definition of “Interest Period” or any similar or analogous definition (or the addition of a concept of “interest period”), timing and frequency of determining rates and making payments of interest, timing of the Disbursement Request or prepayment, conversion or continuation notices, the applicability and length of lookback periods, the applicability of Section 2.10 and other technical, administrative or operational matters) that the Administrative Agent, in consultation with the Borrower, determines may be appropriate to reflect the adoption and implementation of any such rate or to permit the use and administration thereof by the Administrative Agent in a manner substantially consistent with market practice (or, if the Administrative Agent decides that adoption of any portion of such market practice is not administratively feasible or if the Administrative Agent determines that no market practice for the

¹ **NTD:** Reference is not needed considering we now have “Treasury Regulations” definition.

administration of any such rate exists, in such other manner of administration as the Administrative Agent, in consultation with the Borrower, decides is reasonably necessary in connection with the administration of this Agreement and the other Loan Documents).

“Connection Income Taxes” means Other Connection Taxes that are imposed on or measured by net income (however denominated) or that are franchise Taxes or branch profits Taxes.

“Consolidated Total Assets” means, at any date, the total amount of assets of the Borrower, as of the end of the last period preceding such date for which a balance sheet is prepared and published in accordance with Applicable Law, on a consolidated basis as determined in accordance IFRS.

“Control” means, in relation to any specified Person, (a) holding, directly or indirectly, fifty percent (50%) or more of the outstanding voting securities or ownership interests of such specified Person or (b) having the contractual power to designate a majority of the directors of a corporation, or in the case of an unincorporated entity, a majority of the individuals who exercise similar functions of such specified Person (and *“Controlled”* and *“Controlling”* shall be construed accordingly).

“Covered Taxes” means, with respect to the Administrative Agent or any Lender, (a) Taxes, other than Excluded Taxes or Other Connection Taxes, imposed by a Taxing Jurisdiction on or with respect to any payment made by or on account of any obligation of the Borrower under any Loan Document, and (b) to the extent not otherwise described in (a), Other Taxes.

“CRD IV” means (a) Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms; and (b) Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC, to the extent that Regulation (EU) No 575/2013 and Directive 2013/36/EU implement Basel III.

“Daily Simple SOFR” means, for any day, SOFR, with the conventions for this rate (which will include a lookback) being established by the Administrative Agent in accordance with the conventions for this rate selected or recommended by the Relevant Governmental Body for determining “Daily Simple SOFR” for syndicated business loans; provided that if the Administrative Agent decides that any such convention is not administratively feasible for the Administrative Agent, then the Administrative Agent may establish another convention in its reasonable discretion.

“Defaulting Lender” means, any Lender that (a) has failed to (i) fund all or any of its Proportionate Share of the Disbursement within two (2) Business Days of the Disbursement Date unless such Lender notifies the Administrative Agent in writing that such failure is the result of such Lender’s determination that one or more of the conditions precedent to the Disbursement (each of which conditions precedent, together with any applicable default, shall be specifically

identified in such writing) has not been satisfied, or (ii) pay to the Administrative Agent or any other Lender any other amount required to be paid by it hereunder within two (2) Business Days of the date when due, (b) has notified the Administrative Agent in writing that it does not intend to comply with its obligation to make its Proportionate Share of the Disbursement hereunder, or has made a public statement to that effect (unless such writing or public statement relates to such Lender's obligation to fund its Proportionate Share of the Disbursement hereunder and states that such position is based on such Lender's determination that a condition precedent to such Disbursement (which condition precedent, together with any applicable default, shall be specifically identified in such writing or public statement) cannot be satisfied), (c) has failed, within three (3) Business Days after written request by the Administrative Agent or the Borrower, to confirm in writing to the Administrative Agent and the Borrower that it will comply with its prospective funding obligations hereunder (*provided* that such Lender shall cease to be a Defaulting Lender pursuant to this clause (c) upon receipt of such written confirmation by the Administrative Agent and the Borrower), unless such Lender complies with its obligation to fund on the Disbursement Date or (d) has, or has a direct or indirect parent company that has, (i) become the subject of a proceeding under any insolvency laws, (ii) had appointed for it a receiver, custodian, conservator, trustee, administrator, assignee for the benefit of creditors or similar Person charged with reorganization or liquidation of its business or assets, including the Federal Deposit Insurance Corporation of the United States or any other state or federal regulatory authority acting in such a capacity, or (iii) become the subject of a Bail-In Action; *provided* that a Lender shall not be a Defaulting Lender solely by virtue of the ownership or acquisition of any equity interest in that Lender or any direct or indirect parent company thereof by a Governmental Authority so long as such ownership interest does not result in or provide such Lender with immunity from the jurisdiction of courts within the United States or from the enforcement of judgments or writs of attachment on its assets or permit such Lender (or such Governmental Authority) to reject, repudiate, disavow or disaffirm any contracts or agreements made with such Lender. Any determination by the Administrative Agent that a Lender is a Defaulting Lender under any one or more of clauses (a) through (d) above shall be conclusive and binding absent manifest error, and such Lender shall be deemed to be a Defaulting Lender upon delivery of written notice of such determination to the Borrower and each Lender.

"Disbursement" has the meaning ascribed to such term in Section 2.01.

"Disbursement Date" means the date of the Disbursement as specified in the Disbursement Request; *provided* that the Disbursement Date shall be a Business Day no later than the last day of the Availability Period.

"Disbursement Request" has the meaning ascribed to such term in Section 2.02.

"Dollars," "U.S. Dollars," or "U.S. \$" means the lawful currency of the United States of America.

"EEA Financial Institution" means (a) any credit institution or investment firm established in any EEA Member Country which is subject to the supervision of an EEA Resolution Authority, (b) any entity established in an EEA Member Country which is a parent of an institution described in clause (a) of this definition or (c) any financial institution established in an EEA

Member Country which is a subsidiary of an institution described in clauses (a) or (b) of this definition and is subject to consolidated supervision with its parent.

“EEA Member Country” means any of the member states of the European Union, Iceland, Liechtenstein, and Norway.

“EEA Resolution Authority” means any public administrative authority, or any person entrusted with public administrative authority of any EEA Member Country (including any delegee) having responsibility for the resolution of any EEA Financial Institution.

“Eligible Transferee” means and includes a commercial bank, an insurance company, a mutual fund, a financial institution, or any fund that invests in commercial loans or similar extensions of credit (other than an individual, the Borrower, or any of its Affiliates).

“Erroneous Payment” has the meaning ascribed to such term in Section 10.11(a).

“Erroneous Payment Deficiency Assignment” has the meaning ascribed to such term in Section 10.11(f).

“Erroneous Payment Impacted Class” has the meaning ascribed to such term in Section 10.11(f).

“Erroneous Payment Return Deficiency” has the meaning ascribed to such term in Section 10.11(f).

“Erroneous Payment Subrogation Rights” has the meaning ascribed to such term in Section 10.11(d).

“EU Bail-In Legislation Schedule” means the EU Bail-In Legislation Schedule published by the Loan Market Association (or any successor person), as in effect from time to time.

“Event of Default” has the meaning ascribed to such term in Section 8.01.

“Excluded Taxes” means any of the following Taxes imposed on or with respect to any Lender or the Administrative Agent or required to be withheld or deducted from a payment to any Lender or the Administrative Agent, (a) Taxes imposed on or measured by net income (however denominated), franchise Taxes, and branch profits Taxes, in each case (i) imposed as a result of such Lender or Administrative Agent being organized under the laws of, or having its principal office or, in the case of any Lender, its applicable lending office located in, the jurisdiction imposing such Tax (or any political subdivision thereof) or (ii) that are Other Connection Taxes, (b) in the case of a Lender, withholding Taxes imposed on amounts payable to or for the account of such Lender with respect to an applicable interest in the Loan pursuant to a law in effect on the date on which (i) such Lender acquires such interest in the Loan (other than pursuant to an assignment request by the Borrower under Section 2.12) or (ii) such Lender changes its lending office, except in each case to the extent that, pursuant to Section 4.01, amounts with respect to such Taxes were payable either to such Lender’s assignor immediately before such Lender became a party hereto or to such Lender immediately before it changed its lending office,

(c) Taxes that would not have been imposed but for the Lender's or the Administrative Agent's failure to make any disclosure with the relevant taxing authority as required by Applicable Law, unless such Lender or Administrative Agent has reasonably and in good faith determined that any such disclosure would expose it to any material adverse effect, or to provide any reasonably requested documentation and/or certification to the Borrower or any other Person, or (d) any withholding Taxes imposed due to a Lender's failure to comply with FATCA.

"External Indebtedness" means Indebtedness of the Borrower other than Internal Indebtedness.

"Existing Notes" has the meaning ascribed to such term in Section 2.06(g).

"Fair Market Value" means, with respect to any asset or property, the price which could be negotiated in an arm's-length transaction, for cash, between an informed and willing seller under no compulsion to sell and an informed and willing buyer under no compulsion to buy.

"FATCA" means (1) Sections 1471 through 1474 of the Code, as of the date of this Agreement (or any amended or successor version that is substantively comparable and not materially more onerous to comply with) and any current regulations or official interpretations thereof, (2) any treaty, law or regulation of any other jurisdiction or relating to an intergovernmental agreement between the U.S. and any other jurisdiction, which (in either case) facilitates the implementation of any law or regulation referred to in clause (1) above, and (3) any agreements entered into pursuant to Section 1471(b)(1) of the Code or pursuant to the implementation of any treaty, law or regulation referred to in clause (1) or (2) above with the U.S. Internal Revenue Service, the U.S. government or the government or tax authority of any other jurisdiction.

"FCPA" means the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder.

"Federal Funds Rate" means, for any day, the greater of (a) the rate calculated by the Federal Reserve Bank of New York based on such day's Federal funds transactions by depository institutions (as determined in such manner as the Federal Reserve Bank of New York shall set forth on its public website from time to time) and published on the next succeeding Business Day by the Federal Reserve Bank of New York as the Federal funds effective rate and (b) 0%.

"Federal Reserve Board" means the Board of Governors of the Federal Reserve System of the United States.

"Fee Letters" means (a) the Administrative Agent Fee Letter and (b) the JLAs Fee Letter.

"Floor" means a rate of interest equal to 0%.

"Good Faith Contest" means, with respect to the payment of Taxes or any related claims or liabilities by any Person, the satisfaction of each of the following conditions: (a) the validity or amount thereof is being diligently contested in good faith by such Person by appropriate

proceedings timely instituted, (b) in the case of Taxes or related claims and liabilities of the Borrower, the Borrower has established adequate cash reserves with respect to the contested items in accordance with IFRS, (c) during the period of such contest, the enforcement of any contested item is effectively stayed, and (d) such contest or proceedings and any resultant failure to pay or discharge the claimed or assessed amount do not and could not otherwise reasonably be expected to result in a Material Adverse Effect.

“Governmental Approval” means any authorization, approval, consent, license, concession, ruling, permit, tariff, rate, certification, order, validation, exemption, waiver, variance, opinion of, or registration, filing or recording with, or report or notice to, any Governmental Authority.

“Governmental Authority” means any national, state, county, city, town, village, municipal or other local governmental department, commission, board, bureau, agency, authority or instrumentality of the United States, Colombia, the United Kingdom, Canada or any other national, multinational or international authority, or any political subdivision of any thereof, and any person exercising executive, legislative, judicial, taxing, regulatory or administrative functions of or pertaining to any of the foregoing entities, and in each case having jurisdiction over the Persons or matters in question.

“IFRS” means the International Financial Reporting Standards issued by the International Accounting Standards Board, as in effect from time to time, and as interpreted and applied by the Colombian National Accounting Office (*Contaduría General de la Nación*), on a basis consistent with the Borrower’s operations and reflected in the Borrower’s financial statements.

“Indebtedness” of any Person means, without duplication, (a) any indebtedness of such Person for borrowed money or evidenced by a note, debenture or similar instrument (including a purchase money obligation) given in connection with the acquisition of any property or assets, including securities, (b) obligations to pay the deferred purchase price of property or services, except accounts payable and accrued expenses arising in the ordinary course of business and payable within one hundred eighty (180) days, (c) any derivative transaction entered into in connection with, protection against, or benefit from fluctuation in any rate or price (*provided* that, for the calculation of the value of any derivative transaction, only the net mark-to-market value shall be taken into account), (d) Capitalized Lease Obligations; (e) Indebtedness of others described in clauses (a) through (d) above secured by (or for which the holder thereof has an existing right, contingent or otherwise, to be secured by) a Lien on the property of such Person, whether or not the respective Indebtedness so secured has been assumed by such Person, (f) any guarantee by such Person of any Indebtedness of others described in the preceding clauses (a) through (d) above, and (g) any amendment, renewal, extension or refunding of any such Indebtedness.

“Indemnitee” has the meaning ascribed to such term in Section 11.08(b).

“Initial Lenders” means each of Itau Chile New York Branch, Bank of America, N.A., JPMorgan Chase Bank, N.A., Banco Bilbao Vizcaya Argentaria, S.A. New York Branch, The Bank of Nova Scotia and Standard Chartered Bank (Hong Kong) Limited.

“Instructions Letter” means the irrevocable instructions letter executed by the Borrower substantially in the form of Annex C.

“Insurance Contract” has the meaning ascribed to such term in Section 11.03(c).

“Interest Determination Date” means the second (2nd) Business Day prior to the commencement of any Interest Period relating to the Loan.

“Interest Payment Date” means, the day on which accrued interest is payable under Section 2.07(a).

“Interest Period” means the Interest Period determined in accordance with Section 2.07(b).

“Internal Indebtedness” means any Indebtedness payable to Colombian residents in Colombian Pesos.

“JLAs Fee Letter” means the fee letter executed on or prior to the date of this Agreement between the Borrower and the Joint Lead Arrangers and Joint Bookrunners.

“Joint Lead Arrangers and Joint Bookrunners” means each of The Bank of Nova Scotia, BBVA Securities Inc., Bank of America, N.A., JPMorgan Chase Bank, N.A., Itau Chile New York Branch and Standard Chartered Bank (Hong Kong) Limited.

“Judgment Currency” has the meaning ascribed to such term in Section 11.09(a).

“Judgment Currency Conversion Date” has the meaning ascribed to such term in Section 11.09(a).

“Lender” (i) prior to a replacement pursuant to Section 2.12 or to an assignment pursuant to Section 11.03(b), means, the Initial Lenders, and (ii) on and after a replacement pursuant to Section 2.12 or an assignment pursuant to Section 11.03(b), means, individually or collectively, as the case may be, the Initial Lenders and/or one or more assignees, who have executed an Assignment and Assumption Agreement and are registered as Lenders by the Administrative Agent in accordance with Section 11.03(e).

“Liabilities” has the meaning ascribed to such term in Section 10.06.

“Lien” means any lien, lease, mortgage, pledge, hypothecation, or other encumbrance or security interest.

“Loan Documents” means this Agreement, the Notes, the Instructions Letter, the Fee Letters and any other document the Borrower may from time to time designate as such with the prior approval of the Ministry of Finance to the extent required under Applicable Law.

“Loan” means, at any time, the aggregate of the outstanding amounts of the Disbursement at such time. To the extent relating to any particular Lender, references herein to the Loan means the portion of the Loan allocable to such Lender.

“Margin Stock” means “margin stock” as defined in Regulations U and X of the Federal Reserve Board (or any successor thereto), as the same may be modified and supplemented and in effect from time to time.

“Material Adverse Effect” means any event, circumstance, occurrence or condition that, as of any date of determination, results in or otherwise constitutes a material and adverse effect on: (a) the ability of the Borrower to perform any material obligations under the Loan Documents, (b) the validity or enforceability of any Loan Document or any material provision thereof, or (c) the financial condition, business or operations of the Borrower (taken as a whole for purposes of this clause (c)).

“Material Subsidiary” means a Subsidiary of the Borrower which on any given date of determination accounts for more than 10% of the Borrower’s Consolidated Total Assets.

“Maturity Date” means the five-year anniversary of the Agreement Date, *provided* that if such date is not a Business Day, the Maturity Date shall be the immediately preceding Business Day.

“Ministry of Finance” means the Ministry of Finance and Public Credit of Colombia (*Ministerio de Hacienda y Crédito Público*).

“Note” means (a) a promissory note issued pursuant to Section 2.06, or (b) any replacement promissory note issued pursuant to this Agreement, in each case, in compliance with the requirements for promissory notes under the Commercial Code (as amended) and any other law or regulation applicable to promissory notes in Colombia.

“Notices” has the meaning ascribed to such term in Section 11.02(a).

“OFAC” means the Office of Foreign Assets Control of the U.S. Department of the Treasury.

“Other Connection Taxes” means, with respect to any Lender or the Administrative Agent, Taxes imposed as a result of a present or former connection between such Lender or Administrative Agent and the jurisdiction imposing such Tax (other than connections arising from such Lender or the Administrative Agent having executed, delivered, become a party to, performed its obligations under, received payments under, engaged in any other transaction pursuant to or enforced any Loan Document, or sold or assigned an interest in any Loan Document).

“Other Taxes” means all present or future stamp, court or documentary, intangible, recording, filing or similar Taxes that arise from any payment made under, from the execution, delivery, performance, enforcement or registration of any Loan Document, except any such Taxes that are Other Connection Taxes imposed with respect to an assignment (other than an assignment made pursuant to Section 2.12).

“Participant Register” has the meaning ascribed to such term in Section 11.03(f).

“Participation” has the meaning ascribed to such term in Section 11.03(c).

“**PATRIOT Act**” means the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (Title III of Pub. L. 107-56 (signed into law October 26, 2001)).

“**Periodic Term SOFR Determination Day**” has the meaning specified in the definition of “Term SOFR”.

“**Permitted Lien**” means any of the following:

- (a) Liens arising by operation of law, such as merchants’, maritime or other similar Liens arising in the ordinary course of business or Liens in respect of taxes, assessments or other governmental charges that are not yet delinquent or that are being contested in good faith by appropriate proceedings;
- (b) Liens arising in the ordinary course of business in connection with Indebtedness maturing not more than one year after the date on which the Indebtedness was originally incurred, and which is related to the financing of export, import or other trade transaction;
- (c) Liens resulting from the deposit of funds or evidence of Indebtedness in trust for the purpose of discharging or defeasing Indebtedness of the Borrower or any Material Subsidiary;
- (d) Liens on assets or property of a Person existing at the time such Person is merged into, consolidated with or acquired by the Borrower or any Material Subsidiary or becomes a Material Subsidiary; *provided* that any such Lien is not incurred in contemplation of such merger, consolidation or acquisition (unless such Lien was created to secure or provide for the payment of any part of the purchase price of such property or assets) and does not secure any property of the Borrower or any Material Subsidiary other than the property and assets subject to such Lien prior to such merger, consolidation or acquisition;
- (e) Liens existing as of the date hereof and set forth on Schedule L;
- (f) Liens securing Indebtedness (including in the form of Capitalized Lease Obligations and purchase money Indebtedness) incurred for the purpose of financing the cost (including the cost of design, development, site acquisition, construction, integration, manufacture or acquisition) of real or personal property (tangible or intangible) which is incurred contemporaneously therewith or within one hundred eighty (180) days thereafter; *provided* that (i) such Liens secure Indebtedness in an amount not in excess of the cost of such property (plus an amount equal to the reasonable fees and expenses incurred in connection with the incurrence of such Indebtedness) and (ii) such Liens do not extend to any property of the Borrower other than the property for which such Indebtedness was incurred;
- (g) Liens to secure the performance of statutory and common law obligations, bids, trade contracts, judgments, surety or appeal bonds, performance bonds or other obligations of a like nature incurred in the ordinary course of business;

- (h) Liens to secure debt securities;
- (i) Liens granted in favor of the Borrower and/or any Wholly Owned Subsidiary to secure Indebtedness owing to the Borrower or such Wholly Owned Subsidiary;
- (j) Legal or equitable encumbrances deemed to exist by reason of the inclusion of customary negative pledge provisions in any financing document of the Borrower or any Subsidiary;
- (k) Liens securing Internal Indebtedness;
- (l) Liens created in favor of a bank or financial institution which is party to a letter of credit transaction as account party on drafts, bills of lading and other documents which are the subject of such letter of credit transaction;
- (m) Liens on cash or cash equivalents to secure obligations under agreements or arrangements referred to in clause (c) of the definition of "Indebtedness";
- (n) Any Lien in respect of Indebtedness representing the extension, refinancing, renewal or replacement (or successive extensions, refinancings, renewals or replacements) of Indebtedness secured by Liens referred to in clauses (b), (c), (d), (e), (f), (g), (h), (i), and (j) above; *provided* that the principal of the Indebtedness secured thereby does not exceed the principal of the Indebtedness secured thereby immediately prior to such extension, renewal or replacement, plus any accrued and unpaid interest or capitalized interest payable thereon, reasonable fees and expenses incurred in connection therewith, and the amount of any prepayment premium necessary to accomplish any refinancing; *provided further*, that such extension, renewal or replacement shall be limited to all or a part of the property (or interest therein) subject to the Lien so extended, renewed or replaced (plus improvements and construction of such property);
- (o) Pledges and deposits made in the ordinary course of business in compliance with workers' compensation, unemployment insurance and other social security laws or regulations;
- (p) Easements, zoning restrictions, rights-of-way and similar encumbrances on real property imposed by law or arising in the ordinary course of business that do not secure any monetary obligations and do not materially detract from the value of the affected property or interfere with the ordinary conduct of business of the Borrower or any of its Subsidiaries;
- (q) Liens arising out of government concessions or licenses held by the Borrower or any of its Subsidiaries;
- (r) Liens to secure the purchase of, or created in connection with the financing of all or any part of the purchase price or cost of the acquisition, purchase, construction, development, extension, expansion and/or improvement by the Borrower or any of its Subsidiaries of, any assets (or right of interest therein), *provided* that (i) such Liens cover

only such assets (or right or interest therein, as the case may be), or any assets forming part of or connected with such assets (or any right or interest therein), or products or proceeds from such assets, or revenue or profit from such assets or such products or proceeds (or any right or interest therein), or the shares or other ownership interests in any Person substantially all of whose assets consist of such assets, revenue or profit, (ii) such Liens secure no more than the purchase price or other consideration paid for, and/or costs of construction, development, expansion, extension and/or improvement, of such assets (or any right or interest therein), including any financing or refinancing costs associated therewith, and (iii) such Liens granted in connection with any extension, expansion and/or improvement of assets cover only assets other than assets existing at the date of this Agreement;

(s) Liens in respect of Indebtedness the principal amount of which in the aggregate, together with all other Liens not otherwise qualifying as Permitted Liens pursuant to another part of this definition of Permitted Liens, does not exceed 15% of the Borrower's Consolidated Total Assets at the time of its constitution. For purposes of this definition, the value of any Lien securing Indebtedness will be computed on the basis of the lesser of (i) the outstanding principal amount of such secured Indebtedness and (ii) the higher of (x) the book value or (y) the Fair Market Value of property securing such Indebtedness; and

(t) Any extension, renewal or replacement of the foregoing.

"Person" means any individual, firm, company, limited liability company, corporation, partnership (including association and whether or not having separate legal personality), joint stock company, trust, unincorporated organization or any other enterprise, or a Governmental Authority.

"Potential Default" means an event that with the lapse of time (including any applicable grace period) or the giving of notice, or both, would become an Event of Default.

"Proportionate Share" means, with respect to each Lender and as of any date of determination: (a) prior to the end of the Availability Period, the then-current ratio of the sum of such Lender's unutilized Commitment to the sum of the unutilized Total Commitment at that time; and (b) thereafter, the then-current ratio of the outstanding principal amount of the Loan held by such Lender to the aggregate outstanding principal amount of the Loan under this Agreement.

"Register" has the meaning ascribed to such term in Section 11.03(e).

"Regulation U" means Regulation U of the Federal Reserve Board, as in effect from time to time and all official rulings and interpretations thereunder or thereof.

"Regulatory Change" means the introduction or change after the date of this Agreement of or in United States or foreign national, state or municipal laws or regulations applicable to the relevant Lender in respect of its obligations hereunder or in the interpretation or administration thereof, or the adoption or making after such date of any directives or requests (whether or not having the force of law) by any United States or foreign national, state, or municipal court or monetary authority, or other Governmental Authority applicable to the relevant

Lender in respect of its Loan; *provided* that notwithstanding anything herein to the contrary, (a) the Dodd-Frank Wall Street Reform and Consumer Protection Act and all requests, rules, guidelines or directives thereunder or issued in connection therewith, (b) all requests, rules, guidelines or directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar authority) or the United States, Canada or foreign regulatory authorities, in each case pursuant to Basel III, and (c) CRD IV and any law or regulation that implements or applies CRD IV, shall in each case be deemed to be a “Regulatory Change,” regardless of the date enacted, adopted or issued.

“**Related Parties**” means, with respect to any specified Person, such Person’s Affiliates and the respective directors, officers, employees, agents and advisors of such Person and such Person’s Affiliates.

“**Relevant Governmental Body**” means the Federal Reserve Board or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board or the Federal Reserve Bank of New York or any successor thereto.

“**Replaced Lender**” has the meaning ascribed to such term in Section 2.12(b).

“**Replacement Lenders**” has the meaning ascribed to such term in Section 2.12(b).

“**Required Lenders**” means the Lender or Lenders whose Proportionate Shares collectively represent more than 50% of the aggregate amount of the Proportionate Shares of all Lenders; *provided* that the Proportionate Share of any Defaulting Lender shall be disregarded in determining the Required Lenders at any time.

“**Resolution Authority**” means an EEA Resolution Authority or, with respect to any UK Financial Institution, a UK Resolution Authority.

“**Sanctioned Country**” means, at any time, a country or territory which is itself the subject or target of any Sanctions (at the time of this Agreement, the so-called Donetsk People’s Republic, the so-called Luhansk People’s Republic, the Crimea region of Ukraine, Cuba, Iran, North Korea, and Syria).

“**Sanctioned Person**” means, at any time, any Person (a) that is the subject or target of any Sanctions, (b) listed in any Sanctions-related list of designated Persons maintained by OFAC, the U.S. Department of State, the Government of Canada, Japan, the United Nations Security Council, His Majesty’s Treasury of the United Kingdom, the European Union or any EU member state, (c) operating, organized or resident in a Sanctioned Country or (d) Controlled by any such Person or Persons (in the aggregate) described in clauses (a), (b) or (c) above.

“**Sanctions**” means economic or financial sanctions or trade embargoes imposed, administered, or enforced from time to time by U.S. Governmental Authorities (including, but not limited to, those administered by OFAC the U.S. Department of Commerce, and the U.S. Department of State), the United Nations Security Council, the European Union, Canada, Switzerland, Japan, Hong Kong, or His Majesty’s Treasury of the United Kingdom.

“**SOFR**” means a rate equal to the secured overnight financing rate as administered by the SOFR Administrator.

“**SOFR Administrator**” means the Federal Reserve Bank of New York (or a successor administrator of the secured overnight financing rate).

“**SOFR Disbursement**” means, as to the Disbursement, the SOFR Loans comprising such Disbursement.

“**SOFR Loan**” means a Loan that bears interest at a rate based on Term SOFR, other than pursuant to clause (c) of the definition of “Alternative Base Rate”.

“**Subsidiary**” means, with respect to any Person, any other Person (a) the securities of which having ordinary voting power to elect a majority of the board of directors (or other persons having similar functions) or (b) the other ownership interests of which ordinarily constituting a majority voting interest, are at the time, directly or indirectly, owned or Controlled by such first Person, or by one or more of its Subsidiaries, or by such first Person and one or more of its Subsidiaries; unless otherwise specified, “Subsidiary” means a Subsidiary of the Borrower.

“**Tax**” means any present or future income, stamp or other taxes, levies, imposts, duties, charges, fees, assessments, deductions or withholdings (including value-added taxes) or other charges of whatever nature now or hereafter imposed by any jurisdiction or by any political subdivision or taxing authority thereof or therein with respect to payments made by or for the Borrower hereunder or under any Loan Document and all interest, penalties or similar liabilities with respect thereto.

“**Taxing Jurisdiction**” means, with respect to any Lender, any jurisdiction other than (a) a jurisdiction (other than Colombia or New York) through which payments to such Lender by the Borrower under any Loan Document shall be made and (b) the jurisdiction under the laws of which such Lender is organized or established.

“**Term SOFR**” means,

(a) for any calculation with respect to a SOFR Loan, the Term SOFR Reference Rate for a tenor comparable to the applicable Interest Period on the day (such day, the “*Periodic Term SOFR Determination Day*”) that is two (2) U.S. Securities Business Days prior to the first day of such Interest Period, as such rate is published by the Term SOFR Administrator; *provided*, however, that if as of 5:00 p.m. (New York City time) on any Periodic Term SOFR Determination Day the Term SOFR Reference Rate for the applicable tenor has not been published by the Term SOFR Administrator and a Benchmark Replacement Date with respect to the Term SOFR Reference Rate has not occurred, then Term SOFR will be the Term SOFR Reference Rate for such tenor as published by the Term SOFR Administrator on the first preceding U.S. Securities Business Day for which such Term SOFR Reference Rate for such tenor was published by the Term SOFR Administrator so long as such first preceding U.S. Securities Business Day is not more than three (3) U.S. Securities Business Days prior to such Periodic Term SOFR Determination Day, and

(b) for any calculation with respect to an Alternative Base Rate Loan on any day, the Term SOFR Reference Rate for a tenor of one month on the day (such day, the “*Alternative Base Rate Term SOFR Determination Day*”) that is two (2) U.S. Securities Business Days prior to such day, as such rate is published by the Term SOFR Administrator; *provided*, however, that if as of 5:00 p.m. (New York City time) on any Alternative Base Rate Term SOFR Determination Day the Term SOFR Reference Rate for the applicable tenor has not been published by the Term SOFR Administrator and a Benchmark Replacement Date with respect to the Term SOFR Reference Rate has not occurred, then Term SOFR will be the Term SOFR Reference Rate for such tenor as published by the Term SOFR Administrator on the first preceding U.S. Securities Business Day for which such Term SOFR Reference Rate for such tenor was published by the Term SOFR Administrator so long as such first preceding U.S. Securities Business Day is not more than three (3) U.S. Securities Business Days prior to such Alternative Base Rate SOFR Determination Day;

provided, further, that if Term SOFR determined as provided above (including pursuant to the proviso under clause (a) or clause (b) above) shall ever be less than the Floor, then Term SOFR shall be deemed to be the Floor.

“**Term SOFR Administrator**” means CME Group Benchmark Administration Limited (CBA) (or a successor administrator of the Term SOFR Reference Rate selected by the Administrative Agent at the direction of the Required Lenders (acting reasonably)).

“**Term SOFR Reference Rate**” means the forward-looking term rate based on SOFR.

“**Total Commitment**” means, on any day, the aggregate Commitments on such day. The aggregate principal amount of the Commitments as of the date hereof is U.S. \$1,200,000,000.

“**Treasury Regulations**” means the U.S. Treasury regulations promulgated under the Code.

“**U.S.**” or “**United States**” means the United States of America.

“**U.S. Securities Business Day**” means any day except for (a) a Saturday, (b) a Sunday, or (c) a day on which the Securities Industry and Financial Markets Association recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in United States government securities.

“**UK Financial Institution**” means any BRRD Undertaking (as such term is defined under the PRA Rulebook (as amended from time to time) promulgated by the United Kingdom Prudential Regulation Authority) or any person falling within IFPRU 11.6 of the FCA Handbook (as amended from time to time) promulgated by the United Kingdom Financial Conduct Authority, which includes certain credit institutions and investment firms, and certain affiliates of such credit institutions or investment firms.

“**UK Resolution Authority**” means the Bank of England or any other public administrative authority having responsibility for the resolution of any UK Financial Institution.

“Unadjusted Benchmark Replacement” means the applicable Benchmark Replacement excluding the related Benchmark Replacement Adjustment.

“Wholly Owned” means, with respect to any corporate entity, any Person of which 100% of the outstanding capital stock (other than qualifying shares, if any) having by its terms ordinary voting power (not dependent on the happening of a contingency) to elect the board of directors (or equivalent controlling governing body) of that Person, is at the time owned or Controlled directly or indirectly by that corporate entity, by one or more wholly owned Subsidiaries of that corporate entity or by that corporate entity and one or more wholly owned Subsidiaries.

“Write-Down and Conversion Powers” means, (a) with respect to any EEA Resolution Authority, the write-down and conversion powers of such EEA Resolution Authority from time to time under the Bail-In Legislation for the applicable EEA Member Country, which write-down and conversion powers are described in the EU Bail-In Legislation Schedule, and (b) with respect to the United Kingdom, any powers of the applicable Resolution Authority under the Bail-In Legislation to cancel, reduce, modify or change the form of a liability of any UK Financial Institution or any contract or instrument under which that liability arises, to convert all or part of that liability into shares, securities or obligations of that person or any other person, to provide that any such contract or instrument is to have effect as if a right had been exercised under it or to suspend any obligation in respect of that liability or any of the powers under that Bail-In Legislation that are related to or ancillary to any of those powers.

1.02. Principles of Construction.

(a) The meanings set forth for defined terms in Section 1.01 or elsewhere in this Agreement shall be equally applicable to both the singular and plural forms of the terms defined.

(b) Unless otherwise specified, all references in this Agreement to Sections, Annexes, Exhibits, and Schedules are to Sections, Annexes, Exhibits, and Schedules in or to this Agreement.

(c) The headings of the Sections in this Agreement are included for convenience only and shall not in any way affect the meaning or construction of any provision of this Agreement.

(d) Acknowledging that the parties hereto have participated jointly in the negotiation and drafting of this Agreement, if any ambiguity or question of intent or interpretation arises as to any aspect of this Agreement, then this Agreement will be construed as if drafted jointly by each of parties hereto and no presumption or burden of proof will arise favoring or disfavoring any party by virtue of the authorship of any provision of this Agreement.

(e) References in this Agreement or the Notes to any belief, decision, discretion or other action held, made, determined, exercised or taken by the Administrative Agent or any Lender shall mean any such belief, decision, discretion or other action to be held, made, determined, exercised or taken in good faith to the extent required under the laws of the State of New York.

(f) Any reference herein to “including” shall mean “including without limitation.”

(g) References to any document or agreement, including this Agreement, shall be deemed to include references to such documents or agreements as amended, supplemented or replaced from time to time in accordance with its terms and (where applicable) subject to compliance with the requirements set forth therein.

(h) Unless the context requires otherwise (i) any reference herein to any Person shall be construed to include such Person’s successors and assigns, and (ii) any reference to any law or regulation herein shall, unless otherwise specified, refer to such law or regulation as amended, modified or supplemented from time to time or to the successor law or regulation.

1.03. Rates. The Administrative Agent and each Lender, as applicable, do not warrant or accept responsibility for, and shall not have any liability with respect to (a) the continuation of, administration of, submission of, calculation of or any other matter related to Alternative Base Rate, the Term SOFR Reference Rate or Term SOFR, or any component definition thereof or rates referred to in the definition thereof, or any alternative, successor or replacement rate thereto (including any Benchmark Replacement), including whether the composition or characteristics of any such alternative, successor or replacement rate (including any Benchmark Replacement) will be similar to, or produce the same value or economic equivalence of, or have the same volume or liquidity as, Alternative Base Rate, the Term SOFR Reference Rate, Term SOFR or any other Benchmark prior to its discontinuance or unavailability, or (b) the effect, implementation or composition of any Conforming Changes. The Administrative Agent and each Lender, as applicable, and its respective affiliates or other related entities may engage in transactions that affect the calculation of Alternative Base Rate, the Term SOFR Reference Rate, Term SOFR, any alternative, successor or replacement rate (including any Benchmark Replacement) or any relevant adjustments thereto, in each case, in a manner adverse to the Borrower. The Administrative Agent and each Lender, as applicable, may select information sources or services in its reasonable discretion to ascertain Alternative Base Rate, the Term SOFR Reference Rate, Term SOFR or any other Benchmark, in each case pursuant to the terms of this Agreement, and shall have no liability to the Borrower, any Lender or any other person or entity for damages of any kind, including direct or indirect, special, punitive, incidental or consequential damages, costs, losses or expenses (whether in tort, contract or otherwise and whether at law or in equity), for any error or calculation of any such rate (or component thereof) provided by any such information source or service, except in instances of the Administrative Agent’s gross negligence or willful misconduct as determined in a final and non-appealable judgment by a court of competent jurisdiction.

SECTION 2 THE LOAN

2.01. Commitments. The Lenders severally agree to extend to the Borrower, during the Availability Period, subject to the terms and conditions of this Agreement, Loans in a single disbursement (such extension of Loans by the Lenders, the “*Disbursement*”) in U.S. Dollars in a principal amount not exceeding the Total Commitment. Amounts that are repaid or prepaid may not be reborrowed.

2.02. Mechanics for Requesting the Disbursement. The Disbursement shall be made by the Lenders ratably in accordance with the Proportionate Share of their respective Commitment at such time. The Borrower shall request the Disbursement in writing by using a request substantially in the form of Annex A hereto (the “*Disbursement Request*”). The Disbursement Request shall be irrevocable and binding on the Borrower and shall be given to the Administrative Agent no later than 12:00 p.m. (New York time) three (3) Business Days before the proposed Disbursement Date (or such shorter period as may be agreed by the Administrative Agent acting upon the direction of the Required Lenders). The Administrative Agent shall promptly provide to each Lender a copy of the Disbursement Request received from the Borrower.

2.03. Funding.

(a) Subject to the terms of this Agreement, each Lender shall make available on the Disbursement Date such Lender's Proportionate Share of the Disbursement requested in the applicable Disbursement Request in immediately available funds to the Administrative Agent via Fed Wire or SWIFT, to arrive by 1:00 pm New York time on the relevant Disbursement Date to such account as may be notified from time to time by the Administrative Agent to the Lenders in writing.

(b) The Administrative Agent shall immediately transfer (and in any event shall initiate the transfer no later than two hours after receiving all funds from the Lenders in accordance with Section 2.03(a)) the proceeds funded pursuant to Section 2.03(a) in immediately available funds to the Borrower on the same day via Fed Wire or SWIFT to the account designated by the Borrower in the applicable Disbursement Request.

(c) Notwithstanding any provision of this Agreement to the contrary, no Lender shall be required to make its Proportionate Share of the Disbursement hereunder if, as a result thereof, the unutilized and available amount of its Commitment would thereby be exceeded, or the unutilized and available Total Commitment would thereby be exceeded. The Loan is not revolving in nature; amounts borrowed and repaid or prepaid hereunder in respect of the principal amount of the Loan may not be reborrowed.

(d) The rights and obligations of the Lenders are several and not joint or joint and several. The failure of a Lender to fund its Proportionate Share of the Disbursement shall not relieve any other Lender of its obligation under this Agreement to fund its Proportionate Share of the Disbursement on the Disbursement Date. The failure by any Lender to perform its obligations hereunder shall not affect the obligations of the Borrower towards any other party hereto nor shall any Lender or the Administrative Agent be responsible for the failure of any other Lender to advance its Proportionate Share of the Disbursement.

2.04. Minimum Amounts for the Disbursement. The aggregate Disbursement under this Agreement made on the Disbursement Date shall be in an amount sufficient to pay or prepay in full the outstanding principal amount of the loans under the 2021 Loan Agreement.

2.05. Termination and Reduction of Commitments. The Borrower may terminate the unutilized Total Commitment, or reduce the amount thereof, by giving irrevocable written notice to the Administrative Agent not later than 5:00 P.M. on the third (3rd) Business Day prior to the date of such termination or reduction, *provided* reductions of the unutilized Total Commitment shall be apportioned among the Lenders and shall reduce each Lender's unutilized Commitment according to such Lender's ratable share of the unutilized Total Commitment and shall be in the amount of U.S. \$5,000,000 or in integral multiples of U.S. \$1,000,000 in excess thereof. Each Lender's Commitment and the total Commitment will be reduced to zero at the close of business of the last day of the Availability Period.

2.06. Notes.

(a) The Borrower's obligation to pay the principal of and interest on the Loan to the Lenders shall be evidenced by a blank promissory note substantially in the form of Annex B (each, a "Note"). Each Note shall be valid and enforceable as to its principal amount at any time only to the extent of the amount disbursed and outstanding under the Loan evidenced thereby; and, as to interest, only to the extent of the interest accrued and unpaid thereon. Each Note shall be (i) payable to a Lender, (ii) dated the Disbursement Date and (iii) payable at the date referred to in the corresponding Instructions Letter. On the Disbursement Date, the Borrower shall provide to each Lender (i) a duly executed Note for such Lender and (ii) a duly executed Instructions Letter substantially in the form of Annex C, pursuant to which the Borrower authorizes such Lender to complete its Note issued in accordance with this Section 2.06.

(b) In case of loss, theft, partial or complete destruction or mutilation of a Note, the affected Lender shall be entitled to request to the Borrower, and the Borrower shall promptly (but in any event within ten (10) Business Days of such notice) execute and deliver to such Lender in lieu thereof a new Note, dated the same date as the lost, stolen, destroyed or mutilated Note, in replacement of the Note; *provided* that, in the case of any mutilated Note, such mutilated Note shall be returned to the Borrower. Each Lender shall, prior to delivery of any replacement Note by the Borrower also comply with the procedures established by the relevant provisions of Section III of Chapter VI of Title III of the Third Book of the Commercial Code and by Article 398 of Law 1564 of 2012 (*Código General del Proceso*) or any other Applicable Law in connection with the case of loss, theft, partial or complete destruction or mutilation of a Note. In the event that any lost or stolen Note is subsequently found, such Lender shall cancel such Note and deliver such cancelled Note to the Borrower; *provided further* that the Borrower shall have already delivered a substitute Note to the relevant Lender. In the event of execution and delivery of a new Note as contemplated by this clause (b), such Lender shall reimburse and indemnify the Borrower for and against any and all direct liabilities, obligations, losses, damages, penalties, claims, actions, judgments, suits, costs, expenses or disbursements of whatsoever kind or nature which may be imposed on, asserted against or incurred by the Borrower as a result of any negotiation with, or presentation by, any Person for collection of any sums due under or with respect to such Lender's original Note being lost or stolen, excluding any such liabilities, obligations, losses, damages, penalties, claims, actions, judgments, suits, costs, expenses or disbursements caused by the Borrower.

All replacement Notes issued in connection with this Agreement shall be signed by an Authorized Officer of the Borrower.

(c) The payment of any part of the principal of any such Note shall discharge the obligation of the Borrower under this Agreement to pay the portion of the principal of the Loan evidenced by such Note *pro tanto*, and the payment of any principal of the Loan in accordance with the terms hereof shall discharge the obligations of the Borrower under the Notes evidencing the Loan *pro tanto*.

(d) Upon discharge of all obligations of the Borrower under the Loan, the Lenders shall cancel all the Notes and promptly return them to the Borrower.

(e) The Notes shall only be sold, assigned or transferred in accordance with the provisions of this Agreement and Applicable Law.

(f) Each Lender agrees and covenants that it will fill the blank spaces left in any Note in accordance with the corresponding Instructions Letter. Each Lender further agrees and covenants that it will not complete or seek enforcement of its Notes other than in accordance with the instructions set forth in the corresponding Instructions Letter.

(g) In the case of a permitted assignment pursuant to Section 11.03, (i) if requested by the assignee and if any such assignment is of the aggregate Disbursement amount(s) held by the assigning Lender, the Lender shall deliver to the assignee, concurrently with the execution and delivery by the Borrower to the Administrative Agent of the new Notes in the manner contemplated in clause (ii) below, the Note held by such assigning Lender evidencing the Proportionate Share portion of the Disbursement (for any assigning Lender, together with the related Instructions Letter, the "*Existing Notes*" of such assigning Lender) and (ii) if requested by the assigning Lender or the relevant assignee, the Administrative Agent shall as promptly as reasonably practicable request that the Borrower, and the Borrower hereby agrees to execute and deliver as promptly as reasonably practicable a new Note or Notes (together with the related Instructions Letter) to such assigning Lender (if applicable) and such assignee, evidencing the Disbursement held by such assigning Lender (if applicable) and such assignee (in exchange for Existing Notes to the extent such assignment is of the aggregate amount of the Disbursement held by the assigning Lender).

2.07. Interest.

(a) Interest.

(i) The Borrower agrees to pay interest in respect of the unpaid principal amount of the Disbursement from the Disbursement Date until the principal amount of the Disbursement is repaid in full, at a rate *per annum* equal to Term SOFR for each relevant Interest Period plus the Applicable Margin.

(ii) To the extent permitted by law, interest on any due and unpaid amounts of principal or interest in respect of the Loan shall bear interest at a rate *per annum* equal to the rate which is 2.0% in excess of the rate borne by the Loan immediately prior to the respective payment default. The parties hereto acknowledge that, as of the Agreement

Date, the payment of interest on interest (as described in this Section 2.07(a)(ii)), including default interest, is prohibited under Colombian law as currently in effect, subject to applicability of the rules set forth in Article 886 of the Commercial Code, it being understood that any outstanding interest obligations that remain unpaid for more than one (1) year may (upon the satisfaction of the rules set forth in Article 886 of the Commercial Code) be subject to interest on interest under Colombian law as currently in effect.

(iii) Interest in respect of the Loan shall be payable in arrears commencing on the date which is the sixth month anniversary of the Disbursement Date and continuing on each sixth month anniversary thereof until the Maturity Date and on the Maturity Date (each, an “*Interest Payment Date*”), and upon the payment or prepayment of principal of the Loan (but only on the amount paid or prepaid); *provided* that (1) if any Interest Payment Date would fall on a day that is not a Business Day, such Interest Payment Date shall be extended to the next succeeding Business Day, unless such next succeeding Business Day would fall in the next succeeding calendar month, in which case such Interest Payment Date shall be the preceding Business Day, and (2) if any Interest Payment Date would otherwise fall after the Maturity Date, such Interest Payment Date shall be the Maturity Date. For the avoidance of doubt, the initial Interest Period shall commence on (and include) the Disbursement Date and end on (but exclude) the immediately succeeding Interest Payment Date, and, thereafter, each Interest Period shall commence on (and include) the immediately preceding Interest Payment Date and shall end on (but exclude) the immediately succeeding Interest Payment Date.

(iv) All computations of interest hereunder shall be made on the actual number of days elapsed over a year of 360 days.

(v) On each Periodic Term SOFR Determination Day or Alternative Base Rate Term SOFR Determination Day, as applicable, the Administrative Agent shall determine Term SOFR for the relevant Interest Period and shall promptly notify the Borrower and the Lenders thereof. Each such determination shall, absent manifest error, be final and conclusive and binding on all parties hereto.

(vi) In connection with the use or administration of Term SOFR, the Administrative Agent (in consultation with the Borrower) will have the right to make Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in any other Loan Document, subject to Section 11.06, any amendments implementing such Conforming Changes will become effective without any further action or consent of any other party to this Agreement or any other Loan Document. The Administrative Agent will promptly notify the Borrower and the Lenders of the effectiveness of any Conforming Changes in connection with the use or administration of Term SOFR.

In connection with the implementation of any Conforming Changes, any reasonable discretion required to be exercised by the Administrative Agent shall be exercised after giving due consideration to the recommendations by the Relevant Governmental Body and any evolving or then-prevailing market conventions, in each case as appropriate and not with a view to obtaining a commercial advantage for the Lenders; provided, that none of the Administrative Agent or any Lender can represent, guarantee,

warrant or accept any responsibility for, and shall not have any liability with respect to, the effect, implementation or composition of any Conforming Changes pursuant to this Section 2.07(a)(vi), including without limitation, whether the effect, implementation or composition of such Conforming Changes will produce the same value or economic equivalence of the interest rate applicable to the Loans or have the same volume or liquidity as it did prior to the implementation of such Conforming Changes.

(vii) In no event shall the interest applicable under this Agreement exceed the interest rate limits set forth by Applicable Law, including but not limited to, the regulations set forth by the Colombian Central Bank for loans to state-owned entities. Upon obtaining actual knowledge thereof, the Borrower shall notify the Administrative Agent of whether any interest rate determined by the Administrative Agent and notified to the Borrower is not in compliance with this Section 2.07(a)(vii), it being agreed that failure to deliver such notice shall not constitute a waiver of any right of the Borrower hereunder or be deemed an agreement by the Borrower to an interest rate that exceed the interest rate limits set forth by Applicable Law, including but not limited to, the regulations set forth by the Colombian Central Bank for loans to state-owned entities.

(b) Interest Periods. Subject to Section 2.07(a)(iii), each Interest Period shall be a six-month period; *provided that*:

(i) (a) the initial Interest Period shall commence on the Disbursement Date and end on the first Interest Payment Date thereafter; and (b) each Interest Period occurring after the initial Interest Period shall commence on the day on which the next preceding Interest Period therefor expires; and

(ii) the final Interest Period shall end on the Maturity Date.

(c) Inability to Determine Rates. Subject to Section 2.07(d), if, on or prior to the first day of any Interest Period for any SOFR Loan:

(i) the Administrative Agent determines (which determination shall be conclusive and binding absent manifest error) that "Term SOFR" cannot be determined pursuant to the definition thereof;

(ii) the Required Lenders determine that for any reason in connection with any request for a SOFR Loan or a conversion thereto or a continuation thereof that Term SOFR for any requested Interest Period with respect to a proposed SOFR Loan does not adequately and fairly reflect the cost to such Lenders of making and maintaining such Loan, and the Required Lenders have provided notice of such determination to the Administrative Agent; or

(iii) the Administrative Agent (acting at the instructions of the Required Lenders) has determined that the implementation of Conforming Changes is required to permit the use and administration of the Benchmark and this Agreement has not been amended to incorporate such Conforming Changes;

then, the Administrative Agent will promptly so notify the Borrower and each Lender.

Upon notice thereof by the Administrative Agent to the Borrower, any obligation of the Lenders to make SOFR Loans, and any right of the Borrower to continue SOFR Loans or to convert Alternative Base Rate Loans to SOFR Loans, shall be suspended (to the extent of the affected SOFR Loans or affected Interest Periods) until, with respect to clause (i) and (ii) above, the Administrative Agent (with respect to clause (ii), at the instruction of the Required Lenders) revokes such notice or, with respect to clause (iii) above, this Agreement is amended in order to incorporate the relevant Conforming Changes. Upon receipt of such notice, (i) the Borrower may revoke any pending request for a borrowing of, conversion to or continuation of SOFR Loans (to the extent of the affected SOFR Loans or affected Interest Periods) or, failing that, the Borrower will be deemed to have converted any such request into a request for a Borrowing of or conversion to Alternative Base Rate Loans in the amount specified therein and (ii) any outstanding affected SOFR Loans will be deemed to have been converted into Alternative Base Rate Loans at the end of the applicable Interest Period. Upon any such conversion, the Borrower shall also pay accrued interest on the amount so converted, together with any additional amounts required pursuant to this Section 2.07(c). Subject to Section 2.07(d), if the Administrative Agent determines (which determination shall be conclusive and binding absent manifest error) that "Term SOFR" cannot be determined pursuant to the definition thereof on any given day, the interest rate on Alternative Base Rate Loans shall be determined by the Administrative Agent without reference to clause (c) of the definition of "Alternative Base Rate" until the Administrative Agent revokes such determination.

(d) Benchmark Replacement Setting.

(i) Benchmark Replacement. Notwithstanding anything to the contrary herein or in any other Loan Document, if a Benchmark Transition Event and its related Benchmark Replacement Date have occurred prior any setting of the then-current Benchmark, then (x) if a Benchmark Replacement is determined in accordance with clause (a) of the definition of "Benchmark Replacement" for such Benchmark Replacement Date, such Benchmark Replacement will replace such Benchmark for all purposes hereunder and under any Loan Document in respect of such Benchmark setting and subsequent Benchmark settings without any amendment to, or further action or consent of any other party to, this Agreement or any other Loan Document and (y) if a Benchmark Replacement is determined in accordance with clause (b) of the definition of "Benchmark Replacement" for such Benchmark Replacement Date, such Benchmark Replacement will replace such Benchmark for all purposes hereunder and under any Loan Document in respect of any Benchmark setting at or after 5:00 p.m. (New York City time) on the fifth (5th) Business Day after the date notice of such Benchmark Replacement is provided to the Lenders without any amendment to, or further action or consent of any other party to, this Agreement or any other Loan Document so long as the Administrative Agent has not received, by such time, written notice of objection to such Benchmark Replacement from Lenders comprising the Required Lenders. If the Benchmark Replacement is Daily Simple SOFR, all interest payments will be payable on a quarterly basis.

(ii) In connection with the use, administration, adoption or implementation of a Benchmark Replacement, the Administrative Agent will have the right to make Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in any other Loan Document (but subject to Section 11.06), any amendments implementing such Conforming Changes will become effective without any further action or consent of any other party to this Agreement or any other Loan Document, it being understood that in no event shall the interest rate as provided above exceed the interest rate limits set forth by the Colombian Central Bank for loans to state-owned entities. When making a decision with respect to Conforming Changes the Administrative Agent shall give due consideration to recommendations by the Relevant Governmental Body and any evolving or then-prevailing market conventions, in each case as appropriate and as set forth in this definition of Conforming Changes and the related defined terms used therein, and not with a view to obtaining a commercial advantage for the Lenders; *provided*, that none of the Administrative Agent or any Lender can represent, guarantee, warrant or accept any responsibility for, and shall not have any liability with respect to, the effect, implementation or composition of any Conforming Changes pursuant to this Section 2.07(d)(ii), including without limitation, whether the effect, implementation or composition of such Conforming Changes will produce the same value or economic equivalence of the interest rate applicable to the Loans or have the same volume or liquidity as it did prior to the implementation of such Conforming Changes.

(iii) The Administrative Agent will promptly notify the Borrower and the Lenders of (x) the implementation of any Benchmark Replacement and (y) the effectiveness of any Conforming Changes in connection with the use, administration, adoption or implementation of a Benchmark Replacement. The Administrative Agent will notify the Borrower of (A) the removal or reinstatement of any tenor of a Benchmark pursuant to Section 2.07(d)(iv) and (B) the commencement of any Benchmark Unavailability Period. Any determination, decision or election that may be made by the Administrative Agent or, if applicable, any Lender (or group of Lenders) pursuant to this Section 2.07(d), including any determination with respect to a tenor, rate or adjustment or of the occurrence or non-occurrence of an event, circumstance or date and any decision to take or refrain from taking any action or any selection, will be conclusive and binding absent manifest error and may be made in its or their sole discretion and without consent from any other party to this Agreement or any other Loan Document, except, in each case, as expressly required pursuant to this Section 2.07(d).

(iv) Notwithstanding anything to the contrary herein or in any other Loan Document, at any time (including in connection with the implementation of a Benchmark Replacement), (x) if the then-current Benchmark is a term rate (including the Term SOFR Reference Rate) and either (A) any tenor for such Benchmark is not displayed on a screen or other information service that publishes such rate from time to time as selected by the Administrative Agent in its reasonable discretion or (B) the regulatory supervisor for the administrator of such Benchmark has provided a public statement or publication of information announcing that any tenor for such Benchmark is not or will not be representative, then the Administrative Agent may modify the definition of "Interest Period" (or any similar or analogous definition) for any Benchmark settings at or after such time to remove such unavailable or non-representative tenor and (y) if a tenor that was

removed pursuant to clause (x) above either (A) is subsequently displayed on a screen or information service for a Benchmark (including a Benchmark Replacement) or (B) is not, or is no longer, subject to an announcement that it is not or will not be representative for a Benchmark (including a Benchmark Replacement), then the Administrative Agent may modify the definition of "Interest Period" (or any similar or analogous definition) for all Benchmark settings at or after such time to reinstate such previously removed tenor.

(v) Upon the Borrower's receipt of notice of the commencement of a Benchmark Unavailability Period, the Borrower may revoke any pending request for a SOFR Disbursement of, conversion to or continuation of SOFR Loans to be made, converted or continued during any Benchmark Unavailability Period and, failing that, the Borrower will be deemed to have converted any such request into a request for a Disbursement of or conversion to Alternative Base Rate Loans. During a Benchmark Unavailability Period or at any time that a tenor for the then-current Benchmark is not an Available Tenor, the component of Alternative Base Rate based upon the then-current Benchmark or such tenor for such Benchmark, as applicable, will not be used in any determination of Alternative Base Rate.

2.08. Fees.

(a) The Borrower agrees to pay to the Joint Lead Arrangers and Joint Bookrunners and to the Administrative Agent, as applicable, in Dollars, any and all fees payable in the amounts and at the times set forth in the JLAs Fee Letter and the Administrative Agent Fee Letter, respectively. All fees payable hereunder, under the Fee Letters and under the other Loan Documents shall be paid on the dates due, in immediately available funds, to the Joint Lead Arrangers and Joint Bookrunners for amounts payable pursuant to the JLAs Fee Letter and to the Administrative Agent for amounts payable to the Administrative Agent pursuant to the Administrative Fee Letter. Fees paid in accordance with this Agreement, the Fee Letters and the other Loan Documents shall not be refundable under any circumstances, unless otherwise set forth in the relevant Fee Letter.

(b) The Borrower shall pay to the Administrative Agent for the account of each Lender a commitment fee, accruing from the Agreement Date through and including the last day of the Availability Period, at a rate per annum equal to 0.90% on the daily average amount of the unused and uncanceled portion of the Commitment of such Lender, payable in arrears on the date on which the Availability Period terminates; *provided* that, no commitment fees shall accrue or be payable in respect of the unused and uncanceled portion of the Commitment that is used for the funding of the Disbursement so long as (i) the Disbursement Request with respect to the Commitment is delivered to the Administrative Agent in accordance with Section 2.02 on the Agreement Date and (ii) the disbursement of the Disbursement occurs within three (3) Business Days following the Agreement Date; *provided, further*, that, any commitment fee accrued with respect to any of the unused Commitments of a Defaulting Lender during the period prior to the time such Lender became a Defaulting Lender and unpaid at such time shall not be payable by the Borrower so long as such Lender shall be a Defaulting Lender except to the extent that such commitment fee shall otherwise have been due and payable by the Borrower prior to such time; and *provided, further*, that no commitment fee shall accrue on

any of the unused Commitments of a Defaulting Lender so long as such Lender shall be a Defaulting Lender.

2.09. Additional or Increased Costs.

(a) If, due to any Regulatory Change that: (i) changes the basis of taxation of any amounts payable to any Lender (other than (A) Covered Taxes, (B) Taxes described in clauses (b) through (d) of the definition of Excluded Taxes, and (C) Connection Income Taxes); (ii) imposes, modifies or holds applicable any reserve, special deposit, deposit insurance or similar requirement, including any compulsory loan requirement, insurance charge or other assessment (other than, for any period for which such Lender is subject to a Capital Adequacy Requirement, the reserves against "Eurocurrency liabilities" under Regulation D of the Federal Reserve Board) against assets of, deposits with or for the account of, or Loan extended by, such Lender; or (iii) imposes any other condition affecting this Agreement or the Note held by such Lender, and the effect of any of the foregoing is to increase the cost to such Lender of making its Disbursement or maintaining its proportion of the Loan or to reduce any amount received or receivable by such Lender hereunder (whether of principal, interest or otherwise), then the Borrower shall from time to time, upon written demand by such Lender, pay to the Administrative Agent for the benefit of such Lender, additional amounts sufficient to compensate such Lender for such increased cost or reduction suffered.

(b) Each demand for payment by a Lender under this Section 2.09 shall be accompanied by a certificate showing in reasonable detail the basis for the calculation of the amounts demanded in good faith, which certificate, in the absence of manifest error, shall be conclusive and binding for all purposes. The Borrower shall pay such Lender, as the case may be, the amount shown as due on any such certificate within twenty (20) Business Days after receipt thereof.

(c) No Lender shall be entitled to demand or be compensated for any additional amounts under this Section 2.09 (i) to the extent that such additional amounts relate to any period of time more than one hundred eighty (180) days prior to the date upon which such Lender first notifies the Borrower of such additional amounts, or (ii) if such Lender is causing the incremental cost to be incurred for a reason not provided for in Section 2.09(a) above.

(d) If the Borrower is required to pay any amount to a Lender pursuant to this Section 2.09, it may prepay the portion of the Loan held by such Lender in accordance with Section 3.02. Notwithstanding anything to the contrary herein, the provisions of Sections 3.03(b) and 3.03(c) shall not apply to any such prepayment.

2.10. Breakage Costs, Other Expenses and Losses. The Borrower agrees to compensate any Lender, promptly upon its written request (which request shall set forth in reasonable detail the basis for requesting such compensation), for all reasonable and documented losses, expenses and liabilities which such Lender may sustain (including any loss, expense or liability incurred by reason of the liquidation or reemployment of deposits or other funds required by such Lender to fund its Proportionate Share of the Disbursement, but excluding any loss of anticipated profits) if: (i) the Borrower fails to borrow in

accordance with a Disbursement Request, (ii) the Borrower fails to make a voluntary prepayment of the Loan on an Interest Payment Date therefor in accordance with a prepayment notice given pursuant to Section 3.02, (iii) the Borrower otherwise prepays the Loan on any date other than an Interest Payment Date therefor, or (iv) the assignment of a Loan by a Lender pursuant to a request by the Borrower pursuant to Section 2.12 shall occur on a day other than an Interest Payment Date. Each Lender's calculation of the amount of compensation owing pursuant to this Section 2.10 shall be made in good faith and in a commercially reasonable manner. A Lender's basis for requesting compensation pursuant to this Section 2.10 and a Lender's calculation of the amount thereof made in accordance with the requirements of this Section 2.10 shall, absent manifest error, be final and conclusive and binding on all parties hereto. The Borrower shall pay such Lender, as the case may be, the amount shown as due on any such certificate within twenty (20) Business Days after receipt thereof.

2.11. Illegality. Notwithstanding any other provision herein, if after the Agreement Date the adoption of or any change in any Applicable Law or in the interpretation or application thereof by a competent Governmental Authority shall make it unlawful for any Lender to make its Proportionate Share of the Disbursement or maintain its portion of the Loan as contemplated by this Agreement and the Notes, such Lender shall give notice thereof to the Administrative Agent and the Borrower describing in reasonable detail the relevant provisions of such Applicable Law, following which (a) the Commitment of such Lender shall forthwith be suspended until such Lender notifies the Administrative Agent and the Borrower that the circumstances causing such suspension no longer exist and (b) if such Applicable Law shall so mandate, such Lender's portion of the Loan then outstanding shall be prepaid by the Borrower on or before the date required and permitted by Applicable Law, together with all accrued interest thereon (unless actions taken pursuant to Section 2.12 shall make such prepayment unnecessary).

2.12. Lender Replacement.

(a) (i) Upon the occurrence of any event giving rise to the operation of Section 2.09 with respect to any Lender that results in such Lender charging to the Borrower additional or increased costs, (ii) upon any adoption or change of the type described in Section 2.11, or (iii) the Borrower being required to pay Covered Taxes or additional amounts to any Lender or any Governmental Authority pursuant to Section 4.01, then such Lender shall use reasonable efforts to designate a different lending office for funding its Proportionate Share of its Disbursement or booking its Proportionate Share of the Loan hereunder or to assign its rights and obligations hereunder to another of its offices, branches or affiliates, if, in the judgment of such Lender, such designation or assignment would eliminate or reduce amounts payable pursuant to Sections 2.09 or 4.01, as the case may be, in the future, or would eliminate or reduce the effect of any adoption or change described in Section 2.11 or would not subject such Lender to any unreimbursed cost or expense and would not otherwise be disadvantageous to such Lender. The Borrower hereby agrees to pay all reasonable and documented costs and expenses incurred by any Lender in connection with any such designation or assignment.

(b) (i) Upon the occurrence of any event giving rise to the operation of Section 2.09 with respect to any Lender that results in such Lender charging to the Borrower

additional or increased costs, (ii) upon any adoption or change of the type described in Section 2.11, (iii) in the case of a refusal by a Lender to consent to a proposed change, waiver, discharge or termination with respect to this Agreement which has been approved by the Required Lenders as provided in Section 11.06(b), or (iv) the Borrower being required to pay Covered Taxes or additional amounts to any Lender or any Governmental Authority pursuant to Section 4, the Borrower shall have the right at its sole expense and effort, if (A) no Event of Default then exists or would exist after giving effect to such replacement, (B) in the case of any such assignment resulting from a claim for compensation under Section 2.09 or payments required to be made pursuant to Section 4, such assignment will result in a reduction in such compensation or payments and (C) in the case of any such assignment resulting from any adoption or change of the type described in Section 2.11, such assignment would eliminate or reduce the effect of any adoption or change described in Section 2.11, to replace such Lender (the “*Replaced Lender*”) with one or more Eligible Transferees (collectively, the “*Replacement Lenders*”); *provided* that, at the time of any replacement pursuant to this Section 2.12, each Replacement Lender shall enter into an Assignment and Assumption Agreement pursuant to Section 11.03(b) (ii), pursuant to which the Replacement Lender shall acquire the applicable portion of the Loan due to the Replaced Lender, and shall pay to the Replaced Lender in respect thereof an amount equal to the principal of, and all accrued interest on, the acquired portion of the Loan of the Replaced Lender plus all other amounts payable to Replaced Lender hereunder. A Lender shall not be required to make any such assignment and delegation if, prior thereto, as a result of a waiver by such Lender or otherwise, the circumstances entitling the Borrower to require such assignment and delegation cease to apply.

(c) Upon the execution of the respective Assignment and Assumption Agreement, the payment of any applicable amount referred to in the proviso to Section 2.12(b), recordation of the assignment on the Register by the Administrative Agent pursuant to Section 11.03(e) and delivery to the Replacement Lender(s) of the appropriate Note(s) executed by the Borrower, each Replacement Lender shall become a Lender hereunder and the Replaced Lender shall cease to constitute a Lender hereunder, but shall continue to be entitled to any amounts that have accrued and remain unpaid prior to such assignment under Section 2.09, 2.10, Section 4 and the indemnification provisions under Sections 10.06 and 11.08 of this Agreement, each of which shall survive as to such Replaced Lender.

SECTION 3 PAYMENTS

3.01. Repayment; Time and Manner. The outstanding principal amount of the Loan shall be due and payable, and shall be unconditionally repaid by the Borrower to the Administrative Agent for the benefit of the Lenders in one installment, to be made on the Maturity Date.

3.02. Prepayment. The Borrower may from time to time, without premium or penalty, prepay all or any part of the Loan on any Interest Payment Date; provided, however, that: (a) any partial prepayment shall be in a minimum principal amount of U.S. \$5,000,000, or a multiple of U.S. \$1,000,000 in excess thereof, or the entire principal amount thereof; (b) the Borrower shall have given the Administrative Agent at least five (5) Business Days’ prior written notice of the proposed prepayment date and the

amount of principal to be prepaid (which notice shall be irrevocable); and (c) the Borrower shall have paid in full all amounts then due under this Agreement as of such prepayment date, including interest which has accrued to the prepayment date on the amount being prepaid and any amounts due under Section 2.10.

3.03. Payments; Pro Rata Treatment.

(a) The Borrower shall make each payment hereunder or under any Note (including principal and interest) without set-off or counterclaim and not later than 12:00 p.m. (New York time) on the day when due, in Dollars, to the Administrative Agent by wire-transfer to an account outside of Colombia specified by the Administrative Agent in writing at least three (3) Business Days prior to the applicable payment date, in immediately available funds. Payments received by the Administrative Agent after 1:00 p.m. (New York time) on any Business Day shall be deemed to be received on the next Business Day.

(b) The Administrative Agent agrees that, promptly after its receipt of any payment from or on behalf of the Borrower pursuant to Section 3.03(a) above, it shall (except as otherwise expressly provided in this Agreement) distribute such payment to the Lenders (unless it has consented in writing to waive its pro rata share of such payment) pro rata based upon its respective share in the Loan, if any, of the obligations with respect to which such payment was received, *provided* that this clause (b) shall not apply to payments or prepayments to the Lender in connection with a claim under Sections 2.09, 2.10, 2.11 or Section 4. If at any time insufficient funds are received by and available to the Administrative Agent to pay fully all amounts of principal, interest and fees then due hereunder, such funds shall be applied (i) *first*, toward the fees, expenses and indemnities of the Administrative Agent under the Loan Documents; (ii) second, towards payment of interest and fees then due hereunder, ratably among the parties entitled thereto in accordance with the amounts of interest and fees then due to such parties, and (iii) *third*, towards payment of principal then due hereunder, ratably among the parties entitled thereto in accordance with the amounts of principal and then due to such parties.

(c) If any Lender shall, whether by voluntary payment, by realization upon security, through the exercise of any right of set-off or banker's lien, by counterclaim or cross action or by the enforcement of any right under this Agreement or any Note, receive payment of the aggregate amount of principal or interest then due and owing to such Lender which is greater than the proportion due to such Lender, then such Lender receiving such proportionately greater payment shall (i) notify the Administrative Agent and each other Lender of the receipt of such payment and (ii) purchase (for cash at face value) Participations in the Loan of other Lenders in accordance with Section 11.03(c) to the extent necessary so that the benefit of all such payments shall be shared by the Lenders ratably in accordance with the aggregate amount of principal of and accrued interest on their respective Loan; *provided* that (i) if any such Participations are purchased and all or any portion of the payment giving rise thereto is recovered, such Participations shall be rescinded and the purchase price restored to the extent of such recovery, without interest, and (ii) the provisions of this paragraph shall not be construed to apply to any payment made by the Borrower pursuant to and in accordance with the express terms of this Agreement or any payment obtained by a Lender as consideration for the assignment of or sale of a Participation in its Loan to any assignee or participant. The

Borrower consents to the foregoing. This clause (c) shall not apply to payments or prepayments to any Lender in connection with a claim under Sections 2.09, 2.10, 2.11 or Section 4.

3.04. Extension of Payment Dates. Unless otherwise provided herein, whenever any payment to the Administrative Agent or the Lenders under this Agreement or any Note shall be due (other than by reason of acceleration) on a day that is not a Business Day, the date of payment thereof shall be extended to the next succeeding Business Day.

SECTION 4 TAXES

4.01. Covered Taxes.

(a) Any and all payments by or on account of any obligation of the Borrower under any Loan Document shall be made without deduction or withholding for any Taxes, except as required by Applicable Law. If the Borrower shall be required by Applicable Law to withhold or deduct any Taxes from or in respect of any such sum payable to or for the benefit of the Administrative Agent or any Lender, then the Borrower shall be entitled to make such deduction or withholding and shall timely pay the full amount deducted or withheld to the relevant taxing authority or other Governmental Authority in accordance with Applicable Law and, if such Tax is a Covered Tax imposed by a Taxing Jurisdiction, then the sum payable by the Borrower shall be increased as necessary so that after making all required deductions (including deductions applicable to additional sums payable under this Section 4.01) such Lender or the Administrative Agent receives an amount equal to the sum it would have received had no such deductions been made. For the avoidance of doubt, neither the Lenders nor the Administrative Agent will claim a higher amount under the Note for deduction or withholding for any taxes other than Covered Taxes. For Colombian income tax purposes, the Borrower represents that this Agreement is deemed as public foreign indebtedness.

(b) The Borrower shall indemnify each Lender and/or the Administrative Agent for the full amount of Covered Taxes imposed by a Taxing Jurisdiction or other Governmental Authority that are payable or paid by such Lender or the Administrative Agent (including any Covered Taxes imposed by a Taxing Jurisdiction on amounts payable under this Section 4.01 arising therefrom or with respect thereto), whether or not such Covered Taxes were correctly or legally asserted. Each Lender or the Administrative Agent shall give notice to the Borrower of the assertion of any claim against such Lender or the Administrative Agent relating to its Covered Taxes as promptly as possible (and in any event within thirty (30) days) after receipt of formal written notice of such assertion; *provided* that failure by a Lender or the Administrative Agent to provide any such notice within ninety (90) days shall relieve Borrower of its obligation to indemnify the Lenders or the Administrative Agent pursuant to this Section 4.01. Within ten (10) Business Days of receipt of any such notice from a Lender or the Administrative Agent, the Borrower shall either:

(i) advise such Lender or the Administrative Agent that it intends to indemnify such Lender or the Administrative Agent in respect of such Covered Taxes pursuant to this paragraph (b), in which case it shall promptly indemnify in respect of such amounts, or

(ii) advise such Lender or the Administrative Agent that it intends to commence a Good Faith Contest with respect to such Covered Taxes at the Borrower's sole cost and expense, in which case it shall promptly commence such Good Faith Contest.

(c) Except to the extent of any Good Faith Contest with respect to Covered Taxes, an indemnity made by the Borrower pursuant to this indemnification shall be made within twenty (20) Business Days after the date the relevant Lender makes written demand therefor, which demand shall be accompanied by a certificate describing in reasonable detail the basis thereof. If the Borrower shall have commenced a Good Faith Contest with respect to any such Covered Taxes and no indemnity payment has been made to the Lender, and such Covered Taxes are ultimately determined to be payable by the relevant Lender in a final judicial proceeding or otherwise, the Borrower shall indemnify such Lender or the Administrative Agent for such Covered Taxes and for any other liability including penalties and interest charged by the relevant taxing authority arising therefrom or with respect thereto.

(d) Within ten (10) days after the date of any indemnification of Covered Taxes by the Borrower, the Borrower shall furnish to the Lender or the Administrative Agent the original or a certified copy of a receipt evidencing indemnification thereof or, if later, promptly after the date on which it receives such receipt and the Borrower shall promptly furnish to the Lender or the Administrative Agent any other information, documents and receipts that the Lender or the Administrative Agent may from time to time reasonably request to establish to its satisfaction that full and timely indemnification has been made of all Covered Taxes required to be indemnified under this Section 4.01.

(e) If the Administrative Agent or any Lender determines in good faith that it has finally and irrevocably received or been granted a refund in respect of any Covered Taxes as to which indemnification has been made by the Borrower pursuant to this Section 4.01, it shall, within ten (10) days after the date the Administrative Agent or any Lender has received or been granted a refund, remit such refund (including any interest received in respect thereof from the relevant Governmental Authority), net of all reasonable Taxes and out-of-pocket costs and expenses payable as a result thereof, to the Borrower; *provided*, that the Borrower agrees to promptly return any such refund to the Administrative Agent or the relevant Lender in the event the Administrative Agent or such Lender is required to repay such refund to the relevant taxing authority. The Administrative Agent and the relevant Lender shall provide the Borrower with a copy of any notice of assessment (or any similar documentation) from the relevant taxing authority (redacting any unrelated Confidential Information contained therein) requiring repayment of such refund. This paragraph shall not be construed to require the Administrative Agent or any Lender to make available its Tax returns (or any other information relating to its Taxes that it deems confidential) to the Borrower or any other Person.

(f) If the Administrative Agent or any Lender is entitled to an exemption from or reduction of withholding Tax with respect to payments made under any Loan Document, it shall deliver to the Borrower and the Administrative Agent, at the time or times reasonably requested by the Borrower or the Administrative Agent, such properly completed and executed documentation reasonably requested by the Borrower or the Administrative Agent as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, the Administrative Agent or any Lender, if reasonably requested by the Borrower or the

Administrative Agent, shall deliver such other documentation prescribed by Applicable Law or reasonably requested by the Borrower or the Administrative Agent as will enable the Borrower or the Administrative Agent to determine whether or not such Lender is subject to backup withholding or information reporting requirements. The Administrative Agent and each Lender agree that if any form or certification they previously delivered expires or becomes obsolete or inaccurate in any respect, they shall update such form or certification or promptly notify the Borrower and the Administrative Agent in writing of their legal inability to do so. Notwithstanding anything to the contrary in the preceding three sentences, the completion, execution and submission of such documentation shall not be required if in the Lender's reasonable judgment such completion, execution or submission would subject such Lender to any material unreimbursed cost or expense or would materially prejudice the legal or commercial position of such Lender.

(g) If a payment made to a Lender under any Loan Document would be subject to U.S. federal withholding Tax imposed by FATCA if such Lender were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Code, as applicable), such Lender shall deliver to the Borrower and the Administrative Agent at the time or times prescribed by Applicable Law and at such time or times reasonably requested by the Borrower or the Administrative Agent such documentation prescribed by Applicable Law (including as prescribed by Section 1471(b)(3)(C)(i) of the Code) and such additional documentation reasonably requested by the Borrower or the Administrative Agent as may be necessary for the Borrower and the Administrative Agent to comply with their obligations under FATCA and to determine that such Lender has complied with such Lender's obligations under FATCA or to determine the amount to deduct and withhold from such payment. Solely for purposes of this clause (g), "FATCA" shall include any amendments made to FATCA after the date of this Agreement.

(h) Notwithstanding the foregoing, no Lender or Participant shall be required to deliver any form or other document under Sections 4.01(f) and (g) above that it is not legally entitled to deliver.

(i) Each party's obligations under this Section 4 shall survive the resignation or replacement of the Administrative Agent or any assignment of rights by, or the replacement of, a Lender, the termination of the Commitments and the repayment, satisfaction or discharge of all obligations under any Loan Document.

SECTION 5

CONDITIONS PRECEDENT

5.01. Conditions Precedent on the Agreement Date.

The obligations of the Lenders under this Agreement shall be subject to the Administrative Agent's confirmation of satisfaction (or waiver by the Administrative Agent acting on the instruction of the Lenders) of each of the following conditions precedent on or before the Agreement Date:

(a) This Agreement. This Agreement shall have been duly authorized, fully executed and delivered by the parties hereto, shall be in full force and effect and originals shall have been delivered to the Administrative Agent.

(b) Existence and Authority. The Administrative Agent shall have received a certificate signed by an Authorized Officer of the Borrower, dated as of the Agreement Date, substantially in the form of Annex D, with respect to (i) the authority of the Borrower to execute, deliver, perform and observe the terms and conditions of the Loan Documents; (ii) the identity, authority and capacity (including specimen signatures) for each Person who, on behalf of the Borrower, signed any Loan Document; and (iii) the Borrower's valid existence under the laws of Colombia.

(c) Governmental Approvals. The Administrative Agent shall have received copies, certified as true, correct and complete copies by an Authorized Officer of the Borrower, of each consent, license, authorization or approval of, and exemption by, any Governmental Authority, including an authorization to execute this Agreement issued by means of a Resolution rendered by the General Directorate of Public Credit and National Treasury (*Dirección General de Crédito Público y Tesoro Nacional*) of the Ministry of Finance (Articles 2.2.1.1.2, 2.2.1.4.2, 2.2.1.4.4 and 2.2.1.4.5 of Decree 1068 of 2015, as amended, modified or supplemented from time to time), which has been granted and is referred to in Recital D of this Agreement, as evidenced by the publication of the Resolution in the Official Diary, which was satisfied pursuant to article 18 of Law 185 of 1995 (as amended, modified or supplemented from time to time) (other than those referenced in Section 5.02(c)): (i) for the execution, delivery, performance, and observance by the Borrower of the Loan Documents, including all approvals, if any, relating to the availability and transfer of U.S. Dollars required to make all payments due under the Loan Documents; and (ii) for the validity, binding effect, and enforceability of the Loan Documents, and each of the foregoing shall be in full force and effect.

(d) Legal Opinions. The Administrative Agent shall have received opinions dated as of the Agreement Date of (i) Gómez-Pinzón Abogados S.A.S., Colombian counsel to the Lenders, (ii) Brigard & Urrutia S.A.S., Colombian counsel to the Borrower, (iii) Shearman & Sterling LLP, New York counsel to the Borrower and (iv) Milbank LLP, New York counsel to the Lenders and, in each case, covering such matters as are reasonably agreed between applicable counsel to the Lenders and the counsel delivering such opinion and addressed to the Lenders and the Administrative Agent and reasonably acceptable to the Lenders.

(e) Appointment of Process Agent. The Administrative Agent shall have received delivery of evidence that (i) the Borrower has irrevocably appointed as its agent for service of process the Person or Persons so specified in Section 9.03, and (ii) the designated agent has accepted the appointment (and been paid in full by the Borrower) for a term extending at least one year beyond the Maturity Date and has agreed to forward forthwith to the Borrower all legal process addressed to the Borrower that is received by such agent.

(f) Fee Letters. The Administrative Agent shall have received (i) a copy of each Fee Letter duly executed and delivered by the parties thereto and (ii) evidence of payment of fees then due and payable as of the Agreement Date pursuant to the Fee Letters.

(g) Borrower Financial Statements. The Administrative Agent shall have received copies of the Borrower Financial Statements.

(h) KYC. To the extent requested at least three (3) Business Days prior to the date hereof by the Administrative Agent or any Lender, the Administrative Agent or such Lender, as the case may be, shall have received (i) such requested documents required to comply with their respective “know your customer” procedures and (ii) if applicable, a Beneficial Ownership Certification in relation to the Borrower and each Subsidiary that qualifies as a “legal entity customer” under the Beneficial Ownership Regulation.

5.02. Additional Conditions Precedent to the Disbursement. The obligation of the Lenders to make the Disbursement, shall be subject to the Administrative Agent’s confirmation of satisfaction or waiver (in each case acting on the instruction of the Required Lenders (or, in the case of conditions (d) and (f) below, all the Lenders)) with notice to the Borrower and the Lenders, prior to the making of the Disbursement, of each of the following conditions precedent:

(a) No Event of Default. No Event of Default or Potential Default shall be continuing both before and immediately after giving effect to the aggregate amounts of the Disbursement and the application of the proceeds thereof.

(b) Disbursement Request. The Administrative Agent shall have received a duly executed and completed Disbursement Request.

(c) Governmental Registrations and Opinions.

(i) The Administrative Agent shall have received evidence that the Agreement has been filed, registered and/or published (as applicable) with the appropriate authorities in Colombia, if such filing, registration and/or publication is required under Applicable Law²; and

(ii) The Administrative Agent shall have received copies, certified as true, correct and complete copies by an Authorized Officer of the Borrower, of the filing of this Agreement before the Colombian Central Bank as External Indebtedness by means of filing an “*Informe de Crédito Externo Otorgado a Residentes*” or the applicable External Indebtedness report.

(d) Note. Each Lender shall have received a duly executed Note and an Instructions Letter for each Lender issued in accordance with Section 2.06.

² **GP Note:** We deleted this language since such registrations can only be made after disbursement has occurred and the delivery of evidence of such registrations is included as a covenant of the Borrower under Section 7.01(d)(ii).

(e) Representations and Warranties. The representations and warranties made by the Borrower in this Agreement shall be true and correct in all material respects on and as of the Disbursement Date for such Disbursement both before and immediately after giving effect to the Disbursement and the application of the proceeds thereof other than any such representations or warranties that, by their terms, refer to a specific date other than the date of the Disbursement, in which case such representations and warranties shall be true and correct in all material respects on and as of such specific date; *provided* that (i) representations and warranties qualified as to materiality shall be true and correct in all respects as of such date and (ii) for purposes of the representations and warranties contained in Section 6.01(i) (*Borrower Financial Statements*) shall be deemed to refer to the most recent statements furnished pursuant to Section 7.01(b).

(f) Use of Proceeds. The Borrower shall have delivered to the Administrative Agent irrevocable instructions or made arrangements reasonably satisfactory to all the Lenders for the application of the proceeds of the Disbursement on the applicable Disbursement Date for the prepayment of all the outstanding principal amount of the loans under the 2021 Loan Agreement.

SECTION 6 REPRESENTATIONS AND WARRANTIES

6.01. Representations and Warranties of the Borrower. The Borrower represents and warrants, as of the Agreement Date and as of the Disbursement Date, that:

(a) Existence and Authority. The Borrower is duly organized and validly existing under the laws of Colombia, has all requisite power, authority and legal right to own its property and carry on its business as now conducted, and has taken all actions necessary to authorize it to execute, deliver, perform, and observe the terms and conditions of the Loan Documents.

(b) Governmental Approvals. All consents, licenses, permits, authorizations and approvals of, and exemptions by, any Governmental Authority that are necessary: (i) for the execution, delivery, performance and observance by the Borrower of the Loan Documents, including approvals relating to the availability and transfer of U.S. Dollars required to make all payments due under the Loan Documents; and (ii) for the validity, binding effect and enforceability of the Loan Documents, have, in each case, been obtained and are in full force and effect, as set forth in Section 5.01(c) and 5.02(c).

(c) Recordation. To ensure the legality, validity, enforceability, priority or admissibility in evidence in Colombia of any of the Loan Documents, it is not necessary that any of the Loan Documents be registered, recorded, enrolled or otherwise filed with any court or Governmental Authority, except as set forth in Section 5 hereof, or be notarized; or that any documentary, stamp or other similar tax, imposition or charge of any kind be paid on or in respect of any of the Loan Documents.

(d) Restrictions. The execution, delivery and performance or observance by the Borrower of the terms of, and consummation by the Borrower of the transactions

contemplated by, this Agreement do not and will not conflict with or result in a breach or violation of: (i) the *Estatutos Sociales* of the Borrower; (ii) any law of Colombia or any other ordinance, decree, constitutional provision, regulation or other requirement of any Governmental Authority in effect as of the date on which this representation is made; or (iii) any order, writ, injunction, judgment, decree or award of any court or other tribunal. Further, the Borrower's execution and delivery of the Loan Documents, the performance and observance of its obligations thereunder, and the consummation of the transactions contemplated by this Agreement do not and will not conflict in any material respect with or result in a material breach of any material agreement or instrument to which the Borrower is a party or to which it or any of its revenues, properties or assets may be subject, or result in the creation or imposition of any Lien upon any of the revenues, properties or assets of the Borrower pursuant to any such material agreement or instrument.

(e) Binding Effect and Ranking. The Borrower has duly executed and delivered each Loan Document on or before the Agreement Date, other than the Note which will be delivered to the Lenders on the date of the Disbursement Date. Each Loan Document constitutes a direct, general, and unconditional obligation of the Borrower that is legal, valid, and binding upon the Borrower and enforceable against the Borrower in accordance with its respective terms, except as such enforceability may be limited by Colombian public order laws, applicable insolvency, reorganization, liquidation, moratorium, readjustment of debt or other similar laws affecting the enforcement of creditors' rights generally, and by the application of general principles of equity, regardless of whether such enforceability is considered in a proceeding at law or in equity. The Borrower's payment obligations under the Loan Documents constitute the direct, general, unsecured, unsubordinated and unconditional obligations of the Borrower and rank, in all respects, at least *pari passu* in priority of payment with all other senior, unsecured and unsubordinated External Indebtedness of the Borrower.

(f) Choice of Law. Under the conflict of laws principles in Colombia, the choice of law provisions of this Agreement and any Note are valid, binding and not subject to revocation by the Borrower, and in any proceedings brought in Colombia for enforcement of this Agreement and any Note, the choice of the law of the State of New York as the governing law of such documents will be recognized and such law will be applied. Notwithstanding the foregoing or anything to the contrary in Section 9.01, all matters governing the authorization and execution of the Loan Documents by the Borrower are governed by and construed in accordance with the laws of Colombia.

(g) Commercial Activity. Except as provided for in (i) Articles 192, 195, 298 and 299 of Law 1437 of 2011 (*Código de Procedimiento Administrativo y de lo Contencioso Administrativo*), as amended by Articles 80, 81 and 87 of Law 2080 of 2021 (as amended, modified or supplemented from time to time), and (ii) Articles 593, 594 and 595 of Law 1564 of 2012 (*Código General del Proceso*), the Borrower acknowledges that the execution and performance of this Agreement and each other Loan Document is a commercial activity and to the extent that the Borrower has or hereafter may acquire any immunity from any legal action, suit or proceedings, from jurisdiction of any court or from set-off or any legal process (whether service or notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise) with respect to itself or any of its property or assets, whether or not held on its own account, the Borrower hereby irrevocably and

unconditionally waives and agrees not to plead or claim such immunity in respect of its obligations under this Agreement or any other Loan Document.

(h) Legal Proceedings. There are no actions, suits, litigation, arbitration or administrative proceedings pending or, to the best of the Borrower's knowledge and belief, threatened against the Borrower which are reasonably likely to be adversely determined and, if adversely determined, could reasonably be expected to have a Material Adverse Effect.

(i) Borrower Financial Statements. The Borrower Financial Statements present fairly in all material respects the financial condition of the Borrower and its consolidated Subsidiaries at the date of such statements and the results of the operations of the Borrower and its consolidated Subsidiaries for the fiscal year or other time period to which such statements refer, in the case of unaudited Financial Statements, subject to changes resulting from audit and nominal year-end adjustments and the absence of footnotes. The Borrower Financial Statements have been prepared in accordance with IFRS consistently applied. Except as reflected in the Borrower Financial Statements, there are no liabilities or obligations with respect to the Borrower or any of its consolidated Subsidiaries of any nature whatsoever (whether absolute, accrued, contingent or otherwise, and whether or not due) for the period to which the Borrower Financial Statements relate that, either individually or in the aggregate, would be materially adverse to the Borrower. Since the date of the financial statements of the Borrower dated December 31, 2023 (audited), there has been no event, condition or circumstance that has had or could reasonably be expected to have a Material Adverse Effect, *provided* that changes in the oil and gas prices and any related changes in the economy or financial markets generally, whether international, national, regional or local shall not be deemed to be a Material Adverse Effect for purposes of this representation.

(j) No Corrupt Practices; Anti-Money Laundering Laws. None of the Borrower or, to the knowledge of the Borrower, any of its Subsidiaries, or any director, officer, agent, employee or other person acting on behalf of the Borrower or any of its Subsidiaries is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the FCPA or any other applicable Anti-Corruption Law, or any Anti-Money Laundering Laws; and the Borrower and to the knowledge of the Borrower, each of its Subsidiaries has implemented policies designed to promote and achieve continued compliance by the Borrower, its Subsidiaries, and their respective directors, officers, employees and agents with all Anti-Corruption Laws and Anti-Money Laundering Laws. The Borrower will not, and will take the necessary steps to prevent any Subsidiary to, directly or indirectly, use any part of the proceeds of the Disbursement, or lend, contribute or otherwise make available such proceeds to any Subsidiary, joint venture partner or other Person in any manner that would give rise to a violation of any Anti-Corruption Law or Anti-Money Laundering Law.

(k) Sanctions; Office of Foreign Assets Control Regulations. None of the Borrower or, to the knowledge of the Borrower, any of its Subsidiaries or any director, officer, employee or agent of the Borrower or any of its Subsidiaries is a Sanctioned Person or to the Borrower's knowledge is currently or has, in the past (5) years, engaged in any activity that would reasonably be expected to result in the Borrower or any Subsidiary being designated as a Sanctioned Person. The Borrower and each of its Subsidiaries has implemented policies designed to promote and achieve continued compliance by the Borrower, its Subsidiaries and

their respective directors, officers, employees and agents with applicable Sanctions. The Borrower will not use, and will take the necessary steps to prevent that any Subsidiary, directly or indirectly, uses the proceeds of the Disbursement, or lend, contribute or otherwise make available such proceeds to any Subsidiary, joint venture partner or other Person: (i) to fund or facilitate any activities or business of or with any Sanctioned Person, or in any Sanctioned Country, or (ii) in any other manner that would give rise to a violation of Sanctions by any party hereto, including any Lender.

(l) No Event of Default. No Event of Default and no Potential Default has occurred and is continuing.

(m) No Material Adverse Effect. The Borrower is not aware of any information or events that have resulted, or that could reasonably be expected to result, in a Material Adverse Effect relating to the Borrower, *provided* that changes in the oil and gas prices and any related changes in the economy or financial markets generally, whether international, national, regional or local shall not be deemed to be a Material Adverse Effect for purposes of this representation.

(n) Compliance with Laws. Each of the Borrower and, to the knowledge of the Borrower, its Material Subsidiaries is in compliance with all Applicable Laws (including environmental laws), all Governmental Approvals held by or binding upon the Borrower or its assets and all applicable restrictions imposed by all Governmental Authorities, domestic or foreign, except (i) in the case of Anti-Corruption Law, Anti-Money Laundering Law or Sanctions, as provided in clauses (j) or (k) above, and (ii) in any other case, where the failure to do so, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect.

(o) Regulation.

(i) Investment Company. The Borrower is not an “investment company” as defined in the Investment Company Act of 1940.

(ii) Margin Stock. The Borrower is not engaged principally, or as one of its important activities, in the business of extending credit for the purpose, whether immediate, incidental or ultimate, of buying or carrying “margin stock” within the meaning of Regulation U, and no part of the proceeds of the Loan will be used for the purpose, whether immediate, incidental or ultimate, of buying or carrying any such “margin stock.”

(p) Taxes.

(i) The Borrower has timely filed or caused to be filed all material Tax returns and reports required to have been filed and has paid or caused to be paid all material Taxes required to have been paid by it, except Taxes that are contested by the Borrower on a timely basis in good faith and by appropriate proceedings and for which adequate reserves therefor have been established on the books of the Borrower in conformity with IFRS.

(ii) There are no Taxes imposed by any Governmental Authority either on or by virtue of the execution, enforcement or admissibility into evidence of any of the

Loan Documents or any of the transactions thereby or on any payment to be made pursuant to any Loan Document.

(q) Validity under Colombian Law. The Loan Documents are in proper form under Colombian law for their enforcement thereof. To ensure the legality, validity or enforceability of, and the priority of the obligations incurred by the Borrower under the Loan Documents in Colombia, or establish the admissibility into evidence of any of the Loan Documents in any court in Colombia, it is not necessary that any Loan Document be filed or recorded with any Colombian governmental agency or body, or court, except for those referred to in Section 5.01(c) or Section 5.02(c), or that any stamp or similar tax be paid in Colombia on or in respect of any Loan Document for its enforcement in Colombia.

(r) Recognition of Final Judgments. A final judgment for a fixed or readily calculable sum of money rendered by any court of the State of New York or the United States of America located in the State of New York based upon any of the Loan Documents (excluding the Notes) would be declared enforceable in Colombia in the courts of Colombia against the Borrower without reexamination, review of the merits of the cause of action in respect of which the original judgment was given or re-litigation of the matters adjudicated; *notwithstanding, however*, that recognition of such judgment in Colombia shall be subject to Colombian procedural Applicable Laws, in particular Articles 251, 605, 606 and 607 of Law 1564 of 2012 (*Código General del Proceso*).

(s) Disclosure of Information. No information that has been made available to the Administrative Agent or any Lenders or the representatives or agents of the foregoing by or on behalf of the Borrower in connection with the transactions contemplated hereby, taken as a whole, contains any untrue statement of a material fact or omits to state a material fact necessary to make the statements made therein not misleading in light of the circumstances in which they are made; *provided* that with respect to any projected financial information, the Borrower represents only that such information was prepared in good faith based upon assumptions believed to be reasonable at the time.

(t) Properties. The Borrower has good title to, or valid leasehold interests in, all material property necessary to conduct its business as conducted from time to time in good working order and condition, except to the extent failure to do so could not reasonably be expected to have a Material Adverse Effect.

(u) Insurance. The Borrower maintains insurance with financially sound and reputable insurers against losses, damages or other risks (including, without limitation, risks and liability to Persons and property) to its assets and properties as are customarily maintained by prudent and experienced Persons engaged in the same or similar businesses operating in the same or similar jurisdictions and the Borrower deems, in its reasonable judgment, to be appropriate.

(v) Beneficial Ownership Certification. As of the Agreement Date, the information included in the Beneficial Ownership Certification delivered pursuant to Section 5.01(h)(ii) is true and correct in all respects.

(w) Foreign Exchange. Under the Applicable Law of Colombia and each political subdivision thereof, as of the Agreement Date, all interest, principal, premium, if any, and other payments due or to be made on the Loans or otherwise pursuant to the Loan Documents may be freely transferred out of Colombia and may be paid in, or freely converted into, U.S. Dollars, complying with the appropriate payment method through the foreign exchange intermediary and reporting and filings required by Colombian foreign exchange regulation.

SECTION 7 COVENANTS

7.01. Affirmative Covenants of the Borrower. The Borrower covenants and agrees that, until all amounts owing under the Loan Documents (other than contingent indemnification obligations) have been paid in full, the Borrower shall:

(a) Notice of Defaults. Promptly but in no event later than ten (10) Business Days after the Borrower becomes aware of the occurrence of an Event of Default or of any Potential Default, furnish to the Administrative Agent written notice of the particulars of such occurrence and the corrective action proposed to be taken by the Borrower with respect thereto.

(b) Financial Reports. No later than one hundred and eighty (180) days after the end of each of the Borrower's fiscal years, the Borrower shall furnish to the Administrative Agent a copy of the Borrower's annual consolidated financial statements, including its balance sheet, statement of income, and statement of cash flow for that fiscal year, all of which shall have been audited by an independent accounting firm of internationally recognized standing. If shares of the Borrower are not listed and available for trading on at least one of the New York Stock Exchange or the Colombian Stock Exchange (*Bolsa de Valores de Colombia*), the Borrower shall furnish to the Administrative Agent, no later than ninety (90) days after the end of each of the first three fiscal quarters of each fiscal year of the Borrower, a copy of the Borrower's quarterly unaudited consolidated interim financial statements. All financial reports to be submitted to the Administrative Agent shall be prepared in accordance with IFRS, shall be in the English language (or accompanied by an accurate English translation), shall (in the case of the Borrower's annual consolidated financial statements) include the auditor's opinion and any accompanying notes, and shall fairly present in all material respects the financial condition of the Borrower and the results of its operations for the periods covered.

(c) Inspections. The Borrower will permit, upon reasonable prior notice and during normal business hours, representatives of the Administrative Agent or any Lender, at their own cost and expense, to make no more than three (3) inspections *per annum* of the Borrower's books and records, and cause the officers and employees of the Borrower to give full cooperation and assistance in connection therewith; *provided that*, if an Event of Default has occurred and is continuing the Borrower will reimburse the Administrative Agent and any such Lender for such costs and expenses, and the numbers of inspections permitted pursuant to this Section 7.01(c) shall be as reasonably determined by the Administrative Agent or the Lenders, as the case may be. The Administrative Agent and the Lenders shall use reasonable efforts to coordinate such visits and inspections in order to reduce their number, frequency and cost.

(d) Government Approvals and Registrations.

(i) Promptly obtain and maintain all consents, licenses, permits, authorizations and approvals of, and exemptions by, any Governmental Authority that are necessary: (i) for the execution, delivery, performance, and observance by the Borrower of the Loan Documents, including all approvals relating to the availability and transfer of U.S. Dollars required to make all payments due under the Loan Documents; and (ii) for the validity, binding effect and enforceability of the Loan Documents. The Borrower shall make all public filings required by law in connection with the execution of this Agreement, including any requirements to publish the Agreement in the *Sistema Electrónico para la Contratación Pública – SECOP*.

(ii) Promptly after completing the registration of this Agreement with the Ministry of Finance's Database and the National Comptroller's Office (*Contraloría General de la República*), deliver evidence thereof to the Administrative Agent.

(iii) Promptly after receiving evidence thereof and, in any case, within the fifteen Business Days after the first Disbursement hereunder, deliver evidence to the Administrative Agent of the registration of this Agreement before the Colombian Central Bank as External Indebtedness and the obtention of an identification number for the External Indebtedness granted by the Colombian Central Bank.

(e) Pari Passu. Ensure that its payment obligations under this Agreement and the Notes will at all times constitute the direct, general, unsecured, unsubordinated and unconditional obligations of the Borrower and rank in all respects at least *pari passu* in priority of payment with all other senior, unsecured and unsubordinated External Indebtedness of the Borrower, other than that which is preferred solely by the insolvency and/or bankruptcy Applicable Laws of Colombia, including the Law 1116 of 2006 of Colombia.

(f) Other Acts. From time to time, do and perform any and all acts and execute any and all documents as may be necessary or as reasonably requested by the Administrative Agent in order to effect the purposes of this Agreement and to protect the rights of the Administrative Agent and the Lenders hereunder and under the Notes.

(g) Material Adverse Effect. As soon as practicable, but in any event no later than ten (10) Business Days after it has knowledge of the same, provide notification to the Administrative Agent of any Material Adverse Effect.

(h) Compliance with Laws. The Borrower will, and will use its reasonable best efforts to cause each of its Material Subsidiaries to, comply with all Applicable Laws (including environmental laws), all Governmental Approvals held by or binding upon it or its assets and all applicable restrictions imposed by all Governmental Authorities, domestic or foreign, in respect of the conduct of its business and the ownership of its property, except (other than with respect to any Anti-Corruption Laws, Anti-Money Laundering Laws or Sanctions) to the extent any non-compliance is not reasonably expected to have a Material Adverse Effect.

(i) Maintenance of Existence. Except as otherwise permitted by Section 7.02(b), the Borrower shall maintain its corporate existence and take all reasonable

actions to maintain all rights, privileges and the like necessary or desirable in the normal conduct of business, activities or operations, except to the extent failure to do so could not reasonably be expected to have a Material Adverse Effect.

(j) Preservation of Assets. The Borrower will maintain all material property necessary to conduct its business as conducted from time to time in good working order and condition, except to the extent failure to do so could not reasonably be expected to have a Material Adverse Effect.

(k) Insurance. The Borrower will maintain insurance on its material property with financially sound and reputable insurance companies against such risks, of such types, on such properties and in such amounts as may from time to time be prudent for the Borrower's businesses, as determined by the Borrower in the exercise of its reasonable judgment.

(l) Use of Proceeds. The Borrower will use the proceeds of the Disbursement to the payment or prepayment of the outstanding principal amount of the loans under the 2021 Loan Agreement. No part of the proceeds of the Disbursement will be used by the Borrower to purchase or carry any Margin Stock or to extend loans to others for the purpose of purchasing or carrying any Margin Stock.

(m) Taxes. The Borrower will file all tax returns required to be filed in any jurisdiction and pay and discharge all taxes shown to be due and payable on such returns and all other taxes, assessments, governmental charges, concession fees or levies imposed on it or any of its property, income or franchises, to the extent such taxes and assessments have become due and payable and before they have become delinquent, and all claims for which sums have become due and payable that have or might become a Lien (other than a Permitted Lien) on its Property except where (i) the amount, applicability or validity of such tax, assessment of claim is contested by the Borrower on a timely basis in good faith and by appropriate proceedings or (ii) the failure to do so could not reasonably be expected to have a Material Adverse Effect.

(n) Books and Records. The Borrower shall keep proper books and records and accounts adequate to reflect truly and fairly in all material respects its financial condition and results of operations in conformity with IFRS and Applicable Law.

(o) Sanctions. The Borrower will maintain in effect policies and procedures designed to promote compliance by the Borrower, its Subsidiaries, and their respective directors, officers, employees, and agents with Sanctions.

(p) Anti-Corruption Laws and Anti-Money Laundering Laws. The Borrower will maintain in effect policies designed to promote compliance by the Borrower, its Subsidiaries, and their respective directors, officers, employees, and agents with the FCPA and any other applicable Anti-Corruption Laws and Anti-Money Laundering Laws.

(q) Notice of Changes in Beneficial Ownership Certificate. The Borrower will promptly notify the Administrative Agent of any change in the information provided in a Beneficial Ownership Certification that would result in a change to the list of beneficial owners identified in parts (c) or (d) of such certification.

7.02. Negative Covenants of the Borrower. The Borrower covenants and agrees that, until all amounts owing under the Loan Documents (other than contingent indemnification obligations) and the Notes have been paid in full, it shall not:

(a) Liens. Directly or indirectly (or permit any Material Subsidiary to directly or indirectly) create, incur, assume, permit or suffer to exist any Liens, except Permitted Liens, to secure the payment of Indebtedness of the Borrower or any Material Subsidiary.

(b) Merger, Consolidation, Dissolution, and Sale.

(i) The Borrower shall not merge or consolidate with any other Person, dissolve or terminate its legal existence, or, directly or indirectly, sell, lease, transfer or otherwise dispose of, or permit any of its Material Subsidiaries to sell, lease, transfer or otherwise dispose of all or substantially all of the properties of the Borrower and its Material Subsidiaries (taken as a whole), unless in each case (1) for any such transaction involving the Borrower, the successor entity or entities, each of which shall be organized under the laws of Colombia or any country that is a member of the Organization for Economic Cooperation and Development (OECD), shall assume all the obligations of the Borrower under this Agreement and the Notes, (2) immediately after giving effect to the transaction, no Event of Default shall have occurred and be continuing, and (3) for any such transaction involving the Borrower, the Borrower delivers such certificates, opinions of its counsel and other documents regarding such transaction as may be required by the Administrative Agent in form and substance reasonably satisfactory to the Required Lenders.

(ii) For the avoidance of doubt: (A) in addition to the foregoing permitted transactions, the following transactions are expressly permitted under this Section 7.02(b): (1) mergers and consolidations of Subsidiaries into the Borrower, and (2) mergers, consolidations, sales, leases, transfers, divestitures or reorganizations among Subsidiaries; and (B) nothing in this Section 7.02(b) shall prohibit the Borrower or any Subsidiary from entering into build-lease-transfer, build-operate-transfer or similar project financing arrangements, *provided* that such arrangements are for (x) new greenfield projects or (y) the expansion of existing project assets or properties in which such arrangements extend only to the expansion assets and not in any substantial respect to the existing assets.

(c) Sanctions. The Borrower will not, and will take the necessary steps to prevent any Subsidiary to, directly or indirectly, use any part of the proceeds of the Disbursement, or lend, contribute or otherwise make available such proceeds to any Subsidiary, joint venture partner or other Person: (i) to fund or facilitate any activities or business of or with any Sanctioned Person, or in any Sanctioned Country, or (ii) in any other manner that would give rise to a violation of Sanctions by any party hereto, including any Lender.

(d) Anti-Money Laundering Laws. The Borrower will not use, and will take the necessary steps to prevent that any Subsidiary, directly or indirectly, uses any part of the proceeds of the Disbursement, or lend, contribute or otherwise make available such proceeds

to any Subsidiary, joint venture partner or other Person in any manner that would give rise to a violation any Anti-Corruption Law or Anti-Money Laundering Law.

(e) Change in Business. The Borrower will not engage in any activities or businesses other than any activities or businesses conducted by the Borrower or its Subsidiaries as of the Agreement Date or any activities or businesses reasonably ancillary or related thereto.

(f) Transactions with Affiliates. The Borrower will not enter into any material transaction or series of related transactions with any Affiliate of the Borrower, other than on terms and conditions substantially as favorable to the Borrower as would reasonably be obtained at that time in a comparable arm's-length transaction with a Person other than such Affiliate.

SECTION 8

EVENTS OF DEFAULT AND REMEDIES

8.01. Events of Default.

Each of the following events or conditions shall be an "*Event of Default*":

(a) any failure by the Borrower to pay when due (i) any amount of principal owing under a Loan Document, (ii) any amount of interest owing under a Loan Document within five (5) Business Days of the due date thereof or (iii) any fee or other amount (other than principal or interest) owing under a Loan Document within thirty(30) days of the earlier of the date the Borrower receives (x) the invoice or (y) a written demand from any Lender or the Administrative Agent;

(b) any failure by the Borrower to comply with its obligations under Sections 7.01(a), (e), (g), (i) or, (l) or Section 7.02;

(c) any representation or warranty made by the Borrower in any Loan Document or in connection herewith, or any statement made in any certificate, report or financial statement furnished by the Borrower, has been demonstrated to have been false or misleading in any material respect when made or deemed made, *provided* that such false or misleading statement shall not constitute an Event of Default if such condition or circumstance is (i) subject to cure and (ii) the facts or conditions giving rise to such misrepresentation or misstatement are cured in such a manner as to eliminate such misrepresentation or misstatement within thirty (30) days after the Borrower's having knowledge thereof;

(d) any failure by the Borrower to perform or comply with any of the covenants or provisions set forth in a Loan Document (exclusive of any events specified as an Event of Default in any other subsection of this Section 8.01), which failure remains uncured for a period of thirty (30) days, or in the case of Section 7.01(h) (solely to the extent it relates to compliance with Anti-Corruption Laws, Anti-Money Laundering Laws or Sanctions) five (5) Business Days, in each case, after the Administrative Agent or any Lender has given written notice thereof to the Borrower;

(e) any event specified in any agreement or instrument under which there may be issued, or by which there may be secured or evidenced, External Indebtedness of the Borrower or any Material Subsidiary thereof shall occur and shall result in such External Indebtedness in an aggregate principal amount in excess of seventy five million U.S. Dollars (U.S. \$75,000,000) (or its equivalent) becoming or being declared due and payable prior to the date on which it would otherwise have become due and payable;

(f) (i)(A) the Borrower shall be unable generally to pay its debts as they fall due or shall admit in writing its inability to pay its debts as they fall due or shall become insolvent; (B) the Borrower shall apply for or consent to the appointment of any liquidator, receiver, trustee, *síndico*, *conciliador* or administrator for all or a substantial part of its business, properties, assets, or revenues; or (C) a liquidator, receiver, trustee, or administrator shall be appointed for the Borrower and such appointment shall continue undismissed, undischarged or unstayed for a period of ninety (90) days; (ii) the Borrower shall institute (by petition, application, answer, consent or otherwise) any bankruptcy, arrangement, readjustment of debt, dissolution, liquidation, *proceso de reestructuración*, *proceso de reorganización*, *proceso de insolvencia*, *concurso mercantil*, *quiebra*, or similar executory or judicial proceeding; (iii) a bankruptcy, arrangement, readjustment of debt, dissolution, liquidation, *proceso de reestructuración*, *proceso de reorganización*, *proceso de insolvencia*, *concurso mercantil*, *quiebra*, or similar executory or judicial proceeding shall be instituted against the Borrower and such proceeding shall remain undismissed, undischarged or unstayed for a period of ninety (90) days; (iv) the Borrower shall take any action seeking to take advantage of any other law relating to its bankruptcy, insolvency, liquidation, termination, dissolution, winding up, or composition, or readjustment of debts; or (v) the Borrower shall take any corporate or similar action for the purpose of effecting any of the foregoing; *provided* that for as long as Colombia's applicable insolvency laws provide for restrictions on or sanctions associated with the ability of the Lenders, directly or indirectly, to exercise the right to declare an Event of Default under this Section 8.01(f), the Lenders and Borrower hereto agree that nothing in this Section 8.01(f) shall (x) prevent the commencement of any restructuring proceeding in Colombia, whether voluntary or involuntary, in respect of the Borrower, (y) prohibit the Borrower from entering into a restructuring proceeding in Colombia, or (z) cause an unfavorable effect (*efecto desfavorable*) upon the Borrower;

(g) any final, non-appealable judgment against the Borrower or any Material Subsidiary (i) shall have been entered on a claim not covered by insurance in an aggregate amount of seventy five million U.S. Dollars (U.S. \$75,000,000) (or its equivalent in another currency) or more, and (ii) such judgment has not been removed, vacated, discharged or satisfied for a period of sixty (60) days from the date of such final judgment;

(h) any Governmental Authority shall have (i) condemned, seized or otherwise expropriated (either through a single act or a series of acts) all or substantially all of the property of the Borrower or (ii) taken any action that materially curtails the authority of the Borrower to conduct its business;

(i) any authorization, approval, Governmental Approval, consent, license, exemption, filing, registration, notarization or other requirement of any Governmental Authority necessary to enable the Borrower to comply with its obligations under any Loan

Document shall have been revoked, rescinded, suspended, held invalid or otherwise limited in effect in a manner that could reasonably be expected to have a Material Adverse Effect;

(j) any Loan Document ceases to be in full force and effect or is declared in a final, non-appealable judgment to be unenforceable against the Borrower (in each case, other than as a result of any action or inaction on the part of the Administrative Agent or any Lender), the validity or enforceability of any Loan Document at any time is challenged by the Borrower; or the Borrower repudiates any Loan Document, or does or causes to be done any act or thing evidencing an intention to repudiate any Loan Document; or

(k) Colombia shall cease to own and control at least 50.1% of the outstanding economic and voting ownership interests of the Borrower or any successor entity permitted under the terms hereof and the Borrower shall fail to prepay the Loan within the thirty (30) days following that event.

8.02. Remedies. If any Event of Default shall occur and be continuing, the Administrative Agent may (and shall, upon the direction of Required Lenders), by notice to the Borrower, declare (a) any and all amounts of principal outstanding under this Agreement and the Notes to be forthwith due and payable together with accrued interest and any and all other amounts payable or owing hereunder, whereupon the same shall become forthwith due and payable and (b) declare the Commitments to be terminated forthwith, whereupon the Commitments shall immediately terminate; *provided* that if such event is an Event of Default specified in Section 8.01(f) above, automatically the Commitments shall immediately terminate and the Loan hereunder (with accrued interest thereon) and all other amounts owing under this Agreement and the Notes shall immediately become due and payable. Presentment, demand, protest or notice of any kind (other than the notice provided for in the first sentence of this paragraph) are expressly waived, anything in this Agreement to the contrary notwithstanding. The aforementioned right to accelerate is in addition to and not a substitute for any other rights and remedies available under this Agreement and under Applicable Law.

SECTION 9 GOVERNING LAW AND JURISDICTION

9.01. Governing Law. THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS (OTHER THAN THE NOTES AND THE INSTRUCTIONS LETTERS) AND ANY CLAIMS, CONTROVERSY, DISPUTE OR CAUSE OF ACTION (WHETHER IN CONTRACT OR TORT OR OTHERWISE) BASED UPON, ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT (EXCEPT, AS TO ANY OTHER LOAN DOCUMENT, AS EXPRESSLY SET FORTH THEREIN) AND THE TRANSACTIONS CONTEMPLATED HEREBY AND THEREBY SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK.

Notwithstanding the foregoing, all matters governing the authorization and execution of the Loan Documents by the Borrower shall be governed by and construed in accordance with the laws of Colombia.

9.02. Submission to Jurisdiction. EACH OF THE PARTIES TO THIS AGREEMENT AGREES THAT ANY SUIT, ACTION OR PROCEEDING WITH RESPECT TO THIS AGREEMENT, ANY OTHER LOAN DOCUMENT OR ANY JUDGMENT ENTERED BY ANY COURT IN RESPECT THEREOF MAY BE BROUGHT IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK AND, EXCEPT IN THE CASE OF ANY SUIT, ACTION, PROCEEDING OR JUDGMENT BROUGHT AGAINST THE LENDERS OR THE ADMINISTRATIVE AGENT, IN THE SUPREME COURT OF THE STATE OF NEW YORK SITTING IN NEW YORK COUNTY (INCLUDING ITS APPELLATE DIVISION), OR IN ANY OTHER APPELLATE COURT IN THE STATE OF NEW YORK. EACH PARTY TO THIS AGREEMENT HEREBY IRREVOCABLY SUBMITS TO THE NON-EXCLUSIVE JURISDICTION OF SUCH COURTS FOR THE PURPOSE OF ANY SUCH SUIT, ACTION, PROCEEDING OR JUDGMENT AND HEREBY IRREVOCABLY SUBMITS TO THE NON-EXCLUSIVE JURISDICTION OF THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK FOR THE PURPOSE OF ANY SUCH SUIT, ACTION, PROCEEDING OR JUDGMENT. EACH PARTY CONSENTS THAT ANY SUCH ACTION OR PROCEEDING MAY BE BROUGHT IN SUCH COURTS AND WAIVES ANY OBJECTION THAT IT MAY NOW OR HEREAFTER HAVE TO THE VENUE OF ANY SUCH ACTION OR PROCEEDING IN ANY SUCH COURT OR THAT SUCH ACTION OR PROCEEDING WAS BROUGHT IN AN INCONVENIENT COURT AND AGREES NOT TO PLEAD OR CLAIM THE SAME. EACH PARTY HERETO FURTHER SUBMITS, FOR THE PURPOSE OF ANY SUCH SUIT, ACTION, PROCEEDING OR JUDGMENT BROUGHT OR RENDERED AGAINST IT, TO THE APPROPRIATE COURTS OF THE JURISDICTION OF ITS DOMICILE. EACH OF THE PARTIES TO THIS AGREEMENT AGREES THAT A JUDGMENT, AFTER EXHAUSTION OF ALL AVAILABLE APPEALS, IN ANY SUCH ACTION OR PROCEEDING SHALL BE CONCLUSIVE AND BINDING UPON IT, AND MAY BE ENFORCED IN ANY OTHER JURISDICTION, INCLUDING BY A SUIT UPON SUCH JUDGMENT, A CERTIFIED COPY OF WHICH SHALL BE CONCLUSIVE EVIDENCE OF THE JUDGMENT.

9.03. Service of Process.

(a) In the case of the courts of the State of New York or of the federal courts sitting in the State of New York, the Borrower hereby designates, appoints and empowers CT Corporation System, located at 28 Liberty Street, New York, NY 10005, as its authorized agent to accept, receive, and acknowledge for and on behalf of the Borrower, service of any and all process that may be served in any action, suit or proceeding of the nature referred to above in the State of New York, which appointment shall be irrevocable until the appointment and acceptance of a successor authorized agent pursuant to the provisions of Section 9.03(d).

(b) The Borrower further agrees that such service of process may be made personally or by mailing or delivering a copy of the summons and complaint or other legal process in any such legal suit, action or proceeding to the Borrower, in care of its respective agent designated above at the aforesaid address (or, if the Borrower shall have designated a successor agent for service of process, the address of the successor agent for service of

process), and each such agent is hereby authorized, respectively, to accept, receive, and acknowledge the same for and on behalf of the Borrower. Service upon each such agent shall be deemed to be personal service on the Borrower and shall be legal and binding upon the Borrower for all purposes notwithstanding any failure to mail copies of such legal process to the Borrower or any failure on the part of the Borrower to receive the same, and shall be deemed completed upon the delivery thereof to such agent whether or not such respective agent shall give notice thereof to the Borrower or upon the earliest other date permitted by Applicable Law (including the United States Foreign Sovereign Immunities Act of 1976, as amended).

(c) To the extent permitted by Applicable Law, including treaties by which the United States and Colombia are bound, the Borrower further irrevocably agrees to the service of process of any of the aforementioned courts in any suit, action or proceeding by the mailing of copies thereof by certified mail, postage prepaid, return receipt requested, to the Borrower at the address referenced in Section 11.02, such service to be effective upon the date indicated on the postal receipt returned from the Borrower.

(d) The Borrower agrees that it will at all times continuously maintain an agent to receive service of process in the State of New York on behalf of itself and its properties and revenues, and, in the event that for any reason its agent designated above shall not serve as agent for the Borrower to receive service of process in the State of New York on its behalf, the Borrower shall promptly appoint a successor satisfactory to the Required Lenders so to serve, advise the Administrative Agent thereof, and deliver to the Administrative Agent evidence in writing of the successor agent's acceptance of such appointment for a term extending at least one year beyond the Maturity Date and that such successor agent has been paid in full for such term. The foregoing provisions constitute, among other things, a special arrangement for service between the parties to this Agreement for the purposes of 28 U.S.C. § 1608.

9.04. Waiver of Immunity.

(a) TO THE EXTENT THAT THE BORROWER MAY BE OR BECOME ENTITLED, IN ANY JURISDICTION IN WHICH JUDICIAL PROCEEDINGS MAY AT ANY TIME BE COMMENCED WITH RESPECT TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT, TO CLAIM FOR ITSELF OR ITS PROPERTIES OR REVENUES ANY IMMUNITY FROM SUIT, COURT JURISDICTION, ATTACHMENT PRIOR TO JUDGMENT, ATTACHMENT IN AID OF EXECUTION OF A JUDGMENT, EXECUTION OF A JUDGMENT OR FROM ANY OTHER LEGAL PROCESS OR REMEDY RELATING TO ITS OBLIGATIONS UNDER THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT, AND TO THE EXTENT THAT IN ANY SUCH JURISDICTION THERE MAY BE ATTRIBUTED SUCH AN IMMUNITY (WHETHER OR NOT CLAIMED), THE BORROWER HEREBY IRREVOCABLY AGREES NOT TO CLAIM AND HEREBY IRREVOCABLY WAIVES SUCH IMMUNITY TO THE FULLEST EXTENT PERMITTED BY THE LAWS OF SUCH JURISDICTION BUT SUBJECT TO THE LIMITATIONS PROVIDED IN (I) ARTICLES 192, 195, 298 AND 299 OF LAW 1437 OF 2011 (*CÓDIGO DE PROCEDIMIENTO ADMINISTRATIVO Y DE LO CONTENCIOSO ADMINISTRATIVO*), AS AMENDED BY ARTICLES 80, 81 AND 87 OF LAW 2080 OF 2021 AND (II) ARTICLES 593, 594 AND 595 OF LAW 1564 OF 2012 (*CÓDIGO GENERAL DEL PROCESO*).

(b) THE BORROWER AGREES THAT THE WAIVERS SET FORTH IN PARAGRAPH (a) ABOVE SHALL HAVE THE FULLEST EFFECT PERMITTED UNDER THE FOREIGN SOVEREIGN IMMUNITIES ACT OF 1976 OF THE UNITED STATES OF AMERICA (28 U.S.C. §§ 1602-1611) AND ARE INTENDED TO BE IRREVOCABLE AND NOT SUBJECT TO WITHDRAWAL FOR PURPOSES THEREOF.

9.05. Waiver of Security Requirements. TO THE EXTENT THE BORROWER MAY, IN ANY ACTION, SUIT OR PROCEEDING BROUGHT IN ANY OF THE COURTS REFERRED TO IN SECTION 9.02 OR OTHERWISE ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT, BE ENTITLED TO THE BENEFIT OF ANY PROVISION OF LAW REQUIRING THE ADMINISTRATIVE AGENT OR ANY LENDER IN SUCH ACTION, SUIT OR PROCEEDING TO POST SECURITY FOR THE COSTS OF THE BORROWER OR TO POST A BOND OR TO TAKE SIMILAR ACTION, AS THE CASE MAY BE, THE BORROWER HEREBY IRREVOCABLY WAIVES SUCH BENEFIT, IN EACH CASE TO THE FULLEST EXTENT NOW OR HEREAFTER PERMITTED UNDER APPLICABLE LAW.

9.06. No Limitation. Nothing in this Section 9 shall affect the right of the Administrative Agent or any Lender to serve process in any other manner permitted by Applicable Law or to commence legal proceedings or otherwise proceed against the Borrower in Colombia or in any other jurisdiction.

9.07. International Banking Facility. The Borrower, a nonbank entity located outside the United States, understands that it is the policy of the Federal Reserve Board that extensions of credit by international banking facilities (as defined in Section 204.8(a) of Regulation D of the Federal Reserve Board) may be used only to finance the non-U.S. operations of a customer (or its foreign affiliates) located outside the United States as provided in Section 204.8(a)(3)(vi) of Regulation D of the Federal Reserve Board. Therefore, the Borrower agrees that the proceeds of the Loans by the international banking facility of any of the Lenders (as defined in Section 204.8(a) of Regulation D of the Federal Reserve Board) will be used solely to finance the Borrower's operations outside the United States or that of the Borrower's non-U.S. Affiliates.

SECTION 10 THE ADMINISTRATIVE AGENT

10.01. Appointment. Each Lender hereby designates and appoints Banco Bilbao Vizcaya Argentaria, S.A. New York Branch, as Administrative Agent to act as specified herein. Banco Bilbao Vizcaya Argentaria, S.A. New York Branch, as Administrative Agent, is authorized to execute and deliver this Agreement and to take such action on behalf of the Lenders under the provisions of this Agreement and to exercise such powers and to perform such duties hereunder as are specifically delegated to or required of the Administrative Agent by the terms hereof and thereof and such other powers as are reasonably incidental thereto.

10.02. Nature of Duties.

(a) The Administrative Agent shall:

- (i) promptly inform the Lenders of the contents of any notice or document received by it from the Borrower; and
- (ii) promptly provide each notice as may be required of it pursuant to this Agreement.

(b) The Administrative Agent may perform any of its duties hereunder by or through its officers, directors, agents or any other authorized employee. The exculpatory provisions of this Section 10 shall apply to any such sub-agent and to the Related Parties of the Administrative Agent and any such sub-agent; except to the extent that a court of competent jurisdiction determines in a final and nonappealable judgment that the Administrative Agent acted with gross negligence or willful misconduct in the selection of such sub-agent.

(c) The Administrative Agent shall have no duties or responsibilities except those expressly set forth in this Agreement. The duties of the Administrative Agent to the Lenders shall be mechanical and administrative in nature; the Administrative Agent shall not have by reason of this Agreement a fiduciary relationship in respect of any Lender; and nothing in this Agreement, expressed or implied, is intended to or shall be so construed as to impose upon the Administrative Agent any obligations in respect of this Agreement or the Loan except as expressly set forth herein or therein. Without limiting the generality of the foregoing, (i) the Administrative Agent shall not be subject to any fiduciary or other implied duties, regardless of whether a Potential Default or Event of Default has occurred and is continuing, (ii) the Administrative Agent shall not have any duty to take any discretionary action or exercise any discretionary powers, except discretionary rights and powers expressly contemplated hereby that the Administrative Agent is required to exercise in writing as directed by the Required Lenders (or such other number or percentage of the Lenders as shall be necessary under the circumstances as provided herein), and (iii) except as expressly set forth herein, the Administrative Agent shall not have any duty to disclose, and shall not be liable for the failure to disclose, any information relating to the Borrower or any of its Subsidiaries that is communicated to or obtained by the bank serving as Administrative Agent or any of its Affiliates in any capacity. The Administrative Agent shall not be liable for any action taken or not taken by it with the consent or at the request of the Required Lenders (or such other number or percentage of the Lenders as shall be necessary under the circumstances as provided herein) or in the absence of its own gross negligence or willful misconduct. The Administrative Agent shall be deemed not to have knowledge of any Potential Default or Event of Default unless and until written notice thereof is given to the Administrative Agent by the Borrower or a Lender, and the Administrative Agent shall not be responsible for or have any duty to ascertain or inquire into (A) any statement, warranty or representation made in or in connection with this Agreement, (B) the contents of any certificate, report or other document delivered hereunder or in connection herewith, (C) the performance or observance of any of the covenants, agreements or other terms or conditions set forth herein, (D) the validity, enforceability, effectiveness or genuineness of this Agreement or any other agreement, instrument or document, or (E) the satisfaction of any condition set forth in Section 5 or elsewhere herein, other than to confirm receipt of items expressly required to be delivered to the Administrative Agent.

10.03. Lack of Reliance on the Administrative Agent. Independently and without reliance upon the Administrative Agent, the Lenders, to the extent they deem appropriate, have made and shall continue to make (i) their own independent investigation of the financial condition and affairs of the Borrower in connection with the Loan and the taking or not taking of any action in connection herewith and (ii) their own appraisal of the credit worthiness of the Borrower, and the Administrative Agent and each other Lender shall have no duty or responsibility, either initially or on a continuing basis, to provide any Lender with any information with respect to this Agreement or the Borrower other than as expressly provided herein. Each Lender shall, independently and without reliance upon the Administrative Agent or any other Lender and based on such documents and information (which may contain material, non-public information within the meaning of the United States securities laws concerning the Borrower and its Affiliates) as it shall from time to time deem appropriate, continue to make its own decisions in taking or not taking action under or based upon this Agreement, any related agreement or any document furnished hereunder or thereunder and in deciding whether or to the extent to which it will continue as a Lender or assign or otherwise transfer its rights, interests and obligations hereunder.

10.04. Reliance. The Administrative Agent shall be entitled to rely, and shall be fully protected in relying, upon any writing, resolution, notice, statement, certificate, telex, teletype or telecopier message, cablegram, radiogram, order or other document or telephone message signed, sent or made by any Person that the Administrative Agent believed to be the proper Person, and, with respect to all legal matters pertaining to this Agreement and its duties hereunder, upon advice of counsel selected by it.

10.05. Consultation with Experts. The Administrative Agent may consult with legal counsel, independent certified public accountants and other experts selected by it in connection with the performance of its duties hereunder and shall not be liable for any action taken or omitted to be taken by it in good faith in accordance with the advice of such counsel, accountants or experts.

10.06. Indemnification. To the extent the Administrative Agent is not reimbursed and indemnified by the Borrower, the Lenders will reimburse and indemnify the Administrative Agent in proportion to its respective interest (determined at the time such reimbursement or indemnity is sought) for and against any and all liabilities, obligations, losses, damages, penalties, claims, actions, judgments, suits, costs, expenses or disbursements of whatsoever kind or nature (collectively, "*Liabilities*") which may be imposed on, asserted against or incurred by the Administrative Agent in performing its duties hereunder or in any way relating to or arising out of this Agreement; provided that no Lender shall be liable for any portion of such Liabilities resulting from the Administrative Agent's gross negligence or willful misconduct.

10.07. The Administrative Agent in Its Individual Capacity. The Administrative Agent and the Lenders may accept deposits from, lend money to, and generally engage in any kind of banking, trust, financial advisory role or other business with the Borrower or any affiliate thereof as if it were not performing the duties specified herein, and may accept fees and other consideration from the Borrower for services in connection with this Agreement and otherwise without having to account for the same to another Lender. Notwithstanding anything to the contrary expressed or implied herein, the Administrative Agent and the Lenders shall not be bound to: (a) account to any other Person for any sum or the profit element of any sum received by it for its own account or (b)

disclose to any other Person any information relating to the Borrower if such disclosure would or might in its opinion constitute a breach of any law or regulation or be otherwise actionable by suit of any Person.

10.08. Resignation by the Administrative Agent; Successor Administrative Agent.

(a) The Administrative Agent may resign from the performance of all its functions and duties hereunder at any time by giving thirty (30) calendar days' prior written notice to the Borrower and the Lenders. Such resignation shall take effect upon the appointment of a successor Administrative Agent pursuant to clauses (b) or (c) below or as otherwise provided below; provided that, in the event the Borrower determines in good faith that the Administrative Agent's gross negligence or willful misconduct has resulted in a breach of the Administrative Agent's obligations under this Agreement, the Borrower may, by written notice to the Administrative Agent and the Lenders, require the Administrative Agent to resign in accordance with this paragraph, which notice shall (without any further action) be deemed to be a notice of resignation delivered by the Administrative Agent to the Lenders. Upon any such resignation, the Lenders shall have the right to appoint a successor, who shall be a bank with an office in New York, New York, or an Affiliate of any such bank.

(b) Upon any such notice of resignation (other than in the course of a deemed resignation pursuant to clause (a) above), the Lenders shall appoint a successor Administrative Agent hereunder or thereunder who shall be a bank with an office in New York, New York, or an Affiliate of any such bank.

(c) In the event of a resignation (other than in the course of a deemed resignation pursuant to clause (a) above) if a successor Administrative Agent shall not have been so appointed within such thirty (30) calendar day period, the Administrative Agent, with the consent of the Borrower (not to be unreasonably withheld), may then appoint a successor Administrative Agent who shall serve as Administrative Agent hereunder or thereunder until such time, if any, as the Lenders appoint a successor Administrative Agent as provided above.

(d) If the Administrative Agent becomes insolvent or unable to meet its debts as they mature or if a receiver of it or of all or any substantial part of its property shall be appointed or if an order of any court of competent jurisdiction shall be entered approving any petition filed by or against it under the provisions of any applicable bankruptcy or insolvency law, or if any public officer shall take charge or control of the Administrative Agent or of its property or affairs, for the purpose of rehabilitation, conservation or liquidation, the Lenders shall appoint a successor Administrative Agent in accordance with clause (b) above. If a successor Administrative Agent shall not have been so appointed pursuant to clause (b) above, the Lenders shall appoint a successor Administrative Agent pursuant to clause (c) above, as the case may be.

10.09. No Amendment to Duties of Administrative Agent Without Consent. The Administrative Agent shall not be bound by any waiver, amendment, supplement or modification of this Agreement which affects its rights or duties under this Agreement unless it shall have given its prior written consent, as Administrative Agent, thereto.

10.10. Administrative Agent Conflict of Interest. With respect to its Commitment and the Loans made by it, if any, Banco Bilbao Vizcaya Argentaria, S.A. New York Branch (and any successor acting as Administrative Agent or in any other capacity in connection herewith or the transactions contemplated hereby) in its capacity as a Lender hereunder shall have the same rights, powers and obligations hereunder as any other Lender and may exercise such rights and powers as though it were not acting as the Administrative Agent or in any other capacity in connection herewith or the transactions contemplated hereby, and the term “Lenders” shall, unless the context otherwise indicates, include Banco Bilbao Vizcaya Argentaria, S.A. New York Branch, in its individual capacity. Banco Bilbao Vizcaya Argentaria, S.A. New York Branch (and any successor acting as Administrative Agent or in any other capacity in connection herewith or the transactions contemplated hereby) and its Affiliates may (without having to account therefor to any Lender) accept deposits from, lend money to, make investments in and generally engage in any kind of banking, trust or other business with the Borrower and its Affiliates as if it were not acting as a Lender and/or the Administrative Agent or in any other capacity in connection herewith or the transactions contemplated hereby, and Banco Bilbao Vizcaya Argentaria, S.A. New York Branch (and any such successor) and its Affiliates may accept fees and other consideration from the Borrower and said other Persons for services in connection with this Agreement or otherwise without having to account for the same to the Lenders. The Lenders acknowledge that, pursuant to such activities, Banco Bilbao Vizcaya Argentaria, S.A. New York Branch or its Affiliates may receive information regarding the Borrower or its Affiliates (including information that may be subject to confidentiality obligations in favor of the Borrower or such Affiliate) and acknowledge that the Administrative Agent or Banco Bilbao Vizcaya Argentaria, S.A. New York Branch acting as Lender or in any other capacity in connection herewith or the transactions contemplated hereby shall be under no obligation to provide such information to them. In addition, Banco Bilbao Vizcaya Argentaria, S.A. New York Branch and its Affiliates may be engaged in a broad range of transactions that involve interests that differ from, and may conflict with, those of the Borrower and its Affiliates, and neither Banco Bilbao Vizcaya Argentaria, S.A. New York Branch nor any of its Affiliates has any obligation to disclose any such interest by virtue of any advisory agency or fiduciary relationship or otherwise.

10.11. Erroneous Payments.

(a) If the Administrative Agent (x) notifies a Lender or any Person who has received funds on behalf of a Lender (any such Lender or other recipient (and each of their respective successors and assigns), a “*Payment Recipient*”) that the Administrative Agent has determined in its sole discretion (whether or not after receipt of any notice under immediately succeeding clause (b)) that any funds (as set forth in such notice from the Administrative Agent) received by such Payment Recipient from the Administrative Agent or any of its Affiliates were erroneously or mistakenly transmitted to, or otherwise erroneously or mistakenly received by, such Payment Recipient (whether or not known to such Lender or other Payment Recipient on its behalf) (any such funds, whether transmitted or received as a payment, prepayment or repayment of principal, interest, fees, distribution or otherwise, individually and collectively, an “*Erroneous Payment*”) and (y) demands in writing the return of such Erroneous Payment (or a portion thereof), such Erroneous Payment shall at all times remain the property of the Administrative Agent pending its return or repayment as contemplated below in this Section 10.11 and held in trust for the benefit of the Administrative Agent, and such Lender shall (or, with respect to any Payment Recipient who received such

funds on its behalf, shall cause such Payment Recipient to promptly, but in no event later than two (2) Business Days thereafter (or such later date as the Administrative Agent may, in its sole discretion, specify in writing), return to the Administrative Agent the amount of any such Erroneous Payment (or portion thereof) as to which such a demand was made, in same day funds (in the currency so received), together with interest thereon (except to the extent waived in writing by the Administrative Agent) in respect of each day from and including the date such Erroneous Payment (or portion thereof) was received by such Payment Recipient to the date such amount is repaid to the Administrative Agent in same day funds at the greater of the Federal Funds Rate and a rate determined by the Administrative Agent in accordance with banking industry rules on interbank compensation from time to time in effect. A notice of the Administrative Agent to any Payment Recipient under this clause (a) shall be conclusive, absent manifest error.

(b) Without limiting immediately preceding clause (a), each Lender or any Person who has received funds on behalf of a Lender (and each of their respective successors and assigns), agrees that if it receives a payment, prepayment or repayment (whether received as a payment, prepayment or repayment of principal, interest, fees, distribution or otherwise) from the Administrative Agent (or any of its Affiliates) (x) that is in a different amount than, or on a different date from, that specified in this Agreement or in a notice of payment, prepayment or repayment sent by the Administrative Agent (or any of its Affiliates) with respect to such payment, prepayment or repayment, (y) that was not preceded or accompanied by a notice of payment, prepayment or repayment sent by the Administrative Agent (or any of its Affiliates), or (z) that such Lender or other such recipient, otherwise becomes aware was transmitted, or received, in error or by mistake (in whole or in part), then in each such case:

(i) it acknowledges and agrees that (A) in the case of immediately preceding clauses (x) or (y), an error and mistake shall be presumed to have been made (absent written confirmation from the Administrative Agent to the contrary) or (B) an error and mistake has been made (in the case of immediately preceding clause (z)), in each case, with respect to such payment, prepayment or repayment; and

(ii) such Lender shall use commercially reasonable efforts to (and shall use commercially reasonable efforts to cause any other recipient that receives funds on its respective behalf to) promptly (and, in all events, within one (1) Business Day of its knowledge of the occurrence of any of the circumstances described in immediately preceding clauses (x), (y) and (z)) notify the Administrative Agent of its receipt of such payment, prepayment or repayment, the details thereof (in reasonable detail) and that it is so notifying the Administrative Agent pursuant to this Section 10.11(b).

For the avoidance of doubt, the failure to deliver a notice to the Administrative Agent pursuant to this Section 10.11(b) shall not have any effect on a Payment Recipient's obligations pursuant to Section 10.11(a) or on whether or not an Erroneous Payment has been made.

(c) Each Lender hereby authorizes the Administrative Agent to set off, net and apply any and all amounts at any time owing to such Lender under any Loan Document, or otherwise payable or distributable by the Administrative Agent to such Lender under any Loan Document with respect to any payment of principal, interest, fees or other amounts, against

any amount that the Administrative Agent has demanded to be returned under immediately preceding clause (a) of this Section 10.11.

(d) The parties hereto agree that (x) irrespective of whether the Administrative Agent may be equitably subrogated, in the event that an Erroneous Payment (or portion thereof) is not recovered from any Payment Recipient that has received such Erroneous Payment (or portion thereof) for any reason, the Administrative Agent shall be subrogated to all the rights and interests of such Payment Recipient (and, in the case of any Payment Recipient who has received funds on behalf of a Lender, to the rights and interests of such Lender, as the case may be) under the Loan Documents with respect to such amount (the “*Erroneous Payment Subrogation Rights*”) and (y) an Erroneous Payment shall not pay, prepay, repay, discharge or otherwise satisfy any obligations under the Loan Documents owed by the Borrower; provided that this Section 10.11 shall not be interpreted to increase (or accelerate the due date for), or have the effect of increasing (or accelerating the due date for), the obligations of the Borrower under the Loan Documents relative to the amount (or timing for payment) of the obligations that would have been payable had such Erroneous Payment not been made by the Administrative Agent; provided, further, that for the avoidance of doubt, immediately preceding clauses (x) and (y) shall not apply to the extent any such Erroneous Payment is, and solely with respect to the amount of such Erroneous Payment that is, comprised of funds received by the Administrative Agent from, or on behalf of (including through the exercise of remedies under any Loan Document), the Borrower for the purpose of a payment on the obligations under the Loan Documents.

(e) To the extent permitted by Applicable Law, no Payment Recipient shall assert any right or claim to an Erroneous Payment, and hereby waives, and is deemed to waive, any claim, counterclaim, defense or right of set-off or recoupment with respect to any demand, claim or counterclaim by the Administrative Agent for the return of any Erroneous Payment received, including, without limitation, any defense based on “discharge for value” or any similar doctrine.

(f) In the event that an Erroneous Payment (or portion thereof) is not recovered by the Administrative Agent for any reason, after demand therefor in accordance with immediately preceding clause (a), from any Lender that has received such Erroneous Payment (or portion thereof) (and/or from any Payment Recipient who received such Erroneous Payment (or portion thereof) on its respective behalf) (such unrecovered amount, an “*Erroneous Payment Return Deficiency*”), upon the Administrative Agent's notice to such Lender at any time, then effective immediately (with the consideration therefor being acknowledged by the parties hereto), (A) such Lender shall be deemed to have assigned its Loans (but not its Commitments) with respect to which such Erroneous Payment was made (the “*Erroneous Payment Impacted Class*”) in an amount equal to the Erroneous Payment Return Deficiency (or such lesser amount as the Administrative Agent may specify) (such assignment of the Loans (but not Commitments) of the Erroneous Payment Impacted Class, the “*Erroneous Payment Deficiency Assignment*”) (on a cashless basis and such amount calculated at par plus any accrued and unpaid interest (with the assignment fee to be waived by the Administrative Agent in such instance)), and is hereby (together with the Borrower) deemed to execute and deliver an Assignment and Assumption with respect to such Erroneous Payment Deficiency Assignment, and such Lender shall deliver any Notes evidencing such

Loans to the Borrower or the Administrative Agent (but the failure of such Person to deliver any such Notes shall not affect the effectiveness of the foregoing assignment), (B) the Administrative Agent as the assignee Lender shall be deemed to have acquired the Erroneous Payment Deficiency Assignment, (C) upon such deemed acquisition, the Administrative Agent as the assignee Lender shall become a Lender, as applicable, hereunder with respect to such Erroneous Payment Deficiency Assignment and the assigning Lender shall cease to be a Lender, as applicable, hereunder with respect to such Erroneous Payment Deficiency Assignment, excluding, for the avoidance of doubt, its obligations under the indemnification provisions of this Agreement and its applicable Commitments which shall survive as to such assigning Lender, (D) the Administrative Agent and the Borrower shall each be deemed to have waived any consents required under this Agreement to any such Erroneous Payment Deficiency Assignment, and (E) the Administrative Agent will reflect in the Register its ownership interest in the Loans subject to the Erroneous Payment Deficiency Assignment. For the avoidance of doubt, no Erroneous Payment Deficiency Assignment will reduce the Commitments of any Lender and such Commitments shall remain available in accordance with the terms of this Agreement.

(g) Each party's obligations, agreements and waivers under this Section 10.11 shall survive the resignation or replacement of the Administrative Agent, any transfer of rights or obligations by, or the replacement of, a Lender, the termination of the Commitments and/or the repayment, satisfaction or discharge of all obligations (or any portion thereof) under any Loan Document.

SECTION 11 MISCELLANEOUS

11.01. Computations. Each determination of an interest rate or fee by the Administrative Agent or any Lender pursuant to any provision of this Agreement or any Note, in the absence of manifest error, shall be conclusive and binding on the Borrower. All computations of interest and fees hereunder and under any Note shall be made on the basis of a year of three hundred sixty (360) days and actual days elapsed. All such calculations shall include the first day and exclude the last day of the period of calculation.

11.02. Notices.

(a) All notices or other communications required or permitted to be given hereunder (the "*Notices*") may be given to the following addresses:

If to the Borrower: ECOPETROL S.A.

Carrera 13 No. 36-24, Piso 7, Bogota D.C.

Attn: Head of Capital Markets / Finanzas Corporativas ECP / Ecopetrol Investor Relations

Phone: + 57 1 2343233

Email: FinanzasCorporativas_ECP@ecopetrol.com.co / investors@ecopetrol.com.co

If to the Administrative Agent:

Banco Bilbao Vizcaya Argentaria, S.A. New York Branch

Primary Operations Contact:
1345 Ave of the Americas 44th Floor
New York, NY 10105
Attention: C&I Banking
Phone: +1 (212) 728-2382
Fax: +1 (212) 333-2926
Email: loan.agency@bbva.com and loan.participation@bbva.com

Secondary Operations Contact:
Calle Isabel Colbrand, 4 2a planta. Edif. Las Tablas III 28050 Madrid, España
Attention: Genny Di Gennaro
Phone: + 34 689 916 530
Email: genny.digennaro@bbva.com
francisco.delavirgen@bbva.com

If to the Lenders party hereto on the date hereof:

If to Itau Chile New York Branch:

885 3rd Avenue, 33rd floor
New York, NY 10022
Attention: Angelica Andrade; Estivalia Molina - VP, Banking Solutions and Daniel Gómez – Large Corporate
Phone: +1 212-826-5125 and +57 316-527-9668
Email: bookingicny@itau.cl; daniel.gomez@itau.co

If to Bank of America, N.A.:

One Bryant Park,
New York, NY 10036;
Attention: Rocio Sanchez, Managing Director;
Phone: +5716013025;
Email: rocio.sanchezl@bofa.com

If to JPMorgan Chase Bank, N.A.:

500 Stanton Christiana Road, NCC 5, 1st Floor, Newark, DE 19713-2107
Attention: Vithal Gird / Ravi Pingala
Phone: +91-80-6790-5186 / +91-80-6676-9810
Fax: 201-244-3885 and 12012443885@docs.ldsprod.com
201-244-3885 and 12012443885@docs.ldsprod.com
Email: na_cpg@jpmorgan.com

If to Banco Bilbao Vizcaya Argentaria, S.A. New York Branch:

Primary contact

1345 Avenue of the Americas, 44th Floor. New York, NY, 10105, United States
Attention: C&I Banking
Phone: +1 (212) 728-2382
Email: energy.monitoring@bbva.com

Secondary contact

Calle Isabel Colbrand, 4, 2ª planta, Edif. Las Tablas III, 28050, Madrid, Spain
Attention: Genny Di Gennaro
Phone: + 34 689 916 530
Email: genny.digennaro@bbva.com

If to The Bank of Nova Scotia:

The Bank of Nova Scotia, GWS – Loan Operations,
150 King Street West, 6th Floor, M5H 1J9, Toronto, Ontario, Canada
Attention: Jeremy Nokes
Phone: +1 416 645 6928
Email: jeremy.nokes@scotiabank.com;
CorporateLending.DealOps@scotiabank.com

If to Standard Chartered Bank (Hong Kong) Limited:

Standard Chartered Bank (Hong Kong) Limited
32/F Standard Chartered Bank Building
4-4a Des Voeux Road Central
Hong Kong
Email: Nicholas.Chiu@sc.com; Cliff.Leung@sc.com

If to any Person that becomes a Lender after the date hereof, as set forth in its Assignment and Assumption Agreement.

Any party shall have the right to change its address for Notices hereunder to any other location by giving ten (10) days' written Notice to the other parties in the manner set forth herein above.

(b) All Notices shall be in writing and shall be considered as properly given (A) if delivered in person, (B) if sent by overnight delivery service (including Federal Express, United Parcel Service and other similar reputable overnight delivery services), (C) in the event reputable overnight delivery services are not readily available, if mailed by first class mail, postage prepaid, registered or certified with return receipt requested, (D) if transmitted by

facsimile confirmed by telephone or (E) if transmitted by electronic communication as provided in Section 11.02(d).

(c) Notices delivered in person or by overnight courier service, or mailed by registered or certified mail, shall be effective upon receipt by the addressee. Notices transmitted by facsimile shall be deemed to have been given when transmitted, if confirmation of a successful transmission has been received (except that, in all instances, if not given during normal business hours on a Business Day for recipient, shall be deemed to have been given at the opening of business on the next Business Day for the recipient). Notices delivered through electronic communications to the extent provided in Section 11.02(d) shall be effective as provided in such Section.

(d) (i) Notices hereunder may be delivered or furnished by electronic communication (including email and internet) pursuant to procedures approved by the relevant recipient.

(ii) Unless the relevant recipient otherwise prescribes, Notices sent to an email address shall be deemed received upon the sender's receipt of an acknowledgement from the intended recipient (such as by the "return receipt requested" function, as available, return email or other written acknowledgement); *provided* that if such Notice is not sent during the normal business hours of the recipient, such Notice shall be deemed to have been sent at the opening of business on the next Business Day of the recipient.

11.03. Benefit of Agreement; Assignment; Participations.

(a) This Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective successors and assigns of the parties hereto; *provided, however*, that (1) the Borrower may not assign or transfer any of its rights, obligations or interest under any Loan Document, except with the prior written consent of the Lenders and acknowledgment by the Administrative Agent and (2) no Lender may assign or transfer any of its rights, obligations or interest under any Loan Document except in accordance with this Section 11.03 and the requirements of Applicable Law.

(b) Any Lender may:

(i) assign all, or if less than all, a portion equal to at least U.S. \$10,000,000 of the outstanding principal amount of the Loan due to it to (1) its parent company and/or any Affiliate of such Lender which is at least 50% owned by such Lender or its parent company (2) one or more other Lenders or (3) in the case of any Lender that is a fund or trust that invests in bank loans or that manages or advises (directly or through an Affiliate) any fund or trust that invests in bank loans, any fund or trust that invests in bank loans and is managed or advised by the same investment advisor as a Lender, by an Affiliate of such investment advisor or by a Lender, as the case may be; *provided* that the assigning Lender shall give notice to the Borrower of any such assignment (which notice shall include the identity of the proposed assignee) fifteen (15) days prior to the effective date of such assignment in order for the Borrower to complete its internal and regulatory processes; or

(ii) assign all, or if less than all, a portion equal to at least U.S. \$10,000,000 of outstanding principal amount of the Loan due to it to one or more Eligible Transferees (treating any fund that invests in bank loans and any other fund that invests in bank loans and is managed or advised by the same investment advisor as such fund or by an Affiliate of such investment advisor, as a single Eligible Transferee); and each such assignee shall become a party to this Agreement as a Lender by execution of an Assignment and Assumption Agreement;

provided that, in each case:

(w) the assigning Lender shall surrender to the Borrower the old Note(s) held by it (or furnish a standard indemnity letter from such Lender in respect of any lost Note(s) reasonably acceptable to the Borrower), and new Notes will be issued, at the Borrower's expense, to such new Lender and to the assigning Lender (in the case of a partial assignment);

(x) so long as no Event of Default has occurred and is continuing, written consent of the Borrower shall be required in connection with any assignment pursuant to clause (ii) of this Section 11.03(b) (which consent, in each case, shall not be unreasonably withheld or delayed); *provided that*, the Borrower shall be deemed to have consented to an assignment unless it shall have objected thereto by written notice to the Administrative Agent within fifteen (15) Business Days after having received notice thereof;

(y) if an Event of Default has occurred and is continuing and the Administrative Agent has delivered notice thereof to the Borrower, the Borrower shall be deemed to have consented to any assignment following the date of such notice pursuant to clause (ii) of this Section 11.03(b); *provided that*, the assigning Lender shall be required to give notice to the Borrower of any such assignment (which notice shall include the identity of the proposed assignee) prior to the assignee being considered a Lender in order for the Borrower to complete its internal and regulatory processes; *provided further*, that, failure by the Borrower to complete any such process shall not affect the validity of such assignment; and

(z) the Administrative Agent shall receive at the time of each assignment, from the assigning or assignee Lender, the payment of a non-refundable assignment fee of U.S. \$3,500, which fee shall be paid by the assignee Lender, and if it is not an existing Lender, the assignee Lender shall deliver to the Administrative Agent any documents reasonably requested by the Administrative Agent, including relevant tax forms.

Notwithstanding the foregoing provisions of Section 11.03(b), no such transfer or assignment (i) shall be made to any Defaulting Lender or any of its Subsidiaries, or any Person who, upon becoming a Lender hereunder, would constitute a Defaulting Lender or a Subsidiary thereof and (ii) will be effective until recorded by the Administrative Agent on the Register pursuant to Section 11.03(e) below and the Administrative Agent shall provide notice to the Borrower of any such transfer or assignment within three (3) Business Days thereof. To the extent that an assignment of all or any portion of a Lender's Loan pursuant to this Section 11.03(b) would, due to circumstances existing at the time of such assignment, result in increased costs under Section 2.09, 2.10 or 4.01 from those being charged by the respective assigning Lender prior to such assignment, then the Borrower shall not be obligated to pay such increased costs

(although the Borrower shall be obligated to pay any other increased costs of the type described above resulting from changes after the date of the respective assignment).

(c) In addition to the foregoing, any Lender may grant participations (each, a “*Participation*”) or enter into transactions with one or more Persons under which payments are to be made by reference to the Borrower and its obligations, this Agreement or payment hereunder including without limitation any unfunded risk Participation, insurance or reinsurance transaction (each such transaction, an “*Insurance Contract*”), all in its rights hereunder without the consent of the Borrower; *provided, however*, that such Lender shall remain a “Lender” for all purposes hereunder and the participant shall not constitute a “Lender” hereunder and, *provided further*, that no Lender shall grant any Participation under which the participant thereunder shall have any right to approve any amendment to or waiver of this Agreement except to the extent such amendment or waiver would (i) extend the Maturity Date, or reduce the rate or extend the time of payment of interest or fees thereon (except in connection with a waiver of applicability of any post-Default increase in interest rates) or reduce the principal amount thereof, or (ii) consent to the assignment or transfer by the Borrower of any of its rights and obligations under any Loan Document. In the case of any such Participation, the participant or counterparty shall not have any rights under any Loan Document (the participant’s or counterparty’s rights against such Lender in respect of such Participation to be those set forth in the agreement executed by such Lender in favor of the participant or counterparty relating thereto, as the case may be) and all amounts payable by the Borrower hereunder shall be determined as if such Lender had not sold such Participation or entered into such transaction. All costs and expenses incurred in connection with the transactions contemplated in this Section 11.03(c) will be borne by the Lender entering into such transaction.

(d) Nothing in this Agreement shall prevent or prohibit any Lender from at any time pledging or assigning a security interest in all or any portion of its Loan and Notes hereunder to secure obligations of such Lender, including any pledge or assignment to secure obligations to a Federal Reserve Bank. No pledge or assignment pursuant to this clause (d) shall release the transferor Lender from any of its obligations hereunder.

(e) The Administrative Agent shall maintain at one of its offices in the United States a copy of each Assignment and Assumption Agreement delivered to it and a register for the recordation of the name and address of each Lender, and principal amounts of (and stated interest on) the Loan owing to the Lenders pursuant to the terms hereof from time to time (the “*Register*”). The entries in the Register shall be conclusive absent manifest error, and the Borrower or the Lenders shall treat each Person whose name is recorded in the Register pursuant to the terms hereof as a Lender hereunder for all purposes of this Agreement. The Register shall be available for inspection by the Borrower and the Lenders, at any reasonable time and from time to time upon reasonable prior notice.

(f) Each Lender that sells a Participation shall, acting solely for this purpose as a non-fiduciary agent of the Borrower, maintain a register on which it enters the name and address of each participant and the principal amounts of (and stated interest on) each participant’s interest in the Loan or other obligations under the Loan Documents (the “*Participant Register*”); *provided* that no Lender shall have any obligation to disclose all or

any portion of the Participant Register (including the identity of any participant or any information relating to a participant's interest in any commitments, loans, letters of credit or its other obligations under any Loan Document) to any Person except to the extent that such disclosure is necessary to establish that such commitment, loan, letter of credit or other obligation is in registered form under Section 5f.103-1(c) of the Treasury Regulations and Section 1.163-5(b) of the proposed Treasury Regulations. The entries in the Participant Register shall be conclusive absent manifest error, and such Lender shall treat each Person whose name is recorded in the Participant Register as the owner of such Participation for all purposes of this Agreement, notwithstanding any notice to the contrary. For the avoidance of doubt, the Administrative Agent (in its capacity as Administrative Agent) shall have no responsibility for maintaining a Participant Register.

11.04. No Waiver; Remedies Cumulative. No failure or delay on the part of either the Borrower or the Administrative Agent or any Lender in exercising any right, power or privilege under any Loan Document and no course of dealing between or among the Borrower and the Administrative Agent or any Lender shall operate as a waiver of such right, power or privilege; nor shall any single or partial exercise of any right, power or privilege hereunder, under any Loan Document preclude any other right, power or privilege hereunder or thereunder. The rights and remedies expressly provided herein are cumulative and not exclusive of any rights or remedies that either the Borrower or the Administrative Agent or any Lender would otherwise have. No notice to or demand on the Borrower in any case shall entitle the Borrower to any other or further notice or demand in similar or other circumstances or constitute a waiver of the rights of either the Borrower or the Administrative Agent or any Lender to any other or further action in any circumstances without notice or demand.

11.05. Entire Agreement. The Loan Documents contain the entire agreement among the parties hereto regarding the Loan.

11.06. Amendment or Waiver; etc.

(a) Neither this Agreement nor any terms hereof may be changed, waived, discharged or terminated unless such change, waiver, discharge or termination is in writing signed by the Borrower, and approved by the Ministry of Finance to the extent required by Colombian public indebtedness regulations, and the Required Lenders; *provided* that no such change, waiver, discharge or termination shall, without the consent of all the parties hereto (i) extend any scheduled date of payment or the Maturity Date, extend the expiration date of the Availability Period, or reduce the rate or extend the time of payment of interest (other than as a result of any waiver of the applicability of any post-Default increase in interest rates) thereon, or reduce the fees payable hereunder or principal amount of the Loan, (ii) amend, modify or waive any provision of this Section 11.06, (iii) amend or modify the definition of Required Lenders, (iv) amend or modify Section 3.03 in a manner that would alter the *pro rata* sharing of payments required thereby, (v) consent to the assignment or transfer by the Borrower of any of its rights and obligations under any Loan Document (except in accordance with the terms hereof), (vi) change Section 3.03(b) or 3.03(c) in a manner that would alter the *pro rata* sharing of payments required thereby or any other provision in a manner that would alter the *pro rata* allocation among the Lenders without the written consent of each Lender directly affected thereby, (vii) change the payment currency of any

amount payable under this Agreement, or (viii) amend, modify or waive any provision of Section 5; *provided, further*, that no such change, waiver, discharge or termination shall (x) increase the Commitment of any Lender without the written consent of such Lender, or (y) without the consent of the Administrative Agent, amend, modify or waive any provision of Section 10 as same applies to the Administrative Agent or any other provision as same relates to the rights or obligations of the Administrative Agent. Notwithstanding anything to the contrary herein or in any other Loan Document, the prior approval of the Borrower and the Ministry of Finance will not be required in connection with the implementation of any Conforming Changes unless required pursuant to Colombian public indebtedness regulations, as established, among others, in Article 5 of Law 781 of 2002 (as amended, modified or supplemented from time to time).

(b) If, in connection with any proposed change, waiver, discharge or termination of or to any of the provisions of this Agreement requiring the consent of Required Lenders and for which the consent of the Required Lenders is obtained but the consent of one or more other Lenders is not obtained, then the Borrower shall have the right, so long as all non-consenting Lenders are treated as described in clauses (A) or (B) below, to either (A) replace each such non-consenting Lender or Lenders with one or more Replacement Lenders pursuant to Section 2.12 so long as, at the time of such replacement, each such Replacement Lender consents to the proposed change, waiver, discharge or termination for which consent of the Required Lenders was obtained, or (B) repay the portion of the outstanding Loan due to such non-consenting Lender, so long as the Loan, together with accrued and unpaid interest and all other amounts, owing to such Lender are repaid concurrently with the effectiveness of such termination and at such time, unless the respective Lender continues to have an outstanding Loan hereunder, such Lender shall no longer constitute a "Lender" for purposes of this Agreement, but shall continue to be entitled to any amounts that have accrued prior to such replacement or repayment and remain unpaid under Sections 2.09, 2.10 and 4 and the indemnification under Section 10.06, which shall survive as to such replaced or repaid Lender; *provided* that, unless the Loan which is repaid pursuant to preceding clause (B) is immediately replaced in full at such time through the addition of new Lenders and/or outstanding Loan of existing Lenders (who in each case must specifically consent thereto), then in the case of any action pursuant to preceding clause (B), the Required Lenders (determined after giving effect to the proposed action) shall specifically consent thereto.

11.07. Counterparts. This Agreement may be executed in any number of counterparts and by the different parties hereto on separate counterparts, each of which, when executed and delivered, shall be effective for purposes of binding the parties hereto, but all of which shall together constitute one and the same instrument. Delivery of an executed counterpart of a signature page of this Agreement by telecopy, emailed pdf or any other electronic means that reproduces an image of the actual executed signature page shall be effective as delivery of a manually executed counterpart of this Agreement. The words "execution," "signed," "signature," "delivery," and words of like import in or relating to any document to be signed in connection with this Agreement and the transactions contemplated hereby shall be deemed to include electronic signatures, deliveries or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature, physical delivery thereof or the use of a paper-based recordkeeping system, as the case may be, to the extent and as

provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

11.08. Expenses; Indemnity.

(a) The Borrower shall pay all reasonable and documented out-of-pocket expenses incurred by the Administrative Agent, and the Lenders, which expenses shall include reasonable attorney's fees and expenses for no more than one Colombian counsel and one New York counsel to the Administrative Agent and one Colombian counsel and one New York counsel to the Lenders collectively, in connection with any amendments, modifications or waivers of the provisions hereof or thereof (whether or not the transactions contemplated hereby or thereby shall be consummated); *provided*, the Administrative Agent and the Lenders will consult with the Borrower in connection with, and prior to, incurring any expense (including attorney's fees and expenses) in excess of U.S.\$10,000. The Borrower shall pay all reasonable and documented out-of-pocket expenses incurred by each of the Administrative Agent or any Lender, including the documented fees, charges and disbursements of any counsel for the Administrative Agent or any Lender, in connection with the enforcement or protection of its rights in connection with the Loan Documents, including its rights under this Section 11.08.

(b) The Borrower shall indemnify the Administrative Agent, the Lenders, their respective Affiliates, and their respective directors, officers, employees, attorneys and agents (each such Person being called an "*Indemnatee*") against, and hold each Indemnatee harmless from, any losses, claims, damages, liabilities and related expenses, which expenses shall include reasonable attorney's fees and expenses for no more than one Colombian counsel and one New York counsel to the Lenders and one Colombian counsel and one New York counsel to the Administrative Agent, arising out of, in connection with, or as a result of: (i) the execution or delivery of the Loan Documents, any demand for payment, other presentation or request under the Loan Documents, (ii) the Loan or the use or proposed use of the proceeds therefrom, (iii) any payment or other action taken or omitted to be taken in connection with the Loan Documents, (iv) any actual environmental liability related in any way to the Borrower or any of its Material Subsidiaries, and (v) any actual or prospective claim, litigation, investigation or proceeding relating to any of the foregoing whether based on contract, tort or any other theory, whether brought by a third party or by the Borrower or any of its Subsidiaries and regardless of whether any Indemnatee is a party thereto; *provided* that such indemnity shall not as to any Indemnatee, be available to the extent that such losses, claims, damages, liabilities or related expense (x) are determined by a court of competent jurisdiction by final and non-appealable judgment to have resulted from the gross negligence or willful misconduct of such Indemnatee or (y) result from a claim brought by the Borrower against such Indemnatee for breach of such Indemnatee's obligations under any Loan Document, if the Borrower has obtained a final non-appealable judgment in its favor on such claims as determined by a court of competent jurisdiction. This Section 11.08 shall not apply with respect to Taxes (which shall be covered by Section 4.01) other than any Taxes that represent losses, claims, damages, liabilities and related expenses arising from any non-Tax claim.

(c) To the extent that the Borrower fails to pay any amount required to be paid by it to the Administrative Agent under paragraph (a) of this Section 11.08, the Lenders severally

agree to pay to the Administrative Agent such Lender's Proportionate Share of the Disbursement (determined as of the time that the applicable unreimbursed expense or indemnity payment is sought) of such unpaid amount; *provided* that the unreimbursed expense or indemnified loss, claim, damage, liability or related expense, as the case may be, was incurred by or asserted against the Administrative Agent.

- (d) All amounts due under this Section 11.08 shall be payable not later than thirty (30) days after written demand therefor.

11.09. Judgment Currency.

(a) The Borrower's obligations under the Loan Documents to make payments in Dollars shall not be discharged or satisfied by any tender or recovery pursuant to any judgment expressed in or converted into any currency other than Dollars, except to the extent that such tender or recovery results in the receipt by the Administrative Agent or any Lender of the full amount of Dollars expressed to be payable to the Administrative Agent or such Lender under the Loan Documents. If for the purpose of obtaining or enforcing judgment against the Borrower in any court or in any jurisdiction outside of Colombia, it becomes necessary to convert into or from any currency other than Dollars (such other currency being hereinafter referred to as the "*Judgment Currency*") an amount due in Dollars, the conversion shall be made at the rate of exchange determined, in each case, as of the day on which the judgment is given (such Business Day being hereinafter referred to as the "*Judgment Currency Conversion Date*"). If, for the purpose of obtaining or enforcing judgment against the Borrower in any court in Colombia, it becomes necessary to convert into or from any Judgment Currency an amount due in Dollars, the conversion shall be made at the Colombian market representative rate certified by the Colombian Superintendence of Finance for the date of payment.

(b) If there is a change in the rate of exchange prevailing between the Judgment Currency Conversion Date and the date of actual payment of the amount due by the Borrower, the Borrower covenants to pay, or cause to be paid, such additional amounts, if any (but in any event not a lesser amount), as may be necessary to ensure that the amount paid by the Borrower in the Judgment Currency, when converted at the rate of exchange prevailing on the date of payment to the Administrative Agent or such Lender by the Borrower, shall produce the amount of Dollars which could have been purchased with the amount of Judgment Currency stipulated in the judgment or judicial award at the rate of exchange prevailing on the Judgment Currency Conversion Date. Any such amount of Dollars not discharged by such Borrower payment of Judgment Currency shall continue to be due as an outstanding and unpaid obligation under this Agreement and shall accrue interest at the rate then applicable to the Loan in accordance with Section 2.07 until paid in full. If there is a change in the rate of exchange prevailing between the Judgment Currency Conversion Date and the date of actual payment by the Borrower of the amount due to the Administrative Agent or such Lender that results in the Borrower paying an amount in excess of that necessary to discharge or satisfy any judgment, the Administrative Agent or such Lender shall transfer or cause to be transferred to the Borrower the amount of such excess (net of any Taxes and reasonable and customary costs incurred in connection therewith).

(c) For purposes of applying the rate of exchange under this Section 11.09, the amount of Judgment Currency converted shall include any premium and costs payable in connection with the purchase of Dollars.

11.10. English Language.

(a) If any Loan Document (or any provision of any Loan Document) other than the Notes is originally written in any language other than English, the version which is in English shall prevail in case of any discrepancy with any version in any other language.

(b) Within one hundred twenty (120) days following the Agreement Date, the Borrower will provide to the Administrative Agent official translations into Spanish of the Loan Documents requested by the Administrative Agent for use in connection with any enforcement of remedies under this Agreement and the other Loan Documents in Colombia and the Administrative Agent and the Lenders agree that such official Spanish translations shall govern for purposes of any such enforcement of remedies in Colombia, *provided* that for so long as the Borrower is acting in good faith to prepare such official translations, the Borrower may take up to an additional sixty (60) days after the expiration of such one hundred twenty (120) day period to complete such translations.

11.11. Severability. To the extent permitted by Applicable Law, the illegality or unenforceability of any provision of this Agreement shall not in any way affect or impair the legality or enforceability of the remaining provisions of this Agreement.

11.12. Waiver of Jury Trial. EACH PARTY HERETO HEREBY IRREVOCABLY WAIVES TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW ALL RIGHT EACH MAY HAVE TO A TRIAL BY JURY IN ANY ACTION, SUIT, PROCEEDING OR COUNTERCLAIM DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREBY OR ANY OTHER LOAN DOCUMENT TO WHICH IT IS A PARTY (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY).

11.13. Captions. The table of contents and captions and section headings appearing herein are included solely for convenience of reference and are not intended to affect the interpretation of any provision of this Agreement.

11.14. Damages Waiver. To the fullest extent permitted by Applicable Law, no party shall assert, and each hereby waives, any claim, on any theory of liability, for indirect, special, punitive, consequential or exemplary damages (as opposed to direct or actual damages) arising out of, in connection with, or as a result of, this Agreement, any other Loan Document or any agreement or instrument contemplated hereby or thereby, the transactions contemplated hereby or thereby, the Loan or the use of the proceeds thereof.

11.15. Confidentiality. Each of the Administrative Agent and each Lender agrees to maintain the confidentiality of the Confidential Information, except that Confidential Information may be disclosed (a) to its Affiliates and to its and its Affiliates' directors, officers, employees and agents, trustees, including accountants, legal counsel and other advisors (it being understood that the Persons to whom such disclosure is made will

be informed of the confidential nature of such Confidential Information and instructed to keep such Confidential Information confidential), (b) to the extent requested by any Governmental Authority purporting to have jurisdiction over it (including any self-regulatory authority, such as the National Association of Insurance Commissioners), (c) to the extent required by Applicable Laws or regulations or by any subpoena or similar legal process, (d) to any other party to this Agreement, (e) in connection with the exercise of any remedies hereunder or any suit, action or proceeding relating to this Agreement or the enforcement of rights hereunder, (f) subject to an agreement containing provisions substantially the same as those of this Section 11.15, to (i) any assignee of or participant in, or any prospective assignee of or participant in, any of its rights or obligations under this Agreement or (ii) any actual or prospective counterparty (or its advisors) to any swap or derivative transaction relating to the Borrower or its obligations, (g) to its insurers and insurance brokers providing insurance in connection with any of the transactions contemplated herein and reinsurers providing reinsurance in connection therewith, (h) with the consent of the Borrower or (i) to the extent such Confidential Information (i) becomes publicly available other than as a result of a breach of this Section 11.15, (ii) becomes available to the Administrative Agent or any Lender on a non-confidential basis from a source other than the Borrower, or (iii) is not, in the reasonable belief of the Administrative Agent including any such information in respect of which the Administrative Agent or any Lender reasonably believes that it is not bound by any confidential obligation (but in any event excluding any information furnished by the Borrower that is designated as confidential in writing). Any Person required to maintain the confidentiality of Confidential Information as provided in this Section 11.15 shall be considered to have complied with its obligation to do so if such Person has exercised the same degree of care to maintain the confidentiality of such Confidential Information as such Person would accord to its own confidential information.

Each of the Administrative Agent and each Lender acknowledges that (a) the Confidential Information may include material non-public information concerning the Borrower or any of its Subsidiaries and (b) it has developed compliance procedures regarding the use of material nonpublic information and for the handling of such material non-public information in accordance with Applicable Law, including United States federal and state securities laws.

11.16. Survival. The expiration or termination of this Agreement does not terminate or affect any obligation hereunder that either expressly or by its nature survives the expiration or termination of this Agreement. Such obligations include, but are not limited to, those described in Sections 2.09, 2.10, 4.01, 9, 10.06, 11.08, 11.09 and 11.14, which shall survive expiration or termination of this Agreement and the resignation or removal of the Administrative Agent; *provided, however*, that no change in Applicable Law after the expiration or termination of this Agreement shall increase the Borrower's obligations with respect to amounts paid prior to such expiration or termination.

11.17. No Fiduciary Duty. In connection with all aspects of each transaction contemplated hereby (including in connection with any amendment, waiver or other modification hereof or of any other Loan Document), the Borrower acknowledges and agrees that: (a) (i) the arranging and other services regarding this Agreement provided by the Administrative Agent and the Lenders are arm's-length commercial transactions

between the Borrower and its Affiliates, on the one hand, and the Administrative Agent, and the Lenders, on the other hand, (ii) the Borrower has consulted its own legal, accounting, regulatory and tax advisors to the extent it has deemed appropriate, and (iii) the Borrower is capable of evaluating, and understands and accepts, the terms, risks and conditions of the transactions contemplated hereby and by the other Loan Documents; (b) (i) the Administrative Agent and the Lenders are and have been acting solely as a principal and, except as expressly agreed in writing by the relevant parties, have not been, are not, and will not be acting as an advisor, agent or fiduciary for the Borrower or any of its Affiliates, or any other Person and (ii) neither the Administrative Agent nor any Lender has any obligation to the Borrower or any of its Affiliates with respect to the transactions contemplated hereby except those obligations expressly set forth herein and in the other Loan Documents; and (c) the Administrative Agent and the Lender and their respective Affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Borrower and its Affiliates, and neither the Administrative Agent nor any Lender has any obligation to disclose any of such interests to the Borrower or its Affiliates. To the fullest extent permitted by law, the Borrower hereby waives and releases any claims that it may have against the Administrative Agent or any Lender with respect to any breach or alleged breach of agency or fiduciary duty in connection with any aspect of any transaction contemplated hereby.

11.18. Patriot Act. The Administrative Agent and each Lender that is subject to the requirements of the Patriot Act hereby notifies the Borrower that pursuant to the requirements of the Patriot Act, it is required to obtain, verify and record information that identifies the Borrower, which information includes the name and address of the Borrower and other information that will allow the Administrative Agent and such Lender to identify the Borrower in accordance with the Patriot Act.

11.19. Exequatur. A judgment obtained in a New York Court arising out of or relating to this Agreement, or the transactions contemplated thereby, will be enforced against the Borrower in the courts of Colombia; *provided* that such judgment has previously obtained an Exequatur, which is regulated by Colombian law.

11.20. Acknowledgement and Consent to Bail-In of Affected Financial Institutions. Notwithstanding anything to the contrary in any Loan Document or in any other agreement, arrangement or understanding among any such parties, each party hereto acknowledges that any liability of any Affected Financial Institution arising under any Loan Document, to the extent such liability is unsecured, may be subject to the write-down and conversion powers of the applicable Resolution Authority and agrees and consents to, and acknowledges and agrees to be bound by:

(a) the application of any Write-Down and Conversion Powers by the applicable Resolution Authority to any such liabilities arising hereunder that may be payable to it by any party hereto that is an Affected Financial Institution; and

(b) the effects of any Bail-in Action on any such liability, including, if applicable:

(i) a reduction in full or in part or cancellation of any such liability;

(ii) a conversion of all, or a portion of, such liability into shares or other instruments of ownership in such Affected Financial Institution, its parent undertaking, or a bridge institution that may be issued to it or otherwise conferred on it, and that such shares or other instruments of ownership will be accepted by it in lieu of any rights with respect to any such liability under this Agreement or any other Loan Document; or

(iii) the variation of the terms of such liability in connection with the exercise of the write-down and conversion powers of the applicable Resolution Authority.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be duly executed and delivered as of the date first above written.

ECOPETROL S.A., as Borrower

By: /s/ Ricardo Roa Barragán

Name: Ricardo Roa Barragán

Title: Chief Executive Officer

BANCO BILBAO VIZCAYA ARGENTARIA, S.A. NEW YORK
BRANCH, as Administrative Agent

By: /s/ Cara Younger

Name: Cara Younger

Title: Managing Director

By: /s/ Luis Ruigomez

Name: Luis Ruigomez

Title: Head of Credit Risk Latam

THE BANK OF NOVA SCOTIA, as Lender

By: /s/ Mauricio Maldonado

Name: Mauricio Maldonado

Title: Director, International Banking

By: /s/ Ana Espinoza

Name: Ana Espinoza

Title: Director, International Banking

BANCO BILBAO VIZCAYA ARGENTARIA, S.A. NEW YORK
BRANCH, as Lender

By: /s/ Cara Younger

Name: Cara Younger

Title: Managing Director

By: /s/ Luis Ruigomez

Name: Luis Ruigomez

Title: Head of Credit Risk Latam

BANK OF AMERICA, N.A., as Lender

By: /s/ Gonzalo Isaacs

Name: Gonzalo Isaacs

Title: Managing Director

JPMORGAN CHASE BANK, N.A., as Lender

By: /s/ Christophe Vohmann

Name: Christophe Vohmann

Title: Executive Director

STANDARD CHARTERED BANK (HONG KONG) LIMITED, as
Lender

By: /s/ Gao Ying

Name: Gao Ying

Title: Managing Director

Client Coverage

Corporate, Commercial & Institutional Banking Hong Kong

ITAU CHILE NEW YORK BRANCH, as Lender

By: /s/ Joaquin Rojas

Name: Joaquin Rojas

Title: General Manager

By: /s/ Carlos Abril

Name: Carlos Abril

Title: Head of Finance

SCHEDULE 1
EXISTING LIENS

None.

SCHEDULE 2
COMMITMENT

<u>Lender</u>	<u>Commitment</u>
Bank of America, N.A.	U.S. \$200,000,000
Banco Bilbao Vizcaya Argentaria, S.A. New York Branch	U.S. \$250,000,000
Itau Chile New York Branch	U.S. \$100,000,000
JPMorgan Chase Bank, N.A.	U.S. \$200,000,000
The Bank of Nova Scotia	U.S. \$300,000,000
Standard Chartered Bank (Hong Kong) Limited	U.S. \$150,000,000
<u>Total Commitment:</u>	U.S. \$1,200,000,000

ANNEX A
FORM OF DISBURSEMENT REQUEST

DISBURSEMENT REQUEST

[[●]][●], 20[●]]³

[Name]

[Address]

Attention: [●]

Fax: [●]

Ladies and Gentlemen:

Reference is made to the Loan Agreement dated as of April 3, 2024 (the “*Agreement*”) by and among **ECOPETROL S.A.** (the “*Borrower*”) and **BANCO BILBAO VIZCAYA ARGENTARIA, S.A. NEW YORK BRANCH**, as Administrative Agent, and the Lenders party thereto. Unless otherwise defined herein, terms defined in the Agreement shall have the same meaning in this Disbursement Request.

The Borrower hereby requests the Lenders to make the Disbursement to the Borrower in an aggregate principal amount of U.S. \$[●] (the “*Disbursement Amount*”) on [[●]][●], 20[●]] (the “*Disbursement Date*”) under the Agreement, as follows:

DISBURSEMENT AMOUNT: U.S. \$[●]

DISBURSEMENT DATE: [[●]][●], 20[●]]

MATURITY DATE: [[●]][●], 202[●]]

INTEREST PERIOD: [6 months]

FIRST INTEREST PERIOD: From [] to [] (# of days)

The Borrower hereby instructs the Administrative Agent to disburse the Loan to account No. [●] with [●], ABA No. [●], Attn.: [●], on the Disbursement Date.

The Borrower hereby certifies that the following statements are true on the date hereof, and will be true on the Disbursement Date:

- (a) the representations and warranties made by the Borrower in Section 6 of the Agreement are true and correct in all material respects on and as of the Disbursement Date for this Disbursement both before and immediately after giving effect to the Disbursement and the application of the proceeds thereof other than any such representations or warranties that, by their terms, refer to a specific date other than the date of this Disbursement, in which case such

³ Disbursement Request to be delivered to the Administrative Agent not later than 12:00 p.m., New York time, five (5) Business Days before the proposed Disbursement Date (or such shorter period as may be agreed by the Administrative Agent acting upon the direction of the Lenders).

representations and warranties shall be true and correct in all material respects on and as of such specific date; *provided* that representations and warranties qualified as to materiality are true and correct on and as of such date; and

(b) no Event of Default or Potential Default has occurred and is continuing both before and immediately after giving effect to the Disbursement and the application of the proceeds thereof.

Sincerely yours,

ECOPETROL S.A.

By: _____
Name:
Title:

ANNEX B
FORM OF PROMISSORY NOTE

FORM OF PROMISSORY NOTE⁴ Blank Promissory Note No. [01]	FORMATO DE PAGARÉ Pagaré en Blanco No. [01]
ECOPETROL S.A., corporation incorporated by public deed number 2931 of Notary Second issued on Bogota of July 7 of 2003, registered under the commercial registry under the registration number 1291197, identified with the tax identification number NIT 899.999.068-1, with full capacity to issue securities, and domiciled in [●] (hereinafter the “Borrower”), represented herein by the undersigned [●], of legal age, domiciled in Bogotá D.C., Colombia, identified with citizenship card number [●], issued in [●], [Bogotá], acting as Chief Executive Officer of Ecopetrol, as evidenced in the <i>Certificado de Existencia y Representación Legal</i> of the Borrower to execute this document, hereby promises to pay unconditionally and irrevocably, to [●] domiciled in [●] and its registered assigns (hereinafter the “Creditor”), or any holder in due course, on the date of expiration of this promissory note, the amounts indicated below: 1. Amounts in U.S. Dollars: 1.1 The amount of _____ United States dollars (USD\$ _____) corresponding to the principal amount disbursed and due; 1.2 The amount of _____ United States dollars (USD\$ _____) corresponding to the interests accrued and due; 1.3 The amount of _____ United States dollars _____	ECOPETROL S.A., sociedad anónima constituida por escritura pública número 2931 de la Notaría Segunda de Bogotá otorgada el 07 de julio de 2003, inscrita en el registro mercantil bajo el Registro 1291197, identificada con NIT 899.999.068-1 y domiciliada en Bogotá D.C. (en adelante el “Deudor”), representada en este acto por el suscrito [●], mayor de edad, domiciliado en [●], Colombia, identificado con la cédula de ciudadanía número [●], expedida en [●], [Bogotá], actuando en calidad de Presidente de Ecopetrol, como consta en el Certificado de Existencia y Representación Legal del Deudor para suscribir el presente documento, declara que pagará de manera incondicional e irrevocable, a [●], con domicilio en [●] y sus cesionarios registrados (en adelante el “Acreedor”), o a cualquier tenedor legítimo, incluyendo el endosatario, en la fecha de vencimiento del presente pagaré, las sumas que se indican a continuación: 1. Sumas en Dólares de los Estados Unidos de América: 1.1 La suma de _____ dólares de los Estados Unidos de América (US\$ _____) por concepto de capital desembolsado y adeudado a la fecha; 1.2 La suma de _____ dólares de los Estados Unidos de América (US\$ _____) por concepto de intereses remuneratorios causados y pendientes de pago; 1.3 La suma de _____ dólares de los Estados Unidos de América _____

⁴ English translation is for convenience. The Spanish version will be executed and delivered on the Disbursement Date.

(USD\$ _____) corresponding to default interests accrued and unpaid; and	(US\$ _____) por concepto de intereses de mora causados y pendientes de pago; y
1.4. The amount of _____	1.4 La suma de _____
United States dollars (USD\$ _____) corresponding to other guaranteed expenses and amounts accrued and due by the Borrower.	dólares de los Estados Unidos de América (US\$ _____) por concepto de otros gastos y montos garantizados, causados y pendientes de pago a cargo del Deudor.
1.5. The maturity date of this Promissory Note is _____ (the “Maturity Date”)	1.5 La fecha de vencimiento de este Pagaré es: _____ (la “Fecha de Vencimiento”).
2. The amounts referred to under section 1 above shall bear interest as follows:	2. Las sumas indicadas en el numeral 1 anterior devengarán intereses así:
2.1 The amount referred to under section 1.1 above shall bear default interests at the interest rate applicable to the loan plus two percent (2%) annually.	2.1 La suma indicada en el numeral 1.1 anterior devengará intereses de mora a la tasa de interés anual remuneratoria aplicable al préstamo adicionada en dos por ciento (2%) anual.
2.2 The amount referred to under section 1.2 above shall bear interests at the interest rate applicable to the loan plus two percent (2%) annually, from the date of the judicial lawsuit or agreement with the Borrower following maturity, subject to applicability of the rules set forth in Article 886 of the Commercial Code, it being understood that any outstanding interest obligations that remain unpaid for more than one (1) year may (upon the satisfaction of the rules set forth in Article 886 of the Commercial Code) be subject to interest on interest under Colombian law as currently in effect.	2.2 La suma indicada bajo el numeral 1.2 devengará intereses de mora a la tasa de interés anual remuneratoria aplicable al préstamo adicionada en dos por ciento (2%) anual, desde la fecha de la demanda judicial o por acuerdo posterior al vencimiento con el Deudor, tomando en cuenta que cualquier obligación no satisfecha con respecto al pago de intereses debidos por más de un 1 año (sujeto a la satisfacción de las normas previstas en el artículo 886 del Código de Comercio) estarán sujetas al pago de interés sobre interés bajo la ley colombiana vigente.
3. All payments under this Promissory Note shall be made by the Borrower, in the city of New York, United States of America, in immediately available funds, tax-free, and without any deduction, withholding or set-off, on the Maturity Date.	3. Todos los pagos bajo el presente Pagaré deben ser realizados por el Deudor en la ciudad de Nueva York, Estados Unidos de América, en fondos inmediatamente disponibles, libres de impuestos, retenciones y sin deducción o compensación alguna en la Fecha de Vencimiento.
4. The Borrower expressly agrees that the obligations set forth under this Promissory Note correspond to foreign exchange operations and therefore shall be paid in United States Dollars.	4. El Deudor expresamente acepta que las obligaciones incorporadas en este Pagaré corresponden a operaciones cambiarias y, en consecuencia, serán pagadas en dólares de los Estados Unidos de América.

5. The Borrower, as borrower, irrevocably waives the presentation, protest, notice of default or any other notice, notification or additional requirement of any kind, for the collection of this Promissory Note. 6. The Borrower agrees to pay all the costs, fees and expenses incurred to the collection or enforcement of this Promissory Note. 7. The Borrower agrees to pay all the taxes that may be due under this Promissory Note, including, if applicable, the stamp duty, and entitles the Lender, if necessary, to pay them on behalf of the Borrower. 8. The Borrower expressly agrees that in the event of extension, renewal or modification of its obligation under this Promissory Note, this security shall remain valid and in effect until the date agreed under such extension, renewal or modification. 9. This Promissory Note shall be governed by and construed in accordance with the laws of the Republic of Colombia and the undersigned Borrower hereby agrees that the laws that govern its creation are the laws of the Republic of Colombia, place where this Promissory Note has been executed by the Borrower. 10. This Promissory Note can be enforced before the competent court in the Republic of Colombia. 11. This Promissory Note was filled or completed on the day _____ of the month _____ of year _____, in the city of _____. The Borrower, ECOPETROL S.A. By: _____ Name: _____ Identification: _____ Capacity: _____ Date: <i>[insert city]</i> <i>[day]</i>, <i>[month]</i>, <i>[year]</i>	5. El Deudor, como deudor, renuncia irrevocablemente a la presentación, protesto, constitución en mora o cualquier otro tipo de aviso, notificación o requisito adicional de cualquier naturaleza para el cobro de este Pagaré. 6. El Deudor, acepta que serán de su cargo los gastos y honorarios profesionales que se generen por la cobranza de este Pagaré. 7. El Deudor acepta que serán de su cargo todos los impuestos que pueda causar el presente Pagaré, incluyendo, si resultare aplicable, el impuesto de timbre, quedando el Acreedor autorizado para pagarlos por cuenta del Deudor si fuere necesario. 8. El Deudor acepta expresamente que, en caso de prórroga, novación o modificación de la obligación a su cargo contenida en este Pagaré, el presente Pagaré continuará vigente hasta la fecha pactada en dicha prórroga, novación o modificación. 9. El presente Pagaré se encuentra regido por, y será interpretado de conformidad con, las leyes de la República de Colombia y el suscrito Deudor, expresamente declara y acuerda que las leyes que rigen su creación son las de las leyes de la República de Colombia, lugar donde ha sido firmado por el Deudor. 10. El presente Pagaré podrá ser ejecutado ante los tribunales competentes en la República de Colombia. 11. Este Pagaré se llenó o completó el día _____ del mes _____ del año _____, en la ciudad de _____. El Deudor, ECOPETROL S.A. Por: _____ Nombre: _____ Identificación: _____ Cargo: _____ Fecha: <i>[Insertar ciudad]</i> <i>[Día]</i>, <i>[Mes]</i>, <i>[Año]</i>

ANNEX C
FORM OF INSTRUCTIONS LETTER

INSTRUCTIONS LETTER	CARTA DE INSTRUCCIONES
Bogotá, [Date] Messrs. [●] and / or its assignee and successors. Reference: Instructions to complete the Promissory Note with Blank Spaces No. 01 Dear Sirs: ECOPETROL S.A., corporation incorporated by public deed number 2931 of Notary Second issued on Bogota of July 7 of 2003, registered under the commercial registry under the registration number 1291197, identified with the tax identification number NIT 899.999.068-1, and domiciled in Bogotá D.C. (hereinafter the “Borrower”), represented herein by the undersigned [●], of legal age, domiciled in Bogotá D.C., Colombia, identified with citizenship card number [●], issued in [●], [Bogotá], acting as Chief Executive Officer of Ecopetrol, as evidenced in the <i>Certificado de Existencia y Representación Legal</i> of the Borrower to execute this document, in accordance with article 622 of the Colombian Commercial Code, hereby imparts instructions and irrevocable and permanent powers to [●], domiciled in [●], and / or its successors or assignees (hereinafter the “Lender”) (in English the “Lender”), a foreign financial institution duly organized and existing under the laws of its country, acting in its capacity as Lender under the Loan Agreement (as defined below), to fill each and every one of the blank spaces left in the Promissory Note identified at the heading of this Instructions Letter (hereinafter the “Promissory Note”), in the event the obligations set forth under the Promissory Note become due and in accordance to the terms set forth below: 1. BACKGROUND AND CAUSE. On April 12 2024, the Borrower and the Lender executed the Loan Agreement (hereinafter the “Loan Agreement”) whereby, the Lender agreed	Bogotá, [Fecha] Señores. [●] y/o sus cesionario y causahabientes Referencia: Instrucciones para diligenciar el Pagaré con Espacios en Blanco No. 01. Estimados Señores: ECOPETROL S.A., sociedad anónima constituida por escritura pública número 2931 de la Notaría Segunda de Bogotá otorgada el 07 de julio de 2003, inscrita en el registro mercantil bajo el Registro 1291197, identificada con NIT 899.999.068-1 y domiciliada en Bogotá D.C. (en adelante el “Deudor”), representada en este acto por el suscrito [●], mayor de edad, domiciliado en Bogotá D.C., Colombia, identificado con la cédula de ciudadanía número [●], expedida en [●], [Bogotá], actuando en calidad Presidente de Ecopetrol, como consta en el Certificado de Existencia y Representación Legal del Deudor para suscribir el presente documento, conforme al artículo 622 del Código de Comercio Colombiano, por medio de la presente carta imparte instrucciones y facultades irrevocables y permanentes a [●], con domicilio en [●], y/o sus cesionarios o causahabientes (en adelante el “Acreedor”) (en inglés el “Lender”), una entidad financiera extranjera debidamente constituida y actualmente existente bajo las leyes de su país, en su carácter de Acreedor bajo el Contrato de Crédito (tal y como se define más adelante), para llenar todos y cada uno de los espacios en blanco dejados en el Pagaré identificado en el encabezamiento de esta Carta de Instrucciones (en adelante, el “Pagaré”), cuando se hagan exigibles las obligaciones contenidas en dicho Pagaré en los términos que se indican a continuación: 1. ANTECEDENTES Y CAUSA. El día 12 de abril de 2024 el Acreedor y el Deudor suscribieron el Contrato de Crédito (en adelante, el “Contrato de Crédito”) para entregar a título de

to lend, and the Borrower agreed to borrow [●] DOLLARS OF THE UNITED STATES OF AMERICA (USD\$[●]) (hereinafter the “**Term Loan**”), with a maximum deadline for payment of [●], counted from [●] as set forth in the Loan Agreement. As a condition precedent to grant and disburse the Loan, it was agreed that the Borrower should have issued and delivered the Promissory Note whereby the Term Loan are evidenced.

2. AUTHORIZATION TO FILL THE PROMISSORY NOTE.

Should (a) the Borrower fail in whole or in part to pay (i) any amount of principal on the date on which such payment is due under the Loan Agreement, (ii) any amount of interest within five (5) Business Days of the date on which such payment is due under the Loan Agreement or (iii) any fee or other amount (other than principal or interest) owing under a Loan Document within thirty (30) days of the earlier of the date the Borrower receives (x) the invoice or (y) a written demand from any Lender or the Administrative Agent, whichever occurs first, or (b) any other Events of Default (in English “**Events of Default**”) described therein leading to the acceleration of the amounts due and payable occur, and such amounts are not paid; the Lender or its assignees, endorsees or successors may fill in the blank spaces of the Promissory Note identified above, without prior notice, presentation, protest, notice of default or any other notice, notification or additional requirement of any nature, in accordance with this Instructions Letter.

3. VALUE OR AMOUNT OF THE PROMISSORY NOTE.

The Borrower expressly and irrevocably authorizes that the Lender and / or its successors or assignees fill in the blank spaces of the Promissory Note mechanically (with a typewriter) or manually in accordance with the instructions below:

3.1 The blank space included under Section 1.1. of the Promissory Note shall be completed with the outstanding amounts of principal (in letters

mutuo o préstamo la suma de [●] DE DÓLARES DE LOS ESTADOS UNIDOS DE AMÉRICA (US\$[●]) (en adelante el “**Préstamo**”), con un plazo máximo para su pago de [●], contados a partir de [●] tal y como se establece en el Contrato de Crédito. Como condición para el otorgamiento y desembolso del Préstamo, se estableció que el Deudor debía haber otorgado y entregado el Pagaré mediante el cual se evidencia el Préstamo.

2. AUTORIZACIÓN PARA LLENAR EL PAGARÉ.

En el evento en que (a) el Deudor incumpla en todo o en parte su obligación de pago de (i) cualquier monto de capital en las fechas previstas de conformidad con el Contrato de Crédito, (ii) cualquier monto de intereses dentro de los cinco (5) Días Hábiles a partir de las fechas previstas de conformidad con el Contrato de Crédito o (iii) cualquier honorario u otro monto (distinto de principal o intereses) debido bajo un Documento del Crédito dentro los treinta (30) días en que el Deudor reciba (x) la factura o (y) un requerimiento escrito de cualquier Acreedor o del Agente Administrativo, lo que ocurra primero, o (b) ocurra cualquier otro de los Eventos de Incumplimiento (en inglés “**Events of Default**”) allí descritos que conlleven al vencimiento anticipado de las sumas adeudadas y éstas no fueren pagadas; el Acreedor o sus cesionarios, endosatarios o causahabientes, podrá llenar los espacios en blanco del Pagaré arriba identificado, sin necesidad de previo aviso, presentación, protesto, constitución en mora, cualquier otro tipo de aviso, notificación o requisito adicional de cualquier naturaleza de conformidad con esta Carta de Instrucciones.

3. VALOR O IMPORTE DEL TÍTULO.

El Deudor autoriza expresa e irrevocablemente que el Acreedor y/o sus sucesores o sus causahabientes llenen los espacios en blanco del Pagaré de manera mecánica (a máquina) o a mano de conformidad con las instrucciones que se indican a continuación:

3.1. El espacio en blanco identificado con el numeral 1.1. del Pagaré se llenará con las sumas de capital (en letras y números) que a la fecha en que el Pagaré sea llenado y que el Deudor adeude, en tal

and numbers) to the date in which the Promissory Note is completed and that are due on such date by the Borrower to the Lender under the Loan (in English, the “Loan”), including amounts due and outstanding due to maturity or any acceleration in accordance to the Loan Agreement. 3.2 The blank spaces included in Section 1.2. of the Promissory Note shall be completed with the outstanding amounts of interest (in letters and numbers) calculated over the principal amount set forth under section 1.1 of the Promissory Note in accordance to the provisions set forth under the Loan Agreement. As set forth under the Promissory Note, interest referred to under section 1.2 of the Promissory Note shall bear default interest, it being understood that any outstanding interest obligations that remain unpaid for more than one (1) year may (upon the satisfaction of the rules set forth in Article 886 of the Commercial Code) be subject to interest on interest under Colombian law as currently in effect. 3.3 The blank spaces included in Section 1.3. of the Promissory Note shall be completed with the outstanding amounts of the default interest (in letters and numbers) calculated over the principal amounts, interest payments and any other amounts due and outstanding, either due to maturity, acceleration or otherwise, in accordance with the provisions of the Loan Agreement. 3.4 The blank spaces included in Section 1.4. of the Promissory Note shall be completed with the amounts (in letters and numbers) of any sum owed by the Borrower to the Lender whether for fees, costs, expenses, taxes, breakage costs, indemnities or any other amounts owed by the Borrower to the Lender at the maturity date of the Promissory Note in accordance with the provisions of the Loan Agreement. 4. MATURITY. The blank spaces included in Section 1.5. of the Promissory Note shall be completed with the date in which the Lender declares any obligation owed under the Promissory Note is overdue.	fecha, a favor del Acreedor por concepto del Préstamo (en inglés, el “Loan”), incluyendo las sumas adeudadas y pendientes de pago por virtud de vencimiento del plazo o cualquier aceleración de conformidad con el Contrato de Crédito. 3.2. Los espacios en blanco incluidos en el numeral 1.2. del Pagaré se llenarán con las sumas devengadas por concepto de los intereses remuneratorios (en letras y números) calculados sobre el capital indicado en el numeral 1.1. del Pagaré de conformidad con lo previsto en el Contrato de Crédito. Tal como se indica en el Pagaré, los intereses remuneratorios indicados en el punto 1.2 del mismo causarán intereses de mora, tomando en cuenta que cualquier obligación no satisfecha con respecto al pago de intereses debidos por más de un 1 año (sujeto a la satisfacción de las normas previstas en el artículo 886 del Código de Comercio) estarán sujetas al pago de interés sobre interés bajo la ley colombiana vigente. 3.3. Los espacios en blanco incluidos en el numeral 1.3. del Pagaré se llenarán con las sumas devengadas por concepto de los intereses moratorios (en letras y números) calculados sobre las cuotas de capital o de intereses o cualquier otro monto vencido y pendiente de pago, bien sea por cumplimiento del plazo, por aceleración o de cualquier otra forma, de conformidad con lo previsto en el Contrato de Crédito. 3.4 Los espacios en blanco incluidos en el numeral 1.4. del Pagaré se llenarán con las sumas (en letras y números) adeudadas por el Deudor a favor del Acreedor por concepto de honorarios, costos, gastos, impuestos, costos de rompimiento de fondeo, indemnizaciones o cualquier otro concepto que el Deudor adeude al Acreedor en la fecha de vencimiento del Pagaré, de conformidad con el Contrato de Crédito. 4. VENCIMIENTO. Los espacios en blanco incluidos en el numeral 1.5. del Pagaré se llenarán con la fecha en la que el Acreedor declare que cualquier obligación bajo el Pagaré se encuentra vencida.

5. DATE AND CITY OF FILLING The blank spaces included in Section 11 of the Promissory Note shall be completed with the date and city in which the Lender decides to fill or complete the Promissory Note. For clarity purposes, the date of filling may be different from the date maturity date included in Section 1.5 of the Promissory Note. 6. SUCCESSORS AND ASSIGNEES. Blanks spaces can be completed by the successors or assignees of the Loan in accordance with Section 11.03 of the Loan Agreement. The Promissory Note completed in accordance to the provisions set forth herein, shall be directly enforceable without any further requirements. Sincerely, The Borrower, ECOPETROL S.A. By: _____ Name: Identification: Capacity:	5. FECHA Y CIUDAD DE DILIGENCIAMIENTO Los espacios en blanco incluidos en el numeral 11 del Pagaré se llenarán con la fecha y la ciudad en la que el Acreedor decida llenar o completar el Pagaré. Para efectos de claridad, la fecha de diligenciamiento puede ser diferente de la fecha de vencimiento incluida en el numeral 1.5 del Pagaré. 6. SUCESORES O CAUSAHABIENTES. Los espacios en blanco pueden ser llenados por los sucesores o causahabientes del Préstamo de conformidad con la Sección 11.03 del Contrato de Crédito. El Pagaré así llenado será exigible inmediatamente y prestará mérito ejecutivo sin más requisitos. Atentamente, El Deudor, ECOPETROL S.A. Por: _____ Nombre: Identificación: Cargo:

ANNEX D
FORM OF OFFICERS' CERTIFICATE

OFFICERS' CERTIFICATE

[●], 2024

The undersigned hereby certifies that he is an Authorized Officer of ECOPETROL S.A., a corporation organized and existing under the laws of Colombia (the "*Borrower*") and hereby certifies on behalf of the Borrower that:

This certificate (the "*Certificate*") is furnished pursuant to Section 5.01(b) of the Loan Agreement dated as of April 12, 2024, among the Borrower, Banco Bilbao Vizcaya Argentaria, S.A. New York Branch, as Administrative Agent and the Lenders party thereto (the "*Agreement*"). Unless otherwise defined herein, terms defined in the Agreement shall have the same meaning in this Certificate.

The undersigned named below (a) has been duly elected, has duly qualified as, and is an officer of the Borrower as of the Agreement Date, holding the respective office below set opposite to [his][her] name, and the signature below set opposite to [his][her] name is [his][her] genuine signature and (b) is an Authorized Officer of the Borrower.

Name	Officer	Signature
[●]	[●]	_____

1. Attached hereto as Annex D-1 is a true and correct copy of the articles of incorporation, *estatutos sociales* or other applicable organizational documents of the Borrower as in effect on the date hereof together with all amendments thereto.

2. Attached hereto as Annex D-2 is a true and correct copy of a duly authorized secretary's certificate certifying that the Board of Directors of the Borrower duly adopted the resolutions at a meeting on [●], at which a quorum was present and acting throughout. The resolutions have not been revoked, modified, amended or rescinded and are in full force and effect. Except as attached hereto as Annex D-2, no resolutions have been adopted by the Board of Directors of the Borrower which deal with the execution, delivery or performance of any of the Loan Documents to which it is a party.

3. Attached hereto as Annex D-3 is a true and correct copy of the Borrower's *Certificados de Existencia y Representación Legal*.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, each of the undersigned has executed this Certificate this _____ day of [●], 2023.

By: _____
Name:
Title:

I, the undersigned, [*insert title of Authorized Officer*] of the Borrower, do hereby certify that I am an Authorized Officer of the Borrower and hereby certify on behalf of the Borrower that:

[●] is the duly appointed and qualified [*insert title of Authorized Officer*] of the Borrower and [his][her] respective signature above is [his][her] genuine signature.

IN WITNESS WHEREOF, I have hereunto set my hand this _____ day of [●], 2024.

By: _____
Name:
Title:

Annex D-2

Annex D-1 to Officer's Certificate
Organizational Documents

**Annex D-2 to Officer's Certificate
Resolutions**

**Annex D-3 to Officer's Certificate
Good Standing Certificate**

ANNEX E
FORM OF ASSIGNMENT AND ASSUMPTION AGREEMENT
ASSIGNMENT AND ASSUMPTION

This Assignment and Assumption (the “Assignment and Assumption”) is dated as of the Effective Date set forth below and is entered into by and between [*Insert name of Assignor*] (the “Assignor”) and [*Insert name of Assignee*] (the “Assignee”). Capitalized terms used but not defined herein shall have the meanings given to them in the Loan Agreement identified below (as amended, the “Loan Agreement”), receipt of a copy of which is hereby acknowledged by the Assignee. The Standard Terms and Conditions set forth in Annex 1 attached hereto are hereby agreed to and incorporated herein by reference and made a part of this Assignment and Assumption as if set forth herein in full.

For an agreed consideration, the Assignor hereby irrevocably sells and assigns to the Assignee, and the Assignee hereby irrevocably purchases and assumes from the Assignor, subject to and in accordance with the Standard Terms and Conditions set forth in Annex 1 attached hereto and the Loan Agreement, as of the Effective Date inserted by the Administrative Agent as contemplated below (i) all of the Assignor’s rights and obligations in its capacity as a Lender under the Loan Agreement and any other documents or instruments delivered pursuant thereto to the extent related to the amount and percentage interest identified below of all of such outstanding rights and obligations of the Assignor under the respective facilities identified below and (ii) to the extent permitted to be assigned under Applicable Law, all claims, suits, causes of action and any other right of the Assignor (in its capacity as a Lender) against any Person, whether known or unknown, arising under or in connection with the Loan Agreement, any other documents or instruments delivered pursuant thereto or the loan transactions governed thereby or in any way based on or related to any of the foregoing, including, but not limited to, contract claims, tort claims, malpractice claims, statutory claims and all other claims at law or in equity related to the rights and obligations sold and assigned pursuant to clause (i) above (the rights and obligations sold and assigned pursuant to clauses (i) and (ii) above being referred to herein collectively as, the “Assigned Interest”). Such sale and assignment are without recourse to the Assignor and, except as expressly provided in this Assignment and Assumption, without representation or warranty by the Assignor.

1. Assignor: _____

2. Assignee: _____
[and is an Affiliate/approved fund of [*identify Lender*]⁵]

3. Borrower: ECOPETROL S.A.

4. Administrative Agent: BANCO BILBAO VIZCAYA ARGENTARIA, S.A. NEW YORK BRANCH

⁵ Select as applicable.

5. Loan Agreement: The Loan Agreement dated as of April 12, 2024 among Ecopetrol S.A., as Borrower, certain Lender parties thereto, and Banco Bilbao Vizcaya Argentaria, S.A. New York Branch, as Administrative Agent.

6. Assigned Interest:

Facility Assigned	Aggregate Amount of Commitment/Loan for all Lenders ⁶	Amount of Commitment/Loan Assigned ⁷	Percentage Assigned of Commitment/Loan ⁸
Commitment	U.S. \$	U.S. \$	%
Loan	U.S. \$	U.S. \$	%
	U.S. \$	U.S. \$	%

7. Trade Date:⁹

⁶ Amount to be adjusted by the counterparties to take into account any payments or prepayments made between the Trade Date and the Effective Date.

⁷ Amount to be adjusted by the counterparties to take into account any payments or prepayments made between the Trade Date and the Effective Date.

⁸ Set forth, to at least 9 decimals, as a percentage of the Commitment/Loan of all Lenders thereunder.

⁹ To be completed if the Assignor and the Assignee intend that the minimum assignment amount is to be determined as of the Trade Date.

Effective Date: _____, 20__ [TO BE INSERTED BY ADMINISTRATIVE AGENT AND WHICH SHALL BE THE EFFECTIVE DATE OF RECORDATION OF TRANSFER IN THE REGISTER THEREFOR.]

The terms set forth in this Assignment and Assumption are hereby agreed to:

ASSIGNOR
[NAME OF ASSIGNOR]

By: _____
Name:
Title:

ASSIGNEE
[NAME OF ASSIGNEE]

By: _____
Name:
Title:

Accepted and consented to by:
Banco Bilbao Vizcaya Argentaria, S.A. New York Branch as
Administrative Agent

By: _____
Name:
Title:

By: _____
Name:
Title:

Consented to by:
ECOPETROL S.A.,
as Borrower

By: _____
Name:
Title:

Annex 1
Standard Terms and Conditions for Assignment and Assumption

1. Representations and Warranties.

1.1 Assignor. The Assignor (a) represents and warrants that (i) it is the legal and beneficial owner of the Assigned Interest, (ii) the Assigned Interest is free and clear of any lien, encumbrance or other adverse claim and (iii) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment and Assumption and to consummate the transactions contemplated hereby; and (b) assumes no responsibility with respect to (i) any statements, warranties or representations made in or in connection with the Loan Agreement or any other Loan Document, (ii) the execution, legality, validity, enforceability, genuineness, sufficiency or value of the Loan Documents, (iii) the financial condition of the Borrower, any of its Subsidiaries or Affiliates or any other Person obligated in respect of any Loan Document or the performance or observance by the Borrower, any of its Subsidiaries or Affiliates or any other Person of any of their respective obligations under any Loan Document.

1.2 Assignee. The Assignee (a) represents and warrants that (i) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment and Assumption and to consummate the transactions contemplated hereby and to become a Lender under the Loan Agreement, (ii) it meets all requirements of an Eligible Transferee under the Loan Agreement (subject to receipt of such consents as may be required under the Loan Agreement), (iii) from and after the Effective Date, it shall be bound by the provisions of the Loan Agreement as a Lender thereunder and, to the extent of the Assigned Interest, shall have the obligations of a Lender thereunder, and (iv) it has received a copy of the Loan Agreement, together with copies of the most recent financial statements delivered pursuant to Section 7.01(b) thereof, as applicable, and such other documents and information as it has deemed appropriate to make its own credit analysis and decision to enter into this Assignment and Assumption and to purchase the Assigned Interest on the basis of which it has made such analysis and decision independently and without reliance on the Administrative Agent or any other Lender; and agrees that (i) it will, independently and without reliance on the Administrative Agent, the Assignor or any other Lender, and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit decisions in taking or not taking action under the Loan Documents, and (ii) it will perform in accordance with their terms all of the obligations which by the terms of the Loan Documents are required to be performed by it as a Lender.

2. Payments. From and after the Effective Date, the Administrative Agent shall make all payments in respect of the Assigned Interest (including payments of principal, interest, fees and other amounts) to the Assignor for amounts which have accrued to but excluding the Effective Date and to the Assignee for amounts which have accrued from and after the Effective Date.

3. General Provisions. This Assignment and Assumption shall be binding upon, and inure to the benefit of, the parties hereto and their respective successors and assigns. This Assignment and Assumption may be executed in any number of counterparts, which together shall constitute one instrument. Delivery of an executed counterpart of a signature page of this

Assignment and Assumption by telecopy shall be effective as delivery of a manually executed counterpart of this Assignment and Assumption. This Assignment and Assumption shall be governed by, and construed in accordance with, the law of the State of New York.

U.S. \$250,000,000

LOAN AGREEMENT

dated as of September 30, 2024

by and between

ECOPETROL S.A.
as **Borrower**,

and

SUMITOMO MITSUI BANKING CORPORATION,
as **Lender**

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This LOAN AGREEMENT (together with the Schedules and Exhibits attached hereto, this “*Agreement*”), dated as of September 30, 2024, is made by and between Ecopetrol S.A., a mixed economy company organized and existing under the laws of Colombia (the “*Borrower*”) and Sumitomo Mitsui Banking Corporation (together with each assignee thereof which becomes a Lender pursuant to an Assignment and Assumption and their respective successors, but excluding any such Person that ceases to be a party hereto pursuant to an Assignment and Assumption, the “*Lender*”, individually or collectively, as the context may require). Capitalized terms used herein shall be defined as provided in Section 1.

BACKGROUND

WHEREAS:

- (A) by this Agreement, the Lender agrees to extend a senior unsecured term loan through a single disbursement to the Borrower in accordance with the terms and conditions set forth herein for an aggregate principal amount up to two hundred fifty million Dollars (U.S. \$250,000,000);
- (B) such term loan may be utilized by the Borrower for non-investment expenses in accordance with the terms and conditions of this Agreement (excluding for capital expenditures) in accordance with the favorable opinion of the General Directorate of Public Credit and National Treasury (*Dirección General de Crédito Público y Tesoro Nacional*); and
- (C) the Borrower has obtained all required approvals, including the approval from the Ministry of Finance through Resolution No. 2476 of August 20, 2024 to enter into this Agreement.

NOW, THEREFORE, in consideration of the premises and the mutual covenants herein contained, the parties hereto agree as follows:

SECTION 1 DEFINITIONS AND PRINCIPLES OF CONSTRUCTION

1.01. Defined Terms. For the purposes of this Agreement, unless otherwise defined herein, the following terms have the meanings specified below.

“**Affected Financial Institution**” means (a) any EEA Financial Institution or (b) any UK Financial Institution.

“**Affiliate**” means, with respect to any Person, any other Person that, directly or indirectly through one or more intermediaries, Controls, or is Controlled by, or is under common Control with, such first Person.

“**Agreed Precedent**” means that certain Loan Agreement dated as of December 19, 2022, by and among the Borrower, the lenders party thereto and UMB Bank, National Association, as administrative agent.

“**Agreement**” means this Loan Agreement, including any Annex, Exhibit, Schedule and other attachment thereto.

“**Agreement Date**” means the date first set forth above, such date being the date as of which this Agreement was executed and delivered by the parties hereto.

“**Alternative Base Rate**” means for any day, a fluctuating rate per annum equal to the highest of (a) the Federal Funds Rate plus 0.50%; (b) the last quoted prime rate in the United States of America published in *The Wall Street Journal*; provided that, if *The Wall Street Journal* ceases to publish for any reason such rate of interest, “Alternative Base Rate” shall mean the highest per annum interest rate published by the Federal Reserve Board in Federal Reserve Statistical Release H.15 (519) (Selected Interest Rates) as the “bank prime loan” rate or, if such rate is no longer quoted therein, any similar rate quoted therein (as determined by the Lender) or any similar release by the Federal Reserve Board (as determined by the Lender); and (c) Term SOFR for a one-month tenor in effect on such day plus one percent (1%). Any change in the Alternative Base Rate due to a change of the Federal Funds Rate, in the prime rate or Term SOFR, respectively, shall be effective from and including the date such change is effective.

“**Alternative Base Rate Loan**” means a Loan that bears interest based on the Alternative Base Rate.

“**Alternative Base Rate Term SOFR Determination Day**” has the meaning specified in the definition of “Term SOFR”.

“**Anti-Corruption Laws**” means the FCPA, the UK Bribery Act 2010 and the rules and regulations promulgated thereunder, the Colombian Criminal Code (*Código Penal Colombiano*), Law 1474 of 2011 (*Estatuto Anticorrupción*) of Colombia, Law 1778 of 2016 of Colombia, Law 2195 of 2022 of Colombia and all other laws, rules, and regulations of any jurisdiction from time to time applicable to the Borrower or any of its Subsidiaries concerning or relating to bribery or corruption.

“**Anti-Money Laundering Laws**” means, collectively, (a) Title III of the USA Patriot Act of 2001 (Pub. L. No. 107-56), (b) the Colombian Criminal Code (*Código Penal Colombiano*), (c) Chapter VII Title I Part III of Circular Externa 029 of 2014 (*Circular Básica Jurídica*) of the Superintendency of Finance, and (d) any other law, regulation, order, decree or directive of any relevant jurisdiction applicable to the Borrower or any of its Subsidiaries having the force of law and relating to anti-money laundering.

“**Applicable Law**” means, with respect to any Person, any Colombian or other applicable constitution, statute, law, rule, regulation, ordinance, judgment, order, decree, or any published directive, guideline, requirement or other governmental rule or restriction which has the force of law, and any determination by, or interpretation of any of the foregoing by, any judicial authority or Governmental Authority, binding on a given Person whether in effect as of the date hereof or as of any date thereafter.

“**Applicable Margin**” means 3.85% *per annum*.

“Assignment and Assumption Agreement” means an assignment and assumption agreement substantially in the form of Annex E.

“Authorized Officer” means, with respect to any Person, the chief executive officer, the president, any vice president, any assistant vice president, the chief financial officer or treasurer, the assistant treasurer or equivalent officers of such Person, and any other officer or representative of such Person, who is duly authorized to act under such Person’s charter documents or Applicable Law, and to act in the capacity in which they are acting pursuant to the certificate referred to in Section 5.01(b).

“Availability Period” means the period from and including the Agreement Date to and including the earlier of (i) five (5) Business Days after the Agreement Date and (ii) the date on which the Commitment is reduced to zero or otherwise terminated.

“Available Tenor” means, as of any date of determination and with respect to the then-current Benchmark, as applicable, (x) if such Benchmark is a term rate, any tenor for such Benchmark (or component thereof) that is or may be used for determining the length of an interest period pursuant to this Agreement or (y) otherwise, any interest period calculated by reference to such Benchmark (or component thereof) that is or may be used for determining any frequency of making payments of interest calculated by reference to such Benchmark pursuant to this Agreement, in each case, as of such date and not including, for the avoidance of doubt, any tenor for such Benchmark that is then-removed from the definition of “Interest Period” pursuant to clause (iv) of Section 2.07(d).

“Bail-In Action” means the exercise of any Write-Down and Conversion Powers by the applicable Resolution Authority in respect of any liability of an Affected Financial Institution.

“Bail-In Legislation” means (a) with respect to any EEA Member Country implementing Article 55 of Directive 2014/59/EU of the European Parliament and of the Council of the European Union, the implementing law, regulation rule or requirement for such EEA Member Country from time to time which is described in the EU Bail-In Legislation Schedule and (b) with respect to the United Kingdom, Part I of the United Kingdom Banking Act 2009 (as amended from time to time) and any other law, regulation or rule applicable in the United Kingdom relating to the resolution of unsound or failing banks, investment firms or other financial institutions or their affiliates (other than through liquidation, administration or other insolvency proceedings).

“BASEL III” means (a) the agreements on capital requirements, leverage ratio and liquidity standards contained in “Basel III: A global regulatory framework for more resilient banks and banking systems,” “Basel III: International framework for liquidity risk measurement, standards and monitoring” and “Guidance for national authorities operating the countercyclical capital buffer” published by the Basel Committee on Banking Supervision in December 2010, each as amended, supplemented or restated and (b) any further guidance or standards published by the Basel Committee on Banking Supervision relating to Basel III.

“**Benchmark**” means, initially, the Term SOFR Reference Rate; *provided* that if a Benchmark Transition Event has occurred with respect to the Term SOFR Reference Rate or the then-current Benchmark, then “Benchmark” means the applicable Benchmark Replacement to the extent that such Benchmark Replacement has replaced such prior benchmark rate pursuant to clause (i) of Section 2.07(d).

“**Benchmark Replacement**” means, with respect to any Benchmark Transition Event, the first alternative set forth in the order below that can be determined by the Lender for the applicable Benchmark Replacement Date:

(a) Daily Simple SOFR; or

(b) the sum of: (i) the alternate benchmark rate that has been selected by the Lender and the Borrower giving due consideration to (A) any selection or recommendation of a replacement benchmark rate or the mechanism for determining such a rate by the Relevant Governmental Body or (B) any evolving or then-prevailing market convention for determining a benchmark rate as a replacement to the then-current Benchmark for Dollar-denominated syndicated credit facilities and (ii) the related Benchmark Replacement Adjustment;

provided that, if the Benchmark Replacement as determined pursuant to clause (a) or (b) above would be less than the Floor, the Benchmark Replacement will be deemed to be the Floor for the purposes of this Agreement and the other Loan Documents.

“**Benchmark Replacement Adjustment**” means, with respect to any replacement of the then-current Benchmark with an Unadjusted Benchmark Replacement, the spread adjustment, or method for calculating or determining such spread adjustment, (which may be a positive or negative value or zero) that has been selected by the Lender and the Borrower giving due consideration to (a) any selection or recommendation of a spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of such Benchmark with the applicable Unadjusted Benchmark Replacement by the Relevant Governmental Body or (b) any evolving or then-prevailing market convention for determining a spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of such Benchmark with the applicable Unadjusted Benchmark Replacement for Dollar-denominated syndicated credit facilities at such time.

“**Benchmark Replacement Date**” means a date and time determined by the Lender, which date shall be no later than the earliest to occur of the following events with respect to the then-current Benchmark:

- (a) in the case of clause (a) or (b) of the definition of “Benchmark Transition Event,” the later of (i) the date of the public statement or publication of information referenced therein and (ii) the date on which the administrator of such Benchmark (or the published component used in the calculation thereof) permanently or indefinitely ceases to provide all Available Tenors of such Benchmark (or such component thereof); or
- (b) in the case of clause (c) of the definition of “Benchmark Transition Event,” the first date on which all Available Tenors of such Benchmark (or the published component

used in the calculation thereof) have been determined and announced by the regulatory supervisor for the administrator of such Benchmark (or such component thereof) to be non-representative; *provided* that such non-representativeness will be determined by reference to the most recent statement or publication referenced in such clause (c) and even if any Available Tenor of such Benchmark (or such component thereof) continues to be provided on such date.

For the avoidance of doubt, the “Benchmark Replacement Date” will be deemed to have occurred in the case of clause (a) or (b) with respect to any Benchmark upon the occurrence of the applicable event or events set forth therein with respect to all then-current Available Tenors of such Benchmark (or the published component used in the calculation thereof).

Benchmark: “**Benchmark Transition Event**” means the occurrence of one or more of the following events with respect to the then-current

(a) a public statement or publication of information by or on behalf of the administrator of such Benchmark (or the published component used in the calculation thereof) announcing that such administrator has ceased or will cease to provide all Available Tenors of such Benchmark (or such component thereof), permanently or indefinitely; *provided* that, at the time of such statement or publication, there is no successor administrator that will continue to provide any Available Tenor of such Benchmark (or such component thereof);

(b) a public statement or publication of information by the regulatory supervisor for the administrator of such Benchmark (or the published component used in the calculation thereof), the Federal Reserve Board, the Federal Reserve Bank of New York, an insolvency official with jurisdiction over the administrator for such Benchmark (or such component), a resolution authority with jurisdiction over the administrator for such Benchmark (or such component) or a court or an entity with similar insolvency or resolution authority over the administrator for such Benchmark (or such component), which states that the administrator of such Benchmark (or such component) has ceased or will cease to provide all Available Tenors of such Benchmark (or such component thereof) permanently or indefinitely; *provided* that, at the time of such statement or publication, there is no successor administrator that will continue to provide any Available Tenor of such Benchmark (or such component thereof); or

(c) a public statement or publication of information by the regulatory supervisor for the administrator of such Benchmark (or the published component used in the calculation thereof) announcing that all Available Tenors of such Benchmark (or such component thereof) are not, or as of a specified future date will not be, representative.

For the avoidance of doubt, a “Benchmark Transition Event” will be deemed to have occurred with respect to any Benchmark if a public statement or publication of information set forth above has occurred with respect to each then-current Available Tenor of such Benchmark (or the published component used in the calculation thereof).

“Benchmark Unavailability Period” means, the period (if any) (a) beginning at the time that a Benchmark Replacement Date has occurred if, at such time, no Benchmark Replacement has replaced the then-current Benchmark for all purposes hereunder and under any Loan Document in accordance with Section 2.07(d) and (b) ending at the time that a Benchmark Replacement has replaced the then-current Benchmark for all purposes hereunder and under any Loan Document in accordance with Section 2.07(d).

“Borrower” has the meaning ascribed to such term in the preamble to this Agreement.

“Borrower Financial Statements” means the consolidated financial statements of the Borrower dated December 31, 2023 (audited).

“Business Day” means (i) any day, except a day which is a Saturday or a Sunday, on which (a) the Federal Reserve Bank of New York is open for business and (b) banking institutions in the State of New York, United States, and Bogota, Colombia, are open for domestic and foreign exchange business and (ii) in respect of any SOFR Loan, any U.S. Government Securities Business Day.

“Capital Adequacy Requirement” means, with respect to any Person, any requirement of law or any regulation affecting the amount of capital required or expected to be maintained by such Person (or the lending office of such Person) or any Person Controlling such Person.

“Capitalized Lease Obligation” means, for any Person, the obligations of such Person to pay rent or other amounts under a lease of (or other agreement conveying the right to use) property (whether real, personal or mixed) acquired or leased (other than leases for transponders) by such Person to the extent such obligations are required to be classified and accounted for as a lease (or any successor classification that results in the reflection of a liability on such Person’s balance sheet) on a balance sheet of such Person under IFRS, and, for purposes of this Agreement, the amount of such obligations shall be the capitalized amount of such obligations, determined in accordance with the IFRS.

“Code” means the Internal Revenue Code of 1986, as amended, and the regulations promulgated and rulings issued thereunder.

“Colombia” means the Republic of Colombia (*República de Colombia*).

“Colombian Central Bank” means the Central Bank of Colombia (*Banco de la República de Colombia*) or any other Governmental Authority of Colombia charged with the responsibility of issuing, managing and controlling legal currency in Colombia and determining Colombian foreign exchange policy.

“Colombian Peso” means the lawful currency of Colombia.

“Commercial Code” means the Colombian Commercial Code (*Código de Comercio*).

“Commitment” means the obligation of the Lender to make the Disbursement to the Borrower hereunder during the period commencing on the Agreement Date, and including, the date on which the Availability Period ends, in an aggregate principal amount up to but not exceeding two hundred fifty million Dollars (U.S. \$250,000,000); *provided* that such amount shall be reduced by any reduction or termination of the Commitment by the Borrower pursuant to Section 2.05.

“Confidential Information” means information that the Borrower furnishes to the Lender in writing in connection with this Agreement, but does not include any such information (a) that is or becomes generally available to the public, (b) that is or becomes available to the Lender from a source other than the Borrower not known to be bound by any confidentiality obligations to the Borrower, (c) that is in the Lender’s possession including any such information in respect of which the Lender does not know to be bound by any confidentiality obligations to the Borrower (but in any event excluding any information furnished by the Borrower that is designated as confidential in writing) or (d) is independently developed by the Lender without reference to such information.

“Conforming Changes” means, with respect to either the use or administration of Term SOFR or the use, administration, adoption or implementation of any Benchmark Replacement, any technical, administrative or operational changes (including changes to the definition of “Alternative Base Rate,” the definition of “Business Day,” the definition of “U.S. Government Securities Business Day,” the definition of “Interest Period” or any similar or analogous definition (or the addition of a concept of “interest period”), timing and frequency of determining rates and making payments of interest, timing of the Disbursement Request or prepayment, conversion or continuation notices, the applicability and length of lookback periods, the applicability of Section 2.10 and other technical, administrative or operational matters) that the Lender determines, in consultation with the Borrower, may be appropriate to reflect the adoption and implementation of any such rate or to permit the use and administration thereof by the Lender in a manner substantially consistent with market practice (or, if the Lender determines that adoption of any portion of such market practice is not administratively feasible or if the Lender determines that no market practice for the administration of any such rate exists, in such other manner of administration as the Lender, in consultation with the Borrower, determines is reasonably necessary in connection with the administration of this Agreement and the other Loan Documents). When making a decision with respect to any Conforming Changes, the Lender shall give due consideration to recommendations by the Relevant Governmental Body and any evolving or then-prevailing market conventions, and shall act solely to maintain and preserve the pre-existing relationship between the borrowing costs and the lending rates, and will not seek any commercial advantage for any party.

“Connection Income Taxes” means Other Connection Taxes that are imposed on or measured by net income (however denominated) or that are franchise Taxes or branch profits Taxes.

“Consolidated Total Assets” means, at any date, the total amount of assets of the Borrower, as of the end of the last period preceding such date for which a balance sheet is prepared and published in accordance with Applicable Law, on a consolidated basis as determined in accordance IFRS.

“Control” means, in relation to any specified Person, (a) holding, directly or indirectly, fifty percent (50%) or more of the outstanding voting securities or ownership interests of such specified Person or (b) directly or indirectly having the contractual power to designate a majority of the directors of a corporation, or in the case of an unincorporated entity, a majority of the individuals who exercise similar functions of such specified Person (and *“Controlled”* and *“Controlling”* shall be construed accordingly).

“Covered Taxes” means, with respect to the Lender, (a) Taxes, other than Excluded Taxes or Other Connection Taxes, imposed by a Taxing Jurisdiction or other Governmental Authority on or with respect to any payment made by or on account of any obligation of the Borrower under any Loan Document, and (b) to the extent not otherwise described in (a), Other Taxes.

“CRD IV” means (a) Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms; and (b) Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC, to the extent that Regulation (EU) No 575/2013 and Directive 2013/36/EU implement Basel III.

“Daily Simple SOFR” means, for any day, SOFR, with the conventions for this rate (which will include a lookback) being established by the Lender in accordance with the conventions for this rate selected or recommended by the Relevant Governmental Body for determining “Daily Simple SOFR” for syndicated business loans; *provided* that if the Lender decides that any such convention is not administratively feasible for the Lender, then the Lender may establish another convention in its reasonable discretion.

“Disbursement” has the meaning ascribed to such term in Section 2.01.

“Disbursement Date” means the date of the Disbursement of the Loan as specified in the Disbursement Request; *provided* that such Disbursement Date shall be a Business Day no later than the last day of the Availability Period.

“Disbursement Request” has the meaning ascribed to such term in Section 2.02.

“Dollars,” “U.S. Dollars,” or “U.S. \$” means the lawful currency of the United States of America.

“EEA Financial Institution” means (a) any credit institution or investment firm established in any EEA Member Country which is subject to the supervision of an EEA Resolution Authority, (b) any entity established in an EEA Member Country which is a parent of an institution described in clause (a) of this definition or (c) any financial institution established in an EEA Member Country which is a subsidiary of an institution described in clauses (a) or (b) of this definition and is subject to consolidated supervision with its parent.

“EEA Member Country” means any of the member states of the European Union, Iceland, Liechtenstein, and Norway.

“EEA Resolution Authority” means any public administrative authority or any person entrusted with public administrative authority of any EEA Member Country (including any delegee) having responsibility for the resolution of any EEA Financial Institution.

“Eligible Transferee” means and includes a commercial bank, an insurance company, a mutual fund, a financial institution, or any fund that invests in commercial loans or similar extensions of credit (other than an individual, the Borrower, or any of its Affiliates).

“EU Bail-In Legislation Schedule” means the EU Bail-In Legislation Schedule published by the Loan Market Association (or any successor person), as in effect from time to time.

“Event of Default” has the meaning ascribed to such term in Section 8.01.

“Excluded Taxes” means any of the following Taxes imposed on or with respect to the Lender or required to be withheld or deducted from a payment to the Lender, (a) Taxes imposed on or measured by net income (however denominated), franchise Taxes, and branch profits Taxes, in each case (i) imposed as a result of the Lender being organized under the laws of, or having its principal office or its applicable lending office located in, the jurisdiction imposing such Tax (or any political subdivision thereof) or (ii) that are Other Connection Taxes, (b) withholding Taxes imposed on amounts payable to or for the account of the Lender with respect to an applicable interest in the Loan pursuant to a law in effect on the date on which (i) the Lender acquires such interest in the Loan (other than pursuant to an assignment request by the Borrower under Section 2.12) or (ii) the Lender changes its lending office, except in each case to the extent that, pursuant to Section 4.01, amounts with respect to such Taxes were payable either to the Lender’s assignor immediately before the Lender became a party hereto or to the Lender immediately before it changed its lending office, (c) Taxes that would not have been imposed but for the Lender’s failure to make any disclosure with the relevant taxing authority as required by Applicable Law, unless the Lender has reasonably and in good faith determined that any such disclosure would expose it to any material adverse effect, or to provide any reasonably requested documentation and/or certification to the Borrower or any other Person or (d) any withholding Taxes imposed due to the Lender’s failure to comply with FATCA.

“Existing Note” has the meaning ascribed to such term in Section 2.06(g).

“External Indebtedness” means Indebtedness of the Borrower other than Internal Indebtedness.

“Fair Market Value” means, with respect to any asset or property, the price which could be negotiated in an arm’s-length transaction, for cash, between an informed and willing seller under no compulsion to sell and an informed and willing buyer under no compulsion to buy.

“FATCA” means (1) Sections 1471 through 1474 of the Code, as of the date of this Agreement (or any amended or successor version that is substantively comparable and not materially more onerous to comply with) and any current regulations or official interpretations thereof, (2) any treaty, law or regulation of any other jurisdiction or relating to an intergovernmental agreement between the U.S. and any other jurisdiction, which (in either case) facilitates the implementation of any law or regulation referred to in clause (1) above, and (3) any

agreements entered into pursuant to Section 1471(b)(1) of the Code or pursuant to the implementation of any treaty, law or regulation referred to in clause (1) or (2) above with the U.S. Internal Revenue Service, the U.S. government or the government or tax authority of any other jurisdiction.

“FCPA” means the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder.

“Federal Funds Rate” means, for any day, the greater of (a) the rate calculated by the Federal Reserve Bank of New York based on such day’s Federal funds transactions by depository institutions (as determined in such manner as the Federal Reserve Bank of New York shall set forth on its public website from time to time) and published on the next succeeding Business Day by the Federal Reserve Bank of New York as the Federal funds effective rate and (b) 0%.

“Federal Reserve Board” means the Board of Governors of the Federal Reserve System of the United States.

“Fee Letter” means the fee letter executed on or prior to the Agreement Date between the Borrower and Sumitomo Mitsui Banking Corporation.

“Floor” means a rate of interest equal to 0%.

“Good Faith Contest” means, with respect to the payment of Taxes or any related claims or liabilities by any Person, the satisfaction of each of the following conditions: (a) the validity or amount thereof is being diligently contested in good faith by such Person by appropriate proceedings timely instituted, (b) in the case of Taxes or related claims and liabilities of the Borrower, the Borrower has established adequate cash reserves with respect to the contested items in accordance with IFRS, (c) during the period of such contest, the enforcement of any contested item is effectively stayed, and (d) such contest or proceedings and any resultant failure to pay or discharge the claimed or assessed amount do not and could not otherwise reasonably be expected to result in a Material Adverse Effect.

“Governmental Approval” means any authorization, approval, consent, license, concession, ruling, permit, tariff, rate, certification, order, validation, exemption, waiver, variance, opinion of, or registration, filing or recording with, or report or notice to, any Governmental Authority.

“Governmental Authority” means any national, state, county, city, town, village, municipal or other local governmental department, commission, board, bureau, agency, authority or instrumentality of the United States, Colombia, the United Kingdom, Canada or any other national, multinational or international authority, or any political subdivision of any thereof, and any person exercising executive, legislative, judicial, taxing, regulatory or administrative functions of or pertaining to any of the foregoing entities, and in each case having jurisdiction over the Persons or matters in question.

“IFRS” means the International Financial Reporting Standards issued by the International Accounting Standards Board, as in effect from time to time, and as interpreted and

applied by the Colombian National Accounting Office (*Contaduría General de la Nación*), on a basis consistent with the Borrower's operations and reflected in the Borrower's financial statements.

"Indebtedness" of any Person means, without duplication, (a) any indebtedness of such Person for borrowed money or evidenced by a note, debenture or similar instrument (including a purchase money obligation) given in connection with the acquisition of any property or assets, including securities, (b) obligations to pay the deferred purchase price of property or services, except accounts payable and accrued expenses arising in the ordinary course of business and payable within one hundred eighty (180) days, (c) any derivative transaction entered into in connection with, protection against, or benefit from fluctuation in any rate or price (*provided* that, for the calculation of the value of any derivative transaction, only the net mark-to-market value shall be taken into account), (d) Capitalized Lease Obligations; (e) Indebtedness of others described in clauses (a) through (d) above secured by (or for which the holder thereof has an existing right, contingent or otherwise, to be secured by) a Lien on the property of such Person, whether or not the respective Indebtedness so secured has been assumed by such Person, (f) any guarantee by such Person of any Indebtedness of others described in the preceding clauses (a) through (d) above, and (g) any amendment, renewal, extension or refunding of any such Indebtedness.

"Indemnitee" has the meaning ascribed to such term in Section 11.08(b).

"Instructions Letter" means the irrevocable instructions letter executed by the Borrower substantially in the form of Annex C.

"Interest Determination Date" means the second (2nd) U.S. Government Securities Business Day prior to the commencement of any Interest Period relating to the Loan.

"Interest Payment Date" means, the day on which accrued interest is payable under Section 2.07(a).

"Interest Period" means the Interest Period determined in accordance with Section 2.07(b).

"Internal Indebtedness" means any Indebtedness payable to Colombian residents in Colombian Pesos.

"Judgment Currency" has the meaning ascribed to such term in Section 11.09(a).

"Judgment Currency Conversion Date" has the meaning ascribed to such term in Section 11.09(a).

"Lender" has the meaning ascribed to such term in the preamble to this Agreement.

"Lien" means any lien, lease, mortgage, pledge, hypothecation, or other encumbrance or security interest.

“**Loan**” means, at any time, the aggregate of the outstanding amounts of all Disbursements at such time.

“**Loan Documents**” means this Agreement, the Notes, the Instructions Letter, the Fee Letter and any other document the Borrower may from time to time designate as such with the prior approval of the Ministry of Finance to the extent required under Applicable Law.

“**Margin Stock**” means “margin stock” as defined in Regulations U and X of the Federal Reserve Board (or any successor thereto), as the same may be modified and supplemented and in effect from time to time.

“**Material Adverse Effect**” means any event, circumstance, occurrence or condition that, as of any date of determination, results in or otherwise constitutes a material and adverse effect on: (a) the ability of the Borrower to perform any material obligations under the Loan Documents, (b) the validity or enforceability of any Loan Document or any material provision thereof, or (c) the financial condition, business or operations of the Borrower (taken as a whole for purposes of this clause (c)).

“**Material Subsidiary**” means a Subsidiary of the Borrower which on any given date of determination accounts for more than 10% of the Borrower’s Consolidated Total Assets.

“**Maturity Date**” means the five-year anniversary of the Agreement Date, *provided* that if such date is not a Business Day, the Maturity Date shall be the immediately preceding Business Day.

“**Ministry of Finance**” means the Ministry of Finance and Public Credit of Colombia (*Ministerio de Hacienda y Crédito Público*).

“**Note**” means (a) a promissory note issued pursuant to Section 2.06, or (b) any replacement promissory note issued pursuant to this Agreement, in each case, in compliance with the requirements for promissory notes under the Commercial Code (as amended) and any other law or regulation applicable to promissory notes in Colombia.

“**Notices**” has the meaning ascribed to such term in Section 11.02(a).

“**OFAC**” means the Office of Foreign Assets Control of the U.S. Department of the Treasury.

“**Official Diary**” means the official gazette (*diario oficial*) of the Republic of Colombia in which minutes, orders, notices, regulations, opinions, contracts, decrees, directives, edicts, laws, and other general normative bodies and administrative rules are published daily.

“**Other Connection Taxes**” means, with respect to the Lender, Taxes imposed as a result of a present or former connection between the Lender and the jurisdiction imposing such Tax (other than connections arising from the Lender having executed, delivered, become a party to, performed its obligations under, received payments under, engaged in any other transaction pursuant to or enforced any Loan Document, or sold or assigned an interest in any Loan Document).

“Other Taxes” means all present or future stamp, court or documentary, intangible, recording, filing or similar Taxes that arise from any payment made under, from the execution, delivery, performance, enforcement or registration of any Loan Document except any such Taxes that are Other Connection Taxes imposed with respect to an assignment (other than an assignment made pursuant to Section 2.12).

“Participant Register” has the meaning ascribed to such term in Section 11.03(f).

“PATRIOT Act” means the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (Title III of Pub. L. 107-56 (signed into law October 26, 2001)).

“Periodic Term SOFR Determination Day” has the meaning specified in the definition of “Term SOFR”.

“Permitted Lien” means any of the following:

- (a) Liens arising by operation of law, such as merchants’, maritime or other similar Liens arising in the ordinary course of business or Liens in respect of taxes, assessments or other governmental charges that are not yet delinquent or that are being contested in good faith by appropriate proceedings;
- (b) Liens arising in the ordinary course of business in connection with Indebtedness maturing not more than one year after the date on which the Indebtedness was originally incurred and which is related to the financing of export, import or other trade transaction;
- (c) Liens resulting from the deposit of funds or evidence of Indebtedness in trust for the purpose of discharging or defeasing Indebtedness of the Borrower or any Material Subsidiary;
- (d) Liens on assets or property of a Person existing at the time such Person is merged into, consolidated with or acquired by the Borrower or any Material Subsidiary or becomes a Material Subsidiary; *provided* that any such Lien is not incurred in contemplation of such merger, consolidation or acquisition (unless such Lien was created to secure or provide for the payment of any part of the purchase price of such property or assets) and does not secure any property of the Borrower or any Material Subsidiary other than the property and assets subject to such Lien prior to such merger, consolidation or acquisition;
- (e) Liens existing as of the date hereof and set forth on Schedule 1;
- (f) Liens securing Indebtedness (including in the form of Capitalized Lease Obligations and purchase money Indebtedness) incurred for the purpose of financing the cost (including the cost of design, development, site acquisition, construction, integration, manufacture or acquisition) of real or personal property (tangible or intangible) which is incurred contemporaneously therewith or within one hundred eighty (180) days thereafter; *provided* that (i) such Liens secure Indebtedness in an amount not in excess of the cost of

such property (plus an amount equal to the reasonable fees and expenses incurred in connection with the incurrence of such Indebtedness) and (ii) such Liens do not extend to any property of the Borrower other than the property for which such Indebtedness was incurred;

(g) Liens to secure the performance of statutory and common law obligations, bids, trade contracts, judgments, surety or appeal bonds, performance bonds or other obligations of a like nature incurred in the ordinary course of business;

(h) Liens to secure debt securities;

(i) Liens granted in favor of the Borrower and/or any Wholly Owned Subsidiary to secure Indebtedness owing to the Borrower or such Wholly Owned Subsidiary;

(j) Legal or equitable encumbrances deemed to exist by reason of the inclusion of customary negative pledge provisions in any financing document of the Borrower or any Subsidiary;

(k) Liens securing Internal Indebtedness;

(l) Liens created in favor of a bank or financial institution which is party to a letter of credit transaction as account party on drafts, bills of lading and other documents which are the subject of such letter of credit transaction;

(m) Liens on cash or cash equivalents to secure obligations under agreements or arrangements referred to in clause (c) of the definition of "Indebtedness";

(n) Any Lien in respect of Indebtedness representing the extension, refinancing, renewal or replacement (or successive extensions, refinancings, renewals or replacements) of Indebtedness secured by Liens referred to in clauses (b), (c), (d), (e), (f), (g), (h), (i), and (j) above; *provided* that the principal of the Indebtedness secured thereby does not exceed the principal of the Indebtedness secured thereby immediately prior to such extension, renewal or replacement, plus any accrued and unpaid interest or capitalized interest payable thereon, reasonable fees and expenses incurred in connection therewith, and the amount of any prepayment premium necessary to accomplish any refinancing; *provided further*, that such extension, renewal or replacement shall be limited to all or a part of the property (or interest therein) subject to the Lien so extended, renewed or replaced (plus improvements and construction of such property);

(o) Pledges and deposits made in the ordinary course of business in compliance with workers' compensation, unemployment insurance and other social security laws or regulations;

(p) Easements, zoning restrictions, rights-of-way and similar encumbrances on real property imposed by law or arising in the ordinary course of business that do not secure any monetary obligations and do not materially detract from the value of the affected

property or interfere with the ordinary conduct of business of the Borrower or any of its Subsidiaries;

(q) Liens arising out of government concessions or licenses held by the Borrower or any of its Subsidiaries;

(r) Liens to secure the purchase of, or created in connection with the financing of all or any part of the purchase price or cost of the acquisition, purchase, construction, development, extension, expansion and/or improvement by the Borrower or any of its Subsidiaries of, any assets (or right of interest therein), *provided* that (i) such Liens cover only such assets (or right of interest therein, as the case may be), or any assets forming part of or connected with such assets (or any right of interest therein), or products or proceeds from such assets, or revenue or profit from such assets or such products or proceeds (or any right of interest therein), or the shares or other ownership interests in any Person substantially all of whose assets consist of such assets, revenue or profit, (ii) such Liens secure no more than the purchase price or other consideration paid for, and/or costs of construction, development, expansion, extension and/or improvement, of such assets (or any right of interest therein), including any financing or refinancing costs associated therewith, and (iii) such Liens granted in connection with any extension, expansion and/or improvement of assets cover only assets other than assets existing at the date of this Agreement;

(s) Liens in respect of Indebtedness the principal amount of which in the aggregate, together with all other Liens not otherwise qualifying as Permitted Liens pursuant to another part of this definition of Permitted Liens, does not exceed 15% of the Borrower's Consolidated Total Assets at the time of its constitution. For purposes of this definition, the value of any Lien securing Indebtedness will be computed on the basis of the lesser of (i) the outstanding principal amount of such secured Indebtedness and (ii) the higher of (x) the book value or (y) the Fair Market Value of property securing such Indebtedness; and

(t) Any extension, renewal or replacement of the foregoing.

"Person" means any individual, firm, company, limited liability company, corporation, partnership (including association and whether or not having separate legal personality), joint stock company, trust, unincorporated organization or any other enterprise, or a Governmental Authority.

"Potential Default" means an event that with the lapse of time (including any applicable grace period) or the giving of notice, or both, would become an Event of Default.

"Regulation U" means Regulation U of the Federal Reserve Board, as in effect from time to time and all official rulings and interpretations thereunder or thereof.

"Regulatory Change" means the introduction or change after the date of this Agreement of or in United States or foreign national, state or municipal laws or regulations applicable to the Lender in respect of its obligations hereunder or in the interpretation or administration thereof, or the adoption or making after such date of any directives or requests

(whether or not having the force of law) by any United States or foreign national, state, or municipal court or monetary authority, or other Governmental Authority applicable to the Lender in respect of its Loan; *provided* that notwithstanding anything herein to the contrary, (a) the Dodd-Frank Wall Street Reform and Consumer Protection Act and all requests, rules, guidelines or directives thereunder or issued in connection therewith, (b) all requests, rules, guidelines or directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar authority) or the United States, Canada or foreign regulatory authorities, in each case pursuant to Basel III, and (c) CRD IV and any law or regulation that implements or applies CRD IV, shall in each case be deemed to be a “Regulatory Change,” regardless of the date enacted, adopted or issued.

“**Relevant Governmental Body**” means the Federal Reserve Board or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board or the Federal Reserve Bank of New York or any successor thereto.

“**Replaced Lender**” has the meaning ascribed to such term in Section 2.12(b).

“**Replacement Lenders**” has the meaning ascribed to such term in Section 2.12(b).

“**Resolution Authority**” means an EEA Resolution Authority or, with respect to any UK Financial Institution, a UK Resolution Authority.

“**Sanctioned Country**” means, at any time, a country or territory which is itself, or whose government is, the subject or target of any Sanctions (at the time of this Agreement, the so-called Donetsk People’s Republic, the so-called Luhansk People’s Republic, the Crimea region of Ukraine, Cuba, Iran, North Korea and Syria).

“**Sanctioned Person**” means, at any time, any Person (a) that is the subject or target of any Sanctions, (b) listed in any Sanctions-related list of designated Persons maintained by OFAC, the U.S. Department of State, Japan, the United Nations Security Council, His Majesty’s Treasury of the United Kingdom, the European Union or any EU member state, (c) operating, organized or resident in a Sanctioned Country or (d) Controlled by any such Person or Persons (in the aggregate) described in clauses (a), (b) or (c) above.

“**Sanctions**” means economic or financial sanctions or trade embargoes imposed, administered or enforced from time to time by U.S. Governmental Authorities (including, but not limited to, those administered by OFAC the U.S. Department of Commerce, and the U.S. Department of State), the United Nations Security Council, the European Union, Japan, Hong Kong or His Majesty’s Treasury of the United Kingdom.

“**SOFR**” means a rate equal to the secured overnight financing rate as administered by the SOFR Administrator.

“**SOFR Administrator**” means the Federal Reserve Bank of New York (or a successor administrator of the secured overnight financing rate).

“**SOFR Disbursement**” means, as to any Disbursement, the SOFR Loans comprising such Disbursement.

“**SOFR Loan**” means a Loan that bears interest at a rate based on Term SOFR, other than pursuant to clause (c) of the definition of “Alternative Base Rate”.

“**Subsidiary**” means, with respect to any Person, any other Person (a) the securities of which having ordinary voting power to elect a majority of the board of directors (or other persons having similar functions) or (b) the other ownership interests of which ordinarily constituting a majority voting interest, are at the time, directly or indirectly, owned or Controlled by such first Person, or by one or more of its Subsidiaries, or by such first Person and one or more of its Subsidiaries; unless otherwise specified, “Subsidiary” means a Subsidiary of the Borrower.

“**Tax**” means any present or future income, stamp or other taxes, levies, imposts, duties, charges, fees, assessments, deductions or withholdings (including value-added taxes) or other charges of whatever nature now or hereafter imposed by any jurisdiction or by any political subdivision or taxing authority thereof or therein with respect to payments made by or for the Borrower hereunder or under any Loan Document and all interest, penalties or similar liabilities with respect thereto.

“**Taxing Jurisdiction**” means, with respect to the Lender, any jurisdiction other than (a) a jurisdiction (other than Colombia or New York) through which payments to the Lender by the Borrower under any Loan Document shall be made and (b) the jurisdiction under the laws of which the Lender is organized or established.

“**Term SOFR**” means,

(a) for any calculation with respect to a SOFR Loan, the Term SOFR Reference Rate for a tenor comparable to the applicable Interest Period on the day (such day, the “**Periodic Term SOFR Determination Day**”) that is two (2) U.S. Government Securities Business Days prior to the first day of such Interest Period, as such rate is published by the Term SOFR Administrator (and if the Term SOFR Reference Rate for such Interest Period is not published, the rate that results from interpolating on a linear basis between the nearest available Term SOFR Reference Rate that is longer than such Interest Period and the nearest available Term SOFR Reference Rate that is shorter than such Interest Period; provided that, if such Interest Period has a tenor of less than one month, the applicable rate shall be the Term SOFR Reference Rate for a one month Interest Period); *provided, however*, that if as of 5:00 p.m. (New York City time) on any Periodic Term SOFR Determination Day the Term SOFR Reference Rate for the applicable tenor has not been published by the Term SOFR Administrator and a Benchmark Replacement Date with respect to the Term SOFR Reference Rate has not occurred, then Term SOFR will be the Term SOFR Reference Rate for such tenor as published by the Term SOFR Administrator on the first preceding U.S. Government Securities Business Day for which such Term SOFR Reference Rate for such tenor was published by the Term SOFR Administrator so long as such first preceding U.S. Government Securities Business Day is not more than three (3) U.S. Government Securities Business Days prior to such Periodic Term SOFR Determination Day, and

(b) for any calculation with respect to an Alternative Base Rate Loan on any day, the Term SOFR Reference Rate for a tenor of one month on the day (such day, the “**Alternative Base Rate Term SOFR Determination Day**”) that is two (2) U.S. Government Securities Business Days prior to such day, as such rate is published by the Term SOFR

Administrator; *provided, however*, that if as of 5:00 p.m. (New York City time) on any Alternative Base Rate Term SOFR Determination Day the Term SOFR Reference Rate for the applicable tenor has not been published by the Term SOFR Administrator and a Benchmark Replacement Date with respect to the Term SOFR Reference Rate has not occurred, then Term SOFR will be the Term SOFR Reference Rate for such tenor as published by the Term SOFR Administrator on the first preceding U.S. Government Securities Business Day for which such Term SOFR Reference Rate for such tenor was published by the Term SOFR Administrator so long as such first preceding U.S. Government Securities Business Day is not more than three (3) U.S. Government Securities Business Days prior to such Alternative Base Rate SOFR Determination Day;

provided, further, that if Term SOFR determined as provided above (including pursuant to the proviso under clause (a) or clause (b) above) shall ever be less than the Floor, then Term SOFR shall be deemed to be the Floor.

“Term SOFR Administrator” means CME Group Benchmark Administration Limited (CBA) (or a successor administrator of the Term SOFR Reference Rate selected by the Lender in its reasonable discretion).

“Term SOFR Reference Rate” means the forward-looking term rate based on SOFR.

“U.S.” or **“United States”** means the United States of America.

“U.S. Government Securities Business Day” means any day except for (a) a Saturday, (b) a Sunday or (c) a day on which the Securities Industry and Financial Markets Association recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in United States government securities.

“UK Financial Institution” means any BRRD Undertaking (as such term is defined under the PRA Rulebook (as amended from time to time) promulgated by the United Kingdom Prudential Regulation Authority) or any person falling within IFPRU 11.6 of the FCA Handbook (as amended from time to time) promulgated by the United Kingdom Financial Conduct Authority, which includes certain credit institutions and investment firms, and certain affiliates of such credit institutions or investment firms.

“UK Resolution Authority” means the Bank of England or any other public administrative authority having responsibility for the resolution of any UK Financial Institution.

“Unadjusted Benchmark Replacement” means the applicable Benchmark Replacement excluding the related Benchmark Replacement Adjustment.

“Wholly Owned” means, with respect to any corporate entity, any Person of which 100% of the outstanding capital stock (other than qualifying shares, if any) having by its terms ordinary voting power (not dependent on the happening of a contingency) to elect the board of directors (or equivalent controlling governing body) of that Person, is at the time owned or Controlled directly or indirectly by that corporate entity, by one or more wholly owned Subsidiaries of that corporate entity or by that corporate entity and one or more wholly owned Subsidiaries.

“Write-Down and Conversion Powers” means, (a) with respect to any EEA Resolution Authority, the write-down and conversion powers of such EEA Resolution Authority from time to time under the Bail-In Legislation for the applicable EEA Member Country, which write-down and conversion powers are described in the EU Bail-In Legislation Schedule, and (b) with respect to the United Kingdom, any powers of the applicable Resolution Authority under the Bail-In Legislation to cancel, reduce, modify or change the form of a liability of any UK Financial Institution or any contract or instrument under which that liability arises, to convert all or part of that liability into shares, securities or obligations of that person or any other person, to provide that any such contract or instrument is to have effect as if a right had been exercised under it or to suspend any obligation in respect of that liability or any of the powers under that Bail-In Legislation that are related to or ancillary to any of those powers.

1.02. Principles of Construction.

(a) The meanings set forth for defined terms in Section 1.01 or elsewhere in this Agreement shall be equally applicable to both the singular and plural forms of the terms defined.

(b) Unless otherwise specified, all references in this Agreement to Sections, Annexes, Exhibits, and Schedules are to Sections, Annexes, Exhibits, and Schedules in or to this Agreement.

(c) The headings of the Sections in this Agreement are included for convenience only and shall not in any way affect the meaning or construction of any provision of this Agreement.

(d) Acknowledging that the parties hereto have participated jointly in the negotiation and drafting of this Agreement, if any ambiguity or question of intent or interpretation arises as to any aspect of this Agreement, then this Agreement will be construed as if drafted jointly by each of parties hereto and no presumption or burden of proof will arise favoring or disfavoring any party by virtue of the authorship of any provision of this Agreement.

(e) References in this Agreement or the Notes to any belief, decision, discretion or other action held, made, determined, exercised or taken by the Lender shall mean any such belief, decision, discretion or other action to be held, made, determined, exercised or taken in good faith to the extent required under the laws of the State of New York.

(f) Any reference herein to “including” shall mean “including without limitation.”

(g) References to any document or agreement, including this Agreement, shall be deemed to include references to such documents or agreements as amended, supplemented or replaced from time to time in accordance with its terms and (where applicable) subject to compliance with the requirements set forth therein.

(h) Unless the context requires otherwise (i) any reference herein to any Person shall be construed to include such Person’s successors and assigns, and (ii) any reference to any

law or regulation herein shall, unless otherwise specified, refer to such law or regulation as amended, modified or supplemented from time to time or to the successor law or regulation.

1.03. Rates. The Lender does not warrant or accept responsibility for, and shall not have any liability with respect to (a) the continuation of, administration of, submission of, calculation of or any other matter related to Alternative Base Rate, the Term SOFR Reference Rate or Term SOFR, or any component definition thereof or rates referred to in the definition thereof, or any alternative, successor or replacement rate thereto (including any Benchmark Replacement), including whether the composition or characteristics of any such alternative, successor or replacement rate (including any Benchmark Replacement) will be similar to, or produce the same value or economic equivalence of, or have the same volume or liquidity as, Alternative Base Rate, the Term SOFR Reference Rate, Term SOFR or any other Benchmark prior to its discontinuance or unavailability, or (b) the effect, implementation or composition of any Conforming Changes. The Lender and its affiliates or other related entities may engage in transactions that affect the calculation of Alternative Base Rate, the Term SOFR Reference Rate, Term SOFR, any alternative, successor or replacement rate (including any Benchmark Replacement) or any relevant adjustments thereto, in each case, in a manner adverse to the Borrower. The Lender may select information sources or services in its reasonable discretion to ascertain Alternative Base Rate, the Term SOFR Reference Rate, Term SOFR or any other Benchmark, in each case pursuant to the terms of this Agreement, and shall have no liability to the Borrower or any other person or entity for damages of any kind, including direct or indirect, special, punitive, incidental or consequential damages, costs, losses or expenses (whether in tort, contract or otherwise and whether at law or in equity), for any error or calculation of any such rate (or component thereof) provided by any such information source or service, except in instances of the Lender's gross negligence or willful misconduct as determined in a final and non-appealable judgment by a court of competent jurisdiction.

SECTION 2 THE LOAN

2.01. Commitment. The Lender agrees to extend to the Borrower during the Availability Period, subject to the terms and conditions of this Agreement, one disbursement (the "**Disbursement**") of the Loan in U.S. Dollars in a principal amount not to exceed the Commitment. Amounts borrowed under this Section 2.01 that are repaid or prepaid may not be re-borrowed.

2.02. Mechanics for Requesting the Disbursement. The Borrower shall request the Disbursement in writing by using a request substantially in the form of Annex A hereto (the "**Disbursement Request**"). The Disbursement Request shall be irrevocable and binding on the Borrower and shall be given to the Lender no later than 11:00 a.m. (New York City time) three (3) U.S. Government Securities Business Days before the proposed Disbursement Date (or such shorter period as may be agreed between the Lender and the Borrower).

2.03. Funding.

(a) Subject to the terms of this Agreement, the Lender shall make available on the Disbursement Date the Disbursement requested in the Disbursement Request in immediately

available funds to the Borrower via Fed Wire or SWIFT, to arrive by 1:00 pm New York time on the Disbursement Date to the account designated by the Borrower in the Disbursement Request.

(b) [Reserved]

(c) Notwithstanding any provision of this Agreement to the contrary, the Lender shall not be required to make any Disbursement hereunder if, as a result thereof, the unutilized and available amount of its Commitment would thereby be exceeded. The Loan is not revolving in nature; amounts borrowed and repaid or prepaid hereunder in respect of the principal amount of the Loan may not be reborrowed.

2.04. [Reserved]

2.05. Termination and Reduction of Commitment. The Borrower may terminate the unutilized Commitment, or reduce the amount thereof, by giving irrevocable written notice to the Lender not later than 5:00 P.M. (New York City time) on the third (3rd) U.S. Government Securities Business Day prior to the date of such termination or reduction, *provided* reductions of the unutilized Commitment shall be in the amount of five million U.S. Dollars (U.S. \$5,000,000) or in integral multiples of one million U.S. Dollars (U.S. \$1,000,000) in excess thereof. The Commitment will be reduced to zero at the close of business of the last day of the Availability Period.

2.06. Notes.

(a) The Borrower's obligation to pay the principal of and interest on the Loan to the Lender shall be evidenced by a blank promissory note substantially in the form of Annex B (each, a "Note"). Each Note shall be valid and enforceable as to its principal amount at any time only to the extent of the amount disbursed and outstanding under the Loan evidenced thereby; and, as to interest, only to the extent of the interest accrued and unpaid thereon. Each Note shall be (i) payable to the Lender, (ii) dated the Disbursement Date and (iii) payable at the date referred to in the corresponding Instructions Letter. On the Disbursement Date, the Borrower shall provide to the Lender (i) a duly executed Note and (ii) a duly executed Instructions Letter substantially in the form of Annex C, pursuant to which the Borrower authorizes the Lender to complete the Note issued in accordance with this Section 2.06.

(b) In case of loss, theft, partial or complete destruction or mutilation of a Note, the Lender shall be entitled to request to the Borrower, and the Borrower shall promptly (but in any event within ten (10) Business Days of such notice) execute and deliver to the Lender in lieu thereof a new Note, dated the same date as the lost, stolen, destroyed or mutilated Note, in replacement of the Note; *provided* that, in the case of any mutilated Note, such mutilated Note shall be returned to the Borrower. The Lender shall, prior to delivery of any replacement Note by the Borrower also comply with the procedures established by articles 802 to 821 of the Commercial Code, as amended from time to time, and by Article 398 of Law 1564 of 2012 (*Código General del Proceso*) or any other Applicable Law in connection with the case of loss, theft, partial or complete destruction or mutilation of a Note. In the event that any lost or stolen Note is subsequently found, the Lender shall cancel such Note and deliver such cancelled Note to the Borrower; *provided further* that the Borrower shall have already delivered a substitute Note to the

Lender. In the event of execution and delivery of a new Note as contemplated by this clause (b), the Lender shall reimburse and indemnify the Borrower for and against any and all direct liabilities, obligations, losses, damages, penalties, claims, actions, judgments, suits, costs, expenses or disbursements of whatsoever kind or nature which may be imposed on, asserted against or incurred by the Borrower as a result of any negotiation with, or presentation by, any Person for collection of any sums due under or with respect to the Lender's original Note being lost or stolen, excluding any such liabilities, obligations, losses, damages, penalties, claims, actions, judgments, suits, costs, expenses or disbursements caused by the Borrower. All replacement Notes issued in connection with this Agreement shall be signed by an Authorized Officer of the Borrower.

(c) The payment of any part of the principal of any such Note shall discharge the obligation of the Borrower under this Agreement to pay the portion of the principal of the Loan evidenced by such Note *pro tanto*, and the payment of any principal of the Loan in accordance with the terms hereof shall discharge the obligations of the Borrower under the Notes evidencing the Loan *pro tanto*.

(d) Upon discharge of all obligations of the Borrower under the Loan, the Lender shall cancel all the Notes and promptly return them to the Borrower.

(e) The Notes shall only be sold, assigned or transferred in accordance with the provisions of this Agreement and Applicable Law.

(f) The Lender agrees and covenants that it will fill the blank spaces left in any Note in accordance with the corresponding Instructions Letter. The Lender further agrees and covenants that it will not complete or seek enforcement of its Notes other than in accordance with the instructions set forth in the corresponding Instructions Letter.

(g) In the case of a permitted assignment pursuant to Section 11.03, (i) if requested by the assignee and if any such assignment is of the aggregate Disbursement amount held by the assigning Lender, the Lender shall deliver to the Borrower concurrently with the execution and delivery by the Borrower to the relevant assignee Lender of a new Note in the manner contemplated in clause (ii) below, the Note held by the assigning Lender evidencing the Disbursement (for any assigning Lender, together with the related Instructions Letter, the "**Existing Note**" of the assigning Lender) and (ii) if requested by the assigning Lender or the relevant assignee, the assigning Lender shall as promptly as reasonably practicable request that the Borrower, and the Borrower hereby agrees to, execute and deliver as promptly as reasonably practicable a new Note or Notes (together with the related Instructions Letter) to the assigning Lender and such assignee evidencing the portion of the Disbursement held by the assigning Lender and such assignee (in exchange for Existing Notes to the extent such assignment is of the aggregate amount of the portion of the Disbursement held by the assigning Lender).

2.07. Interest.

(a) Interest.

(i) The Borrower agrees to pay interest in respect of the unpaid principal amount of the Loan from the Disbursement Date until the principal amount of the Loan is

repaid in full, at a rate *per annum* equal to Term SOFR for each relevant Interest Period plus the Applicable Margin.

(ii) To the extent permitted by law, interest on any due and unpaid amounts of principal or interest in respect of the Loan shall bear interest at a rate *per annum* equal to the rate which is 2.0% in excess of the rate borne by the Loan immediately prior to the respective payment default. The parties hereto acknowledge that, as of the Agreement Date, the payment of interest on interest (as described in this Section 2.07(a)(ii)), including default interest, is prohibited under Colombian law as currently in effect, subject to applicability of the rules set forth in Article 886 of the Commercial Code, it being understood that any outstanding interest obligations that remain unpaid for more than one (1) year may (upon the satisfaction of the rules set forth in Article 886 of the Commercial Code) be subject to interest on interest under Colombian law as currently in effect.

(iii) Interest in respect of the Loan shall be payable in arrears commencing on the date which is the sixth month anniversary of the Disbursement Date and continuing on each sixth month anniversary thereof until the Maturity Date and on the Maturity Date (each such payment date, an “**Interest Payment Date**”), and upon the payment or prepayment of principal of the Loan (but only on the amount paid or prepaid); *provided* that (1) if any Interest Payment Date would fall on a day that is not a Business Day, such Interest Payment Date shall be extended to the next succeeding Business Day, unless such next succeeding Business Day would fall in the next succeeding calendar month, in which case such Interest Payment Date shall be the preceding Business Day, and (2) if any Interest Payment Date would otherwise fall after the Maturity Date, such Interest Payment Date shall be the Maturity Date. For the avoidance of doubt, the initial Interest Period shall commence on (and include) the Disbursement Date and shall finalize on (and exclude) the immediately subsequent Interest Payment Date, and, thereafter, each Interest Period shall commence on (and include) the immediately preceding Interest Payment Date and shall finalize on (and exclude) the immediately subsequent Interest Payment Date.

(iv) All computations of interest hereunder shall be made on the actual number of days elapsed over a year of 360 days.

(v) On each Periodic Term SOFR Determination Day or Alternative Base Rate Term SOFR Determination Day, as applicable, the Lender shall determine Term SOFR for the relevant Interest Period and shall promptly notify the Borrower thereof. Each such determination shall, absent manifest error, be final and conclusive and binding on all parties hereto.

(vi) In connection with the use or administration of Term SOFR, the Lender (in consultation with the Borrower) will have the right to make Conforming Changes from time to time and, subject to approval by the Ministry of Finance, to the extent required by Colombian public indebtedness regulations, any amendments implementing such Conforming Changes will become effective without any further action or consent of any other party to this Agreement or any other Loan Document. The Lender will promptly notify the Borrower of the effectiveness of any Conforming Changes in connection with

the use or administration of Term SOFR. When making a decision with respect to Conforming Changes, the Lender shall give due consideration to recommendations by the Relevant Governmental Body and any evolving or then-prevailing market conventions, in each case as appropriate and as set forth in the definition of Conforming Changes and the related defined terms used therein, and not with a view to obtaining a commercial advantage for the Lender; provided, that the Lender cannot represent, guarantee, warrant or accept any responsibility for, and shall not have any liability with respect to, the effect, implementation or composition of any Conforming Changes pursuant to this Section 2.07(a)(vi), including without limitation, whether the effect, implementation or composition of such Conforming Changes will produce the same value or economic equivalence of the interest rate applicable to the Loans or have the same volume or liquidity as it did prior to the implementation of such Conforming Changes.

(vii) In no event shall the interest applicable under this Agreement exceed the interest rate limits set forth by Applicable Law, including but not limited to, the regulations set forth by the Colombian Central Bank for loans to state-owned entities.

(b) Interest Periods. Subject to Section 2.07(a)(iii), each Interest Period shall be a six-month period; *provided* that:

(i) (a) the initial Interest Period for the Disbursement shall commence on the Disbursement Date and end on the first Interest Payment Date thereafter and (b) each Interest Period occurring after the initial Interest Period shall commence on the day on which the next preceding Interest Period therefor expires; and

(ii) the final Interest Period shall end on the Maturity Date.

(c) Inability to Determine Rates. Subject to Section 2.07(d), if, on or prior to an Interest Determination Date for any SOFR Loan the Lender shall have determined (which determination shall be conclusive and binding for all purposes, absent manifest error), *provided* that no Benchmark Transition Event shall have occurred at such time, that:

(i) “Term SOFR” cannot be determined pursuant to the definition thereof; or

(ii) by reason of circumstances affecting the relevant market, adequate and fair means do not exist for ascertaining the rate of interest to be applicable to the Loan (or any portion thereof);

(iii) the Lender determines that the relevant rate of interest referred to in the definition of Term SOFR that is used to determine the rate of interest for the Loan (or any portion thereof) does not cover the funding cost to the Lender of making or maintaining the portion of the Loan to be made or held by it; or

(iv) the Lender has determined that the implementation of Conforming Changes is required to permit the use and administration of the Benchmark and this Agreement has not been amended to incorporate such Conforming Changes;

then, in each case, the Lender shall notify the Borrower. Upon notice thereof by the Lender to the Borrower, any obligation of the Lender to make SOFR Loans, and any right of the Borrower to continue SOFR Loans or to convert Alternative Base Rate Loans to SOFR Loans, shall be suspended (to the extent of the affected SOFR Loans or affected Interest Periods) until the Lender revokes such notice. Upon receipt of such notice, (i) the Borrower may revoke any pending request for a borrowing of, conversion to or continuation of SOFR Loans (to the extent of the affected SOFR Loans or affected Interest Periods) or, failing that, the Borrower will be deemed to have converted any such request into a request for a Borrowing of or conversion to Alternative Base Rate Loans in the amount specified therein and (ii) any outstanding affected SOFR Loans will be deemed to have been converted into Alternative Base Rate Loans at the end of the applicable Interest Period, and, in each case, such converted Loans shall instead bear interest at the rate per annum equal to the sum of (x) the Alternative Base Rate, plus (y) the Applicable Margin as of the last day of the applicable Interest Period; *provided, however*, that the interest rate determined as provided above shall comply with the regulations set forth by the Colombian Central Bank for interest rates of loans of state-owned entities. Upon any such conversion, the Borrower shall also pay accrued interest on the amount so converted, together with any additional amounts required pursuant to this Section 2.07. Subject to Section 2.07(d), if the Lender determines (which determination shall be conclusive and binding absent manifest error) that “Term SOFR” cannot be determined pursuant to the definition thereof on any given day, the interest rate on Alternative Base Rate Loans shall be determined by the Lender without reference to clause (c) of the definition of “Alternative Base Rate” until the Lender revokes such determination.

(d) Benchmark Replacement Setting.

(i) *Benchmark Replacement.* Notwithstanding anything to the contrary herein or in any other Loan Document, if a Benchmark Transition Event and its related Benchmark Replacement Date have occurred prior any setting of the then-current Benchmark, then (x) if a Benchmark Replacement is determined in accordance with clause (a) of the definition of “Benchmark Replacement” for such Benchmark Replacement Date, such Benchmark Replacement will replace such Benchmark for all purposes hereunder and under any Loan Document in respect of such Benchmark setting and subsequent Benchmark settings without any amendment to, or further action or consent of any other party to, this Agreement or any other Loan Document and (y) if a Benchmark Replacement is determined in accordance with clause (b) of the definition of “Benchmark Replacement” for such Benchmark Replacement Date, such Benchmark Replacement will replace such Benchmark for all purposes hereunder and under any Loan Document in respect of any Benchmark setting at or after 5:00 p.m. (New York City time) on the fifth (5th) Business Day after the date notice of such Benchmark Replacement is provided to the Borrower without any amendment to, or further action or consent of any other party to, this Agreement or any other Loan Document. If the Benchmark Replacement is Daily Simple SOFR, all interest payments will be payable on a semi-annual basis.

(ii) In connection with the use, administration, adoption or implementation of a Benchmark Replacement, the Lender will have the right to make Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in any other Loan

Document, any amendments implementing such Conforming Changes will become effective without any further action or consent of any other party to this Agreement or any other Loan Document, it being understood that in no event shall the interest rate determined as provided above exceed the interest rate limits set forth by the Colombian Central Bank for loans to state-owned entities. When making a decision with respect to Conforming Changes the Lender shall give due consideration to recommendations by the Relevant Governmental Body and any evolving or then-prevailing market conventions, in each case as appropriate and as set forth in this definition of Conforming Changes and the related defined terms used therein, and not with a view to obtaining a commercial advantage for the Lender.

(iii) The Lender will promptly notify the Borrower of (x) the implementation of any Benchmark Replacement and (y) the effectiveness of any Conforming Changes in connection with the use, administration, adoption or implementation of a Benchmark Replacement. The Lender will notify the Borrower of (A) the removal or reinstatement of any tenor of a Benchmark pursuant to Section 2.07(d)(iv) and (B) the commencement or conclusion of any Benchmark Unavailability Period. Any determination, decision or election that may be made by the Lender pursuant to this Section 2.07(d), including any determination with respect to a tenor, rate or adjustment or of the occurrence or non-occurrence of an event, circumstance or date and any decision to take or refrain from taking any action or any selection, will be conclusive and binding absent manifest error and may be made in its sole discretion and without consent from any other party to this Agreement or any other Loan Document, except, in each case, as expressly required pursuant to this Section 2.07(d).

(iv) Notwithstanding anything to the contrary herein or in any other Loan Document, at any time (including in connection with the implementation of a Benchmark Replacement), (x) if the then-current Benchmark is a term rate (including the Term SOFR Reference Rate) and either (A) any tenor for such Benchmark is not displayed on a screen or other information service that publishes such rate from time to time as selected by the Lender in its reasonable discretion or (B) the regulatory supervisor for the administrator of such Benchmark has provided a public statement or publication of information announcing that any tenor for such Benchmark is not or will not be representative, then the Lender may modify the definition of "Interest Period" (or any similar or analogous definition) for any Benchmark settings at or after such time to remove such unavailable or non-representative tenor and (y) if a tenor that was removed pursuant to clause (x) above either (A) is subsequently displayed on a screen or information service for a Benchmark (including a Benchmark Replacement) or (B) is not, or is no longer, subject to an announcement that it is not or will not be representative for a Benchmark (including a Benchmark Replacement), then the Lender may modify the definition of "Interest Period" (or any similar or analogous definition) for all Benchmark settings at or after such time to reinstate such previously removed tenor.

(v) Upon the Borrower's receipt of notice of the commencement of a Benchmark Unavailability Period, the Borrower may revoke any pending request for a SOFR Disbursement of, conversion to or continuation of SOFR Loans to be made, converted or continued during any Benchmark Unavailability Period and, failing that, the

Borrower will be deemed to have converted any such request into a request for the Disbursement of or conversion to Alternative Base Rate Loans. During a Benchmark Unavailability Period or at any time that a tenor for the then-current Benchmark is not an Available Tenor, the component of Alternative Base Rate based upon the then-current Benchmark or such tenor for such Benchmark, as applicable, will not be used in any determination of Alternative Base Rate.

2.08. Fees. The Borrower agrees to pay to the Lender any and all fees payable in the amounts and at the times set forth in the Fee Letter. All fees payable hereunder, under the Fee Letter and under the other Loan Documents shall be paid on the dates due, in immediately available funds, to the Lender pursuant to the Fee Letter. Fees paid in accordance with this Agreement, the Fee Letter and the other Loan Documents shall not be refundable under any circumstances, unless otherwise set forth in the relevant Loan Document.

2.09. Additional or Increased Costs.

(a) If, due to any Regulatory Change that: (i) changes the basis of taxation of any amounts payable to the Lender (other than (A) Covered Taxes, (B) Taxes described in clauses (b) through (d) of the definition of Excluded Taxes, and (C) Connection Income Taxes); (ii) imposes, modifies or holds applicable any reserve, special deposit, deposit insurance or similar requirement, including any compulsory loan requirement, insurance charge or other assessment (other than, for any period for which the Lender is subject to a Capital Adequacy Requirement, the reserves against "Eurocurrency liabilities" under Regulation D of the Federal Reserve Board) against assets of, deposits with or for the account of, or Loan extended by, the Lender; or (iii) imposes any other condition affecting this Agreement or the Note held by the Lender, and the effect of any of the foregoing is to increase the cost to the Lender of making its Disbursements or maintaining the Loan or to reduce any amount received or receivable by the Lender hereunder (whether of principal, interest or otherwise), then the Borrower shall from time to time, upon written demand by the Lender, pay to the Lender, additional amounts sufficient to compensate the Lender for such increased cost or reduction suffered.

(b) Each demand for payment by the Lender under this Section 2.09 shall be accompanied by a certificate showing in reasonable detail the basis for the calculation of the amounts demanded in good faith, which certificate, in the absence of manifest error, shall be conclusive and binding for all purposes. The Borrower shall pay the Lender, as the case may be, the amount shown as due on any such certificate within twenty (20) Business Days after receipt thereof.

(c) The Lender shall not be entitled to demand or be compensated for any additional amounts under this Section 2.09 (i) to the extent that such additional amounts relate to any period of time more than one hundred eighty (180) days prior to the date upon which the Lender first notifies the Borrower of such additional amounts, or (ii) if the Lender is causing the incremental cost to be incurred for a reason not provided for in Section 2.09(a) above.

(d) If the Borrower is required to pay any amount to the Lender pursuant to this Section 2.09, it may prepay the portion of the Loan held by the Lender in accordance with

Section 3.02. Notwithstanding anything to the contrary herein, the provisions of Sections 3.03(b) and 3.03(c) shall not apply to any such prepayment.

2.10. Breakage Costs, Other Expenses and Losses. The Borrower agrees to compensate the Lender, promptly upon its written request (which request shall set forth in reasonable detail the basis for requesting such compensation), for all reasonable and documented losses, expenses and liabilities which the Lender may sustain (including any loss, expense or liability incurred by reason of the liquidation or reemployment of deposits or other funds required by the Lender to fund the Disbursement, but excluding any loss of anticipated profits) if: (i) the Borrower fails to borrow in accordance with a Disbursement Request, (ii) the Borrower fails to make a voluntary prepayment of the Loan on an Interest Payment Date therefor in accordance with a prepayment notice given pursuant to Section 3.02, (iii) the Borrower otherwise prepays the Loan on any date other than an Interest Payment Date therefor or (iv) the assignment of a Loan by the Lender pursuant to a request by the Borrower pursuant to Section 2.12 shall occur on a day other than an Interest Payment Date. The Lender's calculation of the amount of compensation owing pursuant to this Section 2.10 shall be made in good faith and in a commercially reasonable manner. The Lender's basis for requesting compensation pursuant to this Section 2.10 and the Lender's calculation of the amount thereof made in accordance with the requirements of this Section 2.10 shall, absent manifest error, be final and conclusive and binding on all parties hereto. The Borrower shall pay the Lender, as the case may be, the amount shown as due on any such certificate within twenty (20) Business Days after receipt thereof.

2.11. Illegality. Notwithstanding any other provision herein, if after the Agreement Date the adoption of or any change in any Applicable Law or in the interpretation or application thereof by a competent Governmental Authority shall make it unlawful for the Lender to make the Disbursement or maintain the Loan as contemplated by this Agreement and the Notes, the Lender shall give notice thereof to the Borrower describing in reasonable detail the relevant provisions of such Applicable Law, following which (a) the Commitment shall forthwith be suspended until the Lender notifies the Borrower that the circumstances causing such suspension no longer exist and (b) if such Applicable Law shall so mandate, the Loan (or portion of the Loan affected thereby) then outstanding shall be prepaid by the Borrower on or before the date required and permitted by Applicable Law, together with all accrued interest thereon (unless actions taken pursuant to Section 2.12 shall make such prepayment unnecessary).

2.12. Lender Replacement.

(a) (i) Upon the occurrence of any event giving rise to the operation of Section 2.09 that results in the Lender charging to the Borrower additional or increased costs, (ii) upon any adoption or change of the type described in Section 2.11, or (iii) the Borrower being required to pay Covered Taxes or additional amounts to the Lender or any Governmental Authority pursuant to Section 4.01, then the Lender shall use reasonable efforts to designate a different lending office for funding the Disbursement or booking the Loan hereunder or to assign its rights and obligations hereunder to another of its offices, branches or affiliates, if, in the judgment of the Lender, such designation or assignment would eliminate or reduce amounts payable pursuant to Sections 2.09 or 4.01, as the case may be, in the future, or would eliminate or reduce the effect of any adoption or change described in Section 2.11 or would not subject the Lender to any unreimbursed cost or expense and would not otherwise be disadvantageous to the Lender. The

Borrower hereby agrees to pay all reasonable and documented costs and expenses incurred by the Lender in connection with any such designation or assignment.

(b) (i) Upon the occurrence of any event giving rise to the operation of Section 2.09 that results in the Lender charging to the Borrower additional or increased costs, (ii) upon any adoption or change of the type described in Section 2.11, or (iii) the Borrower being required to pay Covered Taxes or additional amounts to the Lender or any Governmental Authority pursuant to Section 4, the Borrower shall have the right at its sole expense and effort, if (A) no Event of Default then exists or would exist after giving effect to such replacement, (B) in the case of any such assignment resulting from a claim for compensation under Section 2.09 or payments required to be made pursuant to Section 4, such assignment will result in a reduction in such compensation or payments and (C) in the case of any such assignment resulting from any adoption or change of the type described in Section 2.11, such assignment would eliminate or reduce the effect of any adoption or change described in Section 2.11, to replace the Lender (the “*Replaced Lender*”) with one or more Eligible Transferees (collectively, the “*Replacement Lenders*”); *provided* that, at the time of any replacement pursuant to this Section 2.12, each Replacement Lender shall enter into an Assignment and Assumption Agreement pursuant to Section 11.03(b)(ii), pursuant to which the Replacement Lender shall acquire the applicable portion of the Loan due to the Replaced Lender, and shall pay to the Replaced Lender in respect thereof an amount equal to the principal of, and all accrued interest on, the acquired portion of the Loan of the Replaced Lender plus all other amounts payable to Replaced Lender hereunder. The Lender shall not be required to make any such assignment and delegation if, prior thereto, as a result of a waiver by the Lender or otherwise, the circumstances entitling the Borrower to require such assignment and delegation cease to apply.

SECTION 3 PAYMENTS

3.01. Repayment; Time and Manner. The outstanding principal amount of the Loan shall be due and payable, and shall be unconditionally repaid by the Borrower to the Lender in one installment, to be made on the Maturity Date.

3.02. Voluntary Prepayment. The Borrower may from time to time, without premium or penalty, prepay all or any part of the Loan on any Interest Payment Date; *provided, however*, that: (a) any partial prepayment shall be in a minimum principal amount of U.S. \$5,000,000, or a multiple of U.S. \$1,000,000 in excess thereof; (b) the Borrower shall have given the Lender at least five (5) Business Days’ prior written notice of the proposed prepayment date and the amount of principal to be prepaid (which notice shall be irrevocable); and (c) the Borrower shall have paid in full all amounts then due under this Agreement as of such prepayment date, including interest which has accrued to the prepayment date on the amount being prepaid and any amounts under Section 2.10.

3.03. Payments.

(a) The Borrower shall make each payment hereunder or under any Note (including principal and interest) without set-off or counterclaim and not later than 12:00 p.m. (New York time) on the day when due, in Dollars, to the Lender by wire-transfer to an account

outside of Colombia specified by the Lender in writing at least five (5) Business Days prior to the applicable payment date, in immediately available funds. Payments received by the Lender after 1:00 p.m. (New York time) on any Business Day shall be deemed to be received on the next Business Day.

(b) If at any time insufficient funds are received by and available to the Lender to pay fully all amounts of principal, interest and fees then due hereunder, such funds shall be applied (i) *first*, to payment of fees, indemnities, expenses and other amounts payable to the Lender, (ii) *second*, towards payment of interest then due hereunder, and (iii) *third*, towards payment of principal then due hereunder.

3.04. Extension of Payment Dates. Unless otherwise provided herein, whenever any payment to the Lender under this Agreement or any Note shall be due (other than by reason of acceleration) on a day that is not a Business Day, the date of payment thereof shall be extended to the next succeeding Business Day.

SECTION 4 TAXES

4.01. Covered Taxes.

(a) Any and all payments by or on account of any obligation of the Borrower under any Loan Document shall be made without deduction or withholding for any Taxes, except as required by Applicable Law. If the Borrower shall be required by Applicable Law to withhold or deduct any Taxes from or in respect of any such sum payable to or for the benefit of the Lender, then the Borrower shall be entitled to make such deduction or withholding and shall timely pay the full amount deducted or withheld to the relevant Taxing Jurisdiction or other Governmental Authority in accordance with Applicable Law and, if such Tax is a Covered Tax imposed by a Taxing Jurisdiction or other Governmental Authority, then the sum payable by the Borrower shall be increased as necessary so that after making all required deductions (including deductions applicable to additional sums payable under this Section 4.01) the Lender receives an amount equal to the sum it would have received had no such deductions been made. For the avoidance of doubt, the Lender will not claim a higher amount under the Note for deduction or withholding for any taxes other than Covered Taxes. For Colombian income tax purposes, the Borrower represents that this Credit Agreement is deemed as public foreign indebtedness.

(b) The Borrower shall indemnify the Lender for the full amount of Covered Taxes imposed by a Taxing Jurisdiction or other Governmental Authority that are payable or paid by the Lender (including any Covered Taxes imposed by a Taxing Jurisdiction or other Governmental Authority on amounts payable under this Section 4.01 arising therefrom or with respect thereto), whether or not such Covered Taxes were correctly or legally asserted. The Lender shall give notice to the Borrower upon receipt of any formal written notice of an assertion of any claim against the Lender relating to its Covered Taxes as promptly as possible (and in any event within thirty (30) days) after receipt of such notice, provided that failure by the Lender to provide such notice within ninety (90) days shall relieve the Borrower of its obligation to indemnify the Lender pursuant to this Section 4.01. Within ten (10) Business Days of receipt of any such notice from the Lender, the Borrower shall either:

(i) advise the Lender that it intends to indemnify the Lender in respect of such Covered Taxes pursuant to this paragraph (b), in which case it shall promptly indemnify in respect of such amounts, or

(ii) advise the Lender that it intends to commence a Good Faith Contest with respect to such Covered Taxes at the Borrower's sole cost and expense, in which case it shall promptly commence such Good Faith Contest.

(c) Except to the extent of any Good Faith Contest with respect to Covered Taxes, an indemnity made by the Borrower pursuant to this indemnification shall be made within twenty (20) Business Days after the date the Lender makes written demand therefor, which demand shall be accompanied by a certificate describing in reasonable detail the basis thereof. If the Borrower shall have commenced a Good Faith Contest with respect to any such Covered Taxes and no indemnity payment has been made to the Lender, and such Covered Taxes are ultimately determined to be payable by the Lender in a final judicial proceeding or otherwise, the Borrower shall indemnify the Lender for such Covered Taxes and for any other liability including penalties and interest charged by the relevant Taxing Jurisdiction or other Governmental Authority arising therefrom or with respect thereto.

(d) Within ten (10) days after the date of any indemnification of Covered Taxes by the Borrower, the Borrower shall furnish to the Lender the original or a certified copy of a receipt evidencing indemnification thereof or, if later, promptly after the date on which it receives such receipt and the Borrower shall promptly furnish to the Lender any other information, documents and receipts that the Lender may from time to time reasonably request to establish to its satisfaction that full and timely indemnification has been made of all Covered Taxes required to be indemnified under this Section 4.01.

(e) If the Lender determines in good faith that it has finally and irrevocably received or been granted a refund in respect of any Covered Taxes as to which indemnification has been made by the Borrower pursuant to this Section 4.01, it shall within ten (10) days after the date the Lender has received or been granted a refund, remit such refund (without interest other than any interest received in respect thereof from the relevant Governmental Authority), net of all Taxes and out-of-pocket costs and expenses (including Taxes) payable as a result thereof, to the Borrower; *provided*, that the Borrower agrees to promptly return any such refund (plus any penalties, interest, or other charges imposed by the relevant Governmental Authority) to the Lender in the event the Lender is required to repay such refund to the relevant taxing authority. The Lender shall provide the Borrower with a copy of any notice of assessment (or any similar documentation) from the relevant taxing authority (redacting any unrelated Confidential Information contained therein) requiring repayment of such refund. This paragraph shall not be construed to require the Lender to make available its Tax returns (or any other information relating to its Taxes that it deems confidential) to the Borrower or any other Person.

(f) If the Lender is entitled to an exemption from or reduction of withholding Tax with respect to payments made under any Loan Document, it shall deliver to the Borrower, at the time or times reasonably requested by the Borrower, such properly completed and executed documentation reasonably requested by the Borrower as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, the Lender, if reasonably

requested by the Borrower, shall deliver such other documentation prescribed by Applicable Law or reasonably requested by the Borrower as will enable the Borrower to determine whether or not the Lender is subject to backup withholding or information reporting requirements. The Lender agrees that if any form or certification they previously delivered expires or becomes obsolete or inaccurate in any respect, they shall update such form or certification or promptly notify the Borrower in writing of its legal inability to do so. Notwithstanding anything to the contrary in the preceding three sentences, the completion, execution and submission of such documentation shall not be required if in the Lender's reasonable judgment such completion, execution or submission would subject the Lender to any material unreimbursed cost or expense or would materially prejudice the legal or commercial position of the Lender.

(g) Each party's obligations under this Section 4 shall survive any assignment of the Loan by the Lender, the termination of the Commitments and the repayment, satisfaction or discharge of all obligations under any Loan Document.

SECTION 5

CONDITIONS PRECEDENT

5.01. Conditions Precedent on the Agreement Date.

The obligations of the Lender under this Agreement shall be subject to the Lender's confirmation of satisfaction or waiver of each of the following conditions precedent on or before the Agreement Date:

(a) This Agreement. This Agreement shall have been duly authorized, fully executed and delivered by the parties hereto, shall be in full force and effect and originals shall have been delivered to the Lender.

(b) Existence and Authority. The Lender shall have received a certificate signed by an Authorized Officer of the Borrower, dated as of the Agreement Date, substantially in the form of Annex D, with respect to (i) the authority of the Borrower to execute, deliver, perform and observe the terms and conditions of the Loan Documents; (ii) the identity, authority and capacity (including specimen signatures) for each Person who, on behalf of the Borrower, signed any Loan Document; and (iii) the Borrower's valid existence under the laws of Colombia.

(c) Governmental Approvals. The Lender shall have received copies, certified as true, correct and complete copies by an Authorized Officer of the Borrower, of each consent, license, authorization or approval of, and exemption by, any Governmental Authority, including an authorization to execute this Agreement issued by means of a Resolution issued by the Ministry of Finance, in accordance with Article 2.2.1.2.1.4 of Decree 1068 of 2015 (as amended, modified or supplemented from time to time), which has been granted and is referred to in Recital C of this Agreement, as evidenced by the publication of the Resolution in the Official Diary, which was satisfied pursuant to Article 18 of Law 185 of 1995 (as amended, modified or supplemented from time to time) (other than those referenced in Section 5.02(c)): (i) for the execution, delivery, performance, and observance by the Borrower of the Loan Documents, including all approvals, if any,

relating to the availability and transfer of U.S. Dollars required to make all payments due under the Loan Documents; and (ii) for the validity, binding effect, and enforceability of the Loan Documents, and each of the foregoing shall be in full force and effect.

(d) Legal Opinions. The Lender shall have received opinions dated as of the Agreement Date of (i) Gómez-Pinzón Abogados S.A.S., Colombian counsel to the Lender, (ii) Brigard & Urrutia S.A.S. Colombian counsel to the Borrower, (iii) Shearman & Sterling LLP, New York counsel to the Borrower and (iv) Milbank LLP, New York counsel to the Lender and, in each case, covering such matters as are reasonably agreed between applicable counsel to the Lender and the counsel delivering such opinion and addressed to the Lender and reasonably acceptable to the Lender.

(e) Appointment of Process Agent. The Lender shall have received evidence that (i) the Borrower has irrevocably appointed as its agent for service of process the Person or Persons so specified in Section 9.03, and (ii) the designated agent has accepted the appointment (and been paid in full by the Borrower) for a term extending at least one year beyond the Maturity Date and has agreed to forward forthwith to the Borrower all legal process addressed to the Borrower that is received by such agent.

(f) Fee Letter. The Lender shall have received (i) a copy of the Fee Letter duly executed and delivered by the parties thereto and (ii) evidence of payment of fees then due and payable as of the Agreement Date pursuant to the Fee Letter.

(g) Borrower Financial Statements. The Lender shall have received copies of the Borrower Financial Statements.

(h) KYC. To the extent requested at least three (3) Business Days prior to the date hereof by the Lender, the Lender, shall have received such requested documents required to comply with its “know your customer” procedures and anti-money laundering and rules and regulations, including, without limitation, the PATRIOT Act and beneficial ownership certification.

(i) Closing Certificate. The Lender shall have received a certificate signed by an Authorized Officer of the Borrower, dated as of the Agreement Date, certifying that the conditions specified in Section 5.01 have been satisfied as of the Agreement Date.

5.02. Additional Conditions Precedent to the Disbursement. The obligation of the Lender to make the Disbursement, shall be subject to the satisfaction (or waiver by the Lender), prior to the making of the Disbursement, of each of the following conditions precedent:

(a) No Event of Default. No Event of Default or Potential Default shall be continuing both before and immediately after giving effect to the aggregate amount of the Disbursement and the application of the proceeds thereof.

(b) Disbursement Request. The Lender shall have received a duly executed and completed Disbursement Request.

(c) Governmental Registrations.

(i) The Lender shall have received evidence that the Agreement has been filed, registered and/or published (as applicable) with the appropriate authorities in Colombia, if such filing, registration and/or publication is required under Applicable Law;

(ii) the Lender shall have received copies, certified as true, correct and complete copies by an Authorized Officer of the Borrower, of the filing of this Agreement before the Colombian Central Bank as External Indebtedness by means of timely filing the relevant international indebtedness granted to residents form (*Informe de Crédito Externo Otorgado a Residentes*) or the applicable External Indebtedness report ; and

(iii) an Authorized Officer of the Borrower shall have confirmed to the Lender (which confirmation may be included in the Disbursement Request for the Disbursement) that the proceeds of the Disbursement will not be applied to capital expenditures, in accordance with the favorable opinion of the General Directorate of Public Credit and National Treasury (*Dirección General de Crédito Público y Tesoro Nacional*).

(d) Note. The Lender shall have received a duly executed Note evidencing the Loan and an Instructions Letter with respect thereto issued in accordance with Section 2.06.

(e) Representations and Warranties. The representations and warranties made by the Borrower in this Agreement shall be true and correct in all material respects on and as of the Disbursement Date for the Disbursement both before and immediately after giving effect to the Disbursement and the application of the proceeds thereof other than any such representations or warranties that, by their terms, refer to a specific date other than the date of such Disbursement, in which case such representations and warranties shall be true and correct in all material respects on and as of such specific date; *provided that* (i) representations and warranties qualified as to materiality shall be true and correct in all respects as of such date and (ii) for purposes of the representations and warranties contained in Section 6.01(i) (*Borrower Financial Statements*) shall be deemed to refer to the most recent statements furnished pursuant to Section 7.01(b).

SECTION 6

REPRESENTATIONS AND WARRANTIES

6.01. Representations and Warranties of the Borrower. The Borrower represents and warrants, as of the Agreement Date and as of the Disbursement Date, that:

(a) Existence and Authority. The Borrower is duly organized and validly existing under the laws of Colombia, has all requisite power, authority and legal right to own its property and carry on its business as now conducted, and has taken all actions necessary to authorize it to execute, deliver, perform, and observe the terms and conditions of the Loan Documents.

(b) Governmental Approvals. All consents, licenses, permits, authorizations and approvals of, and exemptions by, any Governmental Authority that are necessary: (i) for the execution, delivery, performance and observance by the Borrower of the Loan Documents, including approvals relating to the availability and transfer of U.S. Dollars required to make all payments due under the Loan Documents; and (ii) for the validity,

binding effect and enforceability of the Loan Documents, have, in each case, been obtained and are in full force and effect, as set forth in Section 5.01(c) hereof.

(c) Recordation. To ensure the legality, validity, enforceability, priority or admissibility in evidence in Colombia of any of the Loan Documents, it is not necessary that any of the Loan Documents be registered, recorded, enrolled or otherwise filed with any court or Governmental Authority, except as set forth in Sections 5.02(c) and 7.01(d) hereof, or be notarized; or that any documentary, stamp or other similar Tax, imposition or charge of any kind be paid on or in respect of any of the Loan Documents.

(d) Restrictions. The execution, delivery and performance or observance by the Borrower of the terms of, and consummation by the Borrower of the transactions contemplated by, this Agreement do not and will not conflict with or result in a breach or violation of: (i) the *Estatutos Sociales* of the Borrower; (ii) any law of Colombia or any other ordinance, decree, constitutional provision, regulation or other requirement of any Governmental Authority in effect as of the date on which this representation is made; or (iii) any order, writ, injunction, judgment, decree or award of any court or other tribunal. Further, the Borrower's execution and delivery of the Loan Documents, the performance and observance of its obligations thereunder, and the consummation of the transactions contemplated by this Agreement do not and will not conflict in any material respect with or result in a material breach of any material agreement or instrument to which the Borrower is a party or to which it or any of its revenues, properties or assets may be subject, or result in the creation or imposition of any Lien upon any of the revenues, properties or assets of the Borrower pursuant to any such material agreement or instrument.

(e) Binding Effect and Ranking. The Borrower has duly executed and delivered each Loan Document on or before the Agreement Date, other than the Note which will be delivered to the Lender on the date of the Disbursement. Each Loan Document constitutes a direct, general, and unconditional obligation of the Borrower that is legal, valid, and binding upon the Borrower and enforceable against the Borrower in accordance with its respective terms, except as such enforceability may be limited by Colombian public order laws, applicable insolvency, reorganization, liquidation, moratorium, readjustment of debt or other similar laws affecting the enforcement of creditors' rights generally, and by the application of general principles of equity, regardless of whether such enforceability is considered in a proceeding at law or in equity. The Borrower's payment obligations under the Loan Documents constitute the direct, general, unsecured, unsubordinated and unconditional obligations of the Borrower and rank, in all respects, at least *pari passu* in priority of payment with all other senior, unsecured and unsubordinated External Indebtedness of the Borrower.

(f) Choice of Law. Under the conflict of laws principles in Colombia, the choice of law provisions of this Agreement and any Note are valid, binding and not subject to revocation by the Borrower, and in any proceedings brought in Colombia for enforcement of this Agreement and any Note, the choice of the law of the State of New York as the governing law of such documents will be recognized and such law will be applied. Notwithstanding the foregoing or anything to the contrary in Section 9.01, all

matters governing the authorization and execution of the Loan Documents by the Borrower are governed by and construed in accordance with the laws of Colombia.

(g) Commercial Activity. Except as provided for in (i) Articles 192, 195, 298 and 299 of Law 1437 of 2011 (*Código de Procedimiento Administrativo y de lo Contencioso Administrativo*), as amended by Articles 80, 81 and 87 of Law 2080 of 2021 (as amended, modified or supplemented from time to time), and (ii) Articles 593, 594 and 595 of Law 1564 of 2012 (*Código General del Proceso*), the Borrower acknowledges that the execution and performance of this Agreement and each other Loan Document is a commercial activity and to the extent that the Borrower has or hereafter may acquire any immunity from any legal action, suit or proceedings, from jurisdiction of any court or from set-off or any legal process (whether service or notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise) with respect to itself or any of its property or assets, whether or not held on its own account, the Borrower hereby irrevocably and unconditionally waives and agrees not to plead or claim such immunity in respect of its obligations under this Agreement or any other Loan Document.

(h) Legal Proceedings. There are no actions, suits, litigation, arbitration or administrative proceedings pending or, to the best of the Borrower's knowledge and belief, threatened against the Borrower which are reasonably likely to be adversely determined and, if adversely determined, could reasonably be expected to have a Material Adverse Effect.

(i) Borrower Financial Statements. The Borrower Financial Statements present fairly in all material respects the financial condition of the Borrower and its consolidated Subsidiaries at the date of such statements and the results of the operations of the Borrower and its consolidated Subsidiaries for the fiscal year or other time period to which such statements refer, in the case of unaudited Borrower's financial statements, subject to changes resulting from audit and nominal year-end adjustments and the absence of footnotes. The Borrower Financial Statements have been prepared in accordance with IFRS consistently applied. Except as reflected in the Borrower Financial Statements, there are no liabilities or obligations with respect to the Borrower or any of its consolidated Subsidiaries of any nature whatsoever (whether absolute, accrued, contingent or otherwise, and whether or not due) for the period to which the Borrower Financial Statements relate that, either individually or in the aggregate, would be materially adverse to the Borrower. Since the date of the Borrower Financial Statements, there has been no event, condition or circumstance that has had or could reasonably be expected to have a Material Adverse Effect, *provided* that changes in the oil and gas prices and any related changes in the economy or financial markets generally, whether international, national, regional or local shall not be deemed to be a Material Adverse Effect for purposes of this representation.

(j) No Corrupt Practices; Anti-Money Laundering Laws. None of the Borrower or, to the knowledge of the Borrower, any of its Subsidiaries, or any director, officer, agent, employee or other person acting on behalf of the Borrower or any of its Subsidiaries is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the FCPA or any other applicable Anti-Corruption Law, or

any Anti-Money Laundering Laws; and the Borrower and to the knowledge of the Borrower each of its Subsidiaries has implemented policies designed to promote and achieve continued compliance by the Borrower, its Subsidiaries, and their respective directors, officers, employees and agents with all Anti-Corruption Laws and Anti-Money Laundering Laws. The Borrower will not, and will take the necessary steps to prevent any Subsidiary to, directly or indirectly, use any part of the proceeds of the Disbursement, or lend, contribute or otherwise make available such proceeds to any Subsidiary, joint venture partner or other Person in any manner that would give rise to a violation of any Anti-Corruption Law or Anti-Money Laundering Law.

(k) Sanctions; Office of Foreign Assets Control Regulations. None of the Borrower or, to the knowledge of the Borrower, any of its Subsidiaries or any director, officer, employee or agent of the Borrower or any of its Subsidiaries is a Sanctioned Person or to the Borrower's knowledge is currently or has, in the past (5) years, engaged in any activity that would reasonably be expected to result in the Borrower or any Subsidiary being designated as a Sanctioned Person. The Borrower and each of its Subsidiaries has implemented policies designed to promote and achieve continued compliance by the Borrower, its Subsidiaries and their respective directors, officers, employees and agents with applicable Sanctions. The Borrower will not use, and will take the necessary steps to prevent that any Subsidiary, directly or indirectly, uses the proceeds of the Disbursement, or lend, contribute or otherwise make available such proceeds to any Subsidiary, joint venture partner or other Person: (i) to fund or facilitate any activities or business of or with any Sanctioned Person, or in any Sanctioned Country, or (ii) in any other manner that would give rise to a violation of Sanctions by any party hereto, including the Lender.

(l) No Event of Default. No Event of Default and no Potential Default has occurred and is continuing.

(m) No Material Adverse Effect. The Borrower is not aware of any information or events that have resulted, or that could reasonably be expected to result, in a Material Adverse Effect relating to the Borrower, *provided* that changes in the oil and gas prices and any related changes in the economy or financial markets generally, whether international, national, regional or local shall not be deemed to be a Material Adverse Effect for purposes of this representation.

(n) Compliance with Laws. Each of the Borrower and, to the knowledge of the Borrower, its Material Subsidiaries is in compliance with all Applicable Laws (including environmental laws), all Governmental Approvals held by or binding upon the Borrower or its assets and all applicable restrictions imposed by all Governmental Authorities, domestic or foreign, except (i) in the case of Anti-Corruption Law, Anti-Money Laundering Law or Sanctions, as provided in clauses (j) or (k) above, and (ii) in any other case, where the failure to do so, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect.

(o) Regulation.

(i) Investment Company. The Borrower is not an “investment company” as defined in the Investment Company Act of 1940.

(ii) Margin Stock. The Borrower is not engaged principally, or as one of its important activities, in the business of extending credit for the purpose, whether immediate, incidental or ultimate, of buying or carrying “margin stock” within the meaning of Regulation U, and no part of the proceeds of the Loan will be used for the purpose, whether immediate, incidental or ultimate, of buying or carrying any such “margin stock.”

(p) Taxes.

(i) The Borrower has timely filed or caused to be filed all Tax returns and reports required to have been filed and has paid or caused to be paid all Taxes required to have been paid by it, except, in each case, (1) Taxes that are contested by the Borrower on a timely basis in good faith and by appropriate proceedings and for which adequate reserves therefor have been established on the books of the Borrower in conformity with IFRS or (2) for which the failure to do so could not reasonably be expected to have a Material Adverse Effect.

(ii) There are no Taxes imposed by any Governmental Authority either on or by virtue of the execution, enforcement or admissibility into evidence of any of the Loan Documents or any of the transactions thereby or on any payment to be made pursuant to any Loan Document.

(q) Validity under Colombian Law. The Loan Documents are in proper form under Colombian law for their enforcement thereof. To ensure the legality, validity or enforceability of, and the priority of the obligations incurred by the Borrower under the Loan Documents in Colombia, or establish the admissibility into evidence of any of the Loan Documents in any court in Colombia, it is not necessary that any Loan Document be filed or recorded with any Colombian governmental agency or body, or court, except for those referred to in Section 5.01(c) or Section 5.02(c), or that any stamp or similar Tax be paid in Colombia on or in respect of any Loan Document for its enforcement in Colombia.

(r) Recognition of Final Judgments. A final judgment for a fixed or readily calculable sum of money rendered by any court of the State of New York or the United States of America located in the State of New York based upon any of the Loan Documents (excluding the Notes) would be declared enforceable in Colombia in the courts of Colombia against the Borrower without reexamination, review of the merits of the cause of action in respect of which the original judgment was given or re-litigation of the matters adjudicated; *notwithstanding, however*, that recognition of such judgment in Colombia shall be subject to Colombian procedural Applicable Laws, in particular Articles 251, 605, 606 and 607 of Law 1564 of 2012 (*Código General del Proceso*).

(s) Disclosure of Information. No information that has been made available to the Lender or the representatives or agents of the foregoing by or on behalf of the Borrower in connection with the transactions contemplated hereby, taken as a whole, contains any

untrue statement of a material fact or omits to state a material fact necessary to make the statements made therein not misleading in light of the circumstances in which they are made; *provided* that with respect to any projected financial information, the Borrower represents only that such information was prepared in good faith based upon assumptions believed to be reasonable at the time.

(t) Properties. The Borrower has good title to, or valid leasehold interests in, all material property necessary to conduct its business as conducted from time to time in good working order and condition, except to the extent failure to do so could not reasonably be expected to have a Material Adverse Effect.

(u) Insurance. The Borrower maintains insurance with financially sound and reputable insurers against losses, damages or other risks (including, without limitation, risks and liability to Persons and property) to its assets and properties as are customarily maintained by prudent and experienced Persons engaged in the same or similar businesses operating in the same or similar jurisdictions and the Borrower deems, in its reasonable judgment, to be appropriate.

SECTION 7 COVENANTS

7.01. Affirmative Covenants of the Borrower. The Borrower covenants and agrees that, until all amounts owing under the Loan Documents (other than contingent indemnification obligations) have been paid in full, the Borrower shall:

(a) Notice of Defaults. Promptly but in no event later than ten (10) Business Days after the Borrower becomes aware of the occurrence of an Event of Default or of any Potential Default, furnish to the Lender written notice of the particulars of such occurrence and the corrective action proposed to be taken by the Borrower with respect thereto.

(b) Financial Reports. No later than one hundred and eighty (180) days after the end of each of the Borrower's fiscal years, the Borrower shall furnish to the Lender a copy of the Borrower's annual consolidated financial statements, including its balance sheet, statement of income, and statement of cash flow for that fiscal year, all of which shall have been audited by an independent accounting firm of internationally recognized standing. If shares of the Borrower are not listed and available for trading on at least one of the New York Stock Exchange or the Colombian Stock Exchange (*Bolsa de Valores de Colombia*), the Borrower shall furnish to the Lender, no later than ninety (90) days after the end of each of the first three (3) fiscal quarters of each fiscal year of the Borrower, a copy of the Borrower's quarterly unaudited consolidated interim financial statements. All financial reports to be submitted to the Lender shall be prepared in accordance with IFRS, shall be in the English language (or accompanied by an accurate English translation), shall (in the case of the Borrower's annual consolidated financial statements) include the auditor's opinion and any accompanying notes, and shall fairly present in all material respects the financial condition of the Borrower and the results of its operations for the periods covered.

(c) Inspections. The Borrower will permit, upon reasonable prior notice and during normal business hours, representatives of the Lender, at its own cost and expense, to make no more than three (3) inspections *per annum* of the Borrower's books and records, and cause the officers and employees of the Borrower to give full cooperation and assistance in connection therewith; *provided* that, if an Event of Default has occurred and is continuing the Borrower will reimburse the Lender for such costs and expenses, and the numbers of inspections permitted pursuant to this Section 7.01(c) shall be as reasonably determined by the Lender. The Lender shall use reasonable efforts to coordinate such visits and inspections in order to reduce their number, frequency and cost.

(d) Government Approvals and Registrations.

(i) Promptly obtain and maintain all consents, licenses, permits, authorizations and approvals of, and exemptions by, any Governmental Authority that are necessary: (i) for the execution, delivery, performance, and observance by the Borrower of the Loan Documents, including all approvals relating to the availability and transfer of U.S. Dollars required to make all payments due under the Loan Documents; and (ii) for the validity, binding effect and enforceability of the Loan Documents. The Borrower shall make all public filings required by law in connection with the execution of this Agreement, including any requirements to publish the Agreement in the *Sistema Electrónico para la Contratación Pública – SECOP*.

(ii) Promptly after completing the registration of this Agreement with the Ministry of Finance's Database and the National Comptroller's Office (*Contraloría General de la República*), deliver evidence thereof to the Lender.

(iii) Promptly after receiving evidence thereof and, in any case, within the fifteen (15) Business Days after the first Disbursement hereunder, deliver evidence to the Administrative Agent of the registration of this Agreement before the Colombian Central Bank as External Indebtedness and the obtention of an identification number for the External Indebtedness granted by the Colombian Central Bank.

(e) Pari Passu. Ensure that its payment obligations under this Agreement and the Notes will at all times constitute the direct, general, unsecured, unsubordinated and unconditional obligations of the Borrower and rank in all respects at least *pari passu* in priority of payment with all other senior, unsecured and unsubordinated External Indebtedness of the Borrower, other than that which is preferred solely by the insolvency and/or bankruptcy Applicable Laws of Colombia, including the Law 1116 of 2006 of Colombia.

(f) Other Acts. From time to time, do and perform any and all acts and execute any and all documents as may be necessary or as reasonably requested by the Lender in order to effect the purposes of this Agreement and to protect the rights of the Lender hereunder and under the Notes.

(g) Material Adverse Effect. As soon as practicable, but in any event no later than ten (10) Business Days after it has knowledge of the same, provide notification to the Lender of any Material Adverse Effect.

(h) Compliance with Laws. The Borrower will, and will use its reasonable best efforts to cause each of its Material Subsidiaries to, comply with all Applicable Laws (including environmental laws) all Governmental Approvals held by or binding upon it or its assets and all applicable restrictions imposed by all Governmental Authorities, domestic or foreign, in respect of the conduct of its business and the ownership of its property, except (other than with respect to any Anti-Corruption Laws, Anti-Money Laundering Laws or Sanctions) to the extent any non-compliance is not reasonably expected to have a Material Adverse Effect.

(i) Maintenance of Existence. Except as otherwise permitted by Section 7.02(b), the Borrower shall maintain its corporate existence and take all reasonable actions to maintain all rights, privileges and the like necessary or desirable in the normal conduct of business, activities or operations, except to the extent failure to do so could not reasonably be expected to have a Material Adverse Effect.

(j) Preservation of Assets. The Borrower will maintain all material property necessary to conduct its business as conducted from time to time in good working order and condition, except to the extent failure to do so could not reasonably be expected to have a Material Adverse Effect.

(k) Insurance. The Borrower will maintain insurance on its material property with financially sound and reputable insurance companies against such risks, of such types, on such properties and in such amounts as may from time to time be prudent for the Borrower's businesses, as determined by the Borrower in the exercise of its reasonable judgment.

(l) Use of Proceeds. The Borrower will use the proceeds of the Disbursement for non-investment expenses in accordance with the terms and conditions of this Agreement and the favorable opinion of the General Directorate of Public Credit and National Treasury (*Dirección General de Crédito Público y Tesoro Nacional*), and will not be applied to capital expenditures. No part of the proceeds of the Disbursement will be used by the Borrower to purchase or carry any Margin Stock or to extend loans to others for the purpose of purchasing or carrying any Margin Stock.

(m) Taxes. The Borrower will file all tax returns required to be filed in any jurisdiction and pay and discharge all Taxes shown to be due and payable on such returns and all other Taxes, assessments, governmental charges, concession fees or levies imposed on it or any of its property, income or franchises, to the extent such Taxes and assessments have become due and payable and before they have become delinquent, and all claims for which sums have become due and payable that have or might become a Lien (other than a Permitted Lien) on its Property except where (i) the amount, applicability or validity of such Tax, assessment of claim is contested by the Borrower on a timely basis in good faith

and by appropriate proceedings or (ii) the failure to do so could not reasonably be expected to have a Material Adverse Effect.

(n) Books and Records. The Borrower shall keep proper books and records and accounts adequate to reflect truly and fairly in all material respects its financial condition and results of operations in conformity with IFRS and Applicable Law.

(o) Sanctions. The Borrower will maintain in effect policies and procedures designed to promote compliance by the Borrower, its Subsidiaries, and their respective directors, officers, employees, and agents with Sanctions.

(p) Anti-Corruption Laws and Anti-Money Laundering Laws. The Borrower will maintain in effect policies designed to promote compliance by the Borrower, its Subsidiaries, and their respective directors, officers, employees, and agents with the FCPA and any other applicable Anti-Corruption Laws and Anti-Money Laundering Laws.

7.02. Negative Covenants of the Borrower. The Borrower covenants and agrees that, until all amounts owing under the Loan Documents (other than contingent indemnification obligations) and the Notes have been paid in full, it shall not:

(a) Liens. Directly or indirectly (or permit any Material Subsidiary to directly or indirectly) create, incur, assume, permit or suffer to exist any Liens, except Permitted Liens, to secure the payment of Indebtedness of the Borrower or any Material Subsidiary.

(b) Merger, Consolidation, Dissolution, and Sale.

(i) The Borrower shall not merge or consolidate with any other Person, dissolve or terminate its legal existence, or, directly or indirectly, sell, lease, transfer or otherwise dispose of, or permit any of its Material Subsidiaries to sell, lease, transfer or otherwise dispose of all or substantially all of the properties of the Borrower and its Material Subsidiaries (taken as a whole), unless in each case (1) for any such transaction involving the Borrower, the successor entity or entities, each of which shall be organized under the laws of Colombia or any country that is a member of the Organization for Economic Cooperation and Development (OECD), shall assume all the obligations of the Borrower under this Agreement and the Notes, (2) immediately after giving effect to the transaction, no Event of Default shall have occurred and be continuing, and (3) for any such transaction involving the Borrower, the Borrower delivers such certificates, opinions of its counsel and other documents regarding such transaction as may be required by the Lender in form and substance reasonably satisfactory to the Lender.

(ii) For the avoidance of doubt: (A) in addition to the foregoing permitted transactions, the following transactions are expressly permitted under this Section 7.02(b): (1) mergers and consolidations of Subsidiaries into the Borrower, and (2) mergers, consolidations, sales, leases, transfers, divestitures or reorganizations among Subsidiaries; and (B) nothing in this Section 7.02(b) shall prohibit the Borrower or any Subsidiary from entering into build-lease-transfer, build-operate-transfer or similar project financing arrangements, *provided* that such

arrangements are for (x) new greenfield projects or (y) the expansion of existing project assets or properties in which such arrangements extend only to the expansion assets and not in any substantial respect to the existing assets.

(c) Sanctions. The Borrower will not, and will take the necessary steps to prevent any Subsidiary to, directly or indirectly, use any part of the proceeds of the Disbursement, or lend, contribute or otherwise make available such proceeds to any Subsidiary, joint venture partner or other Person: (i) to fund or facilitate any activities or business of or with any Sanctioned Person, or in any Sanctioned Country, or (ii) in any other manner that would give rise to a violation of Sanctions by any party hereto, including the Lender.

(d) Anti-Money Laundering Laws. The Borrower will not use, and will take the necessary steps to prevent that any Subsidiary, directly or indirectly, uses any part of the proceeds of the Disbursement, or lend, contribute or otherwise make available such proceeds to any Subsidiary, joint venture partner or other Person in any manner that would give rise to a violation any Anti-Corruption Law or Anti-Money Laundering Law.

(e) Change in Business. The Borrower will not engage in any activities or businesses other than any activities or businesses conducted by the Borrower or its Subsidiaries as of the Agreement Date or any activities or businesses reasonably ancillary or related thereto.

(f) Transactions with Affiliates. The Borrower will not enter into any material transaction or series of related transactions with any Affiliate of the Borrower, other than on terms and conditions substantially as favorable to the Borrower as would reasonably be obtained at that time in a comparable arm's-length transaction with a Person other than such Affiliate.

SECTION 8 EVENTS OF DEFAULT AND REMEDIES

8.01. Events of Default.

Each of the following events or conditions shall be an "*Event of Default*":

(a) any failure by the Borrower to pay when due (i) any amount of principal owing under a Loan Document, (ii) any amount of interest owing under a Loan Document within five (5) Business Days of the due date thereof or (iii) any fee or other amount (other than principal or interest) owing under a Loan Document within thirty(30) days of the earlier of the date the Borrower receives (x) the invoice or (y) a written demand from the Lender;

(b) any failure by the Borrower to comply with its obligations under Sections 7.01(a), (e), (g), (i) or, (l) or Section 7.02;

(c) any representation or warranty made by the Borrower in any Loan Document or in connection herewith, or any statement made in any certificate, report or

financial statement furnished by the Borrower, has been demonstrated to have been false or misleading in any material respect when made or deemed made, *provided* that such false or misleading statement shall not constitute an Event of Default if such condition or circumstance is (i) subject to cure and (ii) the facts or conditions giving rise to such misrepresentation or misstatement are cured in such a manner as to eliminate such misrepresentation or misstatement within thirty (30) days after the Borrower's having knowledge thereof;

(d) any failure by the Borrower to perform or comply with any of the covenants or provisions set forth in a Loan Document (exclusive of any events specified as an Event of Default in any other subsection of this Section 8.01), which failure remains uncured for a period of thirty (30) days, or in the case of Section 7.01(h) (solely to the extent it relates to compliance with Anti-Corruption Laws, Anti-Money Laundering Laws or Sanctions) five (5) Business Days after the Lender has given written notice thereof to the Borrower;

(e) any event specified in any agreement or instrument under which there may be issued, or by which there may be secured or evidenced, External Indebtedness of the Borrower or any Material Subsidiary thereof shall occur and shall result in such External Indebtedness in an aggregate principal amount in excess of fifty million U.S. Dollars (U.S. \$50,000,000) (or its equivalent) becoming or being declared due and payable prior to the date on which it would otherwise have become due and payable;

(f) (A)(i) the Borrower shall be unable generally to pay its debts as they fall due or shall admit in writing its inability to pay its debts as they fall due or shall become insolvent; (ii) the Borrower shall apply for or consent to the appointment of any liquidator, receiver, trustee, *síndico*, *conciliador* or administrator for all or a substantial part of its business, properties, assets, or revenues; or (iii) a liquidator, receiver, trustee, or administrator shall be appointed for the Borrower and such appointment shall continue undismissed, undischarged or unstayed for a period of ninety (90) days; (B) the Borrower shall institute (by petition, application, answer, consent or otherwise) any bankruptcy, arrangement, readjustment of debt, dissolution, liquidation, *proceso de reestructuración*, *proceso de reorganización*, *proceso de insolvencia*, *concurso mercantil*, *quiebra*, or similar executory or judicial proceeding; (C) a bankruptcy, arrangement, readjustment of debt, dissolution, liquidation, *proceso de reestructuración*, *proceso de reorganización*, *proceso de insolvencia*, *concurso mercantil*, *quiebra*, or similar executory or judicial proceeding shall be instituted against the Borrower and such proceeding shall remain undismissed, undischarged or unstayed for a period of ninety (90) days; (D) the Borrower shall take any action seeking to take advantage of any other law relating to its bankruptcy, insolvency, liquidation, termination, dissolution, winding up, or composition, or readjustment of debts; or (E) the Borrower shall take any corporate or similar action for the purpose of effecting any of the foregoing; *provided* that for as long as Colombia's applicable insolvency laws provide for restrictions on or sanctions associated with the ability of the Lender, directly or indirectly, to exercise the right to declare an Event of Default under this Section 8.01(f), the Lender and Borrower hereto agree that nothing in this Section 8.01(f) shall (A) prevent the commencement of any restructuring proceeding in Colombia, whether voluntary or involuntary, in respect of the Borrower, (B) prohibit the Borrower from entering into a

restructuring proceeding in Colombia, or (C) cause an unfavorable effect (*efecto desfavorable*) upon the Borrower;

(g) any final, non-appealable judgment against the Borrower or any Material Subsidiary (i) shall have been entered on a claim not covered by insurance in an aggregate amount of fifty million U.S. Dollars (U.S. \$50,000,000) (or its equivalent in another currency) or more, and (ii) such judgment has not been removed, vacated, discharged or satisfied for a period of sixty (60) days from the date of such final judgment;

(h) any Governmental Authority shall have (i) condemned, seized or otherwise expropriated (either through a single act or a series of acts) all or substantially all of the property of the Borrower or (ii) taken any action that materially curtails the authority of the Borrower to conduct its business;

(i) any authorization, approval, Governmental Approval, consent, license, exemption, filing, registration, notarization or other requirement of any Governmental Authority necessary to enable the Borrower to comply with its obligations under any Loan Document shall have been revoked, rescinded, suspended, held invalid or otherwise limited in effect in a manner that could reasonably be expected to have a Material Adverse Effect;

(j) any Loan Document ceases to be in full force and effect or is declared in a final, non-appealable judgment to be unenforceable against the Borrower (in each case, other than as a result of any action or inaction on the part of the Lender), the validity or enforceability of any Loan Document at any time is challenged by the Borrower; or the Borrower repudiates any Loan Document, or does or causes to be done any act or thing evidencing an intention to repudiate any Loan Document; or

(k) Colombia shall cease to own and control at least 50.1% of the outstanding economic and voting ownership interests of the Borrower or any successor entity permitted under the terms hereof and the Borrower shall fail to prepay the Loan within the thirty (30) days following that event.

8.02. Remedies. If any Event of Default shall occur and be continuing, the Lender may, by notice to the Borrower, declare (a) any and all amounts of principal outstanding under this Agreement and the Notes to be forthwith due and payable together with accrued interest and any and all other amounts payable or owing hereunder, whereupon the same shall become forthwith due and payable and (b) declare the Commitment to be terminated forthwith, whereupon the Commitment shall immediately terminate; *provided* that if such event is an Event of Default specified in Section 8.01(f) above, automatically the Commitment shall immediately terminate and the Loan hereunder (with accrued interest thereon) and all other amounts owing under this Agreement and the Notes shall immediately become due and payable. Presentment, demand, protest or notice of any kind (other than the notice provided for in the first sentence of this paragraph) are expressly waived, anything in this Agreement to the contrary notwithstanding. The aforementioned right to accelerate is in addition to and not a substitute for any other rights and remedies available under this Agreement and under Applicable Law.

SECTION 9
GOVERNING LAW AND JURISDICTION

9.01. Governing Law. THIS AGREEMENT AND ALL MATTERS ARISING OUT OF OR RELATING IN ANY WAY WHATSOEVER TO THIS AGREEMENT (WHETHER IN CONTRACT, TORT OR OTHERWISE) SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK.

Notwithstanding the foregoing, all matters governing the authorization and execution of the Loan Documents by the Borrower shall be governed by and construed in accordance with the laws of Colombia.

9.02. Submission to Jurisdiction. EACH OF THE PARTIES TO THIS AGREEMENT AGREES THAT ANY SUIT, ACTION OR PROCEEDING WITH RESPECT TO THIS AGREEMENT, ANY OTHER LOAN DOCUMENT OR ANY JUDGMENT ENTERED BY ANY COURT IN RESPECT THEREOF MAY BE BROUGHT IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK AND, EXCEPT IN THE CASE OF ANY SUIT, ACTION, PROCEEDING OR JUDGMENT BROUGHT AGAINST THE LENDER, IN THE SUPREME COURT OF THE STATE OF NEW YORK SITTING IN NEW YORK COUNTY (INCLUDING ITS APPELLATE DIVISION), OR IN ANY OTHER APPELLATE COURT IN THE STATE OF NEW YORK. EACH PARTY TO THIS AGREEMENT HEREBY IRREVOCABLY SUBMITS TO THE NON-EXCLUSIVE JURISDICTION OF SUCH COURTS FOR THE PURPOSE OF ANY SUCH SUIT, ACTION, PROCEEDING OR JUDGMENT AND HEREBY IRREVOCABLY SUBMITS TO THE NON-EXCLUSIVE JURISDICTION OF THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK FOR THE PURPOSE OF ANY SUCH SUIT, ACTION, PROCEEDING OR JUDGMENT. EACH PARTY CONSENTS THAT ANY SUCH ACTION OR PROCEEDING MAY BE BROUGHT IN SUCH COURTS AND WAIVES ANY OBJECTION THAT IT MAY NOW OR HEREAFTER HAVE TO THE VENUE OF ANY SUCH ACTION OR PROCEEDING IN ANY SUCH COURT OR THAT SUCH ACTION OR PROCEEDING WAS BROUGHT IN AN INCONVENIENT COURT AND AGREES NOT TO PLEAD OR CLAIM THE SAME. EACH PARTY HERETO FURTHER SUBMITS, FOR THE PURPOSE OF ANY SUCH SUIT, ACTION, PROCEEDING OR JUDGMENT BROUGHT OR RENDERED AGAINST IT, TO THE APPROPRIATE COURTS OF THE JURISDICTION OF ITS DOMICILE. EACH OF THE PARTIES TO THIS AGREEMENT AGREES THAT A JUDGMENT, AFTER EXHAUSTION OF ALL AVAILABLE APPEALS, IN ANY SUCH ACTION OR PROCEEDING SHALL BE CONCLUSIVE AND BINDING UPON IT, AND MAY BE ENFORCED IN ANY OTHER JURISDICTION, INCLUDING BY A SUIT UPON SUCH JUDGMENT, A CERTIFIED COPY OF WHICH SHALL BE CONCLUSIVE EVIDENCE OF THE JUDGMENT.

9.03. Service of Process.

(a) In the case of the courts of the State of New York or of the federal courts sitting in the State of New York, the Borrower hereby designates, appoints and empowers CT Corporation System, located at 28 Liberty Street, New York, NY 10005, as its authorized agent to accept, receive, and acknowledge for and on behalf of the Borrower, service of any and all process

that may be served in any action, suit or proceeding of the nature referred to above in the State of New York, which appointment shall be irrevocable until the appointment and acceptance of a successor authorized agent pursuant to the provisions of Section 9.03(d).

(b) The Borrower further agrees that such service of process may be made personally or by mailing or delivering a copy of the summons and complaint or other legal process in any such legal suit, action or proceeding to the Borrower, in care of its respective agent designated above at the aforesaid address (or, if the Borrower shall have designated a successor agent for service of process, the address of the successor agent for service of process), and each such agent is hereby authorized, respectively, to accept, receive, and acknowledge the same for and on behalf of the Borrower. Service upon each such agent shall be deemed to be personal service on the Borrower and shall be legal and binding upon the Borrower for all purposes notwithstanding any failure to mail copies of such legal process to the Borrower or any failure on the part of the Borrower to receive the same, and shall be deemed completed upon the delivery thereof to such agent whether or not such respective agent shall give notice thereof to the Borrower or upon the earliest other date permitted by Applicable Law (including the United States Foreign Sovereign Immunities Act of 1976, as amended).

(c) To the extent permitted by Applicable Law, including treaties by which the United States and Colombia are bound, the Borrower further irrevocably agrees to the service of process of any of the aforementioned courts in any suit, action or proceeding by the mailing of copies thereof by certified mail, postage prepaid, return receipt requested, to the Borrower at the address referenced in Section 11.02, such service to be effective upon the date indicated on the postal receipt returned from the Borrower.

(d) The Borrower agrees that it will at all times continuously maintain an agent to receive service of process in the State of New York on behalf of itself and its properties and revenues, and, in the event that for any reason its agent designated above shall not serve as agent for the Borrower to receive service of process in the State of New York on its behalf, the Borrower shall promptly appoint a successor satisfactory to the Lender so to serve, advise the Lender thereof, and deliver to the Lender evidence in writing of the successor agent's acceptance of such appointment for a term extending at least one year beyond the Maturity Date and that such successor agent has been paid in full for such term. The foregoing provisions constitute, among other things, a special arrangement for service between the parties to this Agreement for the purposes of 28 U.S.C. § 1608.

9.04. Waiver of Immunity.

(a) TO THE EXTENT THAT THE BORROWER MAY BE OR BECOME ENTITLED, IN ANY JURISDICTION IN WHICH JUDICIAL PROCEEDINGS MAY AT ANY TIME BE COMMENCED WITH RESPECT TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT, TO CLAIM FOR ITSELF OR ITS PROPERTIES OR REVENUES ANY IMMUNITY FROM SUIT, COURT JURISDICTION, ATTACHMENT PRIOR TO JUDGMENT, ATTACHMENT IN AID OF EXECUTION OF A JUDGMENT, EXECUTION OF A JUDGMENT OR FROM ANY OTHER LEGAL PROCESS OR REMEDY RELATING TO ITS OBLIGATIONS UNDER THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT, AND TO THE EXTENT THAT IN ANY SUCH JURISDICTION THERE MAY BE

ATTRIBUTED SUCH AN IMMUNITY (WHETHER OR NOT CLAIMED), THE BORROWER HEREBY IRREVOCABLY AGREES NOT TO CLAIM AND HEREBY IRREVOCABLY WAIVES SUCH IMMUNITY TO THE FULLEST EXTENT PERMITTED BY THE LAWS OF SUCH JURISDICTION BUT SUBJECT TO THE LIMITATIONS PROVIDED IN (I) ARTICLES 192, 195, 298 AND 299 OF LAW 1437 OF 2011 (*CÓDIGO DE PROCEDIMIENTO ADMINISTRATIVO Y DE LO CONTENCIOSO ADMINISTRATIVO*), AS AMENDED BY ARTICLES 80, 81 AND 87 OF LAW 2080 OF 2021 AND (II) ARTICLES 593, 594 AND 595 OF LAW 1564 OF 2012 (*CÓDIGO GENERAL DEL PROCESO*).

(b) THE BORROWER AGREES THAT THE WAIVERS SET FORTH IN PARAGRAPH (a) ABOVE SHALL HAVE THE FULLEST EFFECT PERMITTED UNDER THE FOREIGN SOVEREIGN IMMUNITIES ACT OF 1976 OF THE UNITED STATES OF AMERICA (28 U.S.C. §§ 1602-1611) AND ARE INTENDED TO BE IRREVOCABLE AND NOT SUBJECT TO WITHDRAWAL FOR PURPOSES THEREOF.

9.05. Waiver of Security Requirements. TO THE EXTENT THE BORROWER MAY, IN ANY ACTION, SUIT OR PROCEEDING BROUGHT IN ANY OF THE COURTS REFERRED TO IN SECTION 9.02 OR OTHERWISE ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT, BE ENTITLED TO THE BENEFIT OF ANY PROVISION OF LAW REQUIRING THE LENDER IN SUCH ACTION, SUIT OR PROCEEDING TO POST SECURITY FOR THE COSTS OF THE BORROWER OR TO POST A BOND OR TO TAKE SIMILAR ACTION, AS THE CASE MAY BE, THE BORROWER HEREBY IRREVOCABLY WAIVES SUCH BENEFIT, IN EACH CASE TO THE FULLEST EXTENT NOW OR HEREAFTER PERMITTED UNDER APPLICABLE LAW.

9.06. No Limitation. Nothing in this Section 9 shall affect the right of the Lender to serve process in any other manner permitted by Applicable Law or to commence legal proceedings or otherwise proceed against the Borrower in Colombia or in any other jurisdiction.

9.07. International Banking Facility. The Borrower, a nonbank entity located outside the United States, understands that it is the policy of the Federal Reserve Board that extensions of credit by international banking facilities (as defined in Section 204.8(a) of Regulation D of the Federal Reserve Board) may be used only to finance the non-U.S. operations of a customer (or its foreign affiliates) located outside the United States as provided in Section 204.8(a)(3)(vi) of Regulation D of the Federal Reserve Board. Therefore, the Borrower agrees that the proceeds of the Loans by the international banking facility of the Lender (as defined in Section 204.8(a) of Regulation D of the Federal Reserve Board) will be used solely to finance the Borrower's operations outside the United States or that of the Borrower's non-U.S. Affiliates.

SECTION 10

[RESERVED]

SECTION 11
MISCELLANEOUS

11.01. Computations. Each determination of an interest rate or fee by the Lender pursuant to any provision of this Agreement or any Note, in the absence of manifest error, shall be conclusive and binding on the Borrower. All computations of interest and fees hereunder and under any Note shall be made on the basis of a year of three hundred sixty (360) days and actual days elapsed. All such calculations shall include the first day and exclude the last day of the period of calculation.

11.02. Notices.

(a) All notices or other communications required or permitted to be given hereunder (the “*Notices*”) may be given to the following addresses:

If to the Borrower: ECOPETROL S.A.

Carrera 13 No. 36-24, Piso 7, Bogota D.C., Colombia
Attn: Head of Capital Markets / Financing & Investor Relations Department
Phone: + 57 1 2343233
Email: FinanzasCorporativas_ECP@ecopetrol.com.co / investors@ecopetrol.com.co

If to the Lender: SUMITOMO MITSUI BANK CORPORATION

277 Park Avenue,
New York, New York 10172
Attn: Brian Nogoy
Phone: +1 (917) 755-1324
Email: brian_nogoy@smbcgroup.com

Any party shall have the right to change its address for Notices hereunder to any other location by giving ten (10) days’ written Notice to the other parties in the manner set forth herein above.

(b) All Notices shall be in writing and shall be considered as properly given (A) if delivered in person, (B) if sent by overnight delivery service (including Federal Express, United Parcel Service and other similar reputable overnight delivery services), (C) in the event reputable overnight delivery services are not readily available, if mailed by first class mail, postage prepaid, registered or certified with return receipt requested, (D) if transmitted by facsimile confirmed by telephone or (E) if transmitted by electronic communication as provided in Section 11.02(d).

(c) Notices delivered in person or by overnight courier service, or mailed by registered or certified mail, shall be effective upon receipt by the addressee. Notices transmitted by facsimile shall be deemed to have been given when transmitted, if confirmation of a successful

transmission has been received (except that, in all instances, if not given during normal business hours on a Business Day for recipient, shall be deemed to have been given at the opening of business on the next Business Day for the recipient). Notices delivered through electronic communications to the extent provided in Section 11.02(d) shall be effective as provided in such Section.

(d) (i) Notices hereunder may be delivered or furnished by electronic communication (including email) pursuant to procedures approved by the relevant recipient.

(ii) Unless the relevant recipient otherwise prescribes, Notices sent to an email address shall be deemed received upon the sender's receipt of an acknowledgement from the intended recipient (such as by the "return receipt requested" function, as available, return email or other written acknowledgement); *provided* that if such Notice is not sent during the normal business hours of the recipient, such Notice shall be deemed to have been sent at the opening of business on the next Business Day of the recipient.

11.03. Benefit of Agreement; Assignment; Participations.

(a) This Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective successors and assigns of the parties hereto; *provided, however*, that (1) the Borrower may not assign or transfer any of its rights, obligations or interest under any Loan Document, except with the prior written consent of the Lender and (2) the Lender may not assign or transfer any of its rights, obligations or interest under any Loan Document except in accordance with this Section 11.03 and the requirements of Applicable Law.

(b) The Lender may:

(i) assign all, or if less than all, a portion equal to at least U.S. \$10,000,000 of the outstanding principal amount of the Loan due to it to (1) its parent company and/or any Affiliate of the Lender which is at least 50% owned by the Lender or its parent company or (2) in the event the Lender is a fund or trust that invests in bank loans or that manages or advises (directly or through an Affiliate) any fund or trust that invests in bank loans, any fund or trust that invests in bank loans and is managed or advised by the same investment advisor as a Lender, by an Affiliate of such investment advisor or by a Lender, as the case may be; *provided* that the assigning Lender shall give notice to the Borrower of any such assignment (which notice shall include the identity of the proposed assignee) fifteen (15) days prior to the effective date of such assignment in order for the Borrower to complete its internal and regulatory processes; or

(ii) assign all, or if less than all, a portion equal to at least U.S. \$10,000,000 of the outstanding principal amount of the Loan due to it to one or more Eligible Transferees (treating any fund that invests in bank loans and any other fund that invests in bank loans and is managed or advised by the same investment advisor as such fund or by an Affiliate of such investment advisor, as a single Eligible Transferee); and each such assignee shall become a party to this Agreement as a Lender by execution of an Assignment and Assumption Agreement;

provided that, in each case:

(w) any reference to the Lender in this Agreement or the applicable Note (except as provided in clause (w) below) shall thereafter refer to the Lender and to such other assignee to the extent of their respective interests, as if such other assignee had been a party to this Agreement as of the date hereof up to and including the date of such transfer or assignment.

(x) subject to Section 2.06(g), the assigning Lender shall surrender to the Borrower the old Note(s) held by it (or furnish a standard indemnity letter from the Lender in respect of any lost Note(s) reasonably acceptable to the Borrower), and new Notes will be issued, at the Borrower's expense, to the new Lender and to the assigning Lender (in the case of a partial assignment);

(y) so long as no Event of Default has occurred and is continuing, written consent of the Borrower shall be required in connection with any assignment pursuant to clause (ii) of this Section 11.03(b) (which consent, in each case, shall not be unreasonably withheld or delayed); *provided* that the Borrower shall be deemed to have consented to an assignment unless it shall have objected thereto by written notice to the Lender within fifteen (15) Business Days after having received notice thereof; and

(z) if an Event of Default has occurred and is continuing and the Lender has delivered notice thereof to the Borrower, the Borrower shall be deemed to have consented to any assignment following the date of such notice pursuant to clause (ii) of this Section 11.03(b); *provided* that the assigning Lender shall be required to give notice to the Borrower of any such assignment (which notice shall include the identity of the proposed assignee) prior to the assignee being considered a Lender in order for the Borrower to complete its internal and regulatory processes; *provided further*, that failure by the Borrower to complete any such process shall not affect the validity of such assignment.

To the extent that an assignment of all or any portion of the Lender's Loan pursuant to this Section 11.03(b) would, due to circumstances existing at the time of such assignment, result in increased costs under Section 2.09, 2.10 or 4.01 from those being charged by the Lender prior to such assignment, then the Borrower shall not be obligated to pay such increased costs (although the Borrower shall be obligated to pay any other increased costs of the type described above resulting from changes after the date of the respective assignment).

(c) Notwithstanding anything to the contrary in this Section 11.03, if at any time the Lender wishes to assign or, pursuant to Section 11.03(e) below, pledge less than 100% of the Loans and its other rights under this Agreement or under any other Loan Document, the parties hereto shall, prior to and as a condition precedent to the effectiveness of such assignment or pledge and subject to Section 11.06, enter into any documents reasonably requested by the Lender in connection with such assignment, including an amendment to or amendment and restatement of this Agreement and any other Loan Documents, in each case on terms and conditions reasonably satisfactory to each of the parties hereto and solely for the purposes of (i) appointing an administrative agent for all lenders hereunder, with such powers and authority as are customary for an administrative agent under a credit facility, (ii) making such other amendments and modifications to this Agreement that would result solely from the appointment of the

administrative agent, including the insertion of provisions relating to agency and exculpation and/or (iii) inserting in this Agreement or any other Loan Documents such other provisions customary in syndicated loan agreements for facilities governed by New York law; in the case of clauses (i), (ii) and (iii) of this Section 11.03(c), on terms substantially consistent with the Agreed Precedent.

(d) In addition to the foregoing, the Lender may grant participations or enter into transactions with one or more Persons under which payments are to be made by reference to the Borrower and its obligations, this Agreement or payment hereunder including without limitation any unfunded risk participation, insurance or reinsurance transaction, all in its rights hereunder without the consent of the Borrower; *provided, however*, that the Lender shall remain a “Lender” for all purposes hereunder and the participant shall not constitute a “Lender” hereunder and, *provided further*, that the Lender shall not grant any participation or enter into any such transaction under which the participant or counterparty shall have direct or indirect rights to approve any amendment to or waiver of this Agreement except to the extent such amendment or waiver would (i) extend the Maturity Date, or reduce the rate or extend the time of payment of interest or fees thereon (except in connection with a waiver of applicability of any post-Default increase in interest rates) or reduce the principal amount thereof, or (ii) consent to the assignment or transfer by the Borrower of any of its rights and obligations under any Loan Document. In the case of any such participation or transaction, the participant or counterparty shall not have any rights under any Loan Document (the participant’s counterparty’s rights against the Lender in respect of such participation to be those set forth in the agreement executed by the Lender in favor of the participant or counterparty relating thereto) and all amounts payable by the Borrower hereunder shall be determined as if the Lender had not sold such participation or entered into such transaction. All costs and expenses incurred in connection with the transactions contemplated in this Section 11.03(c) will be borne by the Lender entering into such transaction.

(e) Nothing in this Agreement shall prevent or prohibit the Lender from at any time pledging or assigning a security interest in all or, subject to the prior satisfaction of the condition precedent set forth in Section 11.03(c), any portion of its Loan and Notes hereunder to secure obligations of the Lender, including any pledge or assignment to secure obligations to a Federal Reserve Bank. No pledge or assignment pursuant to this clause (d) shall release the transferor Lender from any of its obligations hereunder.

(f) In the event that the Lender sells a participation, the Lender shall, acting solely for this purpose as a non-fiduciary agent of the Borrower, maintain a register on which it enters the name and address of each participant and the principal amounts of (and stated interest on) each participant’s interest in the Loan or other obligations under the Loan Documents (the “*Participant Register*”); *provided* that the Lender shall not have any obligation to disclose all or any portion of the Participant Register (including the identity of any participant or any information relating to a participant’s interest in any commitments, loans, letters of credit or its other obligations under any Loan Document) to any Person except to the extent that such disclosure is necessary to establish that such commitment, loan, letter of credit or other obligation is in registered form under Section 5f.103-1(c) of the United States Treasury Regulations and Section 1.163-5(b) of the proposed United States Treasury Regulations. The entries in the Participant Register shall be conclusive absent manifest error, and the Lender shall treat each Person whose

name is recorded in the Participant Register as the owner of such participation for all purposes of this Agreement notwithstanding any notice to the contrary.

11.04. No Waiver; Remedies Cumulative. No failure or delay on the part of either the Borrower or the Lender in exercising any right, power or privilege under any Loan Document and no course of dealing between or among the Borrower and the Lender shall operate as a waiver of such right, power or privilege; nor shall any single or partial exercise of any right, power or privilege hereunder, under any Loan Document preclude any other right, power or privilege hereunder or thereunder. The rights and remedies expressly provided herein are cumulative and not exclusive of any rights or remedies that either the Borrower or the Lender would otherwise have. No notice to or demand on the Borrower in any case shall entitle the Borrower to any other or further notice or demand in similar or other circumstances or constitute a waiver of the rights of either the Borrower or the Lender to any other or further action in any circumstances without notice or demand.

11.05. Entire Agreement. The Loan Documents contain the entire agreement between the parties hereto regarding the Loan.

11.06. Amendment or Waiver; etc. Neither this Agreement nor any terms hereof may be changed, waived, discharged or terminated unless such change, waiver, discharge or termination is in writing signed by the Borrower, and approved by the Ministry of Finance to the extent required by Colombian public indebtedness regulations, and by the Lender.

11.07. Counterparts; Electronic Execution. This Agreement may be executed in any number of counterparts and by the different parties hereto on separate counterparts, each of which, when executed and delivered, shall be effective for purposes of binding the parties hereto, but all of which shall together constitute one and the same instrument. Delivery of an executed counterpart of a signature page of this Agreement by telecopy, emailed pdf or any other electronic means that reproduces an image of the actual executed signature page shall be effective as delivery of a manually executed counterpart of this Agreement. The words "execution," "signed," "signature," "delivery," and words of like import in or relating to any document to be signed in connection with this Agreement and the transactions contemplated hereby shall be deemed to include electronic signatures, deliveries or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature, physical delivery thereof or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

11.08. Expenses; Indemnity.

(a) The Borrower shall pay all reasonable and documented out-of-pocket expenses incurred by the Lender, which expenses shall include reasonable attorney's fees and expenses for no more than one Colombian counsel and one New York counsel to the Lender, in connection with any amendments, modifications or waivers of the provisions hereof or thereof (whether or not the transactions contemplated hereby or thereby shall be consummated); *provided, further* that other than such fees and expenses of counsel, the Lender will consult with the

Borrower in connection with, and prior to, incurring any expense in excess of U.S. \$10,000 (or its equivalent in another currency). The Borrower shall pay all reasonable and documented out-of-pocket expenses incurred by the Lender, including the documented fees, charges and disbursements of no more than one counsel for the Lender for each relevant legal jurisdiction (as described above), in connection with the enforcement or protection of its rights in connection with the Loan Documents, including its rights under this Section 11.08.

(b) The Borrower shall indemnify the Lender, its Affiliates, and their respective directors, officers, employees, attorneys and agents (each such Person being called an “Indemnatee”) against, and hold each Indemnatee harmless from, any losses, claims, damages, liabilities and related expenses, which expenses shall include reasonable attorney’s fees and expenses for no more than one Colombian counsel and one New York counsel to the Lender, arising out of, in connection with, or as a result of: (i) the execution or delivery of the Loan Documents, any demand for payment, other presentation or request under the Loan Documents, the performance of the parties hereto of their respective obligations hereunder or the consummation of the transactions contemplated hereby, (ii) the Loan or the use or proposed use of the proceeds therefrom, (iii) any payment or other action taken or omitted to be taken in connection with the Loan Documents, (iv) any actual environmental liability related in any way to the Borrower or any of its Material Subsidiaries, and (v) any actual or prospective claim, litigation, investigation or proceeding relating to any of the foregoing whether based on contract, tort or any other theory, whether brought by a third party or by the Borrower or any of its Subsidiaries and regardless of whether any Indemnatee is a party thereto; *provided* that such indemnity shall not, as to any Indemnatee, be available to the extent that such losses, claims, damages, liabilities or related expense (x) are determined by a court of competent jurisdiction by final and non-appealable judgment to have resulted from the gross negligence or willful misconduct of such Indemnatee or (y) result from a claim brought by the Borrower against an Indemnatee for breach of such Indemnatee’s obligations under any Loan Document, if the Borrower has obtained a final non-appealable judgment in its favor on such claims as determined by a court of competent jurisdiction. This Section 11.08 shall not apply with respect to Taxes (which shall be covered by Section 4.01) other than any Taxes that represent losses, claims, damages, liabilities and related expenses arising from any non-Tax claim.

(c) [Reserved]

(d) All amounts due under this Section 11.08 shall be payable not later than thirty (30) days after written demand therefor.

(e) The agreements in this Section 11.08 shall survive the replacement of the Lender, the termination of the Commitment and the repayment, satisfaction or discharge of all the other obligations under this Agreement.

11.09. Judgment Currency.

(a) The Borrower’s obligations under the Loan Documents to make payments in Dollars shall not be discharged or satisfied by any tender or recovery pursuant to any judgment expressed in or converted into any currency other than Dollars, except to the extent that such tender or recovery results in the receipt by the Lender of the full amount of Dollars expressed to be

payable to the Lender under the Loan Documents. If for the purpose of obtaining or enforcing judgment against the Borrower in any court, it becomes necessary to convert into or from any currency other than Dollars (such other currency being hereinafter referred to as the “*Judgment Currency*”) an amount due hereunder or in any other Loan Document in Dollars, the conversion shall be made at the rate of exchange determined, in each case, as of the day on which the judgment is given (such Business Day being hereinafter referred to as the “*Judgment Currency Conversion Date*”). If, for the purpose of obtaining or enforcing judgment against the Borrower in any court in Colombia, it becomes necessary to convert into or from any Judgment Currency an amount due in Dollars, the conversion shall be made at the Colombian market representative rate certified by the Colombian Superintendence of Finance for the date of payment.

(b) If there is a change in the rate of exchange prevailing between the Judgment Currency Conversion Date and the date of actual payment of the amount due by the Borrower, the Borrower covenants to pay, or cause to be paid, such additional amounts, if any (but in any event not a lesser amount), as may be necessary to ensure that the amount paid by the Borrower in the Judgment Currency, when converted at the rate of exchange prevailing on the date of payment to the Lender by the Borrower, shall produce the amount of Dollars which could have been purchased with the amount of Judgment Currency stipulated in the judgment or judicial award at the rate of exchange prevailing on the Judgment Currency Conversion Date. Any such amount of Dollars not discharged by such Borrower payment of Judgment Currency shall continue to be due as an outstanding and unpaid obligation under this Agreement and shall accrue interest at the rate then applicable to the Loan in accordance with Section 2.07 until paid in full. If there is a change in the rate of exchange prevailing between the Judgment Currency Conversion Date and the date of actual payment by the Borrower of the amount due to the Lender that results in the Borrower paying an amount in excess of that necessary to discharge or satisfy any judgment, the Lender shall transfer or cause to be transferred to the Borrower the amount of such excess (net of any Taxes and reasonable and customary costs incurred in connection therewith).

(c) For purposes of applying the rate of exchange under this Section 11.09, the amount of Judgment Currency converted shall include any premium and costs payable in connection with the purchase of Dollars.

11.10. English Language.

(a) If any Loan Document (or any provision of any Loan Document) other than the Notes is originally written in any language other than English, the version which is in English shall prevail in case of any discrepancy with any version in any other language.

(b) Within one hundred twenty (120) days following the Agreement Date, the Borrower will provide to the Lender official translations into Spanish of the Loan Documents requested by the Lender for use in connection with any enforcement of remedies under this Agreement and the other Loan Documents in Colombia and the Lender agrees that such official Spanish translations shall govern for purposes of any such enforcement of remedies in Colombia, *provided* that for so long as the Borrower is acting in good faith to prepare such official translations, the Borrower may take up to an additional sixty (60) days after the expiration of such one hundred twenty (120) day period to complete such translations.

11.11. Severability. To the extent permitted by Applicable Law, the illegality or unenforceability of any provision of this Agreement shall not in any way affect or impair the legality or enforceability of the remaining provisions of this Agreement.

11.12. Waiver of Jury Trial. EACH PARTY HERETO HEREBY IRREVOCABLY WAIVES TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW ALL RIGHT EACH MAY HAVE TO A TRIAL BY JURY IN ANY ACTION, SUIT, PROCEEDING OR COUNTERCLAIM DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREBY OR ANY OTHER LOAN DOCUMENT TO WHICH IT IS A PARTY (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY).

11.13. Captions. The table of contents and captions and section headings appearing herein are included solely for convenience of reference and are not intended to affect the interpretation of any provision of this Agreement.

11.14. Damages Waiver. To the fullest extent permitted by Applicable Law, no party shall assert, and each hereby waives, any claim, on any theory of liability, for indirect, special, punitive, consequential or exemplary damages (as opposed to direct or actual damages) arising out of, in connection with, or as a result of, this Agreement, any other Loan Document or any agreement or instrument contemplated hereby or thereby, the transactions contemplated hereby or thereby, the Loan or the use of the proceeds thereof.

11.15. Confidentiality. The Lender agrees to maintain the confidentiality of the Confidential Information, except that Confidential Information may be disclosed (a) to its Affiliates and to its and its Affiliates' directors, officers, employees and agents, trustees, including accountants, legal counsel and other advisors (it being understood that the Persons to whom such disclosure is made will be informed of the confidential nature of such Confidential Information and instructed to keep such Confidential Information confidential), (b) to the extent requested by any Governmental Authority purporting to have jurisdiction over it (including any self-regulatory authority, such as the National Association of Insurance Commissioners), (c) to the extent required by Applicable Laws or regulations or by any subpoena or similar legal process, (d) to any other party to this Agreement, (e) in connection with the exercise of any remedies hereunder or any suit, action or proceeding relating to this Agreement or the enforcement of rights hereunder, (f) subject to an agreement containing provisions substantially the same as those of this Section 11.15, to (i) any assignee of or participant in, or any prospective assignee of or participant in, any of its rights or obligations under this Agreement or (ii) any actual or prospective counterparty (or its advisors) to any swap or derivative transaction relating to the Borrower or its obligations, (g) to its insurers providing insurance in connection with any of the transactions contemplated herein and reinsurers providing reinsurance in connection therewith, (h) with the consent of the Borrower or (i) to the extent such Confidential Information (i) becomes publicly available other than as a result of a breach of this Section 11.15, (ii) becomes available to the Lender on a non-confidential basis from a source other than the Borrower, or (iii) is not, in the reasonable belief of the Lender including any such information in respect of which the Lender reasonably believes that it is not bound by any confidential obligation (but in any event excluding any information furnished by the Borrower that is designated as confidential in writing). Any Person required to maintain the confidentiality of Confidential Information as provided in this Section 11.15 shall be considered

to have complied with its obligation to do so if such Person has exercised the same degree of care to maintain the confidentiality of such Confidential Information as such Person would accord to its own confidential information.

The Lender acknowledges that (a) the Confidential Information may include material non-public information concerning the Borrower or any of its Subsidiaries and (b) it has developed compliance procedures regarding the use of material nonpublic information and for the handling of such material non-public information in accordance with Applicable Law, including United States Federal and state securities laws.

11.16. Survival. The expiration or termination of this Agreement does not terminate or affect any obligation hereunder that either expressly or by its nature survives the expiration or termination of this Agreement. Such obligations include, but are not limited to, those described in Sections 2.09, 2.10, 4.01, 9, 11.08, 11.09 and 11.14, which shall survive expiration or termination of this Agreement; *provided, however*, that no change in Applicable Law after the expiration or termination of this Agreement shall increase the Borrower's obligations with respect to amounts paid prior to such expiration or termination.

11.17. No Fiduciary Duty. In connection with all aspects of each transaction contemplated hereby (including in connection with any amendment, waiver or other modification hereof or of any other Loan Document), the Borrower acknowledges and agrees that: (a) (i) the arranging and other services regarding this Agreement provided by the Lender are arm's-length commercial transactions between the Borrower and its Affiliates, on the one hand, and the Lender, on the other hand, (ii) the Borrower has consulted its own legal, accounting, regulatory and tax advisors to the extent it has deemed appropriate, and (iii) the Borrower is capable of evaluating, and understands and accepts, the terms, risks and conditions of the transactions contemplated hereby and by the other Loan Documents; (b) (i) the Lender is and has been acting solely as a principal and, except as expressly agreed in writing by the relevant parties, has not been, is not, and will not be acting as an advisor, agent or fiduciary for the Borrower or any of its Affiliates, or any other Person and (ii) the Lender has no obligation to the Borrower or any of its Affiliates with respect to the transactions contemplated hereby except those obligations expressly set forth herein and in the other Loan Documents; and (c) the Lender and its Affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Borrower and its Affiliates, and the Lender has no obligation to disclose any of such interests to the Borrower or its Affiliates. To the fullest extent permitted by law, the Borrower hereby waives and releases any claims that it may have against the Lender with respect to any breach or alleged breach of agency or fiduciary duty in connection with any aspect of any transaction contemplated hereby.

11.18. Patriot Act. The Lender hereby notifies the Borrower that pursuant to the requirements of the Patriot Act, it is required to obtain, verify and record information that identifies the Borrower, which information includes the name and address of the Borrower and other information that will allow the Lender to identify the Borrower in accordance with the Patriot Act.

11.19. Exequatur. A judgment obtained in a New York Court arising out of or relating to this Agreement, or the transactions contemplated thereby, will be enforced against the Borrower in the courts of Colombia; *provided* that such judgment has previously obtained an Exequatur, which is regulated by Colombian law.

11.20. Acknowledgement and Consent to Bail-In of Affected Financial Institutions. Notwithstanding anything to the contrary in any Loan Document or in any other agreement, arrangement or understanding between any such parties, each party hereto acknowledges that any liability of any Affected Financial Institution arising under any Loan Document, to the extent such liability is unsecured, may be subject to the write-down and conversion powers of the applicable Resolution Authority and agrees and consents to, and acknowledges and agrees to be bound by:

(a) the application of any Write-Down and Conversion Powers by the applicable Resolution Authority to any such liabilities arising hereunder that may be payable to it by any party hereto that is an Affected Financial Institution; and

(b) the effects of any Bail-in Action on any such liability, including, if applicable:

(i) a reduction in full or in part or cancellation of any such liability;

(ii) a conversion of all, or a portion of, such liability into shares or other instruments of ownership in such Affected Financial Institution, its parent undertaking, or a bridge institution that may be issued to it or otherwise conferred on it, and that such shares or other instruments of ownership will be accepted by it in lieu of any rights with respect to any such liability under this Agreement or any other Loan Document; or

(iii) the variation of the terms of such liability in connection with the exercise of the write-down and conversion powers of the applicable Resolution Authority.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be duly executed and delivered as of the date first above written.

ECOPETROL S.A., as Borrower

By: /s/ Alfonso Camilo Barco Muñoz
Name: Alfonso Camilo Barco Muñoz
Title: Chief Financial and Sustainable Value
Officer

SUMITOMO MITSUI BANKING
CORPORATION, as Lender

By: /s/ Lilian Coutinho

Name: Lilian Coutinho

Title: Managing Director, Head of Latam
Corporate Finance

SCHEDULE 1
EXISTING LIENS

None.

ANNEX A
FORM OF DISBURSEMENT REQUEST
DISBURSEMENT REQUEST

[•][•], 2024¹

SUMITOMO MITSUI BANKING CORPORATION

277 Park Avenue,
New York, New York 10172
Attn: Brian Nogy
Phone: +1 (917) 755-1324
Email: brian_nogy@smbcgroup.com

Ladies and Gentlemen:

Reference is made to the Loan Agreement dated as of September 30, 2024 (the “*Agreement*”) by and between **ECOPETROL S.A.** (the “*Borrower*”) and **SUMITOMO MITSUI BANKING CORPORATION**, as Lender. Unless otherwise defined herein, terms defined in the Agreement shall have the same meaning in this Disbursement Request.

The Borrower hereby requests the Lender to make a Disbursement to the Borrower in an aggregate principal amount of U.S. \$[•] (the “*Disbursement Amount*”) on [•][•], 2024 (the “*Disbursement Date*”) under the Agreement, as follows:

DISBURSEMENT AMOUNT: U.S. \$[•]
DISBURSEMENT DATE: [•][•], 2024
MATURITY DATE: [•][•], 2029
INTEREST PERIOD: 6 months
FIRST INTEREST PERIOD: From [] to [] (# of days)

The Borrower hereby instructs the Lender to disburse the Loan to account No. [•] with [•], ABA No. [•], Attn.: [•], on the Disbursement Date, by 1:00 p.m. New York time.

The Borrower hereby certifies that the following statements are true on the date hereof, and will be true on the Disbursement Date:

- (a) the representations and warranties made by the Borrower in Section 6 of the Agreement are true and correct in all material respects on and as of the Disbursement Date for the

¹ Disbursement Request to be delivered to the Lender not later than 11:00 a.m., New York City time, three (3) U.S. Government Securities Business Days before the proposed Disbursement Date (or such shorter period as may be agreed by between the Lender and the Borrower).

Disbursement of the Loan both before and immediately after giving effect to the Disbursement and the application of the proceeds thereof other than any such representations or warranties that, by their terms, refer to a specific date other than the date of the Disbursement, in which case such representations and warranties shall be true and correct in all material respects on and as of such specific date; *provided* that representations and warranties qualified as to materiality are true and correct on and as of such date;

(b) no Event of Default or Potential Default has occurred and is continuing both before and immediately after giving effect to the Disbursement and the application of the proceeds thereof; and

(c) pursuant to Section 5.02(c)(iii) of the Agreement, the proceeds of the Disbursement Amount will not be applied to capital expenditures and therefore attached as Annex 1 is a true, correct and complete copy of a favorable opinion of the General Directorate of Public Credit and National Treasury (*Dirección General de Crédito Público y Tesoro Nacional*) of the Ministry of Finance currently in full force and effect, required under Article 2.2.1.6. of Decree 1068 of 2015.

Sincerely yours,

ECOPETROL S.A.

By: _____
Name:
Title:

Annex A-2

ANNEX B
FORM OF PROMISSORY NOTE

FORM OF PROMISSORY NOTE² Blank Promissory Note No. 01	FORMATO DE PAGARÉ Pagaré en Blanco No. 01
ECOPETROL S.A., corporation incorporated by public deed number 2931 of Notary Second issued on Bogota of July 7 of 2003, registered under the commercial registry under the registration number 1291197, identified with the tax identification number NIT 899.999.068-1, with full capacity to issue securities, and domiciled in Bogotá D.C. (hereinafter the “Borrower”), represented herein by the undersigned [●], of legal age, domiciled in Bogotá D.C., Colombia, identified with citizenship card number [●], issued in [●], [Bogotá], acting as Chief Executive Officer of Ecopetrol, as evidenced in the <i>Certificado de Existencia y Representación Legal</i> of the Borrower to execute this document, hereby promises to pay unconditionally and irrevocably, to [●] domiciled in [●] and its registered assigns (hereinafter the “Creditor”), or any holder in due course, on the date of expiration of this promissory note, the amounts indicated below: 1. Amounts in U.S. Dollars: 1.1 The amount of _____ United States dollars (USD\$ _____) corresponding to the principal amount disbursed and due; 1.2 The amount of _____ United States dollars (USD\$ _____) corresponding to the interests accrued and due; 1.3 The amount of _____	ECOPETROL S.A., sociedad anónima constituida por escritura pública número 2931 de la Notaría Segunda de Bogotá otorgada el 07 de julio de 2003, inscrita en el registro mercantil bajo el Registro 1291197, identificada con NIT 899.999.068-1 y domiciliada en Bogotá D.C. (en adelante el “Deudor”), representada en este acto por el suscrito [●], mayor de edad, domiciliado en Bogotá D.C., Colombia, identificado con la cédula de ciudadanía número [●], expedida en [●], [Bogotá], actuando en calidad de Presidente de Ecopetrol, como consta en el Certificado de Existencia y Representación Legal del Deudor para suscribir el presente documento, declara que pagará de manera incondicional e irrevocable, a [●], con domicilio en [●] y sus cesionarios registrados (en adelante el “Acreeedor”), o a cualquier tenedor legítimo, incluyendo el endosatario, en la fecha de vencimiento del presente pagaré, las sumas que se indican a continuación: 1. Sumas en Dólares de los Estados Unidos de América: 1.1 La suma de _____ dólares de los Estados Unidos de América (US\$ _____) por concepto de capital desembolsado y adeudado a la fecha; 1.2 La suma de _____ dólares de los Estados Unidos de América (US\$ _____) por concepto de intereses remuneratorios causados y pendientes de pago; 1.3 La suma de _____

² English translation is for convenience. The Spanish version will be executed and delivered on the Disbursement Date.

_____ United States dollars (USD\$ _____) corresponding to default interests accrued and unpaid; and 1.4. The amount of _____ _____ United States dollars (USD\$ _____) corresponding to other guaranteed expenses and amounts accrued and due by the Borrower. 1.5. The maturity date of this Promissory Note is _____ (the “Maturity Date”) 2. The amounts referred to under section 1 above shall bear interest as follows: 2.1 The amount referred to under section 1.1 above shall bear default interests at the interest rate applicable to the loan plus two percent (2%) annually. 2.2 The amount referred to under section 1.2 above shall bear interests at the interest rate applicable to the loan plus two percent (2%) annually, from the date of the judicial lawsuit or agreement with the Borrower following maturity, subject to applicability of the rules set forth in Article 886 of the Commercial Code, it being understood that any outstanding interest obligations that remain unpaid for more than one (1) year may (upon the satisfaction of the rules set forth in Article 886 of the Commercial Code) be subject to interest on interest under Colombian law as currently in effect. 3. All payments under this Promissory Note shall be made by the Borrower, in the city of New York, United States of America, in immediately available funds, tax-free, and without any deduction, withholding or set-off, on the Maturity Date. 4. The Borrower expressly agrees that the obligations set forth under this Promissory Note correspond to foreign exchange operations and therefore shall be paid in United States Dollars.	_____ dólares de los Estados Unidos de América (US\$ _____) por concepto de intereses de mora causados y pendientes de pago; y 1.4 La suma de _____ _____ dólares de los Estados Unidos de América (US\$ _____) por concepto de otros gastos y montos garantizados, causados y pendientes de pago a cargo del Deudor. 1.5 La fecha de vencimiento de este Pagaré es: _____ (la “Fecha de Vencimiento”). 2. Las sumas indicadas en el numeral 1 anterior devengarán intereses así: 2.1 La suma indicada en el numeral 1.1 anterior devengará intereses de mora a la tasa de interés anual remuneratoria aplicable al préstamo adicionada en dos por ciento (2%) anual. 2.2 La suma indicada bajo el numeral 1.2 devengará intereses de mora a la tasa de interés anual remuneratoria aplicable al préstamo adicionada en dos por ciento (2%) anual, desde la fecha de la demanda judicial o por acuerdo posterior al vencimiento con el Deudor, tomando en cuenta que cualquier obligación no satisfecha con respecto al pago de intereses debidos por más de un 1 año (sujeto a la satisfacción de las normas previstas en el artículo 886 del Código de Comercio) estarán sujetas al pago de interés sobre interés bajo la ley colombiana vigente. 3. Todos los pagos bajo el presente Pagaré deben ser realizados por el Deudor en la ciudad de Nueva York, Estados Unidos de América, en fondos inmediatamente disponibles, libres de impuestos, retenciones y sin deducción o compensación alguna en la Fecha de Vencimiento. 4. El Deudor expresamente acepta que las obligaciones incorporadas en este Pagaré corresponden a operaciones cambiarias y, en consecuencia, serán pagadas en dólares de los Estados Unidos de América.

5. The Borrower, as borrower, irrevocably waives the presentation, protest, notice of default or any other notice, notification or additional requirement of any kind, for the collection of this Promissory Note.	5. El Deudor, como deudor, renuncia irrevocablemente a la presentación, protesto, constitución en mora o cualquier otro tipo de aviso, notificación o requisito adicional de cualquier naturaleza para el cobro de este Pagaré.
6. The Borrower agrees to pay all the costs, fees and expenses incurred to the collection or enforcement of this Promissory Note.	6. El Deudor, acepta que serán de su cargo los gastos y honorarios profesionales que se generen por la cobranza de este Pagaré.
7. The Borrower agrees to pay all the taxes that may be due under this Promissory Note, including, if applicable, the stamp duty, and entitles the Lender, if necessary, to pay them on behalf of the Borrower.	7. El Deudor acepta que serán de su cargo todos los impuestos que pueda causar el presente Pagaré, incluyendo, si resultare aplicable, el impuesto de timbre, quedando el Acreedor autorizado para pagarlos por cuenta del Deudor si fuere necesario.
8. The Borrower expressly agrees that in the event of extension, renewal or modification of its obligation under this Promissory Note, this security shall remain valid and in effect until the date agreed under such extension, renewal or modification.	8. El Deudor acepta expresamente que, en caso de prórroga, novación o modificación de la obligación a su cargo contenida en este Pagaré, el presente Pagaré continuará vigente hasta la fecha pactada en dicha prórroga, novación o modificación.
9. This Promissory Note shall be governed by and construed in accordance with the laws of the Republic of Colombia and the undersigned Borrower hereby agrees that the laws that govern its creation are the laws of the Republic of Colombia, place where this Promissory Note has been executed by the Borrower.	9. El presente Pagaré se encuentra regido por, y será interpretado de conformidad con, las leyes de la República de Colombia y el suscrito Deudor, expresamente declara y acuerda que las leyes que rigen su creación son las de las leyes de la República de Colombia, lugar donde ha sido firmado por el Deudor.
10. This Promissory Note can be enforced before the competent court in the Republic of Colombia.	10. El presente Pagaré podrá ser ejecutado ante los tribunales competentes en la República de Colombia.
The Borrower, ECOPETROL S.A. By: _____ Name: Identification: Capacity: Date: <i>[insert city]</i> <i>[day]</i>, <i>[month]</i>, <i>[year]</i>	El Deudor, ECOPETROL S.A. Por: _____ Nombre: Identificación: Cargo: Fecha: <i>[Insertar ciudad]</i> <i>[Día]</i>, <i>[Mes]</i>, <i>[Año]</i>

ANNEX C
FORM OF INSTRUCTIONS LETTER

INSTRUCTIONS LETTER	CARTA DE INSTRUCCIONES
Bogotá, [Date] Messrs. [●] and / or its assignee and successors. Reference: Instructions to complete the Promissory Note with Blank Spaces No. 01 Dear Sirs: ECOPETROL S.A., corporation incorporated by public deed number 2931 of Notary Second issued on Bogota of July 7 of 2003, registered under the commercial registry under the registration number 1291197, identified with the tax identification number NIT 899.999.068-1, and domiciled in Bogotá D.C. (hereinafter the “Borrower”), represented herein by the undersigned [●], of legal age, domiciled in Bogotá D.C., Colombia, identified with citizenship card number [●], issued in [●], [Bogotá], acting as Chief Executive Officer of Ecopetrol, as evidenced in the <i>Certificado de Existencia y Representación Legal</i> of the Borrower to execute this document, in accordance with article 622 of the Colombian Commercial Code, hereby imparts instructions and irrevocable and permanent powers to [●] and / or its successors or assignees (hereinafter the “Lender”) (in English the “Lender”), a foreign financial institution duly organized and existing under the laws of its country, acting in its capacity as Lender under the Loan Agreement (as defined below), to fill each and every one of the blank spaces left in the Promissory Note identified at the heading of this Instructions Letter (hereinafter the “Promissory Note”), in the event the obligations set forth under the Promissory Note become due and in accordance to the terms set forth below: BACKGROUND AND CAUSE. On September 30, 2024, the Borrower and the Lender executed the Loan Agreement (hereinafter the “Loan Agreement”) whereby, the Lender	Bogotá, [Fecha] Señores. [●] y/o sus cesionario y causahabientes Referencia: Instrucciones para diligenciar el Pagaré con Espacios en Blanco No. 01. Estimados Señores: ECOPETROL S.A., sociedad anónima constituida por escritura pública número 2931 de la Notaría Segunda de Bogotá otorgada el 07 de julio de 2003, inscrita en el registro mercantil bajo el Registro 1291197, identificada con NIT 899.999.068-1 y domiciliada en Bogotá D.C. (en adelante el “Deudor”), representada en este acto por el suscrito [●], mayor de edad, domiciliado en Bogotá D.C., Colombia, identificada con la cédula de ciudadanía número [●], expedida en [●], [Bogotá], actuando en calidad Presidente de Ecopetrol, como consta en el Certificado de Existencia y Representación Legal del Deudor para suscribir el presente documento, conforme al artículo 622 del Código de Comercio Colombiano, por medio de la presente carta imparte instrucciones y facultades irrevocables y permanentes a [●], con domicilio en [●], y/o sus cesionarios o causahabientes (en adelante el “Acreedor”) (en inglés el “Lender”), una entidad financiera extranjera debidamente constituida y actualmente existente bajo las leyes de su país, en su carácter de Acreedor bajo el Contrato de Crédito (tal y como se define más adelante), para llenar todos y cada uno de los espacios en blanco dejados en el Pagaré identificado en el encabezamiento de esta Carta de Instrucciones (en adelante, el “Pagaré”), cuando se hagan exigibles las obligaciones contenidas en dicho Pagaré en los términos que se indican a continuación: 1. ANTECEDENTES Y CAUSA. El día 30 de Septiembre de 2024 el Acreedor y el Deudor suscribieron el Contrato de Crédito (en adelante, el “Contrato de Crédito”) para entregar a

agreed to lend, and the Borrower agreed to borrow [•] DOLLARS OF THE UNITED STATES OF AMERICA (USD\$[•]) (hereinafter the “**Term Loan**”), with a maximum deadline for payment of [•], counted from [•] as set forth in the Loan Agreement. As a condition precedent to grant and disburse the Loan, it was agreed that the Borrower should have issued and delivered the Promissory Note whereby the Term Loan are evidenced.

2. AUTHORIZATION TO FILL THE PROMISSORY NOTE.

Should (a) the Borrower fail in whole or in part to pay (i) any amount of principal on the date on which such payment is due under the Loan Agreement, (ii) any amount of interest within five (5) Business Days of the date on which such payment is due under the Loan Agreement or (iii) any fee or other amount (other than principal or interest) owing under a Loan Document within thirty (30) days of the earlier of the date the Borrower receives (x) the invoice or (y) a written demand from the Lender, whichever occurs first, or (b) any other Events of Default (in English “**Events of Default**”) described therein leading to the acceleration of the amounts due and payable occur, and such amounts are not paid; the Lender or its assignees, endorsees or successors may fill in the blank spaces of the Promissory Note identified above, without prior notice, presentation, protest, notice of default or any other notice, notification or additional requirement of any nature, in accordance with this Instructions Letter.

3. VALUE OR AMOUNT OF THE PROMISSORY NOTE.

The Borrower expressly and irrevocably authorizes that the Lender and / or its successors or assignees fill in the blank spaces of the Promissory Note mechanically (with a typewriter) or manually in accordance with the instructions below:

3.1 The blank space included under Section 1.1. of the Promissory Note shall be completed with the outstanding amounts of principal (in letters and numbers) to the date in which the Promissory

título de empréstito la suma de [•] DE DÓLARES DE LOS ESTADOS UNIDOS DE AMÉRICA (US\$[•])(en adelante el “**Préstamo**”), con un plazo máximo para su pago de [•], contados a partir de [•] tal y como se establece en el Contrato de Crédito.

Como condición para el otorgamiento y desembolso del Préstamo, se estableció que el Deudor debía haber otorgado y entregado el Pagaré mediante el cual se evidencia el Préstamo.

2. AUTORIZACIÓN PARA LLENAR EL PAGARÉ.

En el evento en que (a) el Deudor incumpla en todo o en parte su obligación de pago de (i) cualquier monto de capital en las fechas previstas de conformidad con el Contrato de Crédito, (ii) cualquier monto de intereses dentro de los cinco (5) Días Hábiles a partir de las fechas previstas de conformidad con el Contrato de Crédito o (iii) cualquier honorario u otro monto (distinto de principal o intereses) debido bajo un Documento del Crédito dentro los treinta (30) días en que el Deudor reciba (x) la factura o (y) un requerimiento escrito del Acreedor, lo que ocurra primero, o (b) ocurra cualquier otro de los Eventos de Incumplimiento (en inglés “**Events of Default**”) allí descritos que conlleven al vencimiento anticipado de las sumas adeudadas y éstas no fueren pagadas; el Acreedor o sus cesionarios, endosatarios o causahabientes, podrá llenar los espacios en blanco del Pagaré arriba identificado, sin necesidad de previo aviso, presentación, protesto, constitución en mora, cualquier otro tipo de aviso, notificación o requisito adicional de cualquier naturaleza de conformidad con esta Carta de Instrucciones.

3. VALOR O IMPORTE DEL TÍTULO.

El Deudor autoriza expresa e irrevocablemente que el Acreedor y/o sus sucesores o sus causahabientes llenen los espacios en blanco del Pagaré de manera mecánica (a máquina) o a mano de conformidad con las instrucciones que se indican a continuación:

3.1. El espacio en blanco identificado con el numeral 1.1. del Pagaré se llenará con las sumas de capital (en letras y números) que a la fecha en que el Pagaré sea llenado y que el Deudor adeude, en tal fecha, a favor del Acreedor por concepto del

Note is completed and that are due on such date by the Borrower to the Lender under the Loan (in English, the “Loan”), including amounts due and outstanding due to maturity or any acceleration in accordance to the Loan Agreement. 3.2 The blank spaces included in Section 1.2. of the Promissory Note shall be completed with the outstanding amounts of interest (in letters and numbers) calculated over the principal amount set forth under section 1.1 of the Promissory Note in accordance to the provisions set forth under the Loan Agreement. As set forth under the Promissory Note, interest referred to under section 1.2 of the Promissory Note shall bear default interest, it being understood that any outstanding interest obligations that remain unpaid for more than one (1) year may (upon the satisfaction of the rules set forth in Article 886 of the Commercial Code) be subject to interest on interest under Colombian law as currently in effect. 3.3 The blank spaces included in Section 1.3. of the Promissory Note shall be completed with the outstanding amounts of the default interest (in letters and numbers) calculated over the principal amounts, interest payments and any other amounts due and outstanding, either due to maturity, acceleration or otherwise, in accordance with the provisions of the Loan Agreement. 3.4 The blank spaces included in Section 1.4. of the Promissory Note shall be completed with the amounts (in letters and numbers) of any sum owed by the Borrower to the Lender whether for fees, costs, expenses, taxes, breakage costs, indemnities or any other amounts owed by the Borrower to the Lender at the maturity date of the Promissory Note in accordance with the provisions of the Loan Agreement. 4. MATURITY. The blank spaces included in Section 1.5. of the Promissory Note shall be completed with the date in which the Lender declares any obligation owed under the Promissory Note is overdue.	Préstamo (en inglés, el “Loan”), incluyendo las sumas adeudadas y pendientes de pago por virtud de vencimiento del plazo o cualquier aceleración de conformidad con el Contrato de Crédito. 3.2. Los espacios en blanco incluidos en el numeral 1.2. del Pagaré se llenarán con las sumas devengadas por concepto de los intereses remuneratorios (en letras y números) calculados sobre el capital indicado en el numeral 1.1. del Pagaré de conformidad con lo previsto en el Contrato de Crédito. Tal como se indica en el Pagaré, los intereses remuneratorios indicados en el punto 1.2 del mismo causarán intereses de mora, tomando en cuenta que cualquier obligación no satisfecha con respecto al pago de intereses debidos por más de un 1 año (sujeto a la satisfacción de las normas previstas en el artículo 886 del Código de Comercio) estarán sujetas al pago de interés sobre interés bajo la ley colombiana vigente. 3.3. Los espacios en blanco incluidos en el numeral 1.3. del Pagaré se llenarán con las sumas devengadas por concepto de los intereses moratorios (en letras y números) calculados sobre las cuotas de capital o de intereses o cualquier otro monto vencido y pendiente de pago, bien sea por cumplimiento del plazo, por aceleración o de cualquier otra forma, de conformidad con lo previsto en el Contrato de Crédito. 3.4 Los espacios en blanco incluidos en el numeral 1.4. del Pagaré se llenarán con las sumas (en letras y números) adeudadas por el Deudor a favor del Acreedor por concepto de honorarios, costos, gastos, impuestos, costos de rompimiento de fondeo, indemnizaciones o cualquier otro concepto que el Deudor adeude al Acreedor en la fecha de vencimiento del Pagaré, de conformidad con el Contrato de Crédito. 4. VENCIMIENTO. Los espacios en blanco incluidos en el numeral 1.5. del Pagaré se llenarán con la fecha en la que el Acreedor declare que cualquiera de las obligaciones adeudadas en virtud del Pagaré se encuentra vencida.

5. SUCCESSORS AND ASSIGNEES. Blanks spaces can be completed by the successors or assignees of the Loan in accordance with Section 11.03 of the Loan Agreement. The Promissory Note completed in accordance to the provisions set forth herein, shall be directly enforceable without any further requirements. Sincerely, The Borrower, ECOPETROL S.A. By: _____ Name: Identification: Capacity: Date: <i>[insert city] [day], [month], [year]</i>	5. SUCESORES O CAUSAHABIENTES. Los espacios en blanco pueden ser llenados por los sucesores o causahabientes del Préstamo de conformidad con la Sección 11.03 del Contrato de Crédito. El Pagaré así llenado será exigible inmediatamente y prestará mérito ejecutivo sin más requisitos. Atentamente, El Deudor, ECOPETROL S.A. Por: _____ Nombre: Identificación: Cargo: Fecha: <i>[Insertar ciudad] [Día], [Mes], [Año]</i>

ANNEX D
FORM OF OFFICERS' CERTIFICATE

OFFICERS' CERTIFICATE

[●], 2024

The undersigned hereby certifies that he is an Authorized Officer of ECOPETROL S.A., a corporation organized and existing under the laws of Colombia (the “*Borrower*”) and hereby certifies on behalf of the Borrower that:

This Certificate (this “*Certificate*”) is furnished pursuant to Section 5.01(b) of the Loan Agreement dated as of September 24, 2024, between the Borrower and Sumitomo Mitsui Banking Corporation, as Lender (the “*Agreement*”). Unless otherwise defined herein, terms defined in the Agreement shall have the same meaning in this Certificate.

The undersigned named below (a) has been duly elected, has duly qualified as, and is an officer of the Borrower as of the Agreement Date, holding the respective office below set opposite to [his][her] name, and the signature below set opposite to [his][her] name is [his][her] genuine signature, and (b) is an Authorized Officer of the Borrower.

Name	Officer	Signature
[●]	[●]	

1. Attached hereto as Annex D-1 is a true and correct copy of the articles of incorporation, *estatutos sociales* or other applicable organizational documents of the Borrower as in effect on the date hereof together with all amendments thereto.

2. Attached hereto as Annex D-2 is a true and correct copy of a duly authorized secretary's certificate certifying that the Board of Directors of the Borrower duly adopted the resolutions at a meeting on [●], at which a quorum was present and acting throughout. The resolutions have not been revoked, modified, amended or rescinded and are in full force and effect. Except as attached hereto as Annex D-2, no resolutions have been adopted by the Board of Directors of the Borrower which deal with the execution, delivery or performance of any of the Loan Documents to which it is a party.

3. Attached hereto as Annex D-3 is a true and correct copy of the Borrower's *Certificados de Existencia y Representación Legal*.

[Remainder of Page Intentionally Left Blank]

Annex D-1

IN WITNESS WHEREOF, each of the undersigned has executed this Certificate this _____ day of [●], 2024.

By: _____
Name:
Title:

I, the undersigned, [*insert title of Authorized Officer*] of the Borrower, do hereby certify that I am an Authorized Officer of the Borrower and hereby certify on behalf of the Borrower that:

[●] is the duly appointed and qualified [*insert title of Authorized Officer*] of the Borrower and [his][her] respective signature above is [his][her] genuine signature.

IN WITNESS WHEREOF, I have hereunto set my hand this _____ day of [●], 2024.

By: _____
Name:
Title:

Annex D-2

Annex D-1 to Officer's Certificate
Organizational Documents

**Annex D-2 to Officer's Certificate
Resolutions**

**Annex D-3 to Officer's Certificate
Good Standing Certificate**

ANNEX E
FORM OF ASSIGNMENT AND ASSUMPTION AGREEMENT
ASSIGNMENT AND ASSUMPTION

This Assignment and Assumption (the “Assignment and Assumption”) is dated as of the Effective Date set forth below and is entered into by and between [*Insert name of Assignor*] (the “Assignor”) and [*Insert name of Assignee*] (the “Assignee”). Capitalized terms used but not defined herein shall have the meanings given to them in the Loan Agreement identified below (as amended, the “Loan Agreement”), receipt of a copy of which is hereby acknowledged by the Assignee. The Standard Terms and Conditions set forth in Annex 1 attached hereto are hereby agreed to and incorporated herein by reference and made a part of this Assignment and Assumption as if set forth herein in full.

For an agreed consideration, [subject to the satisfaction of the conditions in Section 11.03(c) of the Loan Agreement,³ the Assignor hereby irrevocably sells and assigns to the Assignee, and the Assignee hereby irrevocably purchases and assumes from the Assignor, subject to and in accordance with the Standard Terms and Conditions and the Loan Agreement, as of the Effective Date inserted by the Lender as contemplated below (i) all of the Assignor’s rights and obligations in its capacity as a Lender under the Loan Agreement and any other documents or instruments delivered pursuant thereto to the extent related to the amount and percentage interest identified below of all of such outstanding rights and obligations of the Assignor under the respective facilities identified below and (ii) to the extent permitted to be assigned under Applicable Law, all claims, suits, causes of action and any other right of the Assignor (in its capacity as a Lender) against any Person, whether known or unknown, arising under or in connection with the Loan Agreement, any other documents or instruments delivered pursuant thereto or the loan transactions governed thereby or in any way based on or related to any of the foregoing, including, but not limited to, contract claims, tort claims, malpractice claims, statutory claims and all other claims at law or in equity related to the rights and obligations sold and assigned pursuant to clause (i) above (the rights and obligations sold and assigned pursuant to clauses (i) and (ii) above being referred to herein collectively as, the “Assigned Interest”). Such sale and assignment is without recourse to the Assignor and, except as expressly provided in this Assignment and Assumption, without representation or warranty by the Assignor.

1. Assignor: _____

2. Assignee: _____
[and is an Affiliate/approved fund of [*identify Lender*]⁴]

3. Borrower: ECOPETROL S.A.

³ Insert for partial assignments.

⁴ Select as applicable.

4. Loan Agreement: The Loan Agreement dated as of September 30, 2024 between Ecopetrol S.A., as Borrower and Sumitomo Mitsui Banking Corporation, as Lender.

5. Assigned Interest:

Facility Assigned	Aggregate Amount of Commitment/Loan under the Loan Agreement ⁵	Amount of Commitment/Loan Assigned ⁶	Percentage Assigned of Commitment/Loan ⁷
Commitment	U.S. \$	U.S. \$	%
Loan	U.S. \$	U.S. \$	%
	U.S. \$	U.S. \$	%

7. Trade Date:⁸

⁵ Amount to be adjusted by the counterparties to take into account any payments or prepayments made between the Trade Date and the Effective Date.

⁶ Amount to be adjusted by the counterparties to take into account any payments or prepayments made between the Trade Date and the Effective Date.

⁷ Set forth, to at least 9 decimals, as a percentage of the Commitment/Loan under the Loan Agreement.

⁸ To be completed if the Assignor and the Assignee intend that the minimum assignment amount is to be determined as of the Trade Date.

Effective Date: _____, 20____ [TO BE INSERTED BY LENDER AND WHICH SHALL BE THE EFFECTIVE DATE OF RECORDATION OF TRANSFER IN THE REGISTER THEREFOR.]

The terms set forth in this Assignment and Assumption are hereby agreed to:

ASSIGNOR
[NAME OF ASSIGNOR]

By: _____
Name: _____
Title: _____

ASSIGNEE
[NAME OF ASSIGNEE]

By: _____
Name: _____
Title: _____

Consented to by:
ECOPETROL S.A.,
as Borrower

By: _____
Name: _____
Title: _____

Annex 1
Standard Terms and Conditions for Assignment and Assumption

1. Representations and Warranties.

1.1 Assignor. The Assignor (a) represents and warrants that (i) it is the legal and beneficial owner of the Assigned Interest, (ii) the Assigned Interest is free and clear of any lien, encumbrance or other adverse claim and (iii) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment and Assumption and to consummate the transactions contemplated hereby; and (b) assumes no responsibility with respect to (i) any statements, warranties or representations made in or in connection with the Loan Agreement or any other Loan Document, (ii) the execution, legality, validity, enforceability, genuineness, sufficiency or value of the Loan Documents, (iii) the financial condition of the Borrower, any of its Subsidiaries or Affiliates or any other Person obligated in respect of any Loan Document or the performance or observance by the Borrower, any of its Subsidiaries or Affiliates or any other Person of any of their respective obligations under any Loan Document.

1.2 Assignee. The Assignee (a) represents and warrants that (i) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment and Assumption and to consummate the transactions contemplated hereby and to become a Lender under the Loan Agreement, (ii) it meets all requirements of an Eligible Transferee under the Loan Agreement (subject to receipt of such consents as may be required under the Loan Agreement), (iii) from and after the Effective Date, it shall be bound by the provisions of the Loan Agreement as the Lender thereunder and, to the extent of the Assigned Interest, shall have the obligations of the Lender thereunder, and (iv) it has received a copy of the Loan Agreement, together with copies of the most recent financial statements delivered pursuant to Section 7.01(b) thereof, as applicable, and such other documents and information as it has deemed appropriate to make its own credit analysis and decision to enter into this Assignment and Assumption and to purchase the Assigned Interest on the basis of which it has made such analysis and decision independently and without reliance on the Lender; and agrees that (i) it will, independently and without reliance on the Assignor, and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit decisions in taking or not taking action under the Loan Documents, and (ii) it will perform in accordance with their terms all of the obligations which by the terms of the Loan Documents are required to be performed by it as a Lender.

2. Payments. From and after the Effective Date, the Lender shall make all payments in respect of the Assigned Interest (including payments of principal, interest, fees and other amounts) to the Assignor for amounts which have accrued to but excluding the Effective Date and to the Assignee for amounts which have accrued from and after the Effective Date.

3. General Provisions. This Assignment and Assumption shall be binding upon, and inure to the benefit of, the parties hereto and their respective successors and assigns. This Assignment and Assumption may be executed in any number of counterparts, which together shall constitute one instrument. Delivery of an executed counterpart of a signature page of this Assignment and Assumption by telecopy shall be effective as delivery of a manually executed counterpart of this Assignment and Assumption. This Assignment and Assumption shall be governed by, and construed in accordance with, the law of the State of New York.

FIRST AMENDMENT TO THE LOAN AGREEMENT

This First Amendment, dated as of October 4, 2024 (this “**Amendment**”), to that certain Loan Agreement, dated as of September 30, 2024, by and among Ecopetrol S.A., as borrower (the “**Borrower**”) and Sumitomo Mitsui Banking Corporation, as lender (the “**Lender**”).

RECITALS:

WHEREAS, the Borrower and the Lender are party to that certain Loan Agreement, dated as of September 30, 2024 (the “**Loan Agreement**”), which was entered into pursuant to the authorization issued by the Ministry of Finance by means of Resolution 2476 of August 20, 2024.

WHEREAS, the Borrower and the Lender have agreed to the amendments, as more particularly described and on the terms and conditions set forth herein; and

WHEREAS, the Borrower has obtained all required approvals to enter into this Amendment, including the approval from the General Directorate of Public Credit and National Treasury of the Ministry of Finance as required pursuant to Colombian public indebtedness regulations, as established, among others, in article 5 of Law 781 of 2002 and Part 2 of Book 2 of Decree 1068 of 2015 (each as amended, modified or supplemented from time to time), through decision (*oficio*) dated October 3, 2024 with filing number 44707/2024/OFI.

NOW, THEREFORE, in consideration of the foregoing premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the following shall be effective:

Section 1. Amendments.

Section 1.01 Amendment. The Borrower and the Lender hereby agree that, as of the Amendment Effective Date (as defined below) but effective retroactively to the first day of the Interest Period then in effect (or if no Interest Period is then in effect, to date of the Loan Agreement), the definition of “Applicable Margin” in Section 1.01 of the Loan Agreement shall be amended and restated in its entirety to read as follows:

““***Applicable Margin***” means 3.30% per annum.”

Section 1.02 Conditions to Effectiveness. This Amendment shall become effective on the date (the “**Amendment Effective Date**”) on which this Amendment is executed and delivered by a duly authorized officer of the Borrower and each Lender party hereto.

Section 2. Miscellaneous.

Section 2.01 Governmental Approvals and Registrations. The Borrower has obtained all required consents, permits, authorizations and approvals by any Governmental Authority that are necessary for the validity, binding effect and enforceability of the Amendment, including the approval of this Amendment by the General Directorate of Public Credit and National Treasury (*Dirección General de Crédito Público y Tesoro Nacional*) of the Ministry of Finance through decision (*oficio*) identified with file number 44707/2024/OFI and dated October 3, 2024. The Borrower shall make all public filings required by law in connection with the execution of this Amendment and the Disbursement of the Loan, including any requirements to publish the Agreement in the *Sistema Electrónico para la Contratación Pública* –

SECOP, in the Ministry of Finance's Database, and the National Comptroller's Office (*Contraloría General de la República*).

Section 2.02 Survival. Except as expressly provided in this Amendment, all of the terms, provisions, covenants, agreements, representations and warranties and conditions of the Loan Agreement and the other Loan Documents shall be and remain in full force and effect in accordance with their terms, unmodified hereby. In the event of any conflict between the terms, provisions, covenants, representations and warranties and conditions of this Amendment, on the one hand, and the Loan Agreement or any other applicable Loan Document, on the other hand, this Amendment shall control.

Section 2.03 Severability. Any term or provision of this Amendment that is invalid, illegal or unenforceable in any jurisdiction shall, solely as to that jurisdiction, be ineffective solely to the extent of such invalidity, illegality or unenforceability without rendering invalid, illegal or unenforceable the remaining terms and provisions of this Amendment or affecting the validity, legality or enforceability of any of the terms or provisions of this Amendment in any other jurisdiction.

Section 2.04 Governing Law. This Amendment and any claims, controversy, dispute or cause of action (whether in contract or tort or otherwise) based upon, arising out of, or relating to, this Amendment and the transactions contemplated hereby shall be governed by, and construed in accordance with, the laws of the jurisdiction that governs the Loan Agreement in accordance with the terms thereof.

Section 2.05 Entire Agreement; Capitalized Terms. This Amendment, the Loan Agreement (as amended hereby, the "**Amended Loan Agreement**"), and the other applicable Loan Documents constitute the entire agreement among the parties to the Loan Agreement and such other applicable Loan Document with respect to the subject matter hereof and supersede all other prior agreements and understandings, both written and verbal, among such parties or any of them with respect to the subject matter hereof. Capitalized terms used but not defined herein shall have the meanings ascribed to such terms in the Loan Agreement.

Section 2.06 Binding Effect, Beneficiaries. This Amendment shall be binding upon and inure to the benefit of the parties to the Loan Agreement and each other applicable Loan Document and their respective heirs, executors, administrators, successors, legal representatives and assigns, and no other party shall derive any rights or benefits herefrom.

Section 2.07 Notices. All notices relating to this Amendment shall be delivered in the manner and subject to the provisions set forth in the Loan Agreement.

Section 2.08 Electronic Execution. Delivery of an executed counterpart of a signature page of this Amendment by facsimile or in electronic (e.g., "pdf" or "tif") format shall be effective as delivery of a manually executed counterpart of this Amendment. The words "execution," "signed," "signature," and words of like import in this Amendment shall be deemed to include electronic signatures or electronic records, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

Section 2.09 Headings. Article and Section headings used herein are for convenience of reference only, are not part of this Amendment and shall not affect the construction of, or be taken into consideration in interpreting, this Amendment.

Section 2.10 Reference to Credit Agreement. On and after the Amendment Effective Date, each reference in the Loan Agreement to “this Agreement,” “hereunder,” “hereof,” “herein,” or words of like import, and each reference to the “Loan Agreement” in any other Loan Document shall be deemed a reference to the Amended Loan Agreement. This Amendment shall constitute a “Loan Document” for all purposes of the Loan Agreement and the other Loan Documents.

[Signature Pages Follow]

IN WITNESS WHEREOF, each of the parties hereto has caused this Amendment to be duly executed and delivered as of the date first above written.

Acknowledged and Agreed:

ECOPETROL S.A.,
as Borrower

By: /s/ Alfonso Camilo Barco Muñoz

Name: Alfonso Camilo Barco Muñoz

Title: Chief Financial and Sustainable Value Officer

[Signature Page to First Amendment to the Loan Agreement (Ecopetrol S.A.)]

Acknowledged and Agreed:

SUMITOMO MITSUI BANKING CORPORATION,
as Lender

By: /s/ Lilian Coutinho

Name: Lilian Coutinho

Title: Managing Director

[Signature Page to First Amendment to the Loan Agreement (Ecopetrol S.A.)]

EXECUTION COPY

**POLYMER GRADE PROPYLENE PURCHASE AND SALE AGREEMENT
(SPLITTERS)**

This POLYMER GRADE PROPYLENE PURCHASE AND SALE AGREEMENT (SPLITTERS) dated as of May 1, 2021 (the "Effective Date"), is by and between ENTERPRISE PRODUCTS OPERATING LLC, a Texas limited liability company ("Enterprise"), and ESENTTIA S.A., a corporation organized and existing under the laws of Colombia ("Purchaser").

WITNESSETH:

WHEREAS, with respect to each Contract Year during the Term, Purchaser desires to commit to purchase certain quantities of PGP, subject to the terms and conditions of this Agreement; and

WHEREAS, Enterprise is willing to commit to sell such PGP to Purchaser, subject to the terms and conditions of this Agreement.

NOW THEREFORE, for and in consideration of the mutual covenants and promises herein contained, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Enterprise and Purchaser hereby agree as follows:

**ARTICLE I
DEFINITIONS**

1.1 "Affiliate" shall mean, with respect to any relevant Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such relevant Person. The term "control" (including its derivatives and similar terms) of a relevant Person shall mean possessing (whether through beneficial ownership of capital stock or other similar interests, by contract, agreement or otherwise), directly or indirectly, the power to vote fifty percent (50%) or more of the voting stock or other voting ownership or equity interests of any such relevant Person.

1.2 "Agreement" shall mean this Polymer Grade Propylene Purchase and Sale Agreement (Splitters) (including any exhibits, supplements or other attachments hereto), as amended, restated, supplemented or otherwise modified from time to time.

1.3 "Barrel" shall mean 42 Gallons.

1.4 "Billing Month" shall have the meaning set forth in Section 5.2.

1.5 "Business Day" shall mean any day (other than a Saturday or a Sunday) that commercial banks in Houston, Texas, are open for business.

1.6 "Commercially Reasonable Efforts" means, with respect to performance by either Party of the applicable obligations under this Agreement, the efforts a reasonable person in such Party's position would use to attempt to satisfy performance of such obligations, but not obligating such Party to incur expenditures exceeding the amount a reasonable person would incur for performance of the applicable obligations under the circumstances. For clarity, the Parties expressly intend the obligation to utilize Commercially Reasonable Efforts requires a lesser effort on the part of the performing Party than the obligation to utilize "best efforts." The Parties agree that an obligation to utilize "best efforts" means the performing Party must do essentially everything in its

power to complete performance of the applicable obligations irrespective of the cost to the performing Party.

1.7 “Contract Month” shall mean a period of time commencing at 7:00 a.m. (Central Time) on the first day of a calendar month and ending at 7:00 a.m. (Central Time) on the first day of the next successive calendar month.

1.8 “Contract Year” shall mean a period of time commencing at 7:00 a.m. (Central Time) on the Effective Date or any anniversary of the Effective Date and continuing for a period of 12 Contract Months thereafter.

1.9 “Delivery Point” shall mean the centrally located pipeline header facilities operated by Enterprise or one of its Affiliates on property in the vicinity of the Enterprise Storage Facility for subsequent delivery into the PGP storage account of Purchaser at the Mont Belvieu Complex pursuant to the PGP Storage Lease, subject to the terms and conditions of the PGP Storage Lease.

1.10 “Effective Date” shall have the meaning set forth in the preamble of this Agreement.

1.11 “Emissions Capital Costs” shall have the meaning set forth in Section 9.2.

1.12 “Emission Compliance Expenses” shall mean any and all ongoing operational expenses incurred by Enterprise, directly or indirectly, to comply with any Emission Requirement (other than Emissions Capital Costs).

1.13 “Emission Requirement” shall mean any Law (i) imposing restrictions on the emissions of GHGs, including, without limitation, tradable carbon dioxide emission allowances, tradable carbon rights program, or any other program to reduce global warming, reduce carbon dioxide emissions or mitigate climate change, or (ii) imposing or levying taxes, fines or other sums payable to a Governmental Authority with respect to the emission of GHGs subsequent to the Effective Date.

1.14 “Enterprise” shall have the meaning set forth in the preamble of this Agreement.

1.15 “Enterprise Storage Facility” shall mean the polymer grade propylene underground storage facility owned by an Affiliate of Enterprise located in the Mont Belvieu Complex.

1.16 “Expansion” shall mean a potential expansion by Purchaser of its PGP-consuming facilities in Cartagena, Colombia. For avoidance of doubt, nothing herein shall require Purchaser to pursue an Expansion.

1.17 “Expansion Notice” shall mean a written notice provided by Purchaser to Enterprise indicating it is pursuing an Expansion. Any such Expansion Notice must be provided by Purchaser to Enterprise no later than December 31, 2022. If Purchaser fails to provide an Expansion Notice to Enterprise on or prior to December 31, 2022, then Purchaser shall be automatically deemed to have waived its right to provide such a notice to Enterprise, and any such Expansion Notice provided by Purchaser after such date shall be void and of no force and effect. If Purchaser elects not to pursue an Expansion, Purchaser shall not be required to provide an Expansion Notice to Enterprise.

1.18 “Expansion Notice Effective Date” shall mean the date specified by Purchaser in the Expansion Notice of the effective date of the Expansion, which effective date shall be at least 12 Contract Months from the date of the Expansion Notice.

1.19 “Force Majeure” shall have the meaning set forth in Section 13.2.

1.20 “Gallon” shall mean a United States gallon of 231 cubic inches of liquid at 60 degrees Fahrenheit and at the equilibrium vapor pressure of the liquid.

1.21 “GHGs” shall mean carbon dioxide (CO₂) and/or any other greenhouse gases, including, without limitation, methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydro fluorocarbons (HFCs), perfluorocarbons (PFCs) or any other fluorinated greenhouse gases.

1.22 “Governmental Authority” shall mean any federal, state, local, municipal, tribal or other government; any governmental, regulatory or administrative agency, commission, body or other authority exercising or entitle to exercise any administrative, executive, judicial, legislative, regulatory or taxing authority or power; and any court or governmental tribunal, including any tribal authority having or asserting jurisdiction.

1.23 “Indemnifying Party” shall have the meaning set forth in Section 11.3.

1.24 “Index” shall have the meaning set forth in Section 4.1.

1.25 “Initial Term” shall have the meaning set forth in Section 2.1.

1.26 “Law” shall mean the applicable treaties, statutes, laws, rules, regulations, decrees, ordinances, licenses, permits, compliance requirements, decisions, orders, directives, and agreements of, and/or concessions and arrangements authorized, enacted or implemented by or with, any Governmental Authority.

1.27 “Measurement Meter” shall have the meaning set forth in Section 8.1.

1.28 “Measurement Procedures” shall mean the measurement procedures set forth in Exhibit A.

1.29 “Mont Belvieu Complex” shall mean the fractionation and natural gas liquids storage facilities and other processing and storage facilities located in Chambers County, Texas in or in the vicinity of Mont Belvieu, Texas operated by Enterprise or its Affiliates, as applicable, and their successors or assigns, as such facilities exist now or they may be expanded in the future during the Term.

1.30 “Monthly Maximum Quantity” shall mean, with respect to a Contract Month, 68,000,000 Pounds of PGP; provided, however, if on the Expansion Notice Effective Date (if it occurs) the PDH II Effective Date has not yet occurred, then beginning on the Expansion Notice Effective Date (if it occurs) and continuing until the PDH II Effective Date, the Monthly Maximum Quantity shall be 80,000,000 Pounds of PGP; after the PDH II Effective Date occurs, the Monthly Maximum Quantity shall revert to 68,000,000 Pounds of PGP. If the Expansion Notice Effective Date does not occur because Purchaser does not timely provide an Expansion Notice to Enterprise, the Monthly Maximum Quantity will remain at 68,000,000 Pounds for the entirety of the Term.

1.31 “Monthly Minimum Quantity” shall mean, with respect to a Contract Month, 46,000,000 Pounds of PGP; provided, however, if on the Expansion Notice Effective Date (if it occurs) the PDH II Effective Date has not yet occurred, then beginning on the Expansion Notice Effective Date (if it occurs) and continuing until the PDH II Effective Date, the Monthly Minimum Quantity shall be 53,000,000 Pounds of PGP; after the PDH II Effective Date occurs, the Monthly Minimum Quantity shall revert to 46,000,000 Pounds of PGP; provided further, however, notwithstanding the foregoing, during the period (x) from the Effective Date until the Expansion Notice Effective Date (if it occurs), Purchaser may elect, in its sole discretion, for the Monthly Minimum Quantity to be 30,00,000 Pounds of PGP for a maximum of 2 Contract Months during any Contract Year, and (y) from and after the Expansion Notice Effective Date (if it occurs) until the end of the Term, Purchaser may elect, in its sole discretion, for the Monthly Minimum Quantity to be 26,000,000 Pounds of PGP for a maximum of 2 Contract Months during any Contract Year. If the Expansion Notice Effective Date does not occur because Purchaser does not timely provide an Expansion Notice to Enterprise, the Monthly Minimum Quantity will remain at 46,000,000 Pounds for the entirety of the Term, and may be reduced pursuant to (x) above.

1.32 “Moody’s” shall mean Moody’s Investor Service.

1.33 “Nominated Quantity” shall have the meaning set forth in Section 5.1.

1.34 “Off-Spec Product” shall have the meaning set forth in Section 11.1.

1.35 “Original Index” shall have the meaning set forth in Section 4.2.

1.36 “Party” shall mean each of Enterprise or Purchaser.

1.37 “Parties” shall mean, collectively, Enterprise and Purchaser.

1.38 “Payment Cure Period” shall have the meaning set forth in Section 5.6(a).

1.39 “PDH II Effective Date” shall have the meaning given such term in the PDH II Sales Agreement.

1.40 “PDH II Sales Agreement” shall mean that certain Polymer Grade Propylene Purchase and Sales Agreement (PDH II) dated as of April 1, 2021 by and between Enterprise and Purchaser.

1.41 “Person” shall mean any natural person, corporation, company, partnership, general partnership, limited partnership, limited liability company, joint venture, trust, estate, business trust, or other form of incorporated or unincorporated organization, Governmental Authority or any other entity.

1.42 “PGP” shall mean polymer grade propylene meeting the PGP Specifications.

1.43 “PGP Price” shall have the meaning set forth in Section 4.1.

1.44 “PGP Specifications” shall mean the specifications for polymer grade propylene set forth in Exhibit B; provided, however, Enterprise reserves the right to modify, add to, or revise such specifications at any time and from time-to-time during the Term upon giving not less than 30 days prior written notice to Purchaser of the applicable modification, addition or revision; provided, however, for so long as the PGP Storage Lease is in effect, (i) no modification, addition or revision

to such specifications shall be made unless a corresponding modification, addition or revision (as applicable) is made to the specifications for polymer grade propylene set forth in PGP Storage Lease, and (ii) if there in any modification, addition or revision to the specifications for polymer grade propylene set forth in PGP Storage Lease, then a corresponding modification, addition or revision (as applicable) to the "PGP Specifications" hereunder shall be made effective concurrent with such modification, addition or revision to the specifications for polymer grade propylene set forth in PGP Storage Lease.

1.45 "PGP Storage Lease" shall mean that certain Storage Lease dated April 1, 2021 by and between Enterprise and Purchaser, as such agreement may be amended, supplemented, restated or otherwise modified from time to time as agreed between the Parties.

1.46 "Pound" shall mean 16 ounces avoirdupois weight.

1.47 "Purchaser" shall have the meaning set forth in the preamble of this Agreement.

1.48 "Purchaser's Emissions Cost Allocation" shall have the meaning set forth in Section 9.2.

1.49 "Purchaser's Past Due Amounts" shall have the meaning set forth in Section 5.5(a).

1.50 "Purchaser's Share of Expenditures" shall have the meaning set forth in Section 9.2.

1.51 "Renewal Term" shall have the meaning set forth in Section 2.1.

1.52 "Replacement Index" shall have the meaning set forth in Section 4.2.

1.53 "Splitters" shall mean Enterprise's propane-propylene splitter facilities located in the Mont Belvieu Complex.

1.54 "S&P" shall mean Standard & Poor's.

1.55 "Taxes" shall have the meaning set forth in Section 9.1.

1.56 "Term" shall have the meaning set forth in Section 2.1.

1.57 "Terminalling Agreement" shall mean that certain Term Agreement for Exchange and Terminalling of Propylene FOB Houston Ship Channel Terminal dated April 1, 2021 by and between Enterprise and Purchaser, as such agreement may be amended, supplemented, restated or otherwise modified from time to time.

ARTICLE II TERM

This Agreement shall be effective on the Effective Date, and, unless sooner terminated as provided herein, shall continue thereafter for an initial term of 5 Contract Years (the "Initial Term") and continuing thereafter for periods of 2 Contract Years each (each, a "Renewal Term"), unless either Party gives written notice to terminate no later than 12 Contract Months prior to the expiration of the Initial Term or the applicable Renewal Term, such termination to be effective as

of the end of the Initial Term or any such Renewal Term, as the case may be. As used in this Agreement, the "Term" shall mean the Initial Term and any Renewal Term, as applicable.

ARTICLE III PURCHASE AND SALE OF PGP

3.1 PGP. The product to be sold and purchased in accordance with the terms of this Agreement is PGP.

3.2 Quantity. From and after the Effective Date, subject to the other provisions of this Agreement, Purchaser agrees to nominate, purchase and accept from Enterprise, and Enterprise agrees to sell and deliver to Purchaser, each Contract Month, at the Delivery Point, the Nominated Quantity of PGP for such Contract Month.

ARTICLE IV PRICE; CHANGES IN INDICES; DEFICIENCY FEE

4.1 Price. With respect to each Contract Month, for each Pound of PGP delivered to the Delivery Point hereunder during such Contract Month, Purchaser shall pay to Enterprise, subject to adjustment pursuant to Section 9.2, a price determined as follows (as may be adjusted, the "PGP Price"):

PGP Price (in cents per Pound rounded to 4 decimals) equals the Index.

WHERE:

"Index" shall mean the final price per Pound (in cents per Pound) as reported in the PetroChemWire LLC's *Monthly Spot Markets Summary* (end of Month report), or its successor, for the pricing category "30 Day - Polymer Grade Propylene Mont Belvieu Pipe (\$/lb)" in the "Weighted Average Prices" table for the Contract Month in which PGP is delivered to the Delivery Point.

4.2 Changes in Indices. If any of the published indices referenced in this Agreement (each, an "Original Index") ceases to be published, the Parties shall cooperate in good faith to select an alternative replacement index (the "Replacement Index") representative of the Original Index. If the Parties cannot agree upon a Replacement Index within 20 Business Days from the date that the Original Index ceased to be published, then either Party may cause the selection of the Replacement Index to be made pursuant to binding arbitration governed by the Federal Arbitration Act, 9 U.S.C. §§ 1 et seq., and conducted in accordance with the CPR Institute for Dispute Resolution Rules for Non-Administered Arbitration, which rules are deemed to be incorporated by reference in effect on the Effective Date of this Agreement. With respect to such arbitration, (i) the number of arbitrators shall be 3, with each Party having the right to appoint 1 arbitrator, and who shall together within 30 days in accordance with such rules appoint a 3rd neutral arbitrator with at least 5 years of experience in the refined products and/or natural gas liquids industry, (ii) the location of the arbitration hearings shall be in Houston, Texas, (iii) the arbitrators shall make their decision and shall render a written opinion explaining their selection of the Replacement Index, (iv) the Parties hereby expressly waive any right of appeal to any court, and (v) there shall be no written transcript or record of the arbitration proceeding.

ARTICLE V NOMINATIONS, STATEMENTS, TICKETING AND INVOICING

5.1 Nominations and Scheduling. Subject to the terms and condition of this Agreement, for each Contract Month, Purchaser shall, at least 15 days prior to the beginning of such Contract Month, provide Enterprise with a firm binding nomination upon each of Purchaser and Enterprise containing the quantity (in Pounds) of PGP (not to be less than the Monthly Minimum Quantity and not to exceed the Monthly Maximum Quantity) that Purchaser will purchase and receive in such Contract Month at the Delivery Point (the "Nominated Quantity").

5.2 Invoices. On or before the 5th day of each Contract Month, Enterprise shall render to Purchaser an invoice for the net amount payable by Purchaser to Enterprise pursuant to this Agreement in respect of the PGP sold and delivered in the immediately preceding Contract Month (the "Billing Month") plus prior period adjustments. Each invoice shall contain information sufficient to explain the amounts billed and itemized to show the following:

- (a) The quantity of PGP sold and delivered to Purchaser in such Contract Month, expressed in Pounds;
- (b) The PGP Price (including the pricing formula and related indices used in such pricing formula) for such Billing Month;
- (c) Adjustments to invoices previously rendered in respect of prior periods; and
- (d) The total amount payable pursuant to the invoice.

Such invoices shall be sent by email to Purchaser at the following email address:

Esenttia S.A.
Attention: Procurement coordinator and Billing department
Email: nicolas.perez@esenttia.co
Copy: facomputador@esenttia.co

or to such other email address as Purchaser may hereafter designate in writing to Enterprise.

5.3 Payment. Subject to Section 5.7, no later than 15 days following the date of each invoice, Purchaser shall remit payment on such invoice to Enterprise; provided that if such due date falls on a Saturday, such payment will be due on the previous Business Day, and if such due date falls on a Sunday or another day other than Saturday which is not a Business Day, such payment shall be due on the following Business Day. Payments made hereunder shall be made to Enterprise by ACH or wire transfer of immediately available funds to the account listed on Enterprise's invoice.

5.4 Audit Rights. Purchaser and Enterprise shall each have the right, on an annual basis during regular business hours and upon providing at least 3 Business Days' advance notice and at the expense of the Party conducting the audit, to examine the relevant books and records of each other to the extent necessary to determine the accuracy of any statement, invoice, charge, computation or demand made under or pursuant to any of the provisions of this Agreement. All errors shall be corrected and a billing adjustment paid promptly; provided, however, any invoice shall be final as to the Parties unless questioned in writing within 2 years after the date of such invoice. The disclosing Party may require that any such audit be made by an independent auditor under obligation of confidentiality. A Party shall not be required to disclose legally privileged

information. The auditing Party and its Affiliates shall be subject to the confidentiality provisions set forth in Section 16.4 with respect to any information obtained pursuant to any such audit.

5.5 Failure of Timely Payment.

(a) If Purchaser fails to make timely payment to Enterprise of any amounts due to Enterprise hereunder that are not disputed in good faith pursuant to Section 5.7 ("Purchaser's Past Due Amounts"), and if Purchaser still has failed to pay such Past Due Amounts 5 days after Enterprise has provided written notice of such failure to Purchaser (the "Payment Cure Period"), Enterprise may (i) immediately suspend performance of all obligations hereunder until such time as Purchaser has paid to Enterprise Purchaser's Past Due Amounts in full, and/or (ii) immediately place Purchaser on a prepayment basis, by providing written notice of such to Purchaser, and requiring Purchaser to pay prior to the beginning of each Contract Month, the amount to be due for PGP to be purchased hereunder during such Contract Month, as reasonably estimated by Enterprise, and otherwise on terms satisfactory to Enterprise, by wire transfer, until arrangements are made for security satisfactory to Enterprise. In the event that (x) Purchaser fails to pay in full Purchaser's Past Due Amounts 5 days after the expiration of the Payment Cure Period for such Purchaser's Past Due Amounts, and/or (y) Purchaser refuses or otherwise fails to timely make any such prepayment, then, Enterprise will also have the additional right to terminate this Agreement upon written notice to Purchaser.

(b) In the event either Party fails to make timely payment of any sums, except those contested in good faith, when due under this Agreement, interest will accrue at the lesser of (i) the prime rate as published in the "Money Rates" section of The Wall Street Journal plus 2%, or (ii) the highest interest rate allowed by applicable Law from the date payment is due until the date payment is made.

(c) The rights and remedies set forth in this Section 5.5 are in addition to and not in lieu of any other remedy available to Enterprise under this Agreement, at law or in equity.

5.6 Adequate Assurances. If during the Term of this Agreement, Enterprise has commercially reasonable grounds for insecurity with respect to the performance of Purchaser's (or its successors or permitted assigns) obligations pursuant to this Agreement, Enterprise may demand, in writing, adequate assurance of due performance, in the form of either a letter of credit or other security in an amount, form and with a term, in each case, deemed reasonable by Enterprise in its sole discretion. Enterprise may suspend performance under this Agreement if such adequate assurance is not received within 15 days of such written request. For the purposes of this Section 5.6, "commercially reasonable grounds for insecurity" includes, but is not limited to (i) Purchaser (or its successors or permitted assigns) fails to make timely payment of any sums when due under this Agreement (without giving effect to any Payment Cure Period) in any 2 Contract Months during any consecutive 12 Contract Month period, (ii) Enterprise is not provided with Purchaser's financial statements as required by Section 5.8, or (ii) Enterprise determines, in its reasonable discretion, that Purchaser's financial statements that are provided as required by Section 5.8 are not satisfactory or cause Enterprise reasonable concern with respect to Purchaser's (or its successors or permitted assigns) ability to perform its obligations hereunder.

5.7 Disputed Invoices. If at any time during the Term of this Agreement, Purchaser disputes the amount payable to Enterprise for any PGP delivered, or any other obligations hereunder, Purchaser shall (to the extent such payment has not already been made) pay the amount Purchaser believes in good faith is due in accordance with the terms hereof and notify Enterprise in writing of the details of the dispute within 5 days after receipt of Enterprise's invoice.

5.8 Financial Statements. In the event Purchaser is not rated by both Moody's and S&P, then, within 180 days after July 1st of each Contract Year, Purchaser shall provide its unaudited financial statements to Enterprise for the just completed 6 calendar months. Within 180 days after the end of each Contract Year, Purchaser shall provide its audited annual financial statements to Enterprise for the just completed Contract Year.

ARTICLE VI DELIVERIES

Enterprise shall cause all deliveries of PGP to Purchaser hereunder to be made at the Delivery Point no later than the end of the Contract Month in which such PGP was nominated pursuant to Section 5.1, and Purchaser shall accept delivery of PGP hereunder as and when delivered at the Delivery Point.

ARTICLE VII TITLE AND RISK OF LOSS; CARE, CUSTODY AND CONTROL

For all purposes under this Agreement: (i) title to, and risk of loss of or damage to, PGP sold hereunder shall pass from Enterprise to Purchaser as it passes the Measurement Meter, and (ii) care, custody and control of PGP sold hereunder shall pass from Enterprise to Purchaser as it passes the Measurement Meter.

ARTICLE VIII MEASUREMENT

8.1 Quantity & Quality Measurements. All physical deliveries of PGP from Enterprise to Purchaser hereunder shall be measured and analyzed by Enterprise at the Enterprise-owned and operated meter located at or in the vicinity of the Delivery Point (each, a "Measurement Meter") in accordance with the Measurement Procedures. The Measurement Meter will be operated in accordance with the Measurement Procedures.

8.2 Use of Quantity and Quality Measurements. The results of quantity and quality measurements, sampling and testing of the PGP physically delivered hereunder shall be deemed as conclusive and binding as to the quality and quantity of PGP measured, sampled or tested, absent fraud or manifest error.

ARTICLE IX TAXES, FEES AND OTHER CHARGES; EMISSION REQUIREMENTS

9.1 Taxes, Fees and Other Charges. Any tax (including, without limitation, production, crude oil, excise, sales and use tax, any tax fee, or other charge levied for the purpose of creating a fund for the prevention, containment, cleanup and/or removal of spills and/or reimbursement of Persons sustaining loss therefrom, e.g. "Superfund" taxes), duty, license fee, or other charge (except any measured by or imposed against Enterprise's net income) imposed by any Governmental Authority on the PGP, or its production, transportation, sale, use, delivery or other handling, and which is paid by Enterprise, or any such tax, that is passed onto Enterprise from a third-party supplier (collectively, "Taxes"), shall be added to the PGP Price and paid by Purchaser. As between the Parties, Purchaser shall be responsible for or shall reimburse Enterprise for ad valorem Taxes imposed or assessed against Enterprise in connection with all PGP sold hereunder. Purchaser will provide Enterprise with properly completed exemption certificates for any Tax from which Purchaser claims an exemption. It is understood and agreed that solely by virtue of

Purchaser's assumption of responsibility for Taxes under this Section 9.1, Purchaser is not assuming any Superfund liability arising from the release of hazardous substances or waste, acts of pollution, general harm to the environment, or equivalent acts, including, but not limited to, responsibility for claims, damages, costs, fines, assessments or other such compensation related thereto; provided, however, nothing herein shall affect any such liability that Purchaser may otherwise have independent of this Section 9.1 for any of such matters, including, to the extent caused by Purchaser or due to Purchaser's negligence or willful misconduct. PURCHASER SHALL INDEMNIFY, DEFEND AND HOLD ENTERPRISE HARMLESS FROM AND AGAINST ANY CLAIMS WITH RESPECT TO TAXES FOR WHICH PURCHASER IS LIABLE HEREUNDER.

9.2 Emission Requirements. In the event a Governmental Authority imposes an Emission Requirement of general application upon facilities handling PGP that is enacted, promulgated, adopted or modified after the Effective Date (for which drafts materially in the form of the relevant Emission Requirement were not published prior to the Effective Date) and as a result of Enterprise's production of the PGP at the Splitters and/or transportation of the PGP to the Delivery Point, Enterprise is required to install or make installations in or modifications to the Splitters and/or the facilities used to transport PGP to, and/or deliver PGP at, the Delivery Point, and the additional operational expenses of such items exceeds \$1,000,000.00 in any Contract Year (the "Emissions Capital Costs"), and Enterprise directly or indirectly incurs an Emission Compliance Expense, Enterprise will reasonably determine the per Pound cost. Promptly after such determination by Enterprise, Enterprise shall notify Purchaser in writing of Purchaser's pro-rata share of such Emissions Capital Costs and Emission Compliance Expenses attributable to PGP purchased and sold hereunder through a per Pound increase to the PGP Price ("Purchaser's Emission Cost Allocation"). Purchaser shall have 30 days from receipt of such notice from Enterprise to notify Enterprise in writing whether Purchaser accepts or rejects Purchaser's Emission Cost Allocation. If Purchaser delivers such notice to Enterprise electing to accept Purchaser's Emission Cost Allocation (or fails to deliver such notice within such 30 day period, in which case, Purchaser shall be deemed to have accepted Purchaser's Emission Cost Allocation), then the PGP Price shall be increased by Purchaser's Emission Cost Allocation. If Purchaser delivers such notice to Enterprise electing to reject Purchaser's Emission Cost Allocation, then Enterprise shall have the right to terminate this Agreement by delivering written notice thereof to Purchaser, provided notice of such right to terminate must be sent to Purchaser within 30 days following receipt by Enterprise of Purchaser's rejection notice (it being understood that any such termination notice sent by Enterprise after such 30 day period shall not be effective). Unless Enterprise and Purchaser mutually agree in written, such termination by Enterprise shall be effective as of the end of the Contract Month following the Contract Month in which such notice from Enterprise is delivered to Purchaser. Enterprise shall provide Purchaser with information reasonably required to verify Enterprise's increased PGP Price. Any such increase attributed to the Emissions Capital Costs will terminate once Enterprise shall have recovered the Emissions Capital Costs and Enterprise's weighted average cost of capital attributable to the Emissions Capital Costs during a reasonably agreed to amortization period and as to the Emissions Compliance Expenses once said Emissions Compliance Expenses are no longer required. If an Emission Requirement prohibits Enterprise from receiving or Purchaser from making a reimbursement for Purchaser's Emission Cost Allocation related to such Emission Requirement, there will be automatically added to this Agreement a provision which restores to Enterprise the same economic bargain as would have resulted if Purchaser, rather than Enterprise, had paid the Emission Compliance Expenses and be valid, legal and enforceable. Notwithstanding anything to the contrary contained herein, Enterprise shall only be permitted to impose the Purchaser's Emission Cost Allocation hereunder after any Emission Requirement actually becomes effective; by way of example, if an Emission Requirement is announced in January 2024 but is not effective until March 2027, Enterprise is not permitted to deliver any notice for or otherwise impose any cost increases (or terminate the Agreement) until March 2027.

ARTICLE X WARRANTIES

Enterprise warrants that, at the time of delivery to Purchaser at the Delivery Point, (i) the PGP delivered to Purchaser hereunder shall conform to the PGP Specifications, (ii) Enterprise shall have good title to such PGP, and (iii) all such PGP shall be free and clear from all liens, encumbrances and adverse claims. **EXCEPT AS OTHERWISE SET FORTH HEREIN, ENTERPRISE MAKES NO OTHER (AND PURCHASER AGREES IT IS NOT RELYING ON AND HEREBY WAIVES ANY AND ALL OTHER) WARRANTIES OR REPRESENTATIONS OF ANY KIND CONCERNING THE PGP, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WARRANTIES AS TO PGP QUALITY AND CHARACTERISTICS, WARRANTIES AS TO QUALITY OR CONFORMITY WITH PRIOR DESCRIPTIONS OR SAMPLES, OR THE ENVIRONMENTAL, HEALTH, OR SAFETY EFFECTS OF THE PGP. ANY IMPLIED WARRANTIES ARE EXPRESSLY DISCLAIMED AND EXCLUDED.**

ARTICLE XI LIMITATION OF LIABILITY AND INDEMNITY

11.1 Limitation on Damages. Purchaser's sole and exclusive remedy for claims that the propylene delivered to Purchaser under this Agreement does not meet the PGP Specifications ("Off-Spec Product") shall be as set forth in this Section 11.1. If Enterprise delivers to Purchaser Off-Spec Product hereunder, the Parties shall first negotiate in good faith to attempt to reach a mutually agreeable reduced price for such Off-Spec Product, and, if a mutually agreeable price is agreed to, then all Off-Spec Product purchased by Purchaser for such mutually agreeable price shall be deemed "PGP" for purposes of the Parties' respective purchase and sale obligations hereunder. If the Parties are unable to reach agreement on such a mutually agreeable reduced price, then at Purchaser's option, it can elect to require Enterprise to replace the Off-Spec Product with PGP, and in such case, Purchaser shall promptly return the Off-Spec Product to Enterprise at the point(s) designated by Enterprise.

11.2 Limitation of Liability. NOTWITHSTANDING ANY OTHER PROVISION TO THE CONTRARY IN THIS AGREEMENT (EXCEPT SECTION 11.1), THE LIABILITY OF EACH PARTY TO THE OTHER HEREUNDER SHALL BE LIMITED TO DIRECT, ACTUAL DAMAGES, AND ALL OTHER DAMAGES ARE WAIVED, AND NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR SPECIAL, INDIRECT, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES INCURRED BY SUCH PARTY RESULTING FROM OR ARISING OUT OF THIS AGREEMENT OR ANY DISPUTE, CONTROVERSY OR CLAIM, WHETHER BASED ON CONTRACT, TORT, STATUTE OR OTHER LEGAL OR EQUITABLE THEORY (INCLUDING TO ANY CLAIM OF FRAUD, MISREPRESENTATION OR FRAUDULENT INDUCEMENT OR ANY QUESTION OF VALIDITY OR EFFECT OF THIS AGREEMENT, INCLUDING THIS CLAUSE) ARISING OUT OF OR RELATED IN ANY WAY TO THIS AGREEMENT (INCLUDING ANY AMENDMENTS OR EXTENSIONS), INCLUDING, WITHOUT LIMITATION, LOSS OF USE, INCREASED COST OF OPERATIONS, LOSS OF PROFIT OR REVENUE, OR BUSINESS INTERRUPTIONS, WHETHER OR NOT SUCH PARTY KNOWS, HAS REASON TO KNOW, HAS BEEN ADVISED OR IS OTHERWISE IN FACT AWARE THAT SUCH LOSS OR DAMAGE MAY BE INCURRED, AND REGARDLESS OF SUCH PARTY'S NEGLIGENCE (AND REGARDLESS OF WHETHER SUCH NEGLIGENCE IS SOLE, JOINT, CONCURRENT, ACTIVE OR PASSIVE), FAULT OR LIABILITY WITHOUT FAULT. SUCH LIMITATION TO EXCLUDE

SPECIAL, INDIRECT, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES SHALL NOT (I) APPLY IN THE CASE OF A PARTY'S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, AND (II) BE CONSTRUED AS LIMITING THE OBLIGATION OF THE OTHER PARTY TO INDEMNIFY THE OTHER PARTY AGAINST CLAIMS BY UNAFFILIATED THIRD PARTIES FOR SPECIAL, INDIRECT, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES INCURRED BY SUCH UNAFFILIATED THIRD PARTY. NOTHING IN THIS SECTION 11.2 SHALL PRECLUDE OR OTHERWISE IMPAIR ENTERPRISE'S ABILITY TO INITIATE LEGAL ACTION AGAINST PURCHASER TO RECOVER THE PGP PRICE OF THE PRODUCT SOLD TO PURCHASER BY ENTERPRISE IN THE EVENT PURCHASER FAILS TO FULLY PAY FOR THE PRODUCT AS AGREED HEREUNDER.

11.3 Indemnity. SUBJECT TO SECTION 11.1 AND SECTION 11.2, FROM AND AFTER THE DATE HEREOF, EACH PARTY (THE "INDEMNIFYING PARTY") SHALL DEFEND, INDEMNIFY, RELEASE AND HOLD HARMLESS THE OTHER PARTY AND ITS AFFILIATES AND THEIR RESPECTIVE SUCCESSORS, ASSIGNS, SUBSIDIARIES, SHAREHOLDERS, MEMBERS, PARTNERS, OFFICERS, DIRECTORS, EMPLOYEES, AGENTS AND REPRESENTATIVES FROM AND AGAINST ANY AND ALL CLAIMS, DEMANDS AND CAUSES OF ACTION OF ANY KIND, AND ALL LOSSES, DAMAGES, LIABILITIES, COSTS AND EXPENSES OF WHATEVER NATURE, IN EACH CASE, ASSERTED BY PERSONS NOT AFFILIATED WITH THE PARTIES (INCLUDING WITHOUT LIMITATION COURT COSTS AND REASONABLE ATTORNEYS' FEES, (I) TO THE EXTENT RESULTING FROM THE NEGLIGENCE OR WILLFUL MISCONDUCT OF A PARTY, ITS AFFILIATES OR ITS EMPLOYEES, AGENTS, REPRESENTATIVES, CONTRACTORS OR SUBCONTRACTORS IN CONNECTION WITH THE PERFORMANCE OF THIS AGREEMENT, (II) ARISING FROM OR RELATED TO ANY INJURIES TO OR DEATH OF ANY NATURAL PERSON OR DAMAGE TO OR LOSS OF PROPERTY OF ANY PERSON ATTRIBUTABLE TO ANY BREACH OF THE WARRANTIES SET FORTH IN ARTICLE X, OR (III) ARISING FROM OR RELATING TO ANY INJURIES TO OR DEATH OF ANY NATURAL PERSON OR DAMAGE TO OR LOSS OF PROPERTY OF ANY PERSON ATTRIBUTABLE TO THE PGP WHILE THE PGP IS IN THE CARE, CUSTODY, AND CONTROL OF THE INDEMNIFYING PARTY; PROVIDED, HOWEVER, THAT THE INDEMNIFYING PARTY WILL HAVE NO OBLIGATION UNDER THIS CLAUSE (III) TO THE EXTENT THAT INDEMNIFICATION IS REQUIRED UNDER CLAUSE (II). WHERE THE OCCURRENCE OR EVENT WHICH IS THE SUBJECT OF THE INDEMNIFIABLE CLAIM IS THE RESULT OF THE JOINT NEGLIGENCE OR WILLFUL MISCONDUCT OF PURCHASER, ENTERPRISE OR THEIR RESPECTIVE AFFILIATES, EMPLOYEES, AGENTS, REPRESENTATIVES, CONTRACTORS OR SUBCONTRACTORS, EACH PARTY'S DUTY OF INDEMNIFICATION SHALL BE IN PROPORTION TO ITS ALLOCABLE SHARE OF SUCH JOINT NEGLIGENCE OR MISCONDUCT, AS DETERMINED BY A COURT OF COMPETENT JURISDICTION.

ARTICLE XII CLAIMS

Any claim for any shortages in quantity or defects in quality of PGP sold and delivered hereunder must be made by written notice to Enterprise within 60 days after the delivery giving rise to the claim or, in the case of non-delivery, from the date fixed for delivery; otherwise, any such claims are waived.

ARTICLE XIII FORCE MAJEURE

13.1 Effect of Force Majeure. In the event either Purchaser or Enterprise is rendered unable, in whole or in part, by reason of Force Majeure to carry out its obligations under this Agreement, other than to make payments of amounts due hereunder, and upon such Party giving notice and reasonably full particulars of such Force Majeure event in writing (including email communication) to the other Party as soon as reasonably possible after the occurrence of the cause relied upon, then the obligations of the Party giving such notice, to the extent affected by such Force Majeure, shall be suspended during the continuance of any inability so caused, but for no longer period, and such cause shall so far as reasonably possible be remedied with all reasonable diligence. If a Party is unable in part to carry out its obligations hereunder because of Force Majeure, it shall fulfill those of its obligations that it is able to carry out equitably with respect to its other commitments to customers or suppliers by allocating deliveries or capacity in a fair and equitable manner. This Agreement shall not be terminated by reason of any such cause, but shall remain in full force and effect, and this Agreement shall not be extended except by mutual agreement regardless of such curtailment or cessation.

13.2 Definition of Force Majeure. "Force Majeure", as used herein, shall mean acts of God, strikes, lockouts, work stoppages or other industrial disturbances, acts of the public enemy, acts of terrorism, wars, blockades, insurrections, riots, epidemics, pandemics, fires, arrests and restraints of Governmental Authorities, rules and people, civil and criminal disturbances, explosions, breakage or accident to machinery or lines of pipe, the necessity for making emergency repairs to or alterations of machinery or lines of pipe, freezing of lines or pipe, partial or entire failure or shutdown of the Splitters, other equipment or facilities necessary for the operation of the Splitters, necessary storage facilities, transportation facilities or separation facilities, regulations of a Governmental Authority or change in applicable Law, curtailment of, or other inability to obtain raw materials, necessary chemical additives or catalysts, and/or electric power or energy used in operating the Splitters and/or making PGP at the Splitters and/or receiving PGP hereunder and other causes, whether of the kind enumerated or otherwise and whether or not foreseeable, not within the reasonable control of the Party claiming such Force Majeure, all of which by the exercise of reasonable diligence such Party is or was unable to prevent or overcome; provided, however, that the settlement of strikes, lockouts, work stoppages or other industrial disturbances shall be entirely within the discretion of the Party having the difficulty, and that the above requirement that any Force Majeure shall be remedied with the exercise of reasonable diligence shall not require the settlement of strikes, lockouts, work stoppages or other industrial disturbances by acceding to the demands of the opposing party when such course is inadvisable in the discretion of the Party having the difficulty. The term Force Majeure shall likewise include those instances where either Purchaser or Enterprise is required or needs to obtain, keep in force or renew, permits, licenses, approvals, consents, easements and/or rights-of-way to enable such Party to fulfill its obligations hereunder, the inability of such Party to acquire, keep in force or renew, or the delays on the part of such Party in acquiring, keeping in force or renewing, at a reasonable cost and after the exercise of Commercially Reasonable Efforts, such permits, licenses, approvals, consents, easements and/or rights-of-way.

13.3 Exceptions to Force Majeure. Notwithstanding Section 13.2, the following events shall not be considered Force Majeure: (i) economic hardship and changes in market conditions (including prices for PGP or any of its feedstocks, including energy) that affect supply or demand of PGP, (ii) the opportunity for Enterprise to sell PGP to be sold pursuant to this Agreement or any other product in the PGP value chain to another Person at a higher economic value than the PGP Price hereunder, (iii) the opportunity for Purchaser to purchase PGP or a substitute product from or

by another Person for a lower economic value than the PGP Price hereunder, or (iv) the inability of either Party to pay its obligations under this Agreement or any of its other obligations or debts as they become due.

ARTICLE XIV DEFAULT; REMEDIES

Unless (x) a different time period is otherwise expressly provided for in this Agreement, in which case such time period shall apply, or (y) a sole and exclusive remedy is otherwise expressly provided for in this Agreement, in which case such remedy shall apply and be the sole and exclusive remedy, if (i) a Party breaches any provision of this Agreement and if the breaching Party does not cure such breach within 30 days after written notice thereof has been given by the non-breaching Party, or if such breach cannot be cured within such 30-day period and the breaching Party does not commence a cure within such 30-day period and thereafter diligently pursue such cure to completion within 90 days, or (ii) any insolvency, bankruptcy, receivership or similar proceeding is initiated by or against a Party, or a Party enters into any arrangement or composition with creditors (other than for the purposes of a solvent reconstruction or amalgamation), or seeks liquidation, winding up, rearrangement, reorganization or adjustment of such Party or its debts (other than for the purposes of a solvent reconstruction or amalgamation), then the other Party may suspend performance of its obligations under this Agreement, without prejudice to any other rights or remedies it may have hereunder, at law or in equity, by giving 15 days' prior written notice.

ARTICLE XV ASSIGNMENT

15.1 Prior Consent Requirement. This Agreement will inure to the benefit of and be binding upon the Parties and their respective successors and permitted assigns, but it shall not be assignable, in whole or in part, by either Party without the express written consent of the other Party, which shall not be unreasonably withheld, conditioned or delayed; provided, however, that either Party shall be deemed reasonable in withholding its consent if (i) the assigning Party desires to assign less than all of such Party's rights and obligations under this Agreement, (ii) the assigning Party's proposed assignee does not provide adequate assurances of performance as required under Section 5.6 above, (iii) an event of default by the assigning Party has occurred and is continuing, (iv) the assigning Party's proposed assignee does not assume in writing all the assigning Party's obligations under this Agreement, (v) any litigation, regulatory proceeding or arbitral proceeding is then continuing between or among Purchaser or any of Purchaser's Affiliates, on the one hand, and Enterprise or any of Enterprise's Affiliates, on the other hand (whether or not there are other parties to such litigation or proceedings), or (vi) Purchaser's proposed assignee is not in good standing with Enterprise or any of Enterprise's Affiliates, as determined by Enterprise in its sole discretion, or Enterprise's proposed assignee is not in good standing with Purchaser or any of Purchaser's Affiliates as determined by Purchaser in its sole discretion, as applicable; provided, further, that this Agreement cannot be assigned unless both Parties agree in writing that the PGP Storage Lease and the Terminalling Agreement will be assigned simultaneously to the same Person.

15.2 Exceptions to Prior Consent. Notwithstanding the foregoing, either Party may, without the need for consent from the other Party (and without relieving itself from liability hereunder), (i) transfer, sell, pledge, encumber, or assign this Agreement or the accounts, revenues or proceeds hereof or thereof in connection with any financing or other financial arrangements, (ii) transfer or assign this Agreement to an Affiliate of such Party who remains an Affiliate of such Party, or (iii) transfer or assign this Agreement to any Person succeeding to all or substantially all

of the assets of such Party by way of merger, reorganization, or otherwise; provided, however, that such assignee agrees in writing to be bound by the terms and conditions of this Agreement.

15.3 No Waiver. Notwithstanding anything herein to the contrary, any assignment of this Agreement shall not relieve such assigning Party from any responsibility, obligations or liability hereunder.

15.4 Assignment Non-Compliance. Any assignment not made in accordance with this provision will be null and void *ab initio*.

ARTICLE XVI MISCELLANEOUS

16.1 Compliance with Law. Each Party shall comply with all applicable Laws in its performance of this Agreement.

16.2 Material Safety Data Sheets. Enterprise shall furnish to Purchaser Material Safety Data Sheets which provide warnings and safety and health information concerning the PGP. Purchaser shall undertake reasonable efforts to disseminate the information so as to warn of possible hazards to all natural persons whom Purchaser can reasonably foresee will be exposed to the hazards including, without limitation, those of Purchaser's employees, agents, contractors and customers who are directly involved in the performance of this Agreement and exposed to such risks.

16.3 Confidentiality; Press Releases. Neither Party shall disclose any of the terms of this Agreement to an un-Affiliated Person without the other Party's prior written approval, unless required or mandated to do so under applicable Law, by a Governmental Authority, or by a securities exchange. Neither Party shall release for publication or for advertising purposes any business or financial information relative to this Agreement (other than the terms of this Agreement, the disclosure of which is addressed in the first sentence of this Section 16.3) without the other Party's prior written approval (which approval shall not be unreasonably withheld, conditioned or delayed), unless required or mandated to do so under applicable Law, by a Governmental Authority, or by a securities exchange. Either Party may disclose the terms of this Agreement to any such Party's Affiliates, but the disclosing Party shall remain liable for any breaches of this Section 16.3 by such Affiliates. The Parties agree that neither Party shall issue a press release advertisement, public announcement or other form of publicity which includes information regarding this Agreement without the prior written consent of the other Party.

16.4 Notices. All notices, consents, and other communications under this Agreement shall be in writing and shall be deemed to have been duly given whichever is earlier (i) when delivered in person, (ii) when received by the addressee if sent by U.S. Postal Service Express Mail, Federal Express, or other express delivery service (receipt requested), (iii) by electronic email (with acknowledgement of receipt via a return electronic mail from the recipient), or (iv) by any other means as the Parties may agree from time to time in writing, in each case to the appropriate address or electronic mail address below (as such address may be changed from time to time upon written notice in compliance with this Section 16.4 given by the Party desiring to change such address or electronic mail address) or as otherwise provided in Section 5.3 with respect to invoices:

A. If to Purchaser:

Esenttia S.A.
Kilómetro 8 Vía Mamonal
Cartagena, Colombia
Attention: Jorge Gerdts
Email: Jorge.gerdts@esenttia.co

B. If to Enterprise:

Enterprise Products Operating LLC
1100 Louisiana Street, Suite 1000
Houston, Texas 77002
Attention: Senior Vice President, Petrochemicals
Email: PetChemNotices@eprod.com

With a copy to:

Enterprise Products Operating LLC
1100 Louisiana Street, Suite 1000
Houston, Texas 77002
Attention: General Counsel
Email: GeneralCounsel@eprod.com

16.5 Governing Law; Jurisdiction; Venue; Expenses; Waiver of Jury Trial. THE TERMS AND CONDITIONS SET FORTH IN THIS AGREEMENT, AND THE PARTIES' PERFORMANCE HEREUNDER, SHALL BE CONSTRUED AND GOVERNED BY THE LAWS OF THE STATE OF TEXAS, WITHOUT GIVING EFFECT TO THE CONFLICTS OF LAW PRINCIPLES THEREOF WHICH WOULD APPLY THE LAW OF ANOTHER JURISDICTION. EXCEPT FOR ISSUES REGARDING ANY ORIGINAL INDEX AS COVERED BY SECTION 4.2, ANY DISPUTE, CONTROVERSY OR CLAIM, WHETHER BASED ON CONTRACT, TORT, STATUTE OR OTHER LEGAL OR EQUITABLE THEORY (INCLUDING TO ANY CLAIM OF FRAUD, MISREPRESENTATION OR FRAUDULENT INDUCEMENT OR ANY QUESTION OF VALIDITY OR EFFECT OF THIS AGREEMENT, INCLUDING THIS CLAUSE) ARISING OUT OF OR RELATED IN ANY WAY TO THIS AGREEMENT (INCLUDING ANY AMENDMENTS OR EXTENSIONS), EACH PARTY EXPRESSLY AGREES TO EXCLUSIVE JURISDICTION AND VENUE IN THE STATE OR FEDERAL COURTS LOCATED IN HARRIS COUNTY, TEXAS, INCLUDING PERSONAL JURISDICTION OVER THE PARTIES. EACH PARTY WAIVES ANY OBJECTION TO THIS FORUM (INCLUDING ANY VENUE OR INCONVENIENT FORUM GROUNDS) AND WAIVES ITS RIGHT TO TRANSFER VENUE FROM THE COURTS LOCATED IN HARRIS COUNTY, TEXAS. EACH OF THE PARTIES AGREES THAT A FINAL JUDGMENT IN ANY SUCH ACTION OR PROCEEDING MAY BE ENFORCED IN OTHER JURISDICTIONS BY SUIT ON THE JUDGMENT OR IN ANY OTHER MANNER PROVIDED BY LAW. EACH PARTY SHALL AT ALL TIMES DESIGNATE AND MAINTAIN AN AGENT FOR SERVICE OF PROCESS IN THE STATE OF TEXAS. EACH PARTY TO THIS AGREEMENT WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY ACTION, SUIT OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT. NOTHING CONTAINED IN THIS SECTION 16.5 SHALL BE CONSTRUED AS A WAIVER OF THE RIGHT TO THE DISPUTE RESOLUTION PROVISIONS OF SECTION 4.2.

16.6 Entirety-Changes. This Agreement comprises the entire agreement and supersedes all prior representations and understandings between the Parties concerning the subject matter hereof. No agreement amending, supplementing, or partly or wholly terminating this Agreement shall be binding on either Party unless in writing executed by its authorized representative.

16.7 Counterparts; Imaged Agreement. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument. A facsimile or electronic copy of this Agreement or any amendment hereto bearing the signature of a Party shall be binding upon such Party to the same extent as an original counterpart bearing such Party's signature. This Agreement may be scanned and stored electronically, or stored on computer tapes and disks, as may be practicable. Neither Party shall object to the admissibility of any such imaged Agreement on the basis that such were not originated or maintained in documentary form under either the hearsay rule or the best evidence rule. However, nothing herein shall be construed as a waiver of any other objection to the admissibility of such evidence.

16.8 Captions and Drafting. The topical headings shown for each article, section and sub-section in this Agreement are for the convenience of the Parties and shall not be deemed or taken to constitute any part of said article, section or sub-section or to alter the contents thereof in any way. The Parties acknowledge and agree that the terms and conditions of this Agreement were freely negotiated and drafted by the Parties and agree that this Agreement shall be construed and interpreted without the benefit of any canon of law or rule of construction that requires ambiguities or inconsistencies to be interpreted against the Party that drafted an agreement. Wherever the context may require, any pronoun used in this Agreement shall include the corresponding masculine, feminine, or neuter forms, and the singular form of pronouns and nouns shall include the plural and vice versa. Wherever used in this Agreement, unless the context clearly requires otherwise, (i) the terms "hereof," herein," hereunder," and other words of similar import shall refer to this Agreement as a whole, (ii) the word "includes" and its syntactical variants mean "includes, without limitation," and corresponding syntactical variant expressions, and (iii) examples shall not be construed to limit, expressly or by implication, the matter they illustrate.

16.9 Waiver. Failure to exercise any right hereunder or to insist on strict performance of any obligation hereunder shall not be considered a waiver of such right or rights in the future.

16.10 No Partnership. Nothing contained in this Agreement shall be construed to create an association, trust, partnership, or joint venture or impose a trust or partnership duty, obligation, or liability on or with regard to either Party.

16.11 No Third-Party Beneficiaries. Except as provided in Article XI, this Agreement is for the sole benefit of the Parties and their respective successors and permitted assigns, and shall not inure to the benefit of any other Person whomsoever or whatsoever, it being the intention of the Parties that no third Person shall be deemed a third-party beneficiary of this Agreement.

16.12 Conflicts. In the event of a conflict or inconsistency between the provisions of Articles I through XVI of this Agreement and any provisions of any of the exhibits attached to this Agreement, Articles I through XVI shall take precedence and govern and control the rights, obligations and duties of the Parties.

16.13 Severability. If any term, provision or condition of this Agreement, or any application thereof, is held invalid, illegal or unenforceable in any respect under any applicable Law, this Agreement shall be reformed to the extent necessary to conform, in each case consistent with

the intention of the Parties, to such law, and to the extent such term, provision or condition cannot be so reformed, then such term, provision or condition (or such invalid, illegal or unenforceable application thereof) shall be deemed deleted from (or prohibited under) this Agreement, as the case may be, and the validity, legality and enforceability of the remaining terms, provisions and conditions contained herein (and any other application of such term, provision or condition) shall not in any way be affected or impaired thereby. Upon such determination that any term or other provision is invalid, illegal or incapable of being enforced, the Parties shall negotiate in good faith to modify this Agreement so as to effect the original intent of the Parties as closely as possible in an acceptable manner to the end that the transactions contemplated hereby are fulfilled to the extent possible.

16.14 Survival. Upon termination, cancellation, completion or expiration of this Agreement the following Articles and Sections of this Agreement shall survive until the fulfillment of any Party's remaining obligations hereunder: Article I (as necessary to give effect to any other provisions of this Agreement that survive), Section 4.1, Section 5.2, Section 5.3, Section 5.4, Section 5.5, Section 5.6, Section 5.7, Section 5.8, Section 5.9, Article VII, Article VIII, Article IX, Article X, Article XI, Article XII, Section 16.3, Section 16.5, Section 16.6, Section 16.7, Section 16.8, Section 16.9, Section 16.10, Section 16.11, Section 16.12, Section 16.13, this Section 16.14, and Section 16.16, and Section 16.17. Additionally, any other provisions of this Agreement which by their nature are intended to survive the termination, cancellation, completion or expiration of this Agreement shall continue as valid and enforceable until fulfillment of any Party's remaining obligations thereunder notwithstanding any such termination, cancellation, completion or expiration.

16.15 Further Assurances. Each Party shall take such further acts, and shall execute and deliver such documents, as may be reasonably requested by the other Party to evidence or more fully effectuate the purposes of this Agreement.

16.16 Exhibits. All exhibits attached hereto and referred to herein are hereby made a part hereof and incorporated herein by such reference for all purposes.

16.17 Waiver of Immunities. Purchaser expressly and irrevocably waives and agrees not to assert a defense in any action or proceeding which may be commenced or asserted against Purchaser in connection with this Agreement to the fullest extent permitted by applicable law, with respect to Purchaser, on the grounds of sovereign immunity or other similar grounds, where Purchaser is a state or government owned or controlled entity, whether in whole or in part or otherwise, which status would otherwise entitle Purchaser to assert or allege the defense of sovereign immunity in any claim against it from: (i) suit, (ii) jurisdiction of any court, (iii) relief by way of injunction, order for specific performance or for recovery of property, (iv) attachment of Purchaser's assets (whether before or after judgment, or (v) execution or enforcement of any judgment to which Purchaser might otherwise be entitled in any proceedings in the courts of any jurisdiction and irrevocably agrees, to the extent permitted by applicable law, that it will not claim any such immunity any proceedings.

IN WITNESS WHEREOF, the Parties have executed and delivered this Agreement as of the day and year first above written.

ENTERPRISE PRODUCTS OPERATING LLC
By: Enterprise Products OLPGP, Inc., its sole manager

DocuSigned by:

BY:  CFA9D9DD7E2144D

NAME: Chris D'Anna

TITLE: Legal representative

ESENTTIA S.A.

DocuSigned by:

BY:  AC3FF89A01DD4AF

NAME: Maria Inés Hurtado Burbano

TITLE: Legal representative

Exhibits:

Exhibit A	Measurement Procedures
Exhibit B	PGP Specifications

EXHIBIT A
MEASUREMENT PROCEDURES

ARTICLE I
DEFINITIONS

Acronyms and capitalized terms used in this Exhibit, but not otherwise defined in the Agreement, have the following meanings:

“**Agreement**” means the agreement to which this Exhibit is attached.

“**API**” means the American Petroleum Institute.

“**ASTM**” means ASTM International.

“**Barrel**” means 42 Gallons.

“**Base-Line Meter Factor**” means the meter proving factor established after meter installation or maintenance that meets API guidelines for uncertainty and is the reference prove from which subsequent meter proves are compared.

“**Customer**” means Enterprise’s counterparty to the Agreement.

“**Daily**” means an action that occurs on a Day-by-Day basis at a specific time.

“**Day**” means a period commencing at a local time on one calendar day agreed on by all parties involved and ending at the same time on the next calendar day.

“**DCF**” means the dimensionless number obtained by dividing the density as determined by the use of the Pycnometer (or such similar device) by the density as measured by the densitometer.

“**Enterprise**” means the Enterprise Products Partners L.P. affiliate contracting in the Agreement.

“**EVP**” means the equilibrium vapor pressure.

“**Flowing Day**” means a Day during which the stream to be measured actually flows.

“**Gallon**” means a United States Gallon of 231 cubic inches of liquid at 60 degrees Fahrenheit and at the EVP of the liquid.

“**g/cc**” means grams per cubic centimeter.

“**GPA**” means GPA Midstream.

“**Inferred Mass Combined Factor Shift**” means the absolute value of the sum of the Meter Factor shift and the DCF factor shift when used in inferred mass systems.

“**Meter Factor**” means a dimensionless term obtained by dividing the gross standard volume or mass of liquid passed through the meter (as measured by a prover during proving) by the corresponding meter indicated volume at standard conditions. For subsequent metering operations, the throughput or gross measured volume or mass is determined by multiplying the indicated volume or mass registered by the meter times the Meter Factor.

“**Month**” means a calendar month.

“**MPMS**” means the Manual of Petroleum Measurement Standards as published by the API.

“**psig**” means pounds per square inch gauge.

“**Purity Products**” include polymer grade propylene, chemical grade propylene, normal butane and isobutane.

“**Pycnometer**” means a double-walled, high-pressure vessel used to prove a densitometer.

“**Requesting Party**” means the party requesting the applicable data.

“**Sending Party**” means the party providing the applicable data.

ARTICLE II DESIGN AND INSTALLATION

Section 2.1 General

- A. Enterprise’s methods, standards, and Measurement Policy shall, at a minimum, meet relevant industry standards.
- B. Enterprise’s intent is to design, operate, and maintain its custody transfer measurement facilities in a manner to meet or exceed the criteria set out in the MPMS and the Enterprise Measurement Policy and Procedures, to comply with the Enterprise Measurement Engineering Standards, and to meet or exceed all pertinent governmental regulations.
- C. Natural gas liquids, including non-refrigerated ethane, demethanized mix (y-grade), propane, ethane-propane mixes, propylene, butanes, isomers of butene, and natural gasoline, delivered to or received by Enterprise shall be measured by either volumetric or mass measurement procedures, as determined solely by Enterprise, using a flow meter described in MPMS Chapter 5.
- D. The measuring facility shall be operated at a pressure greater than the EVP of the fluid at flowing conditions to ensure the stream is in a liquid state and contains no vapor, as determined by the appropriate chapter of the MPMS and the Enterprise Measurement Engineering Standards.
- E. All equipment employed in metering and sampling, and all equipment upstream and downstream of the measurement station, which might affect quantity and quality determinations, must be approved by Enterprise as to the type, materials of construction, method of installation, and maintenance. Due consideration shall be given to the operating pressure, temperature, and characteristics of the product being measured.
- F. References to any API, GPA, ASTM, or similar publications encompass the latest edition, revision, or amendment thereof. From time to time, these chapters and sections are subject to change by their respective publishers, and such changes will supersede the specific references contained herein.

Section 2.2 Measurement Equipment and Systems

- A. Flow Meters. Flow meters shall be installed in accordance with MPMS Chapter 5.
- B. Densitometers and Density Determination.
 - 1. Enterprise does not allow the use of digital density meters.
 - 2. Where required, densitometers, including Coriolis meters used for determining flowing density, shall be installed and calibrated in accordance with MPMS, Chapter 14. The output shall be connected directly into a flow computer capable of internally converting the densitometer’s output signal to corrected flowing density in g/cc. Proving is to be by entrapping a sample of the flowing stream at system conditions in a Pycnometer. The connections for the Pycnometer shall be installed in such manner as to ensure the same representative sample introduced to the densitometer is captured by the Pycnometer. The accuracy of the densitometer shall be verified at the time of the meter proving or when accuracy is in question. The accuracy of the densitometer must be within +/- 0.001 g/cc over the required range and repeatable to +/- 0.0005 g/cc.
 - 3. Thermowells shall be installed to allow monitoring of the inlet and outlet temperature of the Pycnometer during calibration.
 - 4. During a densitometer calibration, the difference between all outlet temperatures and pressures must be within +/-0.2 °F and +/- 5.0 psi of each other during the proof test.
 - 5. For polymer grade propylene measurement, the density may be determined by the use sub-routine “Propyl”.

6. For chemical grade propylene measurement, a density calculated using MPMS Chapter 11.3.3.2 may be used for density determination. When this calculated density is used, the Meter Factor shall be adjusted by a factor of 0.9987¹ to account for the composition changes.
 7. For High Purity Isobutylene measured by a mass meter producing a mass pulse output, and mass proved, the meter does not need a densitometer.
 8. Under no circumstances will a density measurement be utilized for transaction calculations without a proving or verification of the function during the ticket period.
 9. Verification and calibration data will be supplied to Customer.
 10. The proving intervals, tolerances, repairs, and methods of correction are the same as those provided elsewhere in this Exhibit, and the average of two successive Pycnometer provings will establish product flowing density, provided: (1) the two successive provings agree within 0.0005, and (2) the average of the two tests is within 0.0015 of the previously accepted calibration factor.
- C. Temperature Transmitters. Temperature transmitters shall be verified at the time of the meter proving using a certified thermometer or precision electronic temperature device. Temperature transmitters must exhibit a discrimination of at most 0.1° F, or better, and a variation between the flow computer display and a certified electronic or mercury liquid-in-glass thermometer no greater than 0.2° F.
- D. Pressure Transmitters. Pressure transmitters shall be verified at the time of meter proving using a reference gauge to ensure current readings exhibit pressure discrimination of not more than 1.0 psig, and the variation between the flow computer display and a certified test gauge does not exceed 3.0 psig.
- E. Flow Computers. Flow computers shall be capable of accepting pulses from the flow meter transmitter and signals from the pressure, temperature, and density transmitters. The flow computer shall convert, as required, and totalize these signals into flowing density, corrected flowing density, indicated volume, gross volume, mass, specific gravity at 60° F, and net volume. The flow computer and its operation shall comply with MPMS Chapter 21. For net volume determinations (for most products), the flow computer shall utilize the latest ASTM, API, and GPA standards for temperature and pressure corrections that are applicable to the product being measured. The weight of water shall be as provided in the latest version of GPA 2145.
- F. Composite Sampling Systems. Composite sampling is required for products transacted on a component Barrel basis and for quality verification of any product. If composite sampling is required, then the composite sampling system shall be installed and operated in accordance with GPA Standard 2174. The composite sampler shall be operated to collect flow-proportional samples, based on indicated volume. These samples shall be accumulated in and removed from floating-piston cylinders with mixing capability.

ARTICLE III ACCOUNTING

Section 3.1 Custody Transfer Tickets. Unless otherwise provided for by separate agreement, Enterprise shall furnish Customer with a batch custody transfer ticket, where batch may denote either quantity or time. Further, the batch shall be closed out at the start of Day on the first Day of the Month or such other period as Enterprise, in its sole discretion, may deem appropriate. When provided, Daily custody transfer tickets are for the period of one Day.

Section 3.2 Volume-Basis Streams. Unless otherwise provided for by separate agreement, for streams transacted on a volume basis the ticket shall identify the product and state the net volume in Barrels of product measured, and all factors associated with its production.

Section 3.3 Mass-Basis Streams. Unless otherwise provided for by separate agreement, for streams that are transacted on a mass basis the ticket shall identify the product, state the total mass measured in pounds, show product analysis, and

¹ Based on the work of J.E. Gallagher, Shell Pipeline Corporation, "Chemical-Grade Propylene Density Measurement," July 1983.
Exhibit A – Page 3

show total component Barrels (if required). Where required, total pounds mass shall be converted to pounds of each component based on its weight fraction as determined by analysis. If required, the component pounds shall then be converted to equivalent Barrels of each component utilizing the calculation procedure outlined in MPMS Chapter 14. The component density in a vacuum shall be in accordance to GPA Standard 2145. If required, the ticket shall identify the product and state the total mass, product analysis, and total component Barrels.

ARTICLE IV MAINTENANCE AND OPERATIONS

Section 4.1 Measurement Basis

A. Mass Measurement

1. Inferred Mass: Inferred mass measurement is accomplished utilizing a flow-proportional composite sampler (if required), volumetric flow meter, densitometer, and flow computer to convert gross volumetrically measured Barrels using density in g/cc at flowing conditions, and corrected for instrument error, to total pounds mass according to the following formula:

$$\text{Total Pounds} = \text{Indicated Barrels} \times \text{Meter Factor} \times \text{Flowing Density (g/cc)} \times 350.5069 \times \text{DCF}$$

Where:

350.5069 is a conversion factor for converting g/cc to pounds/Barrel.

2. Direct Mass: Coriolis measurement is accomplished by utilizing a Coriolis meter and a flow computer to accumulate mass pulses from the flow meter transmitter and report in pounds. Measured pounds mass is calculated according to MPMS Chapter 5.6.

- B. Volumetric Measurement. Volumetric measurement may be accomplished utilizing a flow computer, a flow meter outputting volume pulses, and temperature and pressure transmitters. Where applicable, a densitometer shall be installed. In the case of purity products, Enterprise reserves the right to use a fixed specific gravity at 60° F and 14.696 psia in lieu of a densitometer for flow calculations. The proper API, ASTM, and GPA standards shall be used to calculate and totalize net Barrels.

Section 4.2 Provings and Tolerances

A. General

1. Meter provings, calibration of instruments, and maintenance of measurement equipment will normally be performed by Enterprise personnel, but these functions may be delegated to responsible third-party contractors under the direction of an Enterprise representative.
2. All provings shall be by the applicable MPMS standard.
3. For meters outputting a mass pulse:
 - i. The prover shall be equipped with a densitometer installed and proved in accordance with MPMS Chapter 14. However, for polymer grade propylene, the density may be determined by the use of sub-routine "Propyl", and for chemical grade propylene, MPMS Chapter 11.3.3.2 may be used to determine flowing density.
 - ii. The Coriolis meter shall be proved as an inferred mass proving in accordance with MPMS Chapter 5.6.
4. For meters outputting a volume pulse:
 - i. A live flowing density signal or fixed specific gravity at 60° F shall be used in the proving calculations.
 - ii. The density measurement, if present, shall be verified using standard practices as outlined in MPMS Chapters 14.

5. Unless otherwise impractical, no work shall be performed on the measuring element of a meter without first proving the meter.

B. Proving Intervals

1. Each meter shall be proven when initially placed into service and immediately prior to and after maintenance.
2. Subsequent provings shall be made at least every 31 Flowing Days, not to exceed 45 Flowing Days. However, if operational issues, weather, or unavailability of a prover or prover contractor prevent the proving within 31 Flowing Days, then the proving interval may be extended to 45 Flowing Days.
3. If the consistency of the Meter Factor allows, and both parties agree, the proving interval between provings may be extended to up to six months.
4. If a party requests an unscheduled prove, then such party shall pay for all costs of the unscheduled prove unless the prove determines the instrumentation is outside of the applicable tolerances. Each party shall allow the other party to witness all provings made to measurement facilities. Proving will be conducted monthly or more frequently as the parties may elect.

C. Meter Factor

1. When a meter is proved after initially being placed in service, a Base-Line Meter Factor shall be established.
2. If any maintenance is performed on a meter or a meter is replaced, a new Base-Line Meter Factor shall be established.
3. The new Meter Factor shall be used after each successful proving if it meets the proving criteria herein.

- D. Ticket Corrections. If the new Meter Factor deviates from the previous Meter Factor under like operating conditions by more than plus or minus 0.0025, then 1/2 of the volume measured since the previous proving shall be corrected using the new Meter Factor. If the time of malfunction can be determined by historical data, then the volume measured since that point in time shall be corrected using the new Meter Factor. The new Meter Factor may not be used to correct volumes measured more than 31 Flowing Days prior to the new proving, unless the Flowing Days between proves exceeds 31 Flowing Days, in which case the correction shall be for the Flowing Days between proves. If a correction is required, then a correction ticket shall be issued for the quantity corrected.

- E. Inferred Mass Combined Factor Shift: The mass measurement objective for inferred mass meters is 0.25% accuracy. In the inferred mass equation, both the Meter Factor and DCF are weighted equally. Therefore, a corrected meter ticket will only be written when the absolute value of the sum of the Meter Factor shift and DCF shift is greater than 0.0025. The following are examples:

1. Example 1: A meter exhibiting a shift in Meter Factor of 0.0024 combined with a densitometer exhibiting a DCF shift of -0.0018, would not require a meter ticket correction, as the sum of these two shifts results in a total factor shift of 0.0006.
2. Example 2: A meter exhibiting a shift in Meter Factor of -0.0024 combined with a densitometer exhibiting a DCF shift of -0.0018, would require a meter ticket correction, as the sum of these two shifts results in a total shift of 0.0042.

F. Corrective Actions

1. If, as a result of a meter proof, a new Meter Factor deviates more than 0.0025 from the previous Meter Factor but less than 0.0050 from the Base-Line Meter Factor, then Enterprise's field representative shall determine the corrective action, if any, to be taken.
2. If, as a result of a meter proof, the new Meter Factor deviates 0.0050 or more from the Base-Line Meter Factor, then the Enterprise field representative shall determine the corrective action, if any, to be taken, including removal, inspection, cleaning of the internals, repairing, zero verification, and replacing. If there is build-up on

the internals, then the element or meter shall be cleaned and the meter re-proved. If physical repairs are made (e.g., replacement of a turbine rotor), then the meter shall be re-proved to establish a new Base-Line Meter Factor.

3. For mechanical flow meters requiring a wear-in period, after a 24-hour wear-in period, the meter shall be re-proved and if the Meter Factor changes more than plus or minus 0.0025 from the new Base-Line Meter Factor, then 1/2 of the volume measured shall be corrected using the latest Meter Factor.
 4. For Coriolis meters, if the zero changes or the meter is cleaned, repaired, or replaced, then the meter shall be re-proved to establish a new Base-Line Meter Factor. The meter shall be zero verified and, if necessary, re-proved. If the Meter Factor changes more than plus or minus 0.0025 from the new Base-Line Meter Factor, then 1/2 of the volume measured shall be corrected using the latest Meter Factor.
- G. Enterprise or its designee shall record all required corrections to measured volumes and shall describe the findings, method of repair, and calculations used in making the correction on the meter proving report. A correction to the ticketed amount shall be issued.
- H. If Customer's representative is not present during the proving, then Enterprise shall, if requested by Customer, within two business Days: (i) notify Customer of the findings; (ii) provide Customer with a meter proving report stating the findings, method of repair, and calculations used in making the correction; and (iii) provide Customer with a correction ticket for the amount corrected.

Section 4.3 Custody Measurement Station Failure

- A. If a failure occurs on a custody measurement station or the station is out of service while product is being delivered, then the volume shall be determined or estimated (as mutually agreed to by the parties) by one of the following methods in the order stated:
1. by using data recorded by any accurately registering check measuring equipment;
 2. by correcting the error if the percentage error can be ascertained by calibrations, tests, or mathematical calculations; or
 3. by using such other method as the parties agree upon.

Section 4.4 Sampling Procedures

- A. Purity Products do not require sampling.
- B. For all Flow proportional composite samples shall be removed from the composite sampler at the same time the meter is read and a custody ticket issued.
- C. Samples shall be analyzed pursuant to the appropriate test method specified by the applicable product specifications or contract.
- D. Three samples shall be taken from the composite sampler. One sample shall be retained by Enterprise for analysis, the second sample shall be retained by Customer for analysis, and the third shall be held as a referee. If Enterprise has taken custody, then its sample shall be analyzed and the analysis used to account for transfer. If Customer has taken custody, then its sample shall be analyzed using the Enterprise-specified test method and the analysis used to account for transfer.
- E. If requested, the referee samples shall be held for a period as agreed upon by the connecting party or a minimum of 30 Days from the date of sampling.
- F. If a malfunction of the sampling occurs resulting in no sample being taken or in an unrepresentative sample being obtained, then the following procedure shall be utilized in the order stated:

1. the sample collected by any on-stream, back-up sampling device that has extracted a sample in proportion to the volume delivered shall be used;
 2. an average of the composite samples taken over a mutually agreed time frame, not to exceed the last three months of properly sampled deliveries shall be used;
 3. Daily grab samples shall to be used for the time in question; or
 4. such other method as the parties may agree upon shall be used.
- G. Quality Testing. Where multiple sampling methods are allowed, Enterprise, in its sole discretion, will determine the preferred method.
- H. Cost of Referee Sample Analysis. If, as a result of the third-party laboratory analyzing the referee sample, the Enterprise analysis is used, then Customer is responsible for the applicable third-party laboratory costs. If, as a result of the third-party laboratory analyzing the referee sample, Customer analysis is used, then Enterprise is responsible for the applicable third-party laboratory costs.

ARTICLE V MEASUREMENT DISPUTE RESOLUTION

Section 5.1 Mass and Volume Metering. If both the Enterprise metering facility and the Customer metering facility are installed, operated, and maintained according to their respective measurement standards, both of which shall meet or exceed API standards, and the difference in measurement of mass or volume is less than or equal to 0.25%, then Enterprise's measurement of mass or volume, whichever the case may be, will be deemed correct. If the difference is more than 0.25%, then Enterprise and Customer shall resolve the dispute by working together, using the best available information.

Section 5.2 Analytical. Analytical disputes must be based upon laboratory analysis, using the Enterprise-specified test method, of both the Enterprise sample and the Customer sample from the custody sampler (as described above). After analyzing their respective samples according to the Enterprise-specified test method, if Customer and Enterprise are in disagreement, then they shall each send the other a copy of their respective sample results, and if the sample results differ by more than the GPA 2186/2177 reproducibility limits for one or more components, then the referee sample shall be taken to a mutually agreed upon third-party laboratory, which shall analyze the sample in accordance with the Enterprise-specified test method. If the third-party laboratory and Enterprise analyses disagree by more than the GPA 2186/2177 reproducibility limits for one or more components, then the third-party lab results shall be accepted by Customer and Enterprise as final and conclusive for the composition of the stream. If the third-party laboratory and Enterprise analyses agree within the reproducibility limits of GPA 2186/2177, then the Enterprise analysis shall be accepted by Customer and Enterprise as final and conclusive for the composition of the stream.

Section 5.3 All other measurement disputes. Enterprise and Customer shall work together, using the best available information, to resolve the dispute.

ARTICLE VI WITNESSING

Section 6.1 Provings. Enterprise and Customer are each responsible for proving its respective measurement facilities. Each party shall allow the other party to witness all provings. For scheduled measurement facilities provings, a party shall give the other party at least 72 hours' advance written notice of the date and time of the scheduled prove.

Section 6.2 Use of out-of-tolerance equipment. A Customer's witness signature does not constitute the approval of the use of out-of-tolerance equipment, but said signature does attest to the validity of the proving report.

Section 6.3 Sampling. Each party may witness the other party's sampling. The party performing such sampling shall provide the other party at least 48 hours' advance notice of any such sampling.

ARTICLE VII AUDIT RIGHTS

Each party and its duly authorized representatives shall have access to the accounting records and other documents maintained by the other party which relate to the measurement, composition or handling of the product being delivered under the Agreement. Each party may audit such records once a year at any reasonable time or times within 24 months of the rendition of any statement or invoice forming the basis of such claim, and neither party shall make claim on the other for any adjustment after said 24 month period. The party requesting the audit must give the other party at least 30 days' written notice.

ARTICLE VIII DATA ACCESS

Section 8.1 Data Access. Requesting Party may access Sending Party's electronic measurement equipment to acquire certain data as further described below. Requesting Party will only have access to such electronic measurement data in a format established by Sending Party, which will not interfere with the operation of Sending Party's facilities. Requesting Party recognizes that the data acquired from any electronic equipment is "raw" data, subject to further refinement, correction, and/or interpretation. Sending Party has no obligation to provide data to Requesting Party during times of maintenance, repair, or other activities by Enterprise that interrupt operations and/or due to events of Force Majeure. Sending Party has no obligation to advise Requesting Party of any such interruptions, or otherwise to verify the integrity of such data at any time. Sending Party shall make necessary connections to its electronic measurement equipment to provide Requesting Party with the following categories of data:

- A. pressure;
- B. temperature;
- C. instantaneous flow;
- D. total flow today; and
- E. such other data as the parties may agree to in writing.

Section 8.2 Data Transfer. Data transfer will occur via a serial data link between Enterprise and Customer. Customer is responsible for the data and communications beyond this connection.

Section 8.3 SCADA. Flow and metering data gathered and sent via SCADA monitoring equipment will not be used to determine Product quality and quantity for custody transfer calculations.

ARTICLE IX RIGHT TO CHANGE

Enterprise reserves the right, from time to time, to make: (1) non-substantive changes to this Exhibit; and (2) changes to this Exhibit driven by industry practice, governmental regulations, or Enterprise's reasonable operational requirements. Such changes will be made on a non-discriminatory basis to similarly situated customers, and such changes will become effective 30 Days after written notice of the changes is sent to Customer.

EXHIBIT B

ENTERPRISE PRODUCTS OPERATING LLC		
Polymer Grade Propylene Specification		
COMPONENT	TEST METHOD	SPECIFICATION
Propylene	ASTM D2163M	99.5 wt. % min.
Propane	ASTM D2163M	0.5 wt. % max.
Ethane	ASTM D2163M	325 wt. ppm max.
Methane	ASTM D2163M	115 wt. ppm max.
Ethylene	ASTM D2163M	10 wt. ppm max.
Isobutane and N-Butane	ASTM D2163M	15 wt. ppm max.
Butadienes	ASTM D2163M	1 wt. ppm max.
Butylenes	ASTM D2163M	1 wt. ppm max.
Acetylene	ASTM D2163M	1 wt. ppm max.
Methyl Acetylene	ASTM D2163M	1 wt. ppm max.
Propadiene	ASTM D2163M	1 wt. ppm max.
Hydrogen	ASTM D2504/PDHID	1 wt. ppm max.
Oxygen	ASTM D2504/PDHID	1 wt. ppm max.
Carbon Monoxide	UOP603/D2504	0.1 wt. ppm max.
Carbon Dioxide	UOP 603/ASTM D2505	1 wt. ppm max.
Carbonyl Sulfide	GC-MS	0.025 wt. ppm max.
Sulfur	GC-MS	0.5 wt. ppm max.
Arsine	GC-MS	0.05 wt. ppm max.
Phosphine	GC-MS	0.03 wt. ppm max.
Water	ASTM D5454M (on-line)	1 wt. ppm max.
Total Oxygenates	GC-MS	2 wt. ppm max.
Ammonia	Hach-8038	0.2 wt. ppm max.

Enterprise may have modified and reserves the right to modify without notice the specified test procedures; provided, however, that any test procedure so modified provides sensitivity and reproducibility reasonably equivalent to the current procedure.

Enterprise may certify certain components by on-line analyzer. On-line analyzer methodology shall meet accepted industry practice and be comparable in sensitivity and reproducibility to the procedure referenced in these specifications.

Certain components are not tested continuously. Enterprise's capability to meet specifications has been demonstrated by past performance. Enterprise's laboratory shall verify continuing performance and certify Polymer Grade Propylene as meeting specifications using the above test procedures on a regularly established schedule.

**FIRST AMENDMENT TO POLYMER GRADE PROPYLENE PURCHASE AND SALE
AGREEMENT (SPLITTERS)**

This First Amendment to Polymer Grade Propylene Purchase and Sale Agreement (Splitters) (the "First Amendment") amends the Polymer Grade Propylene Purchase and Sale Agreement (Splitters) dated as of May 1, 2021 (the "Agreement") by and between Enterprise Products Operating LLC ("Enterprise") and Esentia S.A. ("Purchaser"). This First Amendment shall be effective as of May 1, 2021. Capitalized terms herein but not otherwise defined shall have the meanings ascribed to such terms in the Agreement.

WHEREAS, Enterprise and Purchaser have agreed that certain provisions of the Agreement should be amended in the manner provided for in this First Amendment;

NOW, THEREFORE, with the intent to be legally bound, Enterprise and Purchaser hereby agree as follows:

**ARTICLE I
AMENDMENTS**

1.1 Definitions. Article I of the Agreement is hereby amended by adding the following definition to such Article in the appropriate alphabetical location, and renumbering the other definitions as applicable:

“Monthly Deficiency Fee” shall have the meaning set forth in Section 4.2.”

1.2 Monthly Deficiency Fee. Section 4.2 of the Agreement entitled “Changes in Indices” is hereby amended by changing such Section to Section 4.3, and inserting the following as a new Section 4.2:

“4.2 Monthly Deficiency Fee. If Purchaser fails during any Contract Month to nominate pursuant to Section 5.1 at least the Monthly Minimum Quantity for such Contract Month, then Purchaser shall pay Enterprise a fee (in U.S. dollars) for such Contract Month (as may be adjusted, the “Monthly Deficiency Fee”) equal to:

(the Monthly Minimum Quantity for such Contract Month minus the actual quantity (in Pounds) of PGP nominated hereunder by Purchaser pursuant to Section 5.1 for such Contract Month) multiplied by \$0.025.”

1.3 Invoices. Section 5.2 of the Agreement is hereby amended by adding the following subsection (e) immediately after the end of the first full paragraph of such Section:

“(e) The Monthly Deficiency Fee (if any).”

1.3 Payment. Section 5.3 of the Agreement is hereby amended by changing the reference in the first sentence of such Section from 15 days to 30 days.

ARTICLE II
MISCELLANEOUS

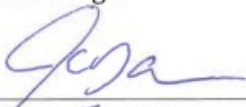
- 2.1 Effect of Amendment. Except as expressly amended by this First Amendment, the Agreement shall remain in full force and effect. This First Amendment, together with the Agreement, constitutes the entire agreement and understanding between the parties, concerning the subject matter thereof.
- 2.2 Counterparts. This First Amendment may be executed in counterparts, each of which shall be deemed an original, but all of which together constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have executed this First Amendment as of the date first written above.

ENTERPRISE PRODUCTS OPERATING LLC
By: Enterprise Products OLPGP, Inc.,
Its sole manager

ESENTTIA S.A.

lml
mm

By: 
Name: FC Dams
Title: SVP

By: 
Name: María Inés Hurtado Burbano
Title: Legal Representative

**SECOND AMENDMENT TO POLYMER GRADE PROPYLENE PURCHASE AND
SALE AGREEMENT (SPLITTERS)**

This Second Amendment to Polymer Grade Propylene Purchase and Sale Agreement (Splitters) (the "**Second Amendment**") amends the Polymer Grade Propylene Purchase and Sale Agreement (Splitters) dated as of May 1, 2021, as amended by that certain First Amendment to Polymer Grade Propylene Purchase and Sale Agreement (Splitters), dated effective as of May 1, 2021 (such agreement, as so amended, the "**Agreement**"), by and between Enterprise Products Operating LLC ("**Enterprise**") and Escnttia S.A. ("**Purchaser**"). This Second Amendment shall be effective as of December 19, 2022 (the "**Amendment Effective Date**"). Capitalized terms herein but not otherwise defined shall have the meanings ascribed to such terms in the Agreement.

WHEREAS, Enterprise and Purchaser have agreed that certain provisions of the Agreement should be amended in the manner provided for in this Second Amendment;

NOW, THEREFORE, with the intent to be legally bound, Enterprise and Purchaser hereby agree as follows:

**ARTICLE I
AMENDMENTS**

1.1 Definitions. Article I of the Agreement is hereby amended as follows:

(a) The definition of "Expansion Notice" set forth in Section 1.17 of the Agreement is hereby amended by deleting "December 31, 2022" in each of the second and third sentences set forth therein, and replacing it in each such instance with "December 31, 2023".

(b) The definition of "Expansion Notice Effective Date" set forth in Section 1.18 of the Agreement is hereby amended by deleting "shall be at least 12 Contract Months from the date of the Expansion Notice" and replacing it with "shall be at least 3 Contract Months from the date of the Expansion Notice".

**ARTICLE II
MISCELLANEOUS**

2.1 Effect of Amendment. Except as expressly amended by this Second Amendment, the Agreement shall remain in full force and effect. This Second Amendment, together with the Agreement, constitutes the entire agreement and understanding between the parties, concerning the subject matter thereof.

2.2 Counterparts. This Second Amendment may be executed in counterparts, each of which shall be deemed an original, but all of which together constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have executed this Second Amendment as of the Amendment Effective Date.

ENTERPRISE PRODUCTS OPERATING LLC

**By: Enterprise Products OLPGP, Inc.,
Its sole manager**

By: _____

Name: *FC Dam*
Title: *sup*

Qs
9MR

ESENTTIA S.A.

By: _____

Name: *Maria Inés Hurtado Burbano*
Title: *Legal Representative*

DocuSigned by:
[Signature]
AC3FE68A01DD4AF

THIRD AMENDMENT
TO
POLYMER GRADE PROPYLENE PURCHASE AND SALE AGREEMENT (SPLITTERS)

This Third Amendment to Polymer Grade Propylene Purchase and Sale Agreement (Splitters) (the “**Third Amendment**”) dated effective as of January 1, 2024 amends the Polymer Grade Propylene Purchase and Sale Agreement (Splitters) dated as of May 1, 2021, as amended by that certain First Amendment to Polymer Grade Purchase and Sale Agreement (Splitters), dated effective as of May 1, 2021, as further amended by that certain Second Amendment to Polymer Grade Propylene Purchase and Sale Agreement (Splitters), dated effective as of December 19, 2022 (such agreement, as so amended, the “**Agreement**”) by and between Enterprise Products Operating LLC (“**Enterprise**”) and Esentia S.A. (“**Purchaser**”). This Third Amendment shall be effective as of January 1, 2024. Capitalized terms herein but not otherwise defined shall have the meanings ascribed to such terms in the Agreement.

WHEREAS, the PDH II Effective Date is July 1, 2023; and

WHEREAS, Enterprise and Purchaser have agreed that certain provisions of the Agreement should be amended in the manner provided for in this Third Amendment.

NOW, THEREFORE, with the intent to be legally bound, Enterprise and Purchaser hereby agree as follows:

ARTICLE I
AMENDMENTS

1.1 Definitions. Article I of the Agreement entitled “Definitions” is hereby amended as follows:

- (a) The definition of “Expansion Notice” set forth in Section 1.17 of the Agreement is hereby amended and restated in its entirety as follows:
 - “1.17 “Expansion Notice” shall mean a written notice provided by Purchaser to Enterprise indicating it is pursuing an Expansion. Any such Expansion Notice must be provided by Purchaser to Enterprise at least three (3) Contract Months prior to the effective date of the Expansion. If Purchaser elects not to pursue an Expansion, Purchaser shall not be required to provide an Expansion Notice to Enterprise.”
- (b) The definition of “Expansion Notice Effective Date” set forth in Section 1.18 of the Agreement is hereby amended and restated in its entirety as follows:
 - “1.18 “Expansion Notice Effective Date” shall mean the date specified by Purchaser in the Expansion Notice of the effective date of the Expansion, which effective date shall be at least three (3) Contract Months from the date of the Expansion Notice.”
- (c) The definition of “Monthly Maximum Quantity” set forth in Section 1.31 of the Agreement is hereby amended and restated in its entirety as follows:
 - “1.30 “Monthly Maximum Quantity” shall mean, with respect to a Contract Month, 56,000,000 Pounds of PGP; provided, however, the Monthly Maximum Quantity shall be 80,000,000 Pounds of PGP beginning on the Expansion Notice Effective Date (if it occurs) and continuing for no less than twelve (12) consecutive Contract Months and thereafter until Purchaser notifies Enterprise in writing three (3) Contract Months prior to the effectiveness of such notice that the Monthly Maximum Quantity shall revert to 56,000,000 Pounds of PGP.”
- (d) The definition of “Monthly Minimum Quantity” set forth in Section 1.32 of the Agreement is hereby amended and restated in its entirety as follows:
 - “1.31 “Monthly Minimum Quantity” shall mean, with respect to a Contract Month, 46,000,000 Pounds of PGP; provided, however, the Monthly Minimum Quantity shall be 53,000,000 Pounds of PGP beginning on the Expansion Notice Effective Date (if it occurs) and continuing for no less than twelve (12) consecutive Contract Months and

thereafter until Purchaser notifies Enterprise in writing three (3) Contract Months prior to the effectiveness of such notice that the Monthly Minimum Quantity shall revert to 46,000,000 Pounds of PGP; provided further, however, notwithstanding the foregoing, during the period (x) from the Effective Date until the Expansion Notice Effective Date (if it occurs), Purchaser may elect, in its sole discretion, for the Monthly Minimum Quantity to be 15,500,000 Pounds of PGP for a maximum of 2 Contract Months during any Contract Year, and (y) from and after the Expansion Notice Effective Date (if it occurs) until the end of the Term, Purchaser may elect, in its sole discretion, for the Monthly Minimum Quantity to be 30,000,000 Pounds of PGP for a maximum of 2 Contract Months during any Contract Year."

1.2 Term. Article II of the Agreement entitled "Term" is hereby amended and restated in its entirety as follows:

"This Agreement shall be effective on the Effective Date, and, unless sooner terminated as provided herein, shall continue thereafter through December 31, 2028 (the "Initial Term") and continuing thereafter for periods of 2 Contract Years each (each, a "Renewal Term"), unless either Party gives written notice to terminate no later than 12 Contract Months prior to the expiration of the Initial Term or the applicable Renewal Term, such termination to be effective as of the end of the Initial Term or any such Renewal Term, as the case may be. As used in this Agreement, the "Term" shall mean the Initial Term and any Renewal Term, as applicable."

1.3 Monthly Deficiency Fee. Section 4.2 of the Agreement entitled "Monthly Deficiency Fee" is hereby amended and restated in its entirety as follows:

"4.2 Monthly Deficiency Fee. If Purchaser fails during any Contract Month to nominate pursuant to Section 5.1 and purchase at least the Monthly Minimum Quantity for such Contract Month, then Purchaser shall pay Enterprise a fee (in U.S. dollars) for such Contract Month (as may be adjusted, the "Monthly Deficiency Fee") equal to:

(a) **Before the Expansion Notice Effective Date -**

- (i) The first 17,500,000 Pounds of PGP that are not nominated and not purchased by Purchaser during the applicable Contract Month (meaning that Purchaser nominated and purchased at least 28,500,000 Pounds of PGP during the applicable Contract Month) are subject to a Deficiency Fee of \$0.005 per Pound. In other words, if Purchaser nominates 28,500,000 Pounds of PGP or more for the applicable Contract Month and the Deficiency Amount is 17,500,000 Pounds of PGP or less, then the Monthly Deficiency Fee shall equal US\$0.005 per Pound.

Example:

Minimum Monthly Quantity = 46,000,000 Pounds of PGP

Actual quantity of PGP nominated hereunder pursuant to Section 5.1 and purchased by Purchaser for such Contract Month = 24,000,000 Pounds of PGP

Deficiency Amount = 22,000,000 Pounds (capped at 17,500,000 Pounds)

Deficiency Fee = US\$0.005

17,500,000 Pounds of PGP ***multiplied by*** \$0.005 = US\$87,500

Monthly Deficiency Fee to be paid for Deficiency Amounts in this case equal to (or less than, as applicable) 17,500,000 Pounds = US\$87,500

- (ii) Any amounts greater than 17,500,000 Pounds that are not nominated and not purchased by Purchaser during the applicable Contract Month (meaning that Purchaser nominated and purchased less than 28,500,000 Pounds of PGP during the applicable Contract Month) are subject to a Deficiency Fee of \$0.025 per Pound. In other words, if Purchaser nominates less than 28,500,000 Pounds of PGP for the applicable Contract Month and the Deficiency Amount is more than 17,500,000 Pounds of PGP, then the Monthly Deficiency Fee shall equal

US\$0.025 per Pound for each Pound of the Deficiency Amount that is more than 17,500,000 Pounds.

Example:

Minimum Monthly Quantity = 46,000,000 Pounds of PGP

Actual quantity of PGP nominated hereunder pursuant to Section 5.1 and purchased by Purchaser for such Contract Month = 24,000,000 Pounds of PGP

Deficiency Amount = 22,000,000 Pounds

Deficiency Amount greater than 17,500,000 Pounds = 4,500,000 Pounds

Deficiency Fee = US\$0.025

4,500,000 Pounds of PGP *multiplied by* \$0.025 = US\$112,500

Monthly Deficiency Fee to be paid for Deficiency Amounts greater than 17,500,000 Pounds = US\$112,500

For clarification, if the total quantity of PGP nominated hereunder pursuant to Section 5.1 and purchased by Purchaser for such Contract Month is 24,000,000 Pounds, then the total Monthly Deficiency Fee to be paid would be US\$87,500 *plus* US\$112,500 = US\$200,000

- (b) **Before the Expansion Notice Effective Date, during each Contract Month (for a maximum of two (2) Contract Months) during which Purchaser has elected to reduce the Monthly Minimum Quantity to be 15,500,000 Pounds of PGP** – The Parties agree that a Monthly Minimum Quantity of 30,000,000 Pounds of PGP shall be used when determining the Monthly Deficiency Fee during each Contract Month (for a maximum of two (2) Contract Months) during which Purchaser has elected to reduce the Monthly Minimum Quantity to be 15,500,000 Pounds of PGP before the Expansion Notice Effective Date.
- (i) The first 14,500,000 Pounds of PGP that are not nominated and not purchased by Purchaser during the applicable Contract Month (meaning that Purchaser nominated and purchased at least 15,500,000 Pounds of PGP during the applicable Contract Month) are subject to a Deficiency Fee of \$0.005 per Pound. In other words, if Purchaser nominates 15,500,000 Pounds of PGP or more for the applicable Contract Month and the Deficiency Amount is 14,500,000 Pounds of PGP or less, then the Monthly Deficiency Fee shall equal US\$0.005 per Pound.

Example:

Minimum Monthly Quantity = 30,000,000 Pounds of PGP

Actual quantity of PGP nominated hereunder pursuant to Section 5.1 and purchased by Purchaser for such Contract Month = 13,000,000 Pounds of PGP

Deficiency Amount = 17,000,000 Pounds (capped at 14,500,000 Pounds)

Deficiency Fee = US\$0.005

14,500,000 Pounds of PGP *multiplied by* \$0.005 = US\$72,500

Monthly Deficiency Fee to be paid for Deficiency Amounts in this case equal to (or less than, as applicable) 14,500,000 Pounds = US\$72,500

- (ii) Any amounts greater than 14,500,000 Pounds that are not nominated and not purchased by Purchaser during the applicable Contract Month (meaning that Purchaser nominated and purchased less than 15,500,000 Pounds of PGP during the applicable Contract Month) are subject to a Deficiency Fee of \$0.025 per Pound. If Purchaser nominates less than 15,500,000 Pounds of PGP for the applicable Contract Month and the Deficiency Amount is more than 14,500,000

Pounds of PGP, then the Monthly Deficiency Fee shall equal US\$0.025 per Pound for each Pound of the Deficiency Amount that is more than 14,500,000 Pounds.

Example:

Minimum Monthly Quantity = 30,000,000 Pounds of PGP

Actual quantity of PGP nominated hereunder pursuant to Section 5.1 and purchased by Purchaser for such Contract Month = 13,000,000 Pounds of PGP

Deficiency Amount = 17,000,000 Pounds

Deficiency Amount greater than 14,500,000 Pounds = 2,500,000 Pounds

Deficiency Fee = US\$0.025

2,500,000 Pounds of PGP multiplied by \$0.025 = US\$62,500

Monthly Deficiency Fee to be paid for Deficiency Amounts greater than 17,000,000 Pounds = US\$62,500

For clarification, if the total quantity of PGP nominated hereunder pursuant to Section 5.1 and purchased by Purchaser for such Contract Month is 13,000,000 Pounds, then the total Monthly Deficiency Fee to be paid would be US\$72,500 plus US\$62,500 = US\$135,000

(c) After the Expansion Notice Effective Date -

- (i) The first 17,500,000 Pounds of PGP that are not nominated and not purchased by Purchaser during the applicable Contract Month (meaning that Purchaser nominated and purchased at least 35,500,000 Pounds of PGP during the applicable Contract Month) are subject to a Deficiency Fee of \$0.005 per Pound. In other words, if Purchaser nominates 35,500,000 Pounds of PGP or more for the applicable Contract Month and the Deficiency Amount is 17,500,000 Pounds of PGP or less, then the Monthly Deficiency Fee shall equal US\$0.005 per Pound.

Example:

Minimum Monthly Quantity = 53,000,000 Pounds of PGP

Actual quantity of PGP nominated hereunder pursuant to Section 5.1 and purchased by Purchaser for such Contract Month = 33,000,000 Pounds of PGP

Deficiency Amount = 20,000,000 Pounds (capped at 17,500,000 Pounds)

Deficiency Fee = US\$0.005

17,500,000 Pounds of PGP multiplied by \$0.005 = US\$87,500

Monthly Deficiency Fee to be paid for Deficiency Amounts in this case equal to (or less than, as applicable) 17,500,000 Pounds = US\$87,500

- (ii) Any amounts greater than 17,500,000 Pounds that are not nominated and not purchased by Purchaser during the applicable Contract Month (meaning that Purchaser nominated and purchased less than 35,500,000 Pounds of PGP during the applicable Contract Month) are subject to a Deficiency Fee of \$0.025 per Pound. In other words, if Purchaser nominates less than 35,500,000 Pounds of PGP for the applicable Contract Month and the Deficiency Amount is more than 17,500,000 Pounds of PGP, then the Monthly Deficiency Fee shall equal US\$0.025 per Pound for each Pound of the Deficiency Amount that is more than 17,500,000 Pounds.

Example:

Minimum Monthly Quantity = 53,000,000 Pounds of PGP

Actual quantity of PGP nominated hereunder pursuant to Section 5.1 and purchased by Purchaser for such Contract Month = 33,000,000 Pounds of PGP

Deficiency Amount = 20,000,000 Pounds

Deficiency Amount greater than 17,500,000 Pounds = 2,500,000 Pounds

Deficiency Fee = US\$0.025

2,500,000 Pounds of PGP multiplied by \$0.025 = US\$62,500

Monthly Deficiency Fee to be paid for Deficiency Amounts greater than 17,500,000 Pounds = US\$62,500

For clarification, if the total quantity of PGP nominated hereunder pursuant to Section 5.1 and purchased by Purchaser for such Contract Month is 33,000,000 Pounds, then the total Monthly Deficiency Fee to be paid would be US\$87,500 plus US\$62,500 = US\$150,000

- (d) **After the Expansion Notice Effective Date, during each Contract Month (for a maximum of two (2) Contract Months) during which Purchaser has elected to reduce the Monthly Minimum Quantity to be 30,000,000 Pounds of PGP -**

- (i) The first 14,500,000 Pounds of PGP that are not nominated and not purchased by Purchaser during the applicable Contract Month (meaning that Purchaser nominated and purchased at least 15,500,000 Pounds of PGP during the applicable Contract Month) are subject to a Deficiency Fee of \$0.005 per Pound. In other words, if Purchaser nominates 15,500,000 Pounds of PGP or more for the applicable Contract Month and the Deficiency Amount is 14,500,000 Pounds of PGP or less, then the Monthly Deficiency Fee shall equal US\$0.005 per Pound.

Example:

Minimum Monthly Quantity = 30,000,000 Pounds of PGP

Actual quantity of PGP nominated hereunder pursuant to Section 5.1 and purchased by Purchaser for such Contract Month = 10,000,000 Pounds of PGP

Deficiency Amount = 20,000,000 Pounds (capped at 14,500,000 Pounds)

Deficiency Fee = US\$0.005

14,500,000 Pounds of PGP multiplied by \$0.005 = US\$72,500

Monthly Deficiency Fee to be paid for Deficiency Amounts in this case equal to (or less than, as applicable) 14,500,000 Pounds = US\$72,500

- (ii) Any amounts greater than 14,500,000 Pounds that are not nominated and not purchased by Purchaser during the applicable Contract Month (meaning that Purchaser nominated and purchased less than 15,500,000 Pounds of PGP during the applicable Contract Month) are subject to a Deficiency Fee of \$0.025 per Pound. In other words, if Purchaser nominates less than 15,500,000 Pounds of PGP for the applicable Contract Month and the Deficiency Amount is more than 14,500,000 Pounds of PGP, then the Monthly Deficiency Fee shall equal US\$0.025 per Pound for each Pound of the Deficiency Amount that is more than 14,500,000 Pounds.

Example:

Minimum Monthly Quantity = 30,000,000 Pounds of PGP

Actual quantity of PGP nominated hereunder pursuant to Section 5.1 and purchased by Purchaser for such Contract Month = 10,000,000 Pounds of PGP

Deficiency Amount = 20,000,000 Pounds

Deficiency Amount greater than 14,500,000 Pounds = 5,500,000 Pounds

Deficiency Fee = US\$0.025

5,500,000 Pounds of PGP multiplied by \$0.025 = US\$137,500

Monthly Deficiency Fee to be paid for Deficiency Amounts greater than 14,500,000 Pounds = US\$137,500

For clarification, if the total quantity of PGP nominated hereunder pursuant to Section 5.1 and purchased by Purchaser for such Contract Month is 10,000,000 Pounds, then the total Monthly Deficiency Fee to be paid would be US\$72,500 plus US\$137,500 = US\$210,000”

ARTICLE II MISCELLANEOUS

- 2.1 Effect of Amendment. Except as expressly amended by this Third Amendment, the Agreement shall remain in full force and effect. This Third Amendment, together with the Agreement, constitutes the entire agreement and understanding between the parties, concerning the subject matter thereof.
- 2.2 Counterparts. This Third Amendment may be executed in counterparts, each of which shall be deemed an original, but all of which together constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have executed this Third Amendment as of the date first written above.

ENTERPRISE PRODUCTS OPERATING LLC

ESENTTIA S.A.

By: Enterprise Products OLPGP, Inc.,

Its sole manager

By: 

EOL
MR

Name: *FCYmas*

Title: *SM*

By: 

Name: María Inés Hurtado Burbano

Title: Legal Representative

	POLICY ON USE OF PRIVILEGED INFORMATION OF ECOPETROL S.A.		
	RELATIONSHIPS WITH INVESTORS DEPARTMENT		
	CODE GFI-POL-001	Prepared 25/03/2025	Version: 3

1. OBJECTIVE

This Policy is intended for overseeing compliance with applicable norms by Directors and Officials of Ecopetrol S.A. (“Ecopetrol” or the “Company”) who, in performance of their duties, have access to privileged information and negotiate the Company’s Securities, pursuant to article 404 of the Commercial Code and literal a) of article 2.11.4.2.1 of Decree 2555 of 2010, rule 10b5-1 of the *Exchange Act*, the *Insider Trading and Securities Fraud Enforcement Act*, and the sections of the *Exchange Act* that have been amended or added by virtue thereof, and other regulations that modify, complement and/or repeal them.

Ecopetrol has implemented this policy to promote compliance with applicable securities laws and regulations, mainly those that prohibit and sanction performing operations based on insider information in the jurisdictions where the Company lists its Securities, including its Bonds, Ordinary Shares, and *American Depositary Receipts* (ADR). A copy of this Policy will be included as annex to Form 20-F that must be published annually in the *Securities and Exchange Commission* de los Estados Unidos de América (la “SEC”).

2. GLOSSARY

Ordinary shares: Negotiable property titles, representing an aliquot part of a company’s assets, which grant their holders political and economic rights that can be exercised be it collectively or individually, in accordance with the provisions of the respective corporate statutes. For the purposes of this Policy, the notion of “Ordinary Shares” will also include the *American Depositary Receipts*.

Administrators: In accordance with article 22 of Law 222 of 1995 and the regulations that complement, modify or repeal it, the directors, the legal representative, the liquidator, the factor, the members of boards or governing councils of the entity and those who, in accordance with the statutes, exercise or hold these functions.

American Depositary Receipts: An *American Depositary Receipt* is a negotiable certificate evidencing holding in the shares of a non-US company that have been deposited in a US bank. Such ADRs are negotiated in US Dollars, through the settlement system of the United States, which allows the ADR holders to not making transactions in a foreign currency.

Beneficial owner: The beneficial owner is understood to be any person or group of persons who, be it directly or indirectly, by themselves or through an Interposed Person, by virtue of contract, agreement or in any other way, has, with respect to a share or any holding in a company, the faculty or power to vote in the election of directors or representatives or, to direct, guide, and control said vote, as well as that of disposing or ordering the disposal of or encumbrance of the share or holding.

For the purposes of this definition, spouses or permanent couple and relatives within the second degree of consanguinity, second degree of affinity, and only civil relationship constitute the same beneficial owner, unless it is demonstrated that they act with independent economic interests, a circumstance that may be declared by means of oath before the Financial Superintendency of Colombia for exclusively evidentiary purposes.

Bonds: Negotiable fixed income securities, representing an aliquot part of a collective credit established by the Company.

Material changes: Information relating to a change in the Company’s business, operations, or capital that would be expected to have a significant effect on the market price or value of the Company’s assets (e.g. Business Mergers or Acquisitions, Disposals, Issuance of Shares or Bonds to the market).

Hedging and Derivatives: Hedging refers to a number of financial strategies designed for protection against losses or risks. Derivatives are financial instruments or future contracts whose value is based on the price of an underlying asset-shares, exchange rates, among others - characterized by defining a future

delivery or settlement period, which in some cases may or may not be exercised.

Speculation: It is the practice of obtaining economic benefits by leveraging on short or medium-term fluctuations in the market value of the Securities as a result of access to privileged information, in accordance with the provisions of literal a of article 2.11.4.2.1 of Decree 2555 of 2010, and other regulations that modify, complement and/or repeal it.

Factor: Pursuant to article 1332 and subsequent of the Commercial Code and other regulations that modify, complement and/or repeal it, the “factor” is the person who, by virtue of a preposition contract, takes charge of the administration of a commercial establishment or a part or branch of its activity.

Material facts: facts that would reasonably be expected to have a significant effect on the price or market value of the securities (e.g. disclosure of investment plan or reserves, payment of dividends, delivery of financial results, changes in credit rating).

Material Non-Public Information: it means material information that (i) a reasonable investor would consider material in making an investment decision, and (ii) impacts information previously disclosed by the Company, which has not been made public.

Privileged Information: For purposes of this document, privileged information is considered as Non-Public Material Information as well as that subject to reserve, which has not been made public when there is an obligation to do so, and that of a concrete nature that has not been made public and that if it had been, a fairly diligent and prudent investor would have taken it into account when negotiating the respective securities, in accordance with the provisions of literal a of article 2.11.4.2.1 of Decree 2555 of 2010 and other regulations that modify, complement and/or repeal it.

Relevant information: In accordance with the provisions of article 5.2.4.1.2. of Decree 2555 of 2010 and other regulations that modify, complement and/or repeal it, relevant information is considered any situation related to the issuer or its issuance that would have been considered by a prudent and diligent expert when buying, selling or holding the securities of the issuer, or at the time of exercising the political rights inherent in such securities.

Unpublished relevant information: It is the information that meets the requisites of section 5.2.4.1.2. of Decree 2555 of 2020 and other regulations that modify, complement and/or repeal it, but which publishing in the Integrated Information System of the Security Market (SIMEV) in Colombia and/or in the *Securities and Exchange Commission* in the United States of America, has not yet been made effective.

The SEC defines relevant information as that which is important or significant for financial perspectives or in the value of a company.

Interposed Person: They are the natural or legal persons who negotiate the Securities, in favor and/or with the knowledge and will of the Administrator or Official of Ecopetrol, allowing the effects of the negotiation to affect their assets. The Interposed Person may or may not be a real beneficiary, representative or attorney-in-fact of the Administrator or Official of Ecopetrol, in favor of whom he acts.

Securities Trading Form: It is used by the Ecopetrol Official to request prior approval for the purchase or sale of Company Securities on the Colombian Stock Exchange or the New York Stock Exchange.

Ecopetrol Officials: direct employees of the Company who, in the process of their duties, have access to Privileged Information.

Liquidator: Person in charge of the process by which dissolved companies enter the liquidation period, with the main purpose of concluding existing corporate obligations, disposing of the assets, paying the liabilities, and distributing the remainder, if any, among the associates proportionately to their participation in the company.

Restriction Period or Blackout Period: Period prior to an event qualified as a Relevant Event during which its Directors, Ecopetrol Officials, by themselves or by an Interposed Person, cannot negotiate with the Company’s Securities. Relevant corporate events include those listed in article 5.2.4.3.1. of Decree 2555 of 2010 and the regulations that complement, modify and/or repeal it.

Related persons: Persons whose relationships are regulated by the Colombian Civil Code mainly in the family and contractual setting. This area includes blood relations such as parents, children, grandparents, brothers, uncles, aunts, spouses, and relatives of the couple such as in-laws and brothers-in-law.

SEC: Securities and Exchange Commission of the United States of America.

Securities: Common Stock, Bonds, and other securities issued by the Company.

3. GENERAL TERMS

3.1. GENERAL PROHIBITION AND DISCLOSURE OBLIGATION

In accordance with the provisions of article 404 of the Colombian Commercial Code and other regulations that modify, complement and/or repeal it, the Company's Directors may not, either by themselves or through an Interposed Person, dispose of or acquire Securities of Ecopetrol S.A. while they are in the exercise of their positions, except when dealing with operations unrelated to speculation and with prior authorization from the Board of Directors. Similarly, The SEC rule governing insider trading is Rule 10b-5, also known as the anti-fraud rule. This rule prohibits directors, officers, and internal employees of a company from using confidential corporate information to obtain profit or avoid losses when trading company securities.

On the other hand, and given that in Ecopetrol there are also Ecopetrol Officials who have access to Privileged Information and/or Relevant Non-Published Information, they may not, either by themselves or through their Related Persons or Intermediate Person, dispose of or acquire Ecopetrol Securities while they are in the exercise of their positions, except in the case of operations unrelated to speculation and after completing the "Securities Negotiation Form" provided for this purpose by the Company.

3.2. GENERAL DUTIES AND PROHIBITIONS

Ecopetrol Directors and Officers who intend to negotiate Ecopetrol Securities must comply with the following duties, as well as observe the following prohibitions:

1. Prior to trading Securities, ensure that the Restriction Period (*Blackout Period*) is not in force, in which case, they must refrain from trading Ecopetrol Securities, directly, through an Intermediary Person and/or through Related Persons, until such period ends.
2. Prior to trading Securities, ensure that a purchase or sale transaction does not start at the same time that the annual or quarterly financial results or any periodic publication thereof are published.
3. Refrain from carrying out purchase or sale transactions with Ecopetrol Securities, directly, through an Intermediary Person and/or through Related Persons, based on Privileged Information, Relevant Non-Published Information, information that has not been revealed and there is a duty to do so, or which is considered classified, reserved, confidential and/or secret, pursuant to the law.
4. Negotiate Ecopetrol Securities respecting the free interaction of supply and demand, as well as rules applicable to the securities market and securities trading systems.
5. Refrain from providing investment advice of any sort to third parties while you have Inside Information, Relevant Unpublished Information, or that which is considered classified, reserved, confidential and/or secret, pursuant to the law.
6. Refrain from reducing or limiting economic risks or benefits through Ecopetrol Hedging or Derivatives, engaging in short selling activities (i.e., selling securities that are not owned or not fully paid), purchasing financial assets, instruments or taking speculative or derivative positions, including without limitation, forward contracts, instruments for the purchase or short sale or sale of *call* or *put* options, currency swaps, shares, CFDs (contracts for difference) *Collars*, futures, or other derivative securities that are designed to, or can reasonably be expected to have the effect of, covering or offsetting a decrease in the market value of any of Ecopetrol's securities.

Failure to comply with the aforementioned duties and prohibitions could lead to the initiation of administrative actions and processes of a criminal or disciplinary nature, as explained in section 4.6 of this document.

4. DEVELOPMENT

4.1. PROCEDURE FOR REQUESTING AUTHORIZATION

4.1.1. For Directors

Directors who are considering trading securities of the Company must keep the following in mind:

- a. Article 404 of the Commercial Code, as a general rule, prohibits the Directors from executing, be it directly or through an Intermediate Person, any transaction that involves acquiring or disposing Ecopetrol Securities when it involves transactions related to speculation.
- b. The Directors must ensure that, if they intend to trade Company Securities, they must complete the “Securities Trading Form” prior to trading.
- c. The Director, after completing the form in the previous section, must request authorization from the Board of Directors to carry out the negotiation of the Securities, demonstrating that the operations are not motivated by speculation purposes. See details of the procedure in *“Prohibition of acquiring or selling shares in Chapter IX: Securities Trading” of the Good Governance Code*.
- d. The Board of Directors must decide whether or not to grant authorization to the Director, in which case they may request additional support and/or information to prove that there is no reason for speculation about the negotiation.
- e. The Board of Directors may not authorize any transaction that is not unrelated to speculation.
- f. The Directors must refrain from trading Securities issued by Ecopetrol if they are in possession of Inside Information, Relevant Information not Published or that which is considered classified, reserved, confidential and/or secret, pursuant to the law. Said information may include:
 - i. **“Material changes”**: information relating to a change in the Company’s business, operations, or capital that would be expected to have a significant effect on the market price or value of the Company’s assets (e.g. Business Mergers or Acquisitions, Disposals, Issuance of Shares or Bonds to the market); and/or
 - ii. **“Material facts”**: facts that would reasonably be expected to have a significant effect on the price or market value of the securities (e.g. disclosure of investment plan or reserves, payment of dividends, delivery of financial results, changes in credit rating).

Unpublished Relevant Information can be positive or negative and can be identified in the list of facts contained in article 5.2.4.3.1. of Decree 2555 of 2010 or the regulations that modify, complement and/or repeal it.

4.1.2. For Officials

Ecopetrol Officials who are considering trading Company Securities must keep the following in mind:

- g. Ensure that if you intend to trade the Company’s Securities, you must complete the “Securities Trading Form” prior to trading.
- h. The transactions performed may not have speculative reasons.
- i. Refrain from trading Securities issued by the Company if you are in possession of Inside Information, Relevant Unpublished Information or which is considered classified, reserved, confidential and/or secret, pursuant to the law. Said information may include, but without limitation:
 - iii. **“Material changes”**: information relating to a change in the Company’s business, operations or capital that would be expected to have a significant effect on the market price or value of the Company’s assets (e.g. Business Mergers or Acquisitions, Disposals, Issuance of Shares or Bonds to the market); and/or
 - iv. **“Material facts”**: facts that would reasonably be expected to have a significant effect on the price or market value of the securities (e.g. disclosure of investment plan or reserves, payment of dividends, delivery of financial results, changes in credit rating).

Unpublished Relevant Information can be positive or negative and can be identified in the list of facts contained in article 5.2.4.3.1. Decree 2555 of 2010, or that defined by the SEC or the regulations that

modify, complement and/or repeal it.

Stock trading operations by Ecopetrol administrators and officials will be periodically monitored by the Monitoring team of the Compliance Directorate or the area that takes its stead as set forth in section 4.4 hereunder. Those who carry out transactions without authorization or outside the regulations will be exposed to the sanctions included in section 4.6 of this document.

4.2. RESTRICTION OR *BLACKOUT PERIOD*

Ecopetrol may impose Restriction Periods during which, directly its Directors and Ecopetrol Officials, acting through Intermediate Person or through its Related Persons, will be prohibited from buying, selling or otherwise carrying out transactions with securities issued by the Company. The *Blackout Period* will be determined by the President or Corporate Vice President of Finance and Sustainable Value of Ecopetrol, or those acting in their stead, when it is considered that failure to do so could affect the Company's interests. Described below is the duration of the *Blackout Period* with respect to the aforementioned persons mentioned above:

- i. Regarding the annual financial statements, from January 1 until the close of business on the second business day after the public disclosure of said financial statements.
- ii. With respect to the quarterly financial statements, 15 calendar days prior to the publication of the quarter results and until the close of business on the business day following the public disclosure of said financial statements.
- iii. Regarding events other than those mentioned in sections i and ii above, the President or Corporate Vice President of Finance and Sustainable Value of Ecopetrol, or those acting in their stead, will inform the Directors and Officials of Ecopetrol about the duration of the *Blackout Period* in each case, via email or by any other means set out for this purpose by the Company.

The Restriction Period or *Blackout Period* caused by the disclosure of quarterly and annual financial information will be communicated by the Investor Relations Department or the agency that acts in its stead.

4.3 PROCEDURE TO SUBMIT AN APPLICATION FOR THE ACQUISITION OR DISPOSAL OF ECOPETROL SECURITIES

The Directors and Officers of Ecopetrol who wish to sell or acquire Company Securities, be it directly or through an Intermediate Person, must complete the “**Securities Negotiation Form**”, which is published at the following link, https://forms.office.com/Pages/ResponsePage.aspx?id=h1kwpHjPk0-dZL8Yr2U5e7rphzNLdhNMIO_FduAsH5BUNTA0WFFDVE05MU5NV040T1U4TU0zRE1aOyQIQCN0PWcu.

The completion will result in the approval, denial or need to request permission from the Board of Directors to negotiate the purchase or sale of Securities.

The filling instructions are described below:

- A) The first part of the form contains the regulatory context citing the Commercial Code, Code of Ethics, Internal Regulations of the Board of Directors and requests authorization of the personal data processing policy implemented by Ecopetrol:



Formulario de negociación de valores

Contexto normativo:

• Código de comercio:

El artículo 404 del Código de Comercio establece que los administradores de la sociedad no pueden por sí mismos ni por interpuesta persona enajenar o adquirir acciones de la misma sociedad, mientras estén en ejercicio de sus cargos, sino cuando se trate de operaciones ajenas a especulación y con autorización del máximo órgano social.

• Valor en el mercado de capitales:

Se entiende por valor, "todo derecho de naturaleza negociable que haga parte de una emisión cuando tenga por objeto o efecto la captación de recursos del público, incluyendo los siguientes: las acciones; los bonos; los papeles comerciales; los certificados de depósito de mercancías; cualquier título o derecho resultante de un proceso de titulización; cualquier título representativo de capital de riesgo; los certificados de depósito a términos; las aceptaciones bancarias; las cédulas hipotecarias; cualquier título de deuda pública." (Artículo 2, Ley 964/05).

• Código de ética:

Quienes sean usuarios, responsables o tengan acceso a información privilegiada, confidencial y/o reservada deberán:

1. Cumplir estrictamente las leyes y normativa interna relativa a la negociación de acciones y al uso de información privilegiada, por ejemplo, aquella que está sujeta a reserva, que aún no ha sido revelada al público y que influye en el análisis de cualquier inversionista diligente y prudente, al negociar los respectivos valores.
2. Abstenerse de utilizar dicha información privilegiada de Ecopetrol, a beneficio propio o de un tercero.
3. Cumplir con los periodos de restricción para negociar acciones notificados por Ecopetrol.
4. Ecopetrol en su calidad de emisor divulgará en forma clara, veraz, suficiente y oportuna al mercado, como información relevante, las negociaciones de acciones que hagan los administradores de la Compañía, en los términos que exijan las leyes y regulaciones aplicables.

• Reglamento Junta Directiva:

Los miembros de la Junta Directiva de Ecopetrol, de acuerdo con el artículo 404 del Código de Comercio, no podrán ni por sí ni por interpuesta persona, enajenar o adquirir acciones de la misma Sociedad mientras estén en ejercicio de sus cargos, sino cuando se trate de operaciones ajenas a motivos de especulación y con autorización de la Junta Directiva, otorgada con el voto favorable de las dos terceras (2/3) partes de sus miembros, excluido el del solicitante. Los administradores que infrinjan esta prohibición serán objeto de sanción por parte de la Superintendencia de Sociedades, de oficio o a petición de cualquier persona.

El formulario que diligenciará a continuación lo guiará para poder definir si puede negociar valores de Ecopetrol y/o sus filiales.

TRATAMIENTO DE DATOS PERSONALES

1. Al acceder a este formulario, autoriza a Ecopetrol S.A. (NIT 8999990681, Cra.13 No. 36-24, Bogotá, "Ecopetrol") el tratamiento de sus datos personales.

- El tratamiento se efectúa en el marco de nuestra declaración de tratamiento, disponible en <https://www.ecopetrol.com.co/vps/portal/Home/ps/ResponsabilidadEtiqueta/ResponsabilidadCorporativa/Declaraciontratamiento>.
- Las finalidades del tratamiento están asociadas al análisis de las solicitudes de negociación de acciones de Ecopetrol por parte de administradores y funcionarios además de comunicación y gestión asociada a la interacción con Ecopetrol. Igualmente, las señaladas en las secciones a administradores y funcionarios que pretendan negociar Acciones Ordinarias de Ecopetrol (según el grupo al que usted corresponda), de nuestra declaración de tratamiento.
- El tratamiento efectuado por Ecopetrol incluye la recolección, almacenamiento, organización, uso, circulación (nacional o internacional), consulta, actualización, rectificación y supresión de la información personal. La circulación incluye la transmisión a encargados que actúan por cuenta de Ecopetrol y la transferencia a otros responsables del tratamiento en los casos en que sea procedente.
- Le asisten los derechos consagrados en el artículo 8 de la Ley 1581 de 2012 en materia de tratamiento de datos personales: Conocimiento, actualización y rectificación. Prueba de autorización. Informe de uso. Presentar quejas ante la SIC. Revocar la autorización, salvo que exista un deber legal o contractual. Para ejercerlos están a disposición las Oficinas de Participación Ciudadana a nivel nacional; tiene a su disposición las Oficinas de Participación Ciudadana a nivel nacional; el correo electrónico participacionciudadana@ecopetrol.com.co; y el teléfono 3103158600.

Autorizo

- ☐ Sí
- ☐ No

Siguiente

No revele nunca su contraseña. [Notificar abuso](#)



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Microsoft Forms (Encuestas, cuestionarios y sondeos con tecnología de inteligencia artificial) [Crear mi propio formulario](#)

El propietario de este formulario no ha proporcionado una declaración de privacidad sobre cómo utilizarán los datos de tus respuestas. No proporciones información personal o confidencial. | [Términos de uso](#)

B) Once the applicant grants authorization to process personal data, the Director or Official of Ecopetrol, as the case may be, must include their identification data on the following page and in section 6) and must

indicate whether he or she is a Regular or Alternate Legal Representative and/or a member of the Board of Directors of Ecopetrol:

* Obligatorio

2. Correo electrónico *

Escriba su respuesta

3. Nombre Completo *

Escriba su respuesta

4. Número de Cédula *

Escriba su respuesta

5. Registro del empleado *

Escriba su respuesta

6. ¿Es usted actualmente representante legal titular o suplente y/o miembro de la junta directiva de Ecopetrol S.A.? *

☐ Si

☐ No

Atrás Siguiente

No reporte abuso

Microsoft 365

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- C) If the applicant's response in section 6) is **YES**, the form will indicate that authorization must be obtained from the Board of Directors in the case of a Director, who must follow the procedure set out in CHAPTER 8 "Acquisition or disposal of shares" of the internal regulations of the Board of Directors, which can be consulted at the following link <https://www.ecopetrol.com.co/wps/wcm/connect/56f25b16-01c0-4f3b-a7f2-a0a2594928d1/1.2+220615+Internal+Regulations+of+the+Board+Directive.pdf?MOD=AJPERES&CVID=osWVIZO>
- D) If the answer in point 6) was **NO**, new questions are displayed to continue answering:

7. ¿Quién va a realizar la transacción? *

Responder en cuestión:
 Familiares de hasta 4to grado de consanguinidad: Primer grado: padres e hijos, Segundo grado: abuelos, nietos y hermanos, Tercer grado: tíos, sobrinos, bisabuelos y bisnietos, Cuarto grado: primos hermanos y tíos abuelos.

Familiares de hasta 2do grado de afinidad o único civil: Primer grado: cónyuge, suegros, yernos o nuera, Segundo grado: cuñados, abuelos del cónyuge, cónyuges de los nietos, hermanastros, Parentesco Civil: Adopción

☐ Empleado

☐ Sociedad de familia / Sociedad Comercial

☐ Cónyuges

☐ Familiares de hasta 4to grado de consanguinidad

☐ Familiares de hasta 2do grado de afinidad o único civil

8. Área de negocio para la que trabaja *

Escriba su respuesta

9. Cargo que desempeña *

☐ Vicepresidente

☐ Gerente

☐ Jefe de Departamento

☐ Coordinador

☐ Líder

☐ Profesional / Analista

☐ Operador

10. Tipo de valor a negociar *

☐ Acciones

☐ ADRs

☐ Bono Local

☐ Bono Internacional

11. Tipo de transacción que realizará *

☐ Comprar

☐ Vender

No puede guardar su configuración. [Verificar sesión](#)

- E) In question 7), the applicants must select whether they are going to make the transaction directly or through an Interposed Person, including Related Persons, legal representatives and/or attorneys, indicating their respective personal data.
- F) In question 11) the applicant must select the type of transaction to be carried out; if selecting **Buy**, the following set of questions will be displayed, asking for the number of Securities to trade and confirmation of whether you handle Inside Information, as described below:

11. Tipo de transacción que realizará *

☒ Comprar

☐ Vender

12. Número de valores a negociar *

El valor debe ser un número.

13. Se entenderá que es privilegiada aquella información que está sujeta a reserva, la que no ha sido dada a conocer al público existiendo deber para ello y aquella de carácter concreto que no ha sido dada a conocer al público y que de haberlo sido la habría tenido en cuenta un inversionista medianamente diligente y prudente al negociar los respectivos valores, de conformidad con lo previsto en el literal a del artículo 2.11.4.2.1 del Decreto 2555 de 2010 y demás normas que lo modifiquen, complementen y/o deroguen.

Ejemplos

1. El Ingeniero A vio la oportunidad de obtener ganancias económicas compartiendo a terceros información privilegiada que conocía debido a su participación en comités internos de la Empresa C. Su amigo, el Empresario B, realizaba en el mercado de valores transacciones con la acción de la Empresa C y obtuvo utilidades en estas operaciones debido a la información privilegiada facilitada/compartida por el Ingeniero A. Un porcentaje de las utilidades obtenidas en las operaciones realizadas por el Empresario B con el conocimiento de información privilegiada compartida por el Ingeniero A, fueron compartidas con este último como compensación por la entrega de la información.

Por estos hechos, el Ingeniero A fue investigado, juzgado y condenado por incurrir en la conducta penal de Uso Indevido de Información Privilegiada (Art. 258 del Código Penal).

2. El Gerente Administrativo de la compañía B, listada en bolsa de valores, en medio de un evento social con colegas y amigos, sin ánimo de sacar provecho económico, suministró información privilegiada sobre su compañía.

Debido a esto, el volumen transado de las acciones de la compañía B empezó a aumentar de manera desproporcionada y por lo tanto también su precio. Como consecuencia de lo anterior, las entidades de supervisión e inspección del mercado de valores realizaron las indagaciones e investigaciones pertinentes. Al cabo de dicha investigación, la entidad regulatoria le notificó al Gerente Administrativo.

¿Maneja usted información privilegiada? *

☐ Sí

☐ No

No revele nunca su contraseña. [Notificar abuso](#)

- G) Based on the information entered at this point, the form will automatically issue an affirmative or negative response via email to the request for the purchase of Company Securities.
- H) If in question 11) the applicant chose the option **Sell**, the following set of questions will be displayed asking the period of purchase and the number of Securities to be sold, and confirmation of whether they handle Inside Information:

11. Tipo de transacción que realizará *

☐ Comprar

☒ Vender

12. Indique el periodo en que compró los valores *

☐ En el último mes

☐ En los últimos seis meses

☐ En el último año

☐ Hace más de un año

13. Número de valores a negociar *

El valor debe ser un número.

14. Se entenderá que es privilegiada aquella información que está sujeta a reserva, la que no ha sido dada a conocer al público existiendo deber para ello y aquella de carácter concreto que no ha sido dada a conocer al público y que de haberlo sido la habría tenido en cuenta un inversionista medianamente diligente y prudente al negociar los respectivos valores, de conformidad con lo previsto en el literal a del artículo 2.11.4.2.1 del Decreto 2555 de 2010 y demás normas que lo modifiquen, complementen y/o deroguen.

Ejemplos

1. El Ingeniero A vio la oportunidad de obtener ganancias económicas compartiendo a terceros información privilegiada que conocía debido a su participación en comités internos de la Empresa C. Su amigo, el Empresario B, realizó en el mercado de valores transacciones con la acción de la Empresa C y obtuvo utilidades en estas operaciones debido a la información privilegiada facilitada/compartida por el Ingeniero A. Un porcentaje de las utilidades obtenidas en las operaciones realizadas por el Empresario B con el conocimiento de información privilegiada compartida por el Ingeniero A, fueron compartidas con este último como compensación por la entrega de la información.

Por estos hechos, el Ingeniero A fue investigado, juzgado y condenado por incurrir en la conducta penal de Uso Indebido de Información Privilegiada (Art. 258 del Código Penal).

2. El Gerente Administrativo de la compañía B, listada en bolsa de valores, en medio de un evento social con colegas y amigos, sin ánimo de sacar provecho económico, suministró información privilegiada sobre su compañía.

Debido a esto, el volumen transado de las acciones de la compañía B empezó a aumentar de manera desproporcionada y por lo tanto también su precio. Como consecuencia de lo anterior, las entidades de supervisión e inspección del mercado de valores realizaron las indagaciones e investigaciones pertinentes. Al cabo de dicha investigación, la entidad reguladora le notificó al Gerente Administrativo.

¿Maneja usted información privilegiada? *

☐ Sí

☐ No

- I) In question 12) (If the sell option was chosen) the applicants must indicate the period in which they acquired the Securities they wish to sell; if they did so in several tranches, they are instructed to mark the date on which they purchased the majority of the Securities.
- J) In question 12 (if the buy option was chosen) or 13 (if the sell option was chosen) the applicant must indicate the number of Securities they wish to sell.
- K) In question 13 (if the buy option was chosen) or 14 (if the sell option was chosen) the applicants must indicate whether they handle Inside Information. If the answer is “Yes”, it will take them to the next question, if the answer is “No” the form ends and an automatic response is sent to the registered email.
- L) In question 14 (if the buy option was chosen) or 15 (if the sell option was chosen), it must be confirmed whether the purchase or sale is made for speculation purposes. Based on the information entered at this point, the form will automatically issue an affirmative or negative response via email to the request for the sale of Securities.

As a general rule, officials who have privileged information and want to perform transactions for speculative reasons should refrain from doing so.

At the end of the answers to the form, the administrator or official of Ecopetrol must accept the declaration of information that ensures that the answers included are true and complete.

“I declare that the information provided herein as set out by Ecopetrol for this purpose is true and corresponds to reality. I authorize that the data contained herein be verified by any means and, in case of falsehood, that the sanctions provided for in the Law be applied.”

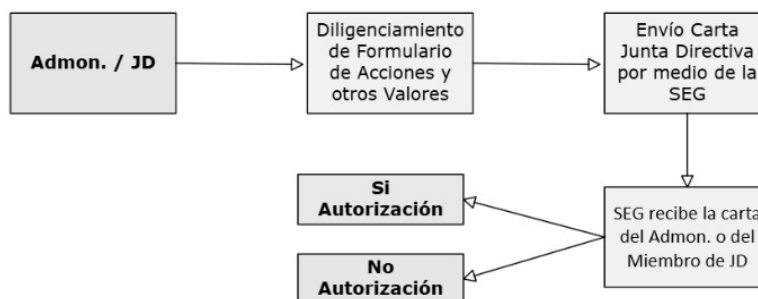
4.4 MONITORING OF THE NEGOTIATIONS OF ECOPETROL SHARES BY ITS DIRECTORS AND OFFICERS

The RCU (Corporate Compliance Department for its initials in Spanish) or the agency that takes its stead, is the area in charge at Ecopetrol for conducting periodic control of the stock negotiations performed by the Directors and Officials of Ecopetrol. For this purpose, said agency verifies if the transactions that they have made with Company shares have complied with the pertinent authorization process.

In any event, RCU may monitor the trading of any other security other than shares in the market performed by officials and/or their related persons.

4.5 PROCESS

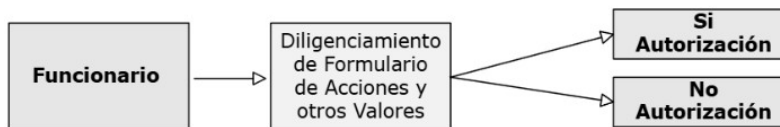
4.5.1 Process for Directors or members of the Board of Directors of Ecopetrol



See details of the authorization procedures for directors or members of the Board of Directors in CHAPTER 8: ACQUISITION OR DISPOSAL OF SHARES pursuant to regulations of the Board of Directors.

<https://www.ecopetrol.com.co/wps/wcm/connect/56f25b16-01c0-4f3b-a7f2-a0a2594928d1/1.2+220615+Reglamento+Interno+de+la+Junta+Directiva.pdf?MOD=AJPERES&CVID=osWVIZO>

4.5.2 Process for Ecopetrol Officials



The form will include the response of authorization or not to the Company officials at once.

* Periodically, the RCU monitoring team performs verifications on stock trading transactions.

4.6 SANCTIONS FOR ADMINISTRATORS FOR NON-COMPLIANCE WITH THE REGULATION

- **Sanctions for violation of article 404 of the Commercial Code and other regulations that modify, complement and/or repeal it:** The Director or Official of Ecopetrol in contact with Inside Information who violates the prohibition set forth in article 404 of the Commercial Code will be sanctioned with fines (up to a maximum of 200 minimum legal monthly salaries), which will be imposed by the Superintendency of Companies, ex officio or upon request of any person, giving rise to loss of their position.

- **Sanctions for improper use of Inside Information:** The Director or Official of Ecopetrol in contact with Inside Information who misuses it for the negotiation of Ecopetrol Securities will be subject to the legal sanctions that may apply. In particular, the criminal sanctions provided for in article 258 of the Penal Code include prison sentence (from 1 to 3 years) and a fine (from 5 to 50 current monthly legal minimum salaries), without prejudice to the investigations that may be initiated by securities market supervisory bodies, such as the Financial Superintendency of Colombia, or the administrative sanctions that may arise therefrom.
- **Sanctions for breaching the disciplinary regime:** Ecopetrol Officials who violate the duty provided for in paragraph 1 of article 38 of Law 1952 of 2019 - General Disciplinary Code - associated with compliance, but without limitation, with the entity's statutes, regulations and function manuals, or who incur the prohibition provided for in paragraph 1 of article 39 of the same law, related to failing to comply with duties or abusing rights, or exceeding the functions enshrined, among others, in the entity's statutes, regulations and function manuals, rules that include this policy, may incur the disciplinary sanctions provided for in this Code.
- **Consequences derived from ignorance of the principles set out in the Ethics Code:** People who act contrary to this policy may be subject to the procedures and consequences derived therefrom, which are adopted by the RCU or the agency that takes its stead.
- **Sanctions under SEC Regulations:** The exact amount of each possible sanction detailed below will depend on the date on which said sanctions are imposed, as the SEC will adjust them in accordance with inflation levels:
 - **Criminal Sanctions:** Section 32(a) of the *Exchange Act* authorizes criminal penalties of up to five million US dollars and a prison sentence of up to 20 years. In the event that the violation is incurred by a legal entity, sanctions of up to 25 million US dollars are authorized.
 - **Civil Sanctions:** Pursuant to the *Insider Trading Sanctions Act*, the SEC may impose sanctions of up to three times the amount earned, or losses avoided for having made sales or purchases of shares based on Inside Information or Material Unpublished Information.
 - **Precautionary measures:** The SEC may impose precautionary measures (*injunctive actions*) to suspend sales or purchases of shares based on Inside Information or Relevant Unpublished Information.
 - **Other Sanctions:** The *Insider Trading Sanctions Act* and Section 20 of the *Exchange Act* allow natural persons who meet certain conditions to file claims in federal courts in the United States against persons who sell or buy shares based on Inside Information or Material Unpublished Information. Such claims may be for up to a maximum amount equivalent to the amount gained or losses avoided by the sale or purchase of shares based on Inside Information or Relevant Unpublished Information.

5. CHANGES AND REVISION

This Policy may be modified periodically. The Capital Markets Management (GMC for its initials in Spanish) must approve any change to this Policy and this shall be communicated to the Directors and Officials of Ecopetrol as defined in this regulation.

Reviewed	Approved

LINA MARIA CONTRERAS MORA
Investor Relations Officer

Carolina Tovar Aragon
Head of Capital Markets

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Subsidiaries of Ecopetrol S.A.

The following table sets forth our subsidiaries, their respective countries of incorporation, our percentage ownership in each (both directly and indirectly through other subsidiaries) as of March 31, 2025.

COMPANY	COUNTRY OF INCORPORATION	OWNERSHIP
ALCANOS DE COLOMBIA S.A. E.S.P.**	Colombia	29,61%
ANDEAN CHEMICALS LIMITED	Bermuda	100,00%
BLACK GOLD RE LIMITED	Bermuda	100,00%
CENIT TRANSPORTE Y LOGÍSTICA DE HIDROCARBUROS S.A.S.	Colombia	100,00%
COLOMBIA PIPELINES LIMITED**	United Kingdom	51,00%
COMBUSTIBLES LIQUIDOS DE COLOMBIA S.A. E.S.P.**	Colombia	41,61%
COMPANHIA DE TRANSMISSÃO DE ENERGIA ELÉTRICA PAULISTA**	Brazil	18,41%
CONCESIÓN COSTERA-CARTAGENA-BARRANQUILLA S.A.S	Colombia	51,41%
CONSORCIO TRANSMANTARO**	Peru	30,85%
ECONOVA TECHNOLOGY & INNOVATION, S.L.	Spain	100,00%
ECOPETROL AMERICA LLC**	United States	100,00%
ECOPETROL CAPITAL AG	Switzerland	100,00%
ECOPETROL COSTA AFUERA COLOMBIA S.A.S.**	Colombia	100,00%
ECOPETROL DEL PERU S.A.**	Peru	100,00%
ECOPETROL GLOBAL ENERGY S.L.U.	Spain	100,00%
ECOPETROL OLEO & GAS DO BRASIL LTDA**	Brazil	100,00%
ECOPETROL PERMIAN LLC **	United States	100,00%
ECOPETROL SINGAPORE PTE. LTD	Singapore	100,00%
ECOPETROL TRADING ASIA PTE. LTD**	Singapore	100,00%
ECOPETROL US TRADING LLC	United States	100,00%
ECOPETROL USA INC **	United States	100,00%
ECP Hidrocarburos de México **	Mexico	100,00%
EQUION ENERGÍA LIMITED	United Kingdom	51,00%
ESENTTIA MASTERBATCH LTDA**	Colombia	100,00%
ESENTTIA RESINAS DE MÉXICO** S. DE R.L. DE C.V.	Mexico	100,00%
ESENTTIA RESINAS DEL PERU SAC**	Peru	100,00%
ESENTTIA S.A. *	Colombia	100,00%
GASES DEL ORIENTE S.A. E.S.P.**	Colombia	48,50%
HOCOL PETROLEUM LIMITED	Bermuda	100,00%
HOCOL S.A.**	Cayman Islands	100,00%
INTERCHILE S.A.**	Chile	51,41%
INTERCONEXIÓN ELÉCTRICA COLOMBIA PANAMÁ S.A.	Panama	25,71%
INTERCONEXIÓN ELÉCTRICA COLOMBIA PANAMÁ S.A.S E.S.P.	Colombia	0,60%
INTERCONEXIÓN ELÉCTRICA ISA BOLIVIA S.A.**	Bolivia	51,41%
INTERCONEXIÓN ELÉCTRICA ISA PERÚ S.A.**	Peru	51,41%
INTERCONEXIÓN ELECTRICA S.A E.S.P.	Colombia	51,41%
INTERCONEXIONES DEL NORTE S.A.	Chile	51,41%
INTERCONEXIONES VIALES SPA**	Chile	51,41%

COMPANY	COUNTRY OF INCORPORATION	OWNERSHIP
INTERLIGAÇÃO ELÉTRICA AGUAPEÍ S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA AIMORÉS S.A.	Brazil	3,30%
INTERLIGAÇÃO ELÉTRICA BIGUAÇU S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA DE MINAS GERAIS S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA DO MADEIRA S.A.	Brazil	3,36%
INTERLIGAÇÃO ELÉTRICA EVRECY	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA GARANHUNS S.A.	Brazil	3,36%
INTERLIGAÇÃO ELÉTRICA ITAPURA S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA ITAQUERÊ S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA ITAUNAS S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA IVAÍ S.A.	Brazil	3,30%
INTERLIGAÇÃO ELÉTRICA JAGUAR 6 S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA JAGUAR 8 S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA JAGUAR 9 S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA NORTE E NORDESTE S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA PARAGUAÇU S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA PINHEIROS S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA RIACHO GRANDE	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA SERRA DO JAPI S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA SUL S.A.	Brazil	6,60%
INTERLIGAÇÃO ELÉTRICA TIBAGI S.A.	Brazil	6,60%
INTERNEXA PERÚ S.A.**	Peru	51,26%
INTERNEXA S.A.**	Colombia	51,21%
INTERVIAL CHILE S.A.**	Chile	51,41%
INTERVIAL COLOMBIA S.A.S.**	Colombia	51,41%
INVERSIONES DE GASES DE COLOMBIA S.A. - Invercolsa S.A.	Colombia	51,88%
ISA CAPITAL DO BRASIL S.A.**	Brazil	51,41%
ISA INTERCOLOMBIA S.A. E.S.P.**	Colombia	51,41%
ISA INVERSIONES CHILE SPA.**	Chile	51,41%
ISA INVERSIONES CHILE VIAS SPA.	Chile	51,41%
ISA INVERSIONES COSTERA CHILE SPA**	Chile	51,41%
ISA INVERSIONES TOLTEN LTDA.**	Chile	51,41%
ISA INVESTIMENTOS E PARTICIPAÇÕES DO BRASIL LTDA**	Brazil	51,41%
KALIXPAN SERVICIOS TÉCNICOS S. de r.l. de c.v **	Mexico	100,00%
LINEAR SYSTEMS RE LTD.**	Bermuda	51,41%
METROGAS DE COLOMBIA S.A. E.S.P.**	Colombia	33,49%
OCENSA DUCTOS S.A.S.**	Colombia	72,65%
OLEODUCTO CENTRAL S.A. - OCENSA**	Colombia	72,65%
OLEODUCTO DE COLOMBIA S.A. - ODC **	Colombia	78,19%
OLEODUCTO DE LOS LLANOS ORIENTALES S.A. **	Panama	65,00%
PROMOTORA DE GASES DEL SUR S.A. E.S.P.**	Colombia	31,44%
PROYECTOS DE INFRAESTRUCTURA DEL PERÚ S.A.C**	Peru	51,41%
RED DE ENERGÍA DEL PERÚ**	Peru	30,85%
REFINERIA DE CARTAGENA S.A.S *	Colombia	100,00%
RUTA DE LA ARAUCANÍA SOCIEDAD CONCESIONARIA S.A.**	Chile	51,41%
RUTA DE LOS RÍOS SOCIEDAD CONCESIONARIA S.A.**	Chile	38,56%
RUTA DEL BOSQUE SOCIEDAD CONCESIONARIA S.A.**	Chile	51,41%
RUTA DEL ESTE SOCIEDAD CONCESIONARIA S.A.	Panama	51,41%
RUTA DEL LOA SOCIEDAD CONCESIONARIA S.A.**	Chile	51,41%

COMPANY	COUNTRY OF INCORPORATION	OWNERSHIP
RUTA DEL MAIPO SOCIEDAD CONCESIONARIA S.A.**	Chile	51,41%
RUTA DEL MAULE SOCIEDAD CONCESIONARIA S.A.**	Chile	51,41%
RUTA ORBITAL SUR SOCIEDAD CONCESIONARIA S.A.	Chile	51,41%
SANTIAGO OIL COMPANY**	Cayman Islands	51,00%
SISTEMAS INTELIGENTES DE RED S.A.S**	Colombia	51,18%
TRANSELCA S.A. E. S. P.	Colombia	51,41%
TRANSMISSORA ALIANÇA DE ENERGIA ELÉTRICA S.A.	Brazil	7,65%
XM COMPAÑÍA DE EXPERTOS EN MERCADOS S.A. E.S.P.	Colombia	51,27%

*Direct and/or indirect participation.

**Solely indirect participation through subsidiaries or affiliates.

CERTIFICATION

I, Ricardo Roa Barragán, certify that:

1. I have reviewed this annual report on Form 20-F of Ecopetrol S.A.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Dated: April 23, 2025

By: /s/ Ricardo Roa Barragán

Name: Ricardo Roa Barragán

Title: Chief Executive Officer

CERTIFICATION

I, Alfonso Camilo Barco Muñoz, certify that:

1. I have reviewed this annual report on Form 20-F of Ecopetrol S.A.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Dated: April 23, 2025

By: /s/ Alfonso Camilo Barco Muñoz

Name: Alfonso Camilo Barco Muñoz

Title: Chief Financial Officer

Certification
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of Ecopetrol S.A. (the "Company"), does hereby certify, to such officer's knowledge, that:

The annual report on Form 20-F for the fiscal year ended December 31, 2024 (the "Form 20-F") of the Company fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in the Form 20-F fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: April 23, 2025

By: /s/ Ricardo Roa Barragán
Name: Ricardo Roa Barragán
Title: Chief Executive Officer

Dated: April 23, 2025

By: /s/ Alfonso Camilo Barco Muñoz
Name: Alfonso Camilo Barco Muñoz
Title: Chief Financial Officer

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form F-3 No. 333-278823) of Ecopetrol S.A. of our reports dated April 23, 2025, with respect to the consolidated financial statements of Ecopetrol S.A., and the effectiveness of internal control over financial reporting of Ecopetrol S.A., included in this Annual Report (Form 20-F) for the year ended December 31, 2024.

/s/ Ernst & Young Audit S.A.S.
A Member Practice of
Ernst & Young Global Limited

Bogotá, D.C., Colombia
April 23, 2025



RYDER SCOTT COMPANY
PETROLEUM CONSULTANTS

TBPE REGISTERED ENGINEERING FIRM F-1580
1100 LOUISIANA SUITE 4600

HOUSTON, TEXAS 77002-5294

FAX (713) 651-0849
TELEPHONE (713) 651-9191

CONSENT OF INDEPENDENT PETROLEUM ENGINEERS

Ryder Scott Company, L.P. ("Ryder Scott") consents to the references to our firm and our report dated February 18, 2025 (our "Report") included in Ecopetrol S.A.'s Form F-3 for the year ended December 31, 2024 (the "Registration Statement"), filed with the United States Securities and Exchange Commission on April 23, 2025. Ryder Scott further consents to the references to Ryder Scott as set forth in the Registration Statement under the heading "Experts".

Very truly yours,

RYDER SCOTT COMPANY, L.P.
TBPELS Firm Registration No. F-1580

/s/ Mario A. Ballesteros

Mario A. Ballesteros, P.E.
TBPELS License No. 107132
Managing Senior Vice President

Houston, Texas
April 23, 2025

SUITE 2800, 350 7TH AVENUE, S.W.
633 17TH STREET, SUITE 1700

CALGARY, ALBERTA T2P 3N9
DENVER, COLORADO 80202

TEL (403) 262-2799
TEL (303) 339-8110

DeGolyer and MacNaughton
5001 Spring Valley Road
Suite 800 East
Dallas, Texas 75244

April 23, 2025

Board of Directors
Ecopetrol S.A.
Carrera 13 No. 36-24
Bogota, D.C. Colombia

Ladies and Gentlemen:

We hereby consent to the references to DeGolyer and MacNaughton and to the inclusion of and information derived from our report of third party dated April 23, 2025, containing our opinions regarding our estimates, as of December 31, 2024, of the proved oil, condensate, natural gas liquids, gas, and oil equivalent reserves of certain properties that Ecopetrol S.A. has represented it holds in Colombia and the United States as set forth under the headings “3. Business Overview–3.5 Exploration and Production–3.5.3 Reserves,” “8. Financial Statements _ 34.4 Reserve information,” and “10. Exhibits” and as Exhibi No. 99.2 in the Annual Report on Form 20-F of Ecopetrol S.A. for the year ended December 31, 2024 (the Annual Report).

Very truly yours,

/s/ DeGolyer and MacNaughton

DeGOLYER and MacNAUGHTON
Texas Registered Engineering Firm F-716



Gaffney, Cline & Associates, Inc.
14990 Yorktown Plaza Dr
Houston, TX 77040

April 23, 2025

Fidel Delgado Loria
Gerente de Reservas
Ecopetrol S.A.
Carrera 13 No. 36 - 24
Bogotá, D.C.
Colombia

Dear Sir,

Consent of Gaffney, Cline & Associates

As independent reserves engineers for Ecopetrol S.A. (Ecopetrol), Gaffney, Cline & Associates (GaffneyCline) hereby confirms that it has granted and not withdrawn its consent to (i) the references to GaffneyCline and to the inclusion of information contained in our third-party letter report entitled "Reserves Statement of Certain Fields, Colombia, as of December 31, 2024", dated January 31, 2025, prepared for Ecopetrol, and to the annexation of our report as an exhibit in Ecopetrol's annual report on Form 20-F for the fiscal year ended December 31, 2024; and, (ii) incorporation by reference of this consent and our report into Ecopetrol S.A.'s registration statement on Form F-3 filed with the United States Securities and Exchange Commission on April 19, 2024 (the "Registration Statement").

Yours sincerely,

/s/ Fernando Rolla
Project Manager
Fernando Rolla, *Senior Advisor*

www.gaffneycline.com



RYDER SCOTT COMPANY
PETROLEUM CONSULTANTS

TBPELS REGISTERED ENGINEERING FIRM F-1580
1100 LOUISIANA SUITE 4600

HOUSTON, TEXAS 77002-5294

TELEPHONE (713) 651-9191

February 18, 2025

Ecopetrol
Cra. 13 No. 36-24
Edificio Principal, Piso 7
Bogotá, D.C., Colombia

Ladies and Gentlemen:

At the request of Ecopetrol, Ryder Scott Company, L.P. (Ryder Scott) has prepared an estimate of the proved reserves attributable to certain interests of Ecopetrol, as of December 31, 2024. The subject properties are located in the countries of Colombia and the United States. The reserves were estimated based on the definitions and disclosure guidelines of the United States Securities and Exchange Commission (SEC) contained in Title 17, Code of Federal Regulations, Modernization of Oil and Gas Reporting, Final Rule released January 14, 2009 in the Federal Register (SEC regulations). Our third party study, completed on January 30, 2025 and presented herein, was prepared for public disclosure by Ecopetrol in filings made with the SEC in accordance with the disclosure requirements set forth in the SEC regulations.

The properties evaluated by Ryder Scott account for a portion of Ecopetrol's total net proved reserves as of December 31, 2024. Based on information provided by Ecopetrol, the third party estimate conducted by Ryder Scott addresses 21.6 percent of the total proved developed net liquid hydrocarbon reserves and 25.6 percent of the total proved undeveloped net liquid hydrocarbon reserves of Ecopetrol. Ryder Scott evaluation also addresses 31.5 percent of the total proved developed net gas reserves and 57.7 percent of the total proved undeveloped net gas reserves of Ecopetrol.

The estimated reserves amounts presented in this report, as of December 31, 2024 are related to hydrocarbon prices. The hydrocarbon prices used in the preparation of this report are based on the average prices during the 12-month period prior to the "as of date" of this report, determined as the unweighted arithmetic averages of the prices in effect on the first-day-of-the-month for each month within such period, unless prices were defined by contractual arrangements, as required by the SEC regulations. Actual future prices may vary considerably from the prices required by SEC regulations. The reserves volumes attributable thereto have a direct relationship to the hydrocarbon prices actually received; therefore, volumes of reserves actually recovered may differ significantly from the estimated quantities presented in this report. The results of this study are summarized as follows.

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SEC PRICES PARAMETERS
Estimated Net Reserves
Attributable to Certain Interests of
Ecopetrol
As of December 31, 2024

	Proved			
	Developed		Undeveloped	Total Proved
	Producing	Non-Producing		
<u>Net Reserves</u>				
Oil/Condensate – Barrels	181,546,117	25,803,301	81,489,961	288,839,379
Plant Products – Barrels	25,651,250	1,856,017	29,604,223	57,111,490
Sales Gas – MMcf	434,094	40,103	199,496	673,693
Fuel Oil - Barrels	226,519	81,761	262,002	570,282
Fuel Gas - MMcf	68,213	8,939	11,522	88,674

Liquid hydrocarbons are expressed in standard 42 U.S. gallon barrels. The “sales” gas volumes are reported on an “as sold” basis expressed in millions of cubic feet (MMCF) at the official temperature and pressure bases of the areas in which the gas reserves are located. In addition, at Ecopetrol’s request, the Fuel Gas and Fuel Oil volumes presented above are reported, but do not result in any sales or revenues to Ecopetrol’s interest. The net sales gas reserves volumes include certain gas royalty volumes owed to the host government that are treated as taxes to be paid in cash.

Reserves Included in This Report

The proved reserves included herein conform to the definition as set forth in the Securities and Exchange Commission’s Regulations Part 210.4-10(a). An abridged version of the SEC reserves definitions from 210.4-10(a) entitled “PETROLEUM RESERVES DEFINITIONS” is included as an attachment to this report.

The various reserves status categories are defined in the attachment entitled “PETROLEUM RESERVES STATUS DEFINITIONS AND GUIDELINES” in this report. The proved developed non-producing reserves included herein consist of the shut-in and behind pipe status categories.

No attempt was made to quantify or otherwise account for any accumulated gas production imbalances that may exist.

Reserves are “estimated remaining quantities of oil and gas and related substances anticipated to be economically producible, as of a given date, by application of development projects to known accumulations.” All reserves estimates involve an assessment of the uncertainty relating the likelihood that the actual remaining quantities recovered will be greater or less than the estimated quantities determined as of the date the estimate is made. The uncertainty depends primarily on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data. The relative degree of uncertainty may be conveyed by placing reserves into one of two principal categories, either proved or unproved. Unproved reserves are less certain to be recovered than proved reserves and may be further sub-categorized as probable and possible reserves to denote progressively increasing uncertainty in their recoverability. At Ecopetrol’s request, this report addresses only the proved reserves attributable to the properties evaluated herein.

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Proved oil and gas reserves are “those quantities of oil and gas which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible from a given date forward.” The proved reserves included herein were estimated using deterministic methods. The SEC has defined reasonable certainty for proved reserves, when based on deterministic methods, as a “high degree of confidence that the quantities will be recovered.”

Proved reserves estimates will generally be revised only as additional geologic or engineering data become available or as economic conditions change. For proved reserves, the SEC states that “as changes due to increased availability of geoscience (geological, geophysical, and geochemical), engineering, and economic data are made to the estimated ultimate recovery (EUR) with time, reasonably certain EUR is much more likely to increase or remain constant than to decrease.” Moreover, estimates of proved reserves may be revised as a result of future operations, effects of regulation by governmental agencies or geopolitical or economic risks. Therefore, the proved reserves included in this report are estimates only and should not be construed as being exact quantities, and if recovered, the revenues therefrom, and the actual costs related thereto, could be more or less than the estimated amounts.

The proved reserves reported herein are limited to the period prior to expiration of current contracts providing the legal rights to produce or a revenue interest in such production unless evidence indicates that contract renewal is reasonably certain. Furthermore, properties in Colombia may be subjected to substantially varying contractual fiscal terms that affect the net revenue to Ecopetrol for the production of these volumes. The prices and economic return received for these net volumes can vary materially based on the terms of these contracts. Therefore, when applicable, Ryder Scott reviewed the fiscal terms of such contracts and discussed with Ecopetrol the net economic benefit attributed to such operations for the determination of the net hydrocarbon volumes and income thereof. Ryder Scott has not conducted an exhaustive audit or verification of such contractual information. Neither our review of such contractual information nor our acceptance of Ecopetrol’s representations regarding such contractual information should be construed as a legal opinion on this matter.

Ryder Scott did not evaluate the country and geopolitical risks in the countries where Ecopetrol operates or has interests. Ecopetrol’s operations may be subject to various levels of governmental controls and regulations. These controls and regulations may include, but may not be limited to, matters relating to land tenure and contract terms, the legal rights to produce hydrocarbons, drilling and production practices, environmental protection, marketing and pricing policies, royalties, various taxes and levies including income tax, and are subject to change from time to time. Such changes in governmental regulations and policies may cause volumes of proved reserves actually recovered and amounts of proved income actually received to differ significantly from the estimated quantities.

The estimates of proved reserves presented herein were based upon a detailed study of the properties in which Ecopetrol owns an interest; however, we have not made any field examination of the properties. No consideration was given in this report to potential environmental liabilities that may exist nor were any costs included for potential liabilities to restore and clean up damages, if any, caused by past operating practices.

Estimates of Reserves

The estimation of reserves involves two distinct determinations. The first determination results in the estimation of the quantities of recoverable oil and gas and the second determination results in the estimation of the uncertainty associated with those estimated quantities in accordance with the definitions set forth by the Securities and Exchange Commission’s Regulations Part 210.4-10(a). The process of estimating the quantities of recoverable oil and gas reserves relies on the use of certain generally

accepted analytical procedures. These analytical procedures fall into three broad categories or methods: (1) performance-based methods, (2) volumetric-based methods and (3) analogy. These methods may be used individually or in combination by the reserves evaluator in the process of estimating the quantities of reserves. Reserves evaluators must select the method or combination of methods which in their professional judgment is most appropriate given the nature and amount of reliable geoscience and engineering data available at the time of the estimate, the established or anticipated performance characteristics of the reservoir being evaluated, and the stage of development or producing maturity of the property.

In many cases, the analysis of the available geoscience and engineering data and the subsequent interpretation of this data may indicate a range of possible outcomes in an estimate, irrespective of the method selected by the evaluator. When a range in the quantity of reserves is identified, the evaluator must determine the uncertainty associated with the incremental quantities of the reserves. If the reserves quantities are estimated using the deterministic incremental approach, the uncertainty for each discrete incremental quantity of the reserves is addressed by the reserves category assigned by the evaluator. Therefore, it is the categorization of reserves quantities as proved, probable and/or possible that addresses the inherent uncertainty in the estimated quantities reported. For proved reserves, uncertainty is defined by the SEC as reasonable certainty wherein the “quantities actually recovered are much more likely to be achieved than not.” The SEC states that “probable reserves are those additional reserves that are less certain to be recovered than proved reserves but which, together with proved reserves, are as likely as not to be recovered.” The SEC states that “possible reserves are those additional reserves that are less certain to be recovered than probable reserves and the total quantities ultimately recovered from a project have a low probability of exceeding proved plus probable plus possible reserves.” All quantities of reserves within the same reserves category must meet the SEC definitions as noted above.

Estimates of reserves quantities and their associated reserves categories may be revised in the future as additional geoscience or engineering data become available. Furthermore, estimates of reserves quantities and their associated reserves categories may also be revised due to other factors such as changes in economic conditions, results of future operations, effects of regulation by governmental agencies or geopolitical or economic risks as previously noted herein.

The proved reserves for the properties included herein were estimated by performance methods, the volumetric method, analogy, or a combination of methods. In general, the reserves attributable to producing wells and/or reservoirs were estimated by performance methods. These performance methods include, but may not be limited to, decline curve analysis, material balance and/or reservoir simulation which utilized extrapolations of historical production and pressure data available through December 31, 2024 in those cases where such data were considered to be definitive. The data utilized in this analysis were furnished to Ryder Scott by Ecopetrol and were considered sufficient for the purpose thereof. In certain cases, producing reserves were estimated by the volumetric method, analogy, or a combination of methods. These methods were used where there were inadequate historical performance data to establish a definitive trend and where the use of production performance data as a basis for the reserves estimates was considered to be inappropriate.

The reserves for the properties included herein attributable to the non-producing and undeveloped status categories were estimated by the volumetric method, analogy, or a combination of methods. The volumetric analysis utilized pertinent well and seismic data, reports and other data furnished to Ryder Scott by Ecopetrol that were available through December 31, 2024. The data utilized from the analogues in conjunction with well and seismic data incorporated into our volumetric analysis were considered sufficient for the purpose thereof.

To estimate economically producible proved oil and gas reserves and related future net cash flows, we consider many factors and assumptions including, but not limited to, the use of reservoir parameters derived from geological, geophysical and engineering data which cannot be measured directly, economic criteria based on current costs and SEC pricing requirements, and forecasts of future production rates. Under the SEC regulations 210.4-10(a)(22)(v) and (26), proved reserves must be anticipated to be economically producible from a given date forward based on existing economic conditions including the prices and costs at which economic producibility from a reservoir is to be determined. While it may reasonably be anticipated that the future prices received for the sale of production and the operating costs and other costs relating to such production may increase or decrease from those under existing economic conditions, such changes were, in accordance with rules adopted by the SEC, omitted from consideration in making this evaluation.

Ecopetrol has informed us that they have furnished us all of the material accounts, records, geological and engineering data, and reports and other data required for this investigation. In preparing our forecast of future proved production and income, we have relied upon data furnished by Ecopetrol with respect to property interests, production and well tests from examined wells, normal direct costs of operating the wells or contract areas, other costs such as transportation and/or processing fees, recompletion and development costs, development plans, certain abandonment costs (after salvage), product prices based on the SEC regulations, adjustments or differentials to product prices, geological structural and isochore maps, well logs, core analyses, and pressure measurements. Ryder Scott reviewed such factual data for its reasonableness; however, we have not conducted an independent verification of the data furnished by Ecopetrol. We consider the factual data used in this report appropriate and sufficient for the purpose of preparing the estimates of reserves and future net revenues herein.

In summary, we consider the assumptions, data, methods and analytical procedures used in this report appropriate for the purpose hereof, and we have used all such methods and procedures that we consider necessary and appropriate to prepare the estimates of reserves herein. The proved reserves included herein were determined in conformance with the United States Securities and Exchange Commission (SEC) Modernization of Oil and Gas Reporting; Final Rule, including all references to Regulation S-X and Regulation S-K, referred to herein collectively as the "SEC Regulations." In our opinion, the proved reserves presented in this report comply with the definitions, guidelines and disclosure requirements as required by the SEC regulations.

Future Production Rates

For wells currently on production, our forecasts of future production rates are based on historical performance data. If no production decline trend has been established, future production rates were held constant, or adjusted for the effects of curtailment where appropriate, until a decline in ability to produce was anticipated. An estimated rate of decline was then applied until depletion of the reserves. If a decline trend has been established, this trend was used as the basis for estimating future production rates.

Test data and other related information were used to estimate the anticipated initial production rates for those wells or locations that are not currently producing. For reserves not yet on production, sales were estimated to commence at an anticipated date furnished by Ecopetrol. Wells or locations that are not currently producing may start producing earlier or later than anticipated in our estimates due to unforeseen factors causing a change in the timing to initiate production. Such factors may include delays due to weather, the availability of rigs, the sequence of drilling, completing and/or recompleting wells and/or constraints set by regulatory bodies.

The future production rates from wells currently on production or wells or locations that are not currently producing may be more or less than estimated because of changes including, but not limited to, reservoir performance, operating conditions related to surface facilities, compression and artificial lift, pipeline capacity and/or operating conditions, producing market demand and/or allowables or other constraints set by regulatory bodies.

Hydrocarbon Prices

The hydrocarbon prices used herein are based on SEC price parameters using the average prices during the 12-month period prior to the “as of date” of this report, determined as the unweighted arithmetic averages of the prices in effect on the first-day-of-the-month for each month within such period, unless prices were defined by contractual arrangements. For hydrocarbon products sold under contract, the contract prices, including fixed and determinable escalations, exclusive of inflation adjustments, were used until expiration of the contract. Upon contract expiration, the prices were adjusted to the 12-month unweighted arithmetic average as previously described.

Ecopetrol furnished us with the above mentioned average prices in effect on December 31, 2024. These initial SEC hydrocarbon prices were determined using the 12-month average first-day-of-the-month benchmark prices appropriate to the geographic area where the hydrocarbons are sold. These benchmark prices are prior to the adjustments for differentials as described herein. The table below summarizes the “benchmark prices” and “price reference” used for the geographic area(s) included in the report. In certain geographic areas, the price reference and benchmark prices may be defined by contractual arrangements. In cases where there are numerous contracts or price references within the same geographic area, the benchmark price is represented by the unweighted arithmetic average of the initial 12-month average first-day-of-the-month benchmark prices used.

The product prices that were actually used to determine the future gross revenue for each property reflect adjustments to the benchmark prices for gravity, quality, local conditions, gathering and transportation fees and/or distance from market, referred to herein as “differentials.” The differentials used in the preparation of this report were furnished to us by Ecopetrol. The differentials furnished to us were accepted as factual data and reviewed by us for their reasonableness; however, we have not conducted an independent verification of the data used by Ecopetrol to determine these differentials.

In addition, the table below summarizes the net volume weighted benchmark prices adjusted for differentials and referred to herein as the “average realized prices.” The average realized prices shown in the table below were determined from the total future gross revenue before production taxes and the total net reserves for the geographic areas and presented in accordance with SEC disclosure requirements for each of the geographic areas included in this report.

Geographic Area	Product	Price Reference	Average Benchmark Price	Average Proved Realized Price
Colombia and United States	Oil/Condensate	Brent	\$79.69/bbl*	\$75.70/bbl
	NGLs	Brent	\$79.69/bbl*	\$17.92/bbl
	Gas	Gas Sales Agreement		\$3.58/Mcf

**ICE Brent from Bloomberg.*

The effects of derivative instruments designated as price hedges of oil and gas quantities are not reflected in our individual property evaluations. Liquid hydrocarbon reserves account for approximately 90 percent and gas reserves account for the remaining 10 percent of total future gross revenue from proved reserves.

Costs

Operating costs for the contract areas and wells in this report were furnished by Ecopetrol. They are based on the operating expense reports of Ecopetrol and include only those costs directly applicable to the contract areas or wells. The operating costs include a portion of general and administrative costs allocated directly to the contract areas and wells. For operated properties, the operating costs include an appropriate level of corporate general administrative and overhead costs. The operating costs furnished to us were accepted as factual data and reviewed by us for their reasonableness; however, we have not conducted an independent verification of the operating cost data used by Ecopetrol. No deduction was made for loan repayments, interest expenses, or exploration and development prepayments that were not charged directly to the contract areas or wells.

Development costs were furnished to us by Ecopetrol and are based on authorizations for expenditure for the proposed work or actual costs for similar projects. The development costs furnished to us were accepted as factual data and reviewed by us for their reasonableness; however, we have not conducted an independent verification of these costs. The estimates of the net abandonment costs furnished by Ecopetrol were accepted without independent verification. We have made no inspections to determine if any additional abandonment, decommissioning, and /or restoration costs may be necessary in addition to the costs provided by Ecopetrol and included herein.

The proved developed non-producing and undeveloped reserves in this report have been incorporated herein in accordance with Ecopetrol's plans to develop these reserves as of December 31, 2024. The implementation of Ecopetrol's development plans as presented to us and incorporated herein is subject to the approval process adopted by Ecopetrol's management. As the result of our inquiries during the course of preparing this report, Ecopetrol has informed us that the development activities included herein have been subjected to and received the internal approvals required by Ecopetrol's management at the appropriate local, regional and/or corporate level. In addition to the internal approvals as noted, certain development activities may still be subject to specific partner AFE processes, Joint Operating Agreement (JOA) requirements or other administrative approvals external to Ecopetrol. Ecopetrol has provided written documentation supporting their commitment to proceed with the development activities as presented to us. Additionally, Ecopetrol has informed us that they are not aware of any legal, regulatory, or political obstacles that would significantly alter their plans. While these plans could change from those under existing economic conditions as of December 31, 2023, such changes were, in accordance with rules adopted by the SEC, omitted from consideration in making this evaluation.

Current costs used by Ecopetrol were held constant throughout the life of the properties.

Standards of Independence and Professional Qualification

Ryder Scott is an independent petroleum engineering consulting firm that has been providing petroleum consulting services throughout the world since 1937. Ryder Scott is employee-owned and maintains offices in Houston, Texas; Denver, Colorado; and Calgary, Alberta, Canada. We have approximately eighty engineers and geoscientists on our permanent staff. By virtue of the size of our firm and the large number of clients for which we provide services, no single client or job represents a

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material portion of our annual revenue. We do not serve as officers or directors of any privately-owned or publicly-traded oil and gas company and are separate and independent from the operating and investment decision-making process of our clients. This allows us to bring the highest level of independence and objectivity to each engagement for our services.

Ryder Scott actively participates in industry-related professional societies and organizes an annual public forum focused on the subject of reserves evaluations and SEC regulations. Many of our staff have authored or co-authored technical papers on the subject of reserves related topics. We encourage our staff to maintain and enhance their professional skills by actively participating in ongoing continuing education.

Prior to becoming an officer of the Company, Ryder Scott requires that staff engineers and geoscientists receive professional accreditation in the form of a registered or certified professional engineer's license or a registered or certified professional geoscientist's license, or the equivalent thereof, from an appropriate governmental authority or a recognized self-regulating professional organization. Regulating agencies require that, in order to maintain active status, a certain amount of continuing education hours be completed annually, including an hour of ethics training. Ryder Scott fully supports this technical and ethics training with our internal requirement mentioned above.

We are independent petroleum engineers with respect to Ecopetrol. Neither we nor any of our employees have any financial interest in the subject properties and neither the employment to do this work nor the compensation is contingent on our estimates of reserves for the properties which were reviewed.

The results of this study, presented herein, are based on technical analyses conducted by teams of geoscientists and engineers from Ryder Scott. The professional qualifications of the undersigned, the technical person primarily responsible for overseeing, reviewing and approving the evaluation of the reserves information discussed in this report, are included as an attachment to this letter.

Terms of Usage

The results of our third party study, presented in report form herein, were prepared in accordance with the disclosure requirements set forth in the SEC regulations and intended for public disclosure as an exhibit in filings made with the SEC by Ecopetrol.

Ecopetrol makes periodic filings on Form 20-F with the SEC under the 1934 Exchange Act. Furthermore, Ecopetrol has certain registration statements filed with the SEC under the 1933 Securities Act into which any subsequently filed Form 20-F is incorporated by reference. We have consented to the incorporation by reference in the registration statements on Form F-3 by Ecopetrol, of the references to our name, as well as to the references to our third party report for Ecopetrol, which appears in the December 31, 2024 annual report on Form 20-F of Ecopetrol. Our written consent for such use is included as a separate exhibit to the filings made with the SEC by Ecopetrol.

We have provided Ecopetrol with a digital version of the original signed copy retained in our files. In the event there are any differences between the digital version included in filings made by Ecopetrol and the original signed copy in our files, the original signed copy in our files shall control and supersede.

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The data and work papers used in the preparation of this report are available for examination by authorized parties in our offices. Please contact us if we can be of further service.

Very truly yours,

RYDER SCOTT COMPANY, L.P.
TBPELS Firm Registration No. F-1580

/s/ Mario A. Ballesteros

Mario A. Ballesteros, P.E.
TBPELS License No. 107132
Managing Senior Vice President

MAB (DRO)/pl

RYDER SCOTT COMPANY PETROLEUM CONSULTANTS

Professional Qualifications of Primary Technical Person

The conclusions presented in this report are the result of technical analysis conducted by teams of geoscientists and engineers from Ryder Scott Company, L.P. Mario A. Ballesteros was the primary technical person responsible for overseeing the independent estimation of reserves, future production and income to render the audit conclusions of the report presented herein.

Mr. Ballesteros, an employee of Ryder Scott Company, L.P. (Ryder Scott) since 2006, is a Managing Senior Vice President and also serves as an Engineering Group Leader responsible for coordinating and supervising staff and consulting engineers of the company in ongoing reservoir evaluation studies worldwide. Mr. Ballesteros is involved with the training of professionals in reserves estimation for companies around the world. Before joining Ryder Scott, Mr. Ballesteros served in a number of engineering positions with Chevron. For more information regarding Mr. Ballesteros geographic and job specific experience, please refer to the Ryder Scott Company website at www.ryderscott.com/ Employees.

Mr. Ballesteros earned a Bachelor of Science degree in Mechanical Engineering in 1991 and a Masters of Petroleum Engineering degree in 1993 from the University of Tulsa. He also earned a Masters in Finance in 2000 from the Meta University in Colombia. He is a registered Professional Engineer in the State of Texas.

In addition to gaining experience and competency through prior work experience, the Texas Board of Professional Engineers requires a minimum of fifteen hours of continuing education annually, including at least one hour in the area of professional ethics, which Mr. Ballesteros fulfills. Mr. Ballesteros has attended formalized training and conferences including dedicated to the subject of the definitions and disclosure guidelines contained in the United States Securities and Exchange Commission Title 17, Code of Federal Regulations, Modernization of Oil and Gas Reporting, Final Rule released January 14, 2009 in the Federal Register.

Based on his educational background, professional training and more than 25 years of practical experience in the estimation and evaluation of petroleum reserves, Mr. Ballesteros has attained the professional qualifications as a Reserves Estimator and Reserves Auditor set forth in Article III of the "Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information" promulgated by the Society of Petroleum Engineers as of June 2019.

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PETROLEUM RESERVES DEFINITIONS

As Adapted From:
RULE 4-10(a) of REGULATION S-X PART 210
UNITED STATES SECURITIES AND EXCHANGE COMMISSION (SEC)

PREAMBLE

On January 14, 2009, the United States Securities and Exchange Commission (SEC) published the “Modernization of Oil and Gas Reporting; Final Rule” in the Federal Register of National Archives and Records Administration (NARA). The “Modernization of Oil and Gas Reporting; Final Rule” includes revisions and additions to the definition section in Rule 4-10 of Regulation S-X, revisions and additions to the oil and gas reporting requirements in Regulation S-K, and amends and codifies Industry Guide 2 in Regulation S-K. The “Modernization of Oil and Gas Reporting; Final Rule”, including all references to Regulation S-X and Regulation S-K, shall be referred to herein collectively as the “SEC regulations”. The SEC regulations take effect for all filings made with the United States Securities and Exchange Commission as of December 31, 2009, or after January 1, 2010. Reference should be made to the full text under Title 17, Code of Federal Regulations, Regulation S-X Part 210, Rule 4-10(a) for the complete definitions (direct passages excerpted in part or wholly from the aforementioned SEC document are denoted in italics herein).

Reserves are estimated remaining quantities of oil and gas and related substances anticipated to be economically producible, as of a given date, by application of development projects to known accumulations. All reserve estimates involve an assessment of the uncertainty relating the likelihood that the actual remaining quantities recovered will be greater or less than the estimated quantities determined as of the date the estimate is made. The uncertainty depends chiefly on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data. The relative degree of uncertainty may be conveyed by placing reserves into one of two principal classifications, either proved or unproved. Unproved reserves are less certain to be recovered than proved reserves and may be further sub-classified as probable and possible reserves to denote progressively increasing uncertainty in their recoverability. Under the SEC regulations as of December 31, 2009, or after January 1, 2010, a company may optionally disclose estimated quantities of probable or possible oil and gas reserves in documents publicly filed with the SEC. The SEC regulations continue to prohibit disclosure of estimates of oil and gas resources other than reserves and any estimated values of such resources in any document publicly filed with the SEC unless such information is required to be disclosed in the document by foreign or state law as noted in §229.1202 Instruction to Item 1202.

Reserves estimates will generally be revised only as additional geologic or engineering data become available or as economic conditions change.

Reserves may be attributed to either natural energy or improved recovery methods. Improved recovery methods include all methods for supplementing natural energy or altering natural forces in the reservoir to increase ultimate recovery. Examples of such methods are pressure maintenance, natural gas cycling, waterflooding, thermal methods, chemical flooding, and the use of miscible and immiscible displacement fluids. Other improved recovery methods may be developed in the future as petroleum technology continues to evolve.

Reserves may be attributed to either conventional or unconventional petroleum accumulations. Petroleum accumulations are considered as either conventional or unconventional based on the nature

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of their in-place characteristics, extraction method applied, or degree of processing prior to sale. Examples of unconventional petroleum accumulations include coalbed or coalseam methane (CBM/CSM), basin-centered gas, shale gas, gas hydrates, natural bitumen and oil shale deposits. These unconventional accumulations may require specialized extraction technology and/or significant processing prior to sale.

Reserves do not include quantities of petroleum being held in inventory.

Because of the differences in uncertainty, caution should be exercised when aggregating quantities of petroleum from different reserves categories.

RESERVES (SEC DEFINITIONS)

Securities and Exchange Commission Regulation S-X §210.4-10(a)(26) defines reserves as follows:

Reserves. *Reserves are estimated remaining quantities of oil and gas and related substances anticipated to be economically producible, as of a given date, by application of development projects to known accumulations. In addition, there must exist, or there must be a reasonable expectation that there will exist, the legal right to produce or a revenue interest in the production, installed means of delivering oil and gas or related substances to market, and all permits and financing required to implement the project.*

Note to paragraph (a)(26): *Reserves should not be assigned to adjacent reservoirs isolated by major, potentially sealing, faults until those reservoirs are penetrated and evaluated as economically producible. Reserves should not be assigned to areas that are clearly separated from a known accumulation by a non-productive reservoir (i.e., absence of reservoir, structurally low reservoir, or negative test results). Such areas may contain prospective resources (i.e., potentially recoverable resources from undiscovered accumulations).*

PROVED RESERVES (SEC DEFINITIONS)

Securities and Exchange Commission Regulation S-X §210.4-10(a)(22) defines proved oil and gas reserves as follows:

Proved oil and gas reserves. *Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible—from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations—prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be reasonably certain that it will commence the project within a reasonable time.*

(i) *The area of the reservoir considered as proved includes:*

(A) *The area identified by drilling and limited by fluid contacts, if any, and*

(B) Adjacent undrilled portions of the reservoir that can, with reasonable certainty, be judged to be continuous with it and to contain economically producible oil or gas on the basis of available geoscience and engineering data.

(ii) In the absence of data on fluid contacts, proved quantities in a reservoir are limited by the lowest known hydrocarbons (LKH) as seen in a well penetration unless geoscience, engineering, or performance data and reliable technology establishes a lower contact with reasonable certainty.

(iii) Where direct observation from well penetrations has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves may be assigned in the structurally higher portions of the reservoir only if geoscience, engineering, or performance data and reliable technology establish the higher contact with reasonable certainty.

(iv) Reserves which can be produced economically through application of improved recovery techniques (including, but not limited to, fluid injection) are included in the proved classification when:

(A) Successful testing by a pilot project in an area of the reservoir with properties no more favorable than in the reservoir as a whole, the operation of an installed program in the reservoir or an analogous reservoir; or other evidence using reliable technology establishes the reasonable certainty of the engineering analysis on which the project or program was based; and

(B) The project has been approved for development by all necessary parties and entities, including governmental entities.

(v) Existing economic conditions include prices and costs at which economic producibility from a reservoir is to be determined. The price shall be the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions.

PETROLEUM RESERVES STATUS DEFINITIONS AND GUIDELINES

As Adapted From:
RULE 4-10(a) of REGULATION S-X PART 210
UNITED STATES SECURITIES AND EXCHANGE COMMISSION (SEC)

and

2018 PETROLEUM RESOURCES MANAGEMENT SYSTEM (SPE-PRMS)

Sponsored and Approved by:
SOCIETY OF PETROLEUM ENGINEERS (SPE)
WORLD PETROLEUM COUNCIL (WPC)
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS (AAPG)
SOCIETY OF PETROLEUM EVALUATION ENGINEERS (SPEE)
SOCIETY OF EXPLORATION GEOPHYSICISTS (SEG)
SOCIETY OF PETROPHYSICISTS AND WELL LOG ANALYSTS (SPWLA)
EUROPEAN ASSOCIATION OF GEOSCIENTISTS & ENGINEERS (EAGE)

Reserves status categories define the development and producing status of wells and reservoirs. Reference should be made to Title 17, Code of Federal Regulations, Regulation S-X Part 210, Rule 4-10(a) and the SPE-PRMS as the following reserves status definitions are based on excerpts from the original documents (direct passages excerpted from the aforementioned SEC and SPE-PRMS documents are denoted in italics herein).

DEVELOPED RESERVES (SEC DEFINITIONS)

Securities and Exchange Commission Regulation S-X §210.4-10(a)(6) defines developed oil and gas reserves as follows:

Developed oil and gas reserves are reserves of any category that can be expected to be recovered:

(i) Through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and

(ii) Through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is by means not involving a well.

Developed Producing (SPE-PRMS Definitions)

While not a requirement for disclosure under the SEC regulations, developed oil and gas reserves may be further sub-classified according to the guidance contained in the SPE-PRMS as Producing or Non-Producing.

Developed Producing Reserves

Developed Producing Reserves are expected quantities to be recovered from completion intervals that are open and producing at the effective date of the estimate.

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Improved recovery reserves are considered producing only after the improved recovery project is in operation.

Developed Non-Producing

Developed Non-Producing Reserves include shut-in and behind-pipe Reserves.

Shut-In

Shut-in Reserves are expected to be recovered from:

- (1) completion intervals that are open at the time of the estimate but which have not yet started producing;*
- (2) wells which were shut-in for market conditions or pipeline connections; or*
- (3) wells not capable of production for mechanical reasons.*

Behind-Pipe

Behind-pipe Reserves are expected to be recovered from zones in existing wells that will require additional completion work or future re-completion before start of production with minor cost to access these reserves.

In all cases, production can be initiated or restored with relatively low expenditure compared to the cost of drilling a new well.

UNDEVELOPED RESERVES (SEC DEFINITIONS)

Securities and Exchange Commission Regulation S-X §210.4-10(a)(31) defines undeveloped oil and gas reserves as follows:

Undeveloped oil and gas reserves are reserves of any category that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion.

- (i) Reserves on undrilled acreage shall be limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled, unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances.*
- (ii) Undrilled locations can be classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances, justify a longer time.*
- (iii) Under no circumstances shall estimates for undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir; as defined in paragraph (a)(2) of this section, or by other evidence using reliable technology establishing reasonable certainty.*

DeGolyer and MacNaughton
5001 Spring Valley Road
Suite 800 East
Dallas, Texas 75244

February 21, 2025

Board of Directors
Ecopetrol S.A.
Carrera 13 No. 36-24
Bogota, D.C.
Colombia

Ladies and Gentlemen:

Pursuant to your request, this report of third party presents an independent evaluation, as of December 31, 2024, of the extent of the estimated net proved hydrocarbon reserves of certain properties in Colombia in which Ecopetrol S.A. has represented it holds an interest. These interests are held by Ecopetrol S.A. and through its wholly owned subsidiary Hocol S.A. (collectively, "ECOPETROL"). This evaluation was completed on February 21, 2025. ECOPETROL has represented that these properties account for 38.07 percent on a net equivalent barrel basis of ECOPETROL's net total proved reserves as of December 31, 2024. ECOPETROL has also represented that these properties account for 47.05 percent of ECOPETROL's total proved developed net liquid hydrocarbon (oil, condensate, C₅₊, and liquefied petroleum gas (LPG)) reserves, 4.60 percent of its total proved developed net gas reserves, 44.44 percent of its total proved undeveloped net liquid reserves, and 2.89 percent of its total proved undeveloped net gas reserves. The net proved reserves estimates have been prepared in accordance with the reserves definitions of Rules 4-10(a) (1)-(32) of Regulation S-X of the United States Securities and Exchange Commission (SEC). This report was prepared in accordance with guidelines specified in Item 1202 (a)(8) of Regulation S-K and is to be used for inclusion in certain SEC filings by ECOPETROL.

Reserves estimates included herein are expressed as net reserves. Gross reserves are defined as the total estimated petroleum remaining to be produced from these properties after December 31, 2024. Net reserves are defined as that portion of the gross reserves attributable to the interests held by ECOPETROL after deducting all interests held by others, including royalties paid in kind. ECOPETROL has advised that in September 2013, Resolución n° 877 was enacted by the government of

Colombia, requiring that oil and condensate royalties be paid in kind and gas, C_{5+} , and LPG royalties be paid in cash. Furthermore, ECOPETROL has represented that in 2024, the ANH and ECOPETROL signed an agreement in which the parties agreed that the economic benefit stipulated in the E&P Contract CPO-9 associated with oil and gas produced from the Akacias field is paid in cash. Based on this legislation, and at the request of ECOPETROL, cash payments are included in the net oil, gas, C_{5+} , and LPG reserves estimated herein.

Estimates of reserves should be regarded only as estimates that may change as further production history and additional information become available. Not only are such estimates based on that information which is currently available, but such estimates are also subject to the uncertainties inherent in the application of judgmental factors in interpreting such information.

Information used in the preparation of this report was obtained from ECOPETROL. In the preparation of this report we have relied, without independent verification, upon information furnished by ECOPETROL with respect to the property interests being evaluated, production from such properties, current costs of operation and development, current prices for production, agreements relating to current and future operations and sale of production, and various other information and data that were accepted as represented. A field examination was not considered necessary for the purposes of this report.

Definition of Reserves

Petroleum reserves estimated in this report are classified as proved. Only proved reserves have been evaluated for this report. Reserves classifications used by us in this report are in accordance with the reserves definitions of Rules 4–10(a) (1)–(32) of Regulation S–X of the SEC. Reserves are judged to be economically producible in future years from known reservoirs under existing economic and operating conditions and assuming continuation of current regulatory practices using conventional production methods and equipment. In the analyses of production-decline curves, reserves were estimated only to the limit of economic rates of production under existing economic and operating conditions using prices and costs consistent with the effective date of this report, including consideration of changes in existing prices provided only by contractual arrangements but not including escalations based upon future conditions. The petroleum reserves are classified as follows:

Proved oil and gas reserves – Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible—from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations—prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be reasonably certain that it will commence the project within a reasonable time.

(i) The area of the reservoir considered as proved includes:

(A) The area identified by drilling and limited by fluid contacts, if any, and (B) Adjacent undrilled portions of the reservoir that can, with reasonable certainty, be judged to be continuous with it and to contain economically producible oil or gas on the basis of available geoscience and engineering data.

(ii) In the absence of data on fluid contacts, proved quantities in a reservoir are limited by the lowest known hydrocarbons (LKH) as seen in a well penetration unless geoscience, engineering, or performance data and reliable technology establishes a lower contact with reasonable certainty.

(iii) Where direct observation from well penetrations has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves may be assigned in the structurally higher portions of the reservoir only if geoscience, engineering, or performance data and reliable technology establish the higher contact with reasonable certainty.

(iv) Reserves which can be produced economically through application of improved recovery techniques (including, but not limited to, fluid injection) are included in the proved classification when:

(A) Successful testing by a pilot project in an area of the reservoir with properties no more favorable than in the reservoir as a

whole, the operation of an installed program in the reservoir or an analogous reservoir, or other evidence using reliable technology establishes the reasonable certainty of the engineering analysis on which the project or program was based; and (B) The project has been approved for development by all necessary parties and entities, including governmental entities. (v) Existing economic conditions include prices and costs at which economic producibility from a reservoir is to be determined. The price shall be the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions.

Developed oil and gas reserves – Developed oil and gas reserves are reserves of any category that can be expected to be recovered:

- (i) Through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and
- (ii) Through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is by means not involving a well.

Undeveloped oil and gas reserves – Undeveloped oil and gas reserves are reserves of any category that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion.

- (i) Reserves on undrilled acreage shall be limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled, unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances.
 - (ii) Undrilled locations can be classified as having undeveloped reserves only if a development plan has been adopted indicating
-

that they are scheduled to be drilled within five years, unless the specific circumstances justify a longer time.

(iii) Under no circumstances shall estimates for undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir, as defined in [section 210.4–10 (a) Definitions], or by other evidence using reliable technology establishing reasonable certainty.

Methodology and Procedures

Estimates of reserves were prepared by the use of appropriate geologic, petroleum engineering, and evaluation principles and techniques that are in accordance with the reserves definitions of Rules 4–10(a) (1)–(32) of Regulation S–X of the SEC and with practices generally recognized by the petroleum industry as presented in the publication of the Society of Petroleum Engineers entitled “Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information (revised June 2019) Approved by the SPE Board on 25 June 2019.” The method or combination of methods used in the analysis of each reservoir was tempered by experience with similar reservoirs, stage of development, quality and completeness of basic data, and production history.

Based on the current stage of field development, production performance, the development plans provided by ECOPETROL, and analyses of areas offsetting existing wells with test or production data, reserves were classified as proved. The undeveloped reserves estimated herein were based on opportunities identified in the plan of development provided by ECOPETROL.

ECOPETROL has represented that its senior management is committed to the development plan provided by ECOPETROL and that ECOPETROL has the financial capability to execute the development plan, including the drilling and completion of wells and the installation of equipment and facilities.

When applicable, the volumetric method was used to estimate the original oil in place (OOIP) and original gas in place (OGIP). Structure maps were prepared to delineate each reservoir, and isopach maps were constructed to estimate reservoir

volume. Electrical logs, radioactivity logs, core analyses, and other available data were used to prepare these maps as well as to estimate representative values for porosity and water saturation. When adequate data were available and when circumstances justified, material-balance methods were used to estimate OOIP and OGIP.

Estimates of ultimate recovery were obtained after applying recovery factors to OOIP and OGIP. These recovery factors were based on consideration of the type of energy inherent in the reservoirs, analyses of the petroleum, the structural positions of the properties, and the production histories. When applicable, material balance and other engineering methods were used to estimate recovery factors based on an analysis of reservoir performance, including production rate, reservoir pressure, and reservoir fluid properties.

For depletion-type reservoirs or those whose performance disclosed a reliable decline in producing-rate trends or other diagnostic characteristics, reserves were estimated by the application of appropriate decline curves or other performance relationships. In the analyses of production-decline curves, reserves were estimated only to the limits of economic production as defined under the Definition of Reserves heading of this report or the expiration date of the fiscal agreement, whichever occurs first.

In certain cases, reserves were estimated by incorporating elements of analogy with similar wells or reservoirs for which more complete data were available.

In the evaluation of undeveloped reserves, type-well analysis was performed using well data from analogous reservoirs for which more complete historical performance data were available.

Data provided by ECOPETROL from wells drilled through December 31, 2024, and made available for this evaluation were used to prepare the reserves estimates herein. These reserves estimates were based on consideration of monthly production data available for certain properties only through October or November 2024. Estimated cumulative production, as of December 31, 2024, was deducted from the estimated gross ultimate recovery to estimate gross reserves. This required that production be estimated for up to 2 months.

Oil and condensate reserves estimated herein are to be recovered by normal field separation. Oil is reported herein as oil and fuel oil. Fuel oil is defined as that

portion of the oil consumed in field operations. Oil includes fuel oil. Pentanes and heavier fractions (C_{5+}) and liquefied petroleum gas (LPG), which consists primarily of propane and butane fractions, are the result of low-temperature plant processing. Oil, condensate, C_{5+} , and LPG reserves included in this report are expressed in millions of barrels (10⁶ bbl). In these estimates, 1 barrel equals 42 United States gallons. For reporting purposes, oil and condensate reserves have been estimated separately and are presented herein as a summed quantity.

Gas quantities estimated herein are expressed as marketable gas, fuel gas, and sales gas. Marketable gas is defined as the total gas produced from the reservoir after reduction for shrinkage resulting from field separation; processing, including removal of the nonhydrocarbon gas to meet pipeline specifications; and flare and other losses but not from fuel usage. Fuel gas is defined as that portion of the gas consumed in field operations. Sales gas is defined as the total gas to be produced from the reservoirs, measured at the point of delivery, after reduction for fuel usage, flare, and shrinkage resulting from field separation and processing. Gas reserves estimated herein are reported as marketable gas, fuel gas, and sales gas. Gas quantities are expressed at a temperature base of 60 degrees Fahrenheit (°F) and at a pressure base of 14.7 pounds per square inch absolute (psia). Gas quantities included in this report are expressed in millions of cubic feet (10⁶ ft³).

Gas quantities are identified by the type of reservoir from which the gas will be produced. Nonassociated gas is gas at initial reservoir conditions with no oil present in the reservoir. Associated gas is both gas-cap gas and solution gas. Gas-cap gas is gas at initial reservoir conditions and is in communication with an underlying oil zone. Solution gas is gas dissolved in oil at initial reservoir conditions. Gas quantities estimated herein consist of associated gas in the form of solution gas.

At the request of ECOPETROL, marketable gas reserves estimated herein were converted to oil equivalent using an energy equivalent factor of 5,700 cubic feet of gas per 1 barrel of oil equivalent.

Primary Economic Assumptions

This report has been prepared using initial prices, expenses, and costs provided by ECOPETROL in United States dollars (U.S.\$). Future prices were estimated using guidelines established by the SEC and the Financial Accounting Standards Board (FASB). The following economic assumptions were used for estimating the reserves reported herein:

Oil, Condensate, C₅₊, LPG, and Sales Gas Prices

ECOPETROL has represented that the oil and condensate prices were based on a reference price, calculated as the unweighted average of the first-day-of-the-month price for each month within the 12-month period prior to the end of the reporting period, unless prices are defined by contractual agreements.

ECOPETROL has represented that the C₅₊, LPG, and sales gas prices for the ECOPETROL properties in Colombia evaluated herein are defined by contractual agreements for gas sales based on specific market conditions. ECOPETROL supplied differentials by field to the Brent reference price of U.S.\$79.69 per barrel. The volume-weighted average adjusted product prices attributable to the estimated proved reserves were U.S.\$74.11 per barrel of oil and condensate, U.S.\$79.63 per barrel of C₅₊, and U.S.\$79.25 per barrel of LPG. The volume-weighted average adjusted product sales gas price attributable to the estimated proved sales gas reserves was U.S.\$5.50 per thousand cubic feet of gas. Prices were held constant for the lives of the properties unless defined by contractual agreements.

Operating Expenses, Capital Costs, and Abandonment Costs

Estimates of operating expenses, provided by ECOPETROL and based on existing economic conditions, were held constant for the lives of the properties. Future capital expenditures were estimated using 2024 values, provided by ECOPETROL, and were not adjusted for inflation. In certain cases, future

expenditures, either higher or lower than current expenditures, may have been used because of anticipated changes in operating conditions, but no general escalation that might result from inflation was applied. Abandonment costs, which are those costs associated with the removal of equipment, plugging of the wells, and reclamation and restoration associated with the abandonment, were provided by ECOPETROL for all properties. Estimates of operating expenses, capital costs, and abandonment costs were considered, as appropriate, in determining the economic viability of the undeveloped reserves estimated herein.

In our opinion, the information relating to estimated proved reserves of oil, condensate, C₅₊, LPG, and gas contained in this report has been prepared in accordance with Paragraphs 932-235-50-4, 932-235-50-6, 932-235-50-7, and 932-235-50-9 of the Accounting Standards Update 932-235-50, *Extractive Industries - Oil and Gas (Topic 932): Oil and Gas Reserve Estimation and Disclosures* (January 2010) of the FASB and Rules 4-10(a) (1)-(32) of Regulation S-X and Rules 302(b), 1201, 1202(a) (1), (2), (3), (4), (8), and 1203(a) of Regulation S-K of the SEC; provided, however, that estimates of proved developed and proved undeveloped reserves are not presented at the beginning of the year.

To the extent the above-enumerated rules, regulations, and statements require determinations of an accounting or legal nature, we, as engineers, are necessarily unable to express an opinion as to whether the above-described information is in accordance therewith or sufficient therefor.

Summary of Conclusions

DeGolyer and MacNaughton has performed an independent evaluation of the extent of the estimated net proved oil, condensate, C₅₊, LPG, and gas reserves of certain properties in which ECOPETROL has represented it holds an interest.

The estimated net proved reserves, as of December 31, 2024, of the properties evaluated herein were based on the definition of proved reserves of the SEC and are summarized as follows, expressed in millions of barrels (10⁶bbl), millions of cubic feet (10⁶ft³), and millions of barrels of oil equivalent (10⁶boe):

	Estimated by DeGolyer and MacNaughton Net Proved Reserves as of December 31, 2024							
	Oil and Condensate (10 ⁶ bbl)	Fuel Oil (10 ⁶ bbl)	C ₅₊ (10 ⁶ bbl)	LPG (10 ⁶ bbl)	Marketable Gas (10 ⁶ ft ³)	Fuel Gas (10 ⁶ ft ³)	Sales Gas (10 ⁶ ft ³)	Oil Equivalent (10 ⁶ boe)
Colombia								
Proved Developed	509.826	1.458	0.076	0.177	80,580.775	5,400.838	75,179.937	525.674
Proved Undeveloped	189.984	2.847	0.059	0.159	10,559.504	1,769.816	8,789.688	194.901
Colombia Total Proved	699.810	4.305	0.135	0.336	91,140.279	7,170.654	83,969.625	720.575

1. Totals may vary due to rounding.
2. Marketable gas reserves estimated herein were converted to oil equivalent using an energy equivalent factor of 5,700 cubic feet of gas per 1 barrel of oil equivalent, as provided by ECOPETROL.

While the oil and gas industry may be subject to regulatory changes from time to time that could affect an industry participant's ability to recover its reserves, we are not aware of any such governmental actions which would restrict the recovery of the December 31, 2024, estimated reserves.

DeGolyer and MacNaughton

DeGolyer and MacNaughton is an independent petroleum engineering consulting firm that has been providing petroleum consulting services throughout the world since 1936. DeGolyer and MacNaughton does not have any financial interest, including stock ownership, in ECOPETROL. Our fees were not contingent on the results of our evaluation. This report has been prepared at the request of ECOPETROL. DeGolyer and MacNaughton has used all assumptions, data, procedures, and methods that it considers necessary and appropriate to prepare this report.

Submitted,

/s/ DeGolyer and MacNaughton

DeGOLYER and MacNAUGHTON
Texas Registered Engineering Firm F-716

/s/ Stefan R. Krystosik

[SEAL]

Stefan R. Krystosik, P.E.
Senior Vice President
DeGolyer and MacNaughton

CERTIFICATE of QUALIFICATION

I, Stefan R. Krystosik, Petroleum Engineer and Geologist with DeGolyer and MacNaughton, 5001 Spring Valley Road, Suite 800 East, Dallas, Texas, 75244 U.S.A., hereby certify:

1. That I am a Senior Vice President with DeGolyer and MacNaughton, which firm did prepare the report of third party addressed to ECOPETROL dated February 22, 2025, and that I, as Senior Vice President, was responsible for the preparation of this report of third party.
2. That I attended Texas A&M University, and that I graduated with a Bachelor of Science degree in Petroleum Engineering in the year 2001, that I am a Registered Professional Engineer in the State of Texas; that I am a member of the Society of Petroleum Engineers; and that I have in excess of 22 years of experience in oil and gas reservoir studies and evaluations.

[SEAL]

/s/ Stefan R. Krystosik

Stefan R. Krystosik, P.E.
Senior Vice President
DeGolyer and MacNaughton

Gaffney
Cline

Reserves Statement of Certain Fields,
Colombia
as of December 31, 2024

Prepared for
Ecopetrol S.A.
February 19, 2025



February 19, 2025

Fidel Delgado Loria
Gerente de Reservas
Ecopetrol S.A.
Carrera 13 No. 36 - 24
Bogotá, D.C.
Colombia

fidel.delgado@ecopetrol.com.co

Dear Fidel,

**SEC Proved Reserves Statement
for Twenty-Two Fields in which Ecopetrol has an Interest, Colombia
as of December 31, 2024**

Introduction

This Proved reserves statement has been prepared by Gaffney, Cline & Associates (GaffneyCline) and issued on February 19, 2025 at the request of Ecopetrol S.A. (Ecopetrol, or “the Client”), operator, participant operator, and interest participant in 22 fields in the Lower, Middle and Upper Magdalena Valley, Piedemonte and Llanos Orientales and Putumayo Basins, Colombia.

This report is intended for use in conjunction with Ecopetrol’s December 31, 2024 filing obligations with the US Securities and Exchange Commission (SEC).

This report relates specifically and solely to the subject matter as defined in the scope of work in the Proposal for Services and is conditional upon the assumptions described herein. The report must be considered in its entirety and must only be used for the purpose for which it was intended.



Ecopetrol S.A.

www.gaffneycline.com



Summary and Conclusions

On the basis of technical and other information made available to GaffneyCline concerning these property units, GaffneyCline hereby provides the reserves statement in the following Table 1.

**Table 1: Statement of Proved Hydrocarbon Reserves Volumes
Twenty-Two Fields, Colombia
as of December 31, 2024**

Reserves	Reserves Net to Ecopetrol's Interest				
	Oil/Cond. (MBbl)	NGL (MBbl)	Sales Gas (Bscf)	Fuel Gas (Bscf)	Fuel Oil (MBbl)
Developed	287,656	30,263	981	128	9,711
Producing	236,729	23,492	783	107	7,543
Non-Producing	50,928	6,771	198	21	2,168
Undeveloped	119,957	4,156	135	9	5,372
Total Proved	407,614	34,419	1,116	137	15,083

Notes:

- Oil and condensate reserves net to Ecopetrol's interest represent volumes after the deduction of royalties, under the concessions that govern the assets, based on Ecopetrol's working interest.
- Gas and NGL reserves net to Ecopetrol's working interest include gas and NGL royalty volumes that are required to be paid in cash according to Resolutions 877 and 351 from Agencia Nacional de Hidrocarburos (ANH) and the corresponding clarification note from ANH #20146240188522.
- Net oil and sales gas reserves exclude volumes consumed in operations (fuel gas and fuel oil), which are reported separately.
- Fuel gas and fuel oil represents working interest volumes consumed in operations.
- The above Reserves include production:
 - Until the economic limit when contracts are solely operated by Ecopetrol.
 - Beyond the end of the current license period in concession contracts that include an expiry date which are assumed to revert to Ecopetrol as the sole license holder at the expiry of the contract and, based on information provided by Ecopetrol, normally include a 12% increase in the royalty rate at contract expiry.
- Totals may not exactly equal the sum of the individual entries because of rounding.

Hydrocarbon liquid volumes represent crude oil and condensate, natural gasoline, and NGL estimated to be recovered during field separation and plant processing and are reported in thousands (10^3) of stock tank barrels (MBbl). The volumes reported as gas represent expected gas sales and are reported in billions (10^9) of standard cubic feet at standard conditions (BCF). Standard conditions are defined as 14.7 psia and 60°F. The oil and sales gas volumes have been reduced for fuel usage consumed in operations (CiO) and shrinkage because of processing. Royalties due on oil production payable to the State have been deducted from reported net



interest volumes. Royalties due on NGL products, including sales gas, are not deducted, because they are paid in cash.

Gas reserves sales volumes are based on firm and existing gas contracts, or on the reasonable expectation of a contract or on the reasonable expectation that any such existing gas sales contracts will be renewed on similar terms in the future.

The development plan for the proved reserves category in the Rubiales field includes investments beyond the next five years because the field has constraints in water handling capacity which require the scheduling of the entry of the new wells based on spare capacity of the plant. GaffneyCline considers that these facilities constraints are a reasonable justification to extend the investments beyond the five-year limit established by the SEC

The development plan for the proved reserves category in the La Cira Infantas field includes investments for next seven years because the current waterflooding project considers the drilling of new injectors wells and starting the water injection before the drilling of producers in same pattern. GaffneyCline considers that this strategy is a a reasonable justification to extend the investments beyond the five-year limit established by the SEC.

Ecopetrol has advised GaffneyCline that the Proved oil volumes included in this report represent 30.04% of Ecopetrol's total Proved oil reserves and Proved gas volumes included in this report represent 59.24% of Ecopetrol's total Proved gas reserves. The Proved Undeveloped oil volumes included in this report represents 29.81% of Ecopetrol's total Proved Undeveloped oil reserves and Proved Undeveloped gas volumes represent 39.35% of Ecopetrol's total Proved Undeveloped gas reserves. GaffneyCline is not in a position to verify these statements as it was not requested to review Ecopetrol's other oil and gas asse

Descriptions of the fields are included in the technical reports, which have been issued separately.



Reserves Assessment

GaffneyCline’s estimate of reserves was based on data provided by Ecopetrol to GaffneyCline from September 2024 to December 2024. During this audit GaffneyCline used one or more of the following methods assess the reserves: volumetric, performance or analogy, depending on the information available and the stage of development of the reservoir. Reserves volumes for existing wells were based on performance analysis (decline of production and behavior of appropriate fluid ratios). Reserves volumes for undrilled wells were based on established performance of analogous wells. Where appropriate, checks were made using estimates of hydrocarbons in place derived from a volumetric analysis. Production forecasts were first prepared to reasonable technical limits and then truncated by the economic limit.

GaffneyCline performed procedures necessary to enable it to render an opinion on the appropriateness of the methodologies employed, adequacy and quality of the data relied on, depth and thoroughness of the reserves estimation process, classification and categorization of reserves appropriate to the relevant definitions used, and reasonableness of the estimates.

The economic tests for the December 31, 2024 reserves volumes were based on prior twelve-month first-day-of-the-month average reference price for the Brent crude of US\$ 79.69/Bbl, corrected for location and quality. Sales gas and plant product prices were advised by Ecopetrol according to existing contracts and/or regulations. No price escalation has been included, other than as provided for in existing contracts.

Future capital costs for operated and non-operated fields were provided by Ecopetrol.

Recent historical operating expense data were used as the basis for operating cost projections. Neither capital not operating costs were escalated for inflation. GaffneyCline has found that sufficient capital investments and operating expenses have been projected to produce the estimated volumes.

It is GaffneyCline’s opinion that the estimates of total remaining recoverable hydrocarbon liquid and gas volumes as of December 31, 2024 are, in the aggregate, reasonable and the reserves classification and categorization is appropriate and consistent with the definitions for reserves in Part 210 Rule 4-10(a) of Regulation S-X of the US Securities and Exchange Commission, which are provided in Appendix I. The technical qualifications of the person responsible for the reserves statement is presented in Appendix II and a glossary of terms is presented in Appendix III.

GaffneyCline is not aware of any potential changes in regulations applicable to these fields that could affect the ability of Ecopetrol to produce the estimated reserves.



Basis of Opinion

This document reflects GaffneyCline's informed professional judgment based on accepted standards of professional investigation and, as applicable, the data and information provided by the Client, the limited scope of engagement, and the time permitted to conduct the evaluation.

In line with those accepted standards, this document does not in any way constitute or make a guarantee or prediction of results, and no warranty is implied or expressed that actual outcome will conform to the outcomes presented herein. GaffneyCline has not independently verified any information provided by, or at the direction of, the Client, and has accepted the accuracy and completeness of this data. GaffneyCline has no reason to believe that any material facts have been withheld but does not warrant that its inquiries have revealed all of the matters that a more extensive examination might otherwise disclose.

The opinions expressed herein are subject to and fully qualified by the generally accepted uncertainties associated with the interpretation of geoscience and engineering data and do not reflect the totality of circumstances, scenarios and information that could potentially affect decisions made by the report's recipients and/or actual results. The opinions and statements contained in this report are made in good faith and in the belief that such opinions and statements are representative of prevailing physical and economic circumstances.

There are numerous uncertainties inherent in estimating reserves, and in projecting future production, development expenditures, operating expenses and cash flows. Oil and gas reserves assessments must be recognized as a subjective process of estimating subsurface accumulations of oil and gas that cannot be measured in an exact way. Estimates of oil and gas reserves prepared by other parties may differ, perhaps materially, from those contained within this report.

The accuracy of any reserves estimate is a function of the quality of the available data and of engineering and geological interpretation. Results of drilling, testing and production that post-date the preparation of the estimates may justify revisions, some or all of which may be material. Accordingly, reserve estimates are often different from the quantities of oil and gas that are ultimately recovered, and the timing and cost of those volumes that are recovered may vary from that assumed.

GaffneyCline has not undertaken a site visit and inspection because it was not included in the scope of work. As such, GaffneyCline is not in a position to comment on the operations or facilities in place, their appropriateness and condition, or whether they are in compliance with the regulations pertaining to such operations. Further, GaffneyCline is not in a position to comment on any aspect of health, safety, or environment of such operation.

This report has been prepared based on GaffneyCline's understanding of the effects of petroleum legislation and other regulations that currently apply to these properties. However, GaffneyCline is not in a position to attest to property title or rights, conditions of these rights (including environmental and abandonment obligations), or any necessary licenses and consents (including planning permission, financial interest relationships, or encumbrances thereon for any part of the appraised properties).



Definition of Reserves

Reserves are estimated remaining quantities of oil and gas and related substances anticipated to be economically producible, as of a given date, by application of development projects to known accumulations. In addition, there must exist, or there must be a reasonable expectation that there will exist, the legal right to produce, or a revenue interest in, the production, installed means of delivering oil and gas or related substances to market, and all permits and financing required to implement the project.

Reserves are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by development and production status. All categories of reserves volumes quoted herein have been derived within the context of an economic limit test (ELT) assessment (pre-tax and exclusive of accumulated depreciation amounts) prior to any net present value (NPV) analysis.

This report has been prepared based on GaffneyCline's understanding of the effects of petroleum legislation and other regulations that currently apply to these properties.

GaffneyCline is not aware of any carbon pricing impost or GHG emissions related to regulations that are applicable to the evaluation of the assets that are the subject of this report. GaffneyCline has also not included the impact of any potential carbon pricing scheme or regulatory compliance costs for GHG emissions that may be implemented in the future.

Qualifications

In performing this study, GaffneyCline is not aware that any conflict of interest has existed. As an independent consultancy, GaffneyCline is providing impartial technical, commercial, and strategic advice within the energy sector. GaffneyCline's remuneration was not in any way contingent on the contents of this report.

In the preparation of this document, GaffneyCline has maintained, and continues to maintain, a strict independent consultant-client relationship with Ecopetrol. Furthermore, the management and employees of GaffneyCline have no interest in any of the assets evaluated or related with the analysis performed as part of this report. The qualifications of the technical person primarily responsible for overseeing this estimate are provided in Appendix II.

Staff members who prepared this report hold appropriate professional and educational qualifications and have the necessary levels of experience and expertise to perform the work.



Notice

This report was prepared for public disclosure in its entirety by Ecopetrol in filings made with the SEC in accordance with the disclosure requirements set forth in the SEC regulations. Ecopetrol will obtain GaffneyCline’s prior written approval for any other use of any results, statements or opinions expressed to Ecopetrol in this report that are attributed to GaffneyCline.

Yours sincerely,

Gaffney, Cline & Associates

/s/ Fernando Rolla
Project Manager
Fernando Rolla, Senior Advisor

/s/ Rawdon J.H. Seager
Reviewer
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Appendices

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Appendix I

SEC Reserves Definitions



**U.S. SECURITIES AND EXCHANGE COMMISSION (SEC)
MODERNIZATION OF OIL AND GAS REPORTING¹**

Oil and Gas Reserves Definitions and Reporting

(a) Definitions

(1) Acquisition of properties. Costs incurred to purchase, lease or otherwise acquire a property, including costs of lease bonuses and options to purchase or lease properties, the portion of costs applicable to minerals when land including mineral rights is purchased in fee, brokers' fees, recording fees, legal costs, and other costs incurred in acquiring properties.

(2) Analogous reservoir. Analogous reservoirs, as used in resources assessments, have similar rock and fluid properties, reservoir conditions (depth, temperature, and pressure) and drive mechanisms, but are typically at a more advanced stage of development than the reservoir of interest and thus may provide concepts to assist in the interpretation of more limited data and estimation of recovery. When used to support proved reserves, an "analogous reservoir" refers to a reservoir that shares the following characteristics with the reservoir of interest:

- (i) Same geological formation (but not necessarily in pressure communication with the reservoir of interest);
- (ii) Same environment of deposition;
- (iii) Similar geological structure; and
- (iv) Same drive mechanism.

Instruction to paragraph (a)(2): Reservoir properties must, in the aggregate, be no more favorable in the analog than in the reservoir of interest.

(3) Bitumen. Bitumen, sometimes referred to as natural bitumen, is petroleum in a solid or semi- solid state in natural deposits with a viscosity greater than 10,000 centipoise measured at original temperature in the deposit and atmospheric pressure, on a gas free basis. In its natural state it usually contains sulfur, metals, and other non-hydrocarbons.

(4) Condensate. Condensate is a mixture of hydrocarbons that exists in the gaseous phase at original reservoir temperature and pressure, but that, when produced, is in the liquid phase at surface pressure and temperature.

(5) Deterministic estimate. The method of estimating reserves or resources is called deterministic when a single value for each parameter (from the geoscience, engineering, or economic data) in the reserves calculation is used in the reserves estimation procedure.

¹ Extracted from 17 CFR Parts 210, 211, 229, and 249 [Release Nos. 33-8995; 34-59192; FR-78; File No. S7-15-08] RIN 3235-AK00].

(6) Developed oil and gas reserves. Developed oil and gas reserves are reserves of any category that can be expected to be recovered:

- (i) Through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and
- (ii) Through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is by means not involving a well.

(7) Development costs. Costs incurred to obtain access to proved reserves and to provide facilities for extracting, treating, gathering and storing the oil and gas. More specifically, development costs, including depreciation and applicable operating costs of support equipment and facilities and other costs of development activities, are costs incurred to:

- (i) Gain access to and prepare well locations for drilling, including surveying well locations for the purpose of determining specific development drilling sites, clearing ground, draining, road building, and relocating public roads, gas lines, and power lines, to the extent necessary in developing the proved reserves.
- (ii) Drill and equip development wells, development-type stratigraphic test wells, and service wells, including the costs of platforms and of well equipment such as casing, tubing, pumping equipment, and the wellhead assembly.
- (iii) Acquire, construct, and install production facilities such as lease flow lines, separators, treaters, heaters, manifolds, measuring devices, and production storage tanks, natural gas cycling and processing plants, and central utility and waste disposal systems.
- (iv) Provide improved recovery systems.

(8) Development project. A development project is the means by which petroleum resources are brought to the status of economically producible. As examples, the development of a single reservoir or field, an incremental development in a producing field, or the integrated development of a group of several fields and associated facilities with a common ownership may constitute a development project.

(9) Development well. A well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive.

(10) Economically producible. The term economically producible, as it relates to a resource, means a resource which generates revenue that exceeds, or is reasonably expected to exceed, the costs of the operation. The value of the products that generate revenue shall be determined at the terminal point of oil and gas producing activities as defined in paragraph (a)(16) of this section.

(11) Estimated ultimate recovery (EUR). Estimated ultimate recovery is the sum of reserves remaining as of a given date and cumulative production as of that date.

(12) Exploration costs. Costs incurred in identifying areas that may warrant examination and in



examining specific areas that are considered to have prospects of containing oil and gas reserves, including costs of drilling exploratory wells and exploratory-type stratigraphic test wells. Exploration costs may be incurred both before acquiring the related property (sometimes referred to in pail as prospecting costs) and after acquiring the property. Principal types of exploration costs, which include depreciation and applicable operating costs of support equipment and facilities and other costs of exploration activities, are:

- (i) Costs of topographical, geographical and geophysical studies, rights of access to properties to conduct those studies, and salaries and other expenses of geologists, geophysical crews, and others conducting those studies. Collectively, these are sometimes referred to as geological and geophysical or "G&G" costs.
- (ii) Costs of carrying and retaining undeveloped properties, such as delay rentals, ad valorem taxes on properties, legal costs for title defense, and the maintenance of land and lease records.
- (iii) Dry hole contributions and bottom hole contributions.
- (iv) Costs of drilling and equipping exploratory wells.
- (v) Costs of drilling exploratory-type stratigraphic test wells.

(13) Exploratory well. An exploratory well is a well drilled to find a new field or to find a new reservoir in a field previously found to be productive of oil or gas in another reservoir. Generally, an exploratory well is any well that is not a development well, an extension well, a service well, or a stratigraphic test well as those items are defined in this section.

(14) Extension well. An extension well is a well drilled to extend the limits of a known reservoir.

(15) Field. An area consisting of a single reservoir or multiple reservoirs all grouped on or related to the same individual geological structural feature and/or stratigraphic condition. There may be two or more reservoirs in a field which are separated vertically by intervening impervious strata, or laterally by local geologic barriers, or by both. Reservoirs that are associated by being in overlapping or adjacent fields may be treated as a single or common operational field. The geological terms "structural feature" and "stratigraphic condition" are intended to identify localized geological features as opposed to the broader terms of basins, trends, provinces, plays, areas- of-interest, etc.

(16) Oil and gas producing activities.

- (i) Oil and gas producing activities include:
 - (A) The search for crude oil, including condensate and natural gas liquids, or natural gas ("oil and gas") in their natural states and original locations;
 - (B) The acquisition of property rights or properties for the purpose of further exploration or for the purpose of removing the oil or gas from such properties;
 - (C) The construction, drilling, and production activities necessary to retrieve oil and gas from their natural reservoirs, including the acquisition, construction, installation, and maintenance of field gathering and storage systems, such as:



- (1) Lifting the oil and gas to the surface; and
- (2) Gathering, treating, and field processing (as in the case of processing gas to extract liquid hydrocarbons); and
- (D) Extraction of saleable hydrocarbons, in the solid, liquid, or gaseous state, from oil sands, shale, coalbeds, or other nonrenewable natural resources which are intended to be upgraded into synthetic oil or gas, and activities undertaken with a view to such extraction.

Instruction 1 to paragraph (a)(16)(i): The oil and gas production function shall be regarded as ending at a “terminal point”, which is the outlet valve on the lease or field storage tank. If unusual physical or operational circumstances exist, it may be appropriate to regard the terminal point for the production function as:

- a. The first point at which oil, gas, or gas liquids, natural or synthetic, are delivered to a main pipeline, a common carrier, a refinery, or a marine terminal; and
- b. In the case of natural resources that are intended to be upgraded into synthetic oil or gas, if those natural resources are delivered to a purchaser prior to upgrading, the first point at which the natural resources are delivered to a main pipeline, a common carrier, a refinery, a marine terminal, or a facility which upgrades such natural resources into synthetic oil or gas.

Instruction 2 to paragraph (a)(16)(i): For purposes of this paragraph (a)(16), the term saleable hydrocarbons means hydrocarbons that are saleable in the state in which the hydrocarbons are delivered.

- (ii) Oil and gas producing activities do not include:
 - (A) Transporting, refining, or marketing oil and gas;
 - (B) Processing of produced oil, gas or natural resources that can be upgraded into synthetic oil or gas by a registrant that does not have the legal right to produce or a revenue interest in such production;
 - (C) Activities relating to the production of natural resources other than oil, gas, or natural resources from which synthetic oil and gas can be extracted; or
 - (D) Production of geothermal steam.

(17) Possible reserves. Possible reserves are those additional reserves that are less certain to be recovered than probable reserves.

- (i) When deterministic methods are used, the total quantities ultimately recovered from a project have a low probability of exceeding proved plus probable plus possible reserves. When probabilistic methods are used, there should be at least a 10% probability that the total quantities ultimately recovered will equal or exceed the proved plus probable plus possible reserves estimates.
- (ii) Possible reserves may be assigned to areas of a reservoir adjacent to probable reserves where data control and interpretations of available data are progressively



less certain. Frequently, this will be in areas where geoscience and engineering data are unable to define clearly the area and vertical limits of commercial production from the reservoir by a defined project.

- (iii) Possible reserves also include incremental quantities associated with a greater percentage recovery of the hydrocarbons in place than the recovery quantities assumed for probable reserves.
- (iv) The proved plus probable and proved plus probable plus possible reserves estimates must be based on reasonable alternative technical and commercial interpretations within the reservoir or subject project that are clearly documented, including comparisons to results in successful similar projects.
- (v) Possible reserves may be assigned where geoscience and engineering data identify directly adjacent portions of a reservoir within the same accumulation that may be separated from proved areas by faults with displacement less than formation thickness or other geological discontinuities and that have not been penetrated by a wellbore, and the registrant believes that such adjacent portions are in communication with the known (proved) reservoir. Possible reserves may be assigned to areas that are structurally higher or lower than the proved area if these areas are in communication with the proved reservoir.
- (vi) Pursuant to paragraph (a)(22)(iii) of this section, where direct observation has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves should be assigned in the structurally higher portions of the reservoir above the HKO only if the higher contact can be established with reasonable certainty through reliable technology. Portions of the reservoir that do not meet this reasonable certainty criterion may be assigned as probable and possible oil or gas based on reservoir fluid properties and pressure gradient interpretations.

(18) Probable reserves. Probable reserves are those additional reserves that are less certain to be recovered than proved reserves but which, together with proved reserves, are as likely as not to be recovered.

- (i) When deterministic methods are used, it is as likely as not that actual remaining quantities recovered will exceed the sum of estimated proved plus probable reserves. When probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the proved plus probable reserves estimates.
- (ii) Probable reserves may be assigned to areas of a reservoir adjacent to proved reserves where data control or interpretations of available data are less certain, even if the interpreted reservoir continuity of structure or productivity does not meet the reasonable certainty criterion. Probable reserves may be assigned to areas that are structurally higher than the proved area if these areas are in communication with the proved reservoir.



- (iii) Probable reserves estimates also include potential incremental quantities associated with a greater percentage recovery of the hydrocarbons in place than assumed for proved reserves.
- (iv) See also guidelines in paragraphs (a)(17)(iv) and (a)(17)(vi) of this section.

(19) Probabilistic estimate. The method of estimation of reserves or resources is called probabilistic when the full range of values that could reasonably occur for each unknown parameter (from the geoscience and engineering data) is used to generate a full range of possible outcomes and their associated probabilities of occurrence.

(20) Production costs.

- (i) Costs incurred to operate and maintain wells and related equipment and facilities, including depreciation and applicable operating costs of support equipment and facilities and other costs of operating and maintaining those wells and related equipment and facilities, they become part of the cost of oil and gas produced. Examples of production costs (sometimes called lifting costs) are:
 - (A) Costs of labor to operate the wells and related equipment and facilities.
 - (B) Repairs and maintenance.
 - (C) Materials, supplies, and fuel consumed and supplies utilized in operating the wells and related equipment and facilities.
 - (D) Property taxes and insurance applicable to proved properties and wells and related equipment and facilities.
 - (E) Severance taxes.
- (ii) Some support equipment or facilities may serve two or more oil and gas producing activities and may also serve transportation, refining, and marketing activities. To the extent that the support equipment and facilities are used in oil and gas producing activities, their depreciation and applicable operating costs become exploration, development or production costs, as appropriate. Depreciation, depletion, and amortization of capitalized acquisition, exploration, and development costs are not production costs but also become part of the cost of oil and gas produced along with production (lifting) costs identified above.

(21) Proved area. The part of a property to which proved reserves have been specifically attributed.

(22) Proved oil and gas reserves. Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible—from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations—prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be reasonably certain that it will commence the project within a reasonable time.



- (i) The area of the reservoir considered as proved includes:
 - (A) The area identified by drilling and limited by fluid contacts, if any, and
 - (B) Adjacent undrilled portions of the reservoir that can, with reasonable certainty, be judged to be continuous with it and to contain economically producible oil or gas on the basis of available geoscience and engineering data.
- (ii) In the absence of data on fluid contacts, proved quantities in a reservoir are limited by the lowest known hydrocarbons (LKH) as seen in a well penetration unless geoscience, engineering, or performance data and reliable technology establishes a lower contact with reasonable certainty.
- (iii) Where direct observation from well penetrations has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves may be assigned in the structurally higher portions of the reservoir only if geoscience, engineering, or performance data and reliable technology establish the higher contact with reasonable certainty.
- (iv) Reserves which can be produced economically through application of improved recovery techniques (including, but not limited to, fluid injection) are included in the proved classification when:
 - (A) Successful testing by a pilot project in an area of the reservoir with properties no more favorable than in the reservoir as a whole, the operation of an installed program in the reservoir or an analogous reservoir, or other evidence using reliable technology establishes the reasonable certainty of the engineering analysis on which the project or program was based; and
 - (B) The project has been approved for development by all necessary parties and entities, including governmental entities.
- (v) Existing economic conditions include prices and costs at which economic producibility from a reservoir is to be determined. The price shall be the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the- month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions.

(23) Proved properties. Properties with proved reserves.

(24) Reasonable certainty. If deterministic methods are used, reasonable certainty means a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate. A high degree of confidence exists if the quantity is much more likely to be achieved than not, and, as changes due to increased availability of geoscience (geological, geophysical, and geochemical), engineering, and economic data are made to estimated ultimate recovery (EUR) with time, reasonably certain EUR is much more likely to increase or remain constant than to decrease.



(25) Reliable technology. Reliable technology is a grouping of one or more technologies (including computational methods) that has been field tested and has been demonstrated to provide reasonably certain results with consistency and repeatability in the formation being evaluated or in an analogous formation.

(26) Reserves. Reserves are estimated remaining quantities of oil and gas and related substances anticipated to be economically producible, as of a given date, by application of development projects to known accumulations. In addition, there must exist, or there must be a reasonable expectation that there will exist, the legal right to produce or a revenue interest in the production, installed means of delivering oil and gas or related substances to market, and all permits and financing required to implement the project.

Note to paragraph (a)(26): Reserves should not be assigned to adjacent reservoirs isolated by major, potentially sealing, faults until those reservoirs are penetrated and evaluated as economically producible. Reserves should not be assigned to areas that are clearly separated from a known accumulation by a non-productive reservoir (i.e., absence of reservoir, structurally low reservoir, or negative test results). Such areas may contain prospective resources (i.e., potentially recoverable resources from undiscovered accumulations).

(27) Reservoir. A porous and permeable underground formation containing a natural accumulation of producible oil and/or gas that is confined by impermeable rock or water barriers and is individual and separate from other reservoirs.

(28) Resources. Resources are quantities of oil and gas estimated to exist in naturally occurring accumulations. A portion of the resources may be estimated to be recoverable, and another portion may be considered to be unrecoverable. Resources include both discovered and undiscovered accumulations.

(29) Service well. A well drilled or completed for the purpose of supporting production in an existing field. Specific purposes of service wells include gas injection, water injection, steam injection, air injection, salt-water disposal, water supply for injection, observation, or injection for in-situ combustion.

(30) Stratigraphic test well. A stratigraphic test well is a drilling effort, geologically directed, to obtain information pertaining to a specific geologic condition. Such wells customarily are drilled without the intent of being completed for hydrocarbon production. The classification also includes tests identified as core tests and all types of expendable holes related to hydrocarbon exploration. Stratigraphic tests are classified as “exploratory type” if not drilled in a known area or “development type” if drilled in a known area.

(31) Undeveloped oil and gas reserves. Undeveloped oil and gas reserves are reserves of any category that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion.

- (i) Reserves on undrilled acreage shall be limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled,



unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances.

- (ii) Undrilled locations can be classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances, justify a longer time.
- (iii) Under no circumstances shall estimates for undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir, as defined in paragraph (a)(2) of this section, or by other evidence using reliable technology establishing reasonable certainty.

(32) Unproved properties. Properties with no proved reserves.



Ecopetrol S.A.
February 19, 2025

Appendix II

Technical Qualifications of Person Responsible for the Reserves Statement



Ecopetrol S.A.
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The reserves estimate of certain of Ecopetrol's interests prepared by Gaffney, Cline & Associates (GaffneyCline), the results of which are presented in this report, was carried out by engineers and geoscientists under the direction of Fernando Rolla.

Fernando Rolla is a Senior Advisor with GaffneyCline in Argentina and is responsible for preparing reserves audits, certifications and field evaluations and valuations. He was responsible for overseeing the preparation of the reserves estimate of certain Ecopetrol interests.

Mr. Rolla has over 20 years of experience in the international oil and gas industry, with extensive experience in field development and assets evaluation. He is qualified as a Reserves Auditor through having more than 20 years' experience in petroleum evaluation of Reserves. He holds a Master of Science degree in Finance from Universidad Di Tella, Argentina, and a Postgrad in Gas Industry from Universidad Nacional de Buenos Aires, Argentina.

Mr. Rolla is a member in good standing of the Society of Petroleum Engineers (SPE).



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Appendix III

Glossary



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February 19, 2025



%	Percentage
1H05	First half (6 months) of 2005 (example)
2Q06	Second quarter (3 months) of 2006 (example)
2D	Two dimensional
3D	Three dimensional
4D	Four dimensional
1P	Proved Reserves
2P	Proved plus Probable Reserves
3P	Proved plus Probable plus Possible Reserves
ABEX	Abandonment Expenditure
ACQ	Annual Contract Quantity
°API	Degrees API (American Petroleum Institute)
AAPG	American Association of Petroleum Geologists
AVO	Amplitude versus Offset
A\$	Australian Dollars
B	Billion (10 ⁹)
Bbl	Barrels
/Bbl	per barrel
BBbl	Billion Barrels
BHA	Bottom Hole Assembly
BHC	Bottom Hole Compensated
Bscf or Bcf	Billion standard cubic feet
Bscfd or Bcfd	Billion standard cubic feet per day
Bm ³	Billion cubic metres
bcpd	Barrels of condensate per day
BHP	Bottom Hole Pressure
blpd	Barrels of liquid per day
bpd	Barrels per day
boe	Barrels of oil equivalent @ xxx mcf/Bbl
boepd	Barrels of oil equivalent per day @ xxx mcf/Bbl
BOP	Blow Out Preventer
bopd	Barrels oil per day
bwpd	Barrels of water per day
BS&W	Bottom sediment and water
BTU	British Thermal Units

bwpd	Barrels water per day
CBM	Coal Bed Methane
CiO	Consumed in Operations
CO ₂	Carbon Dioxide
CAPEX	Capital Expenditure
CCGT	Combined Cycle Gas Turbine
cm	centimetres
CMM	Coal Mine Methane
CNG	Compressed Natural Gas
Cp	Centipoise (a measure of viscosity)
CSG	Coal Seam Gas
CT	Corporation Tax
D1BM	Design 1 Build Many
DCQ	Daily Contract Quantity
Deg C	Degrees Celsius
Deg F	Degrees Fahrenheit
DHI	Direct Hydrocarbon Indicator
DLIS	Digital Log Interchange Standard
DST	Drill Stem Test
DWT	Dead-weight ton
E&A	Exploration & Appraisal
E&P	Exploration and Production
EBIT	Earnings before Interest and Tax
EBITDA	Earnings before interest, tax, depreciation and amortisation
ECS	Elemental Capture Spectroscopy
EI	Entitlement Interest
EIA	Environmental Impact Assessment
ELT	Economic Limit Test
EMV	Expected Monetary Value
EOR	Enhanced Oil Recovery
EUR	Estimated Ultimate Recovery
FDP	Field Development Plan
FEED	Front End Engineering and Design
FPSO	Floating Production Storage and Offloading
FSO	Floating Storage and Offloading
FWL	Free Water Level
ft	Foot/feet



Fx	Foreign Exchange Rate
g	gram
g/cc	grams per cubic centimetre
gal	gallon
gal/d	gallons per day
G&A	General and Administrative costs
GBP	Pounds Sterling
GCoS	Geological Chance of Success
GDT	Gas Down to
GIIP	Gas Initially In Place
GJ	Gigajoules (one billion Joules)
GOC	Gas Oil Contact
GOR	Gas Oil Ratio
GRV	Gross Rock Volumes
GTL	Gas to Liquids
GWC	Gas water contact
HDT	Hydrocarbons Down to
HSE	Health, Safety and Environment
HSFO	High Sulphur Fuel Oil
HUT	Hydrocarbons up to
H ₂ S	Hydrogen Sulphide
IOR	Improved Oil Recovery
IPP	Independent Power Producer
IRR	Internal Rate of Return
J	Joule (Metric measurement of energy) 1 kilojoule = 0.9478 BTU)
k	Permeability
KB	Kelly Bushing
KJ	Kilojoules (one Thousand Joules)
kl	Kilolitres
km	Kilometres
km ²	Square kilometres
kPa	Thousands of Pascals (measurement of pressure)
KW	Kilowatt
KWh	Kilowatt hour
LAS	Log ASCII Standard
LKG	Lowest Known Gas
LKH	Lowest Known Hydrocarbons
LKO	Lowest Known Oil
LNG	Liquefied Natural Gas
LoF	Life of Field

LPG	Liquefied Petroleum Gas
LTI	Lost Time Injury
LWD	Logging while drilling
m	Metres
M	Thousand
m ³	Cubic metres
Mcf or Mscf	Thousand standard cubic feet
MCM	Management Committee Meeting
MMcf or MMscf	Million standard cubic feet
m ³ /d	Cubic metres per day
mD	Measure of Permeability in millidarcies
MD	Measured Depth
MDT	Modular Dynamic Tester
Mean	Arithmetic average of a set of numbers
Median	Middle value in a set of values
MFT	Multi Formation Tester
mg/l	milligrams per litre
MJ	Megajoules (One Million Joules)
Mm ³	Thousand Cubic metres
Mm ³ /d	Thousand Cubic metres per day
MM	Million
MMm ³	Million Cubic metres
MMm ³ /d	Million Cubic metres per day
MMBbl	Millions of barrels
MMBTU	Millions of British Thermal Units
Mode	Value that exists most frequently in a set of values = most likely
Mscfd	Thousand standard cubic feet per day
MMscfd	Million standard cubic feet per day
MW	Megawatt
MWD	Measuring While Drilling
MWh	Megawatt hour
mya	Million years ago
NGL	Natural Gas Liquids
N ₂	Nitrogen
NTG	Net/Gross Ratio
NPV	Net Present Value
OBM	Oil Based Mud
OCM	Operating Committee Meeting
ODT	Oil-Down-To

OGIP	Original Gas in Place
OIIP	Oil Initially In Place
OOIP	Original Oil in Place
OPEX	Operating Expenditure
OWC	Oil Water Contact
p.a.	Per annum
Pa	Pascals (metric measurement of pressure)
P&A	Plugged and Abandoned
PDP	Proved Developed Producing
Phie	effective porosity
PI	Productivity Index
PIIP	Petroleum Initially In Place
PJ	Petajoules (10 ¹⁵ Joules)
PSDM	Post Stack Depth Migration
psi	Pounds per square inch
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
PUD	Proved Undeveloped
PVT	Pressure, Volume and Temperature
P10	10% Probability
P50	50% Probability
P90	90% Probability
RF	Recovery factor
RFT	Repeat Formation Tester
RT	Rotary Table
R/P	Reserve to Production
R _w	Resistivity of water
SCAL	Special core analysis
cf or scf	Standard Cubic Feet
cf/d or scf/d	Standard Cubic Feet per day
scf/ton	Standard cubic foot per ton
SL	Straight line (for depreciation)
s _o	Oil Saturation
SPM	Single Point Mooring
SPE	Society of Petroleum Engineers
SPEE	Society of Petroleum Evaluation Engineers
SPS	Subsea Production System
SS	Subsea
stb	Stock tank barrel
STOIIP	Stock tank oil initially in place

Swi	irreducible water saturation
s _w	Water Saturation
T	Tonnes
TD	Total Depth
Te	Tonnes equivalent
THP	Tubing Head Pressure
TJ	Terajoules (10 ¹² Joules)
Tscf or Tcf	Trillion standard cubic feet
TCM	Technical Committee Meeting
TOC	Total Organic Carbon
TOP	Take or Pay
Tpd	Tonnes per day
TVD	True Vertical Depth
TVDss	True Vertical Depth Subsea
UFR	Umbilical Flow Lines and Risers
USGS	United States Geological Survey
US\$	United States dollar
VLCC	Very Large Crude Carrier
Vsh	shale volume
VSP	Vertical Seismic Profiling
WC	Water Cut
WI	Working Interest
WPC	World Petroleum Council
WTI	West Texas Intermediate
wt%	Weight percent

