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D3 Energy Limited

Update Report

Disruption drives consolidation…is D3E a target?

Energy

D3 Energy Limited (ASX:D3E) continues to represent a compelling investment case as a leveraged play on natural gas and helium projects in South Africa and Australia, perhaps increasingly so on the current supply crisis. The association of natural gas with globally unmatched helium concentrations gives the company a material point of differentiation versus its listed upstream peers. Industry forecasts are quite bearish with respect to the restart of Qatar supply in particular, suggesting a three-to-five-year period before supply-demand rebalances to pre-crisis levels which doesn't account for any demand growth. With D3E continuing to work through its Production Right Application (PRA) to achieve commercial resolution and reach and FID by end-2026, corporate interest either through merger of partnering activity is not an unrealistic scenario in our view. Planned seismic and drilling campaigns could deliver a material increase in certified reserves and resources. As the gas resource is biogenic in nature and recharges, the upside case could be considered as somewhat 'open-ended' on gas reserves, per well recoveries and valuation in practical terms. Of critical importance is the development plan and defined pathway to first gas. Achieving commercial definition in under two years from listing would represent material outperformance compared to peers. We believe D3 Energy is a niche opportunity in the global energy landscape by tapping into overlooked helium and gas plays that could be ready for project sanction by end-2026.

Business model

D3 Energy is a leveraged play on the natural gas supply growth and energy self-sufficiency strategy of South Africa complemented by world-class helium concentrations of up to 5%. The current crisis affecting global helium supply highlights the investment proposition around D3E **which we consider to hold the most advanced primary helium project in Africa** and positioned strongly as a **mid-term supply entrant** with genuine geological and regulatory progress. The company could be in a position to reach a project sanction by end-2026 subject to further success case drilling and FEED studies with well supported economics in an investment friendly fiscal environment, with very low drilling costs and representing a globally significant opportunity in a supply-constrained, rising commodity price industry. Successful FEED results would definitively establish commercial proof-of-concept and provide a platform for sequential (and potentially transformational) development to unlock the remaining tenement holdings.

The big picture is changing and conditions are ripe for consolidation

Supply and pricing disruptions in the upstream energy industry generally triggers sector consolidation or at least the inflow of new capital. We suggest a scenario where a South African jurisdiction could become of increasing interest to off-takers seeking risk diversification is possible and within that framework, see D3E as a potentially attractive corporate opportunity, with material project derisking that could be delivered through the end of 2026.

NAV is downgraded on the placement to $2.05/share

The recently successful equity capital raising makes the company well financed to deliver activity thought to a FID point. On issued capital dilution, we reset our NAV range to **$1.31–2.54/share with a mid-point of $2.05 (-10%),** previously $1.44-2.28-2.83/share**.** We maintain our development outcomes benchmarked to peer-group reserves and Lassonde Curve metrics, noting that **the production case is heading towards project approval validation over the next 12+ months where the commercial potential should be strongly defined** and risk weightings transfer to construction and commissioning. The share price currently represents a market discount of ~82% to our mid-point valuation.

6 May 2026

Share Details

ASX code	D3E
Share price (5-May)	$0.37
Market capitalisation	$56M
Shares on issue	151M
Cash (31-March)	~$8M
Free float	~32%
Avg daily volume (12-mths)	0.152M

Share Performance (12 months)

Upside Case

- Further successful drilling and testing to materially extend the gas reserves area and helium concentrations.
- Granting of the PRA and rapid progress to project sanction.
- Continuing commodity prices rise above expectation.

Downside Case

- Future well results disappoint and point to more complex geology…complexity means cost.
- Delays in the regulatory process push back nominal timing.
- Analogue production plant under-performs.

Board of Directors

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The Helium Landscape Is Evolving

A prolonged timeline to restore supply balance is being projected which by definition suggests a stronger-for-longer scenario for helium pricing, particularly given demand appears to remain constant and there is no product substitutability. We suspect that even should Qatar (Ras Laffan) be able to restore helium supply at the shorter end of the projected three-to-five-year time frame, the market may have already suffered irreparable geopolitical damage for helium buyers to be comfortable with the supply status quo. It would be an interesting point of debate, but we suggest jurisdictional diversity and stability could become a material selling point and eyes may look towards South Africa as a realistic option even if only for supply at the margin. Could South Africa provide a faster path to market than alternatives? We have previously postulated[A] that current events can be a catalyst for the acceleration of the development of alternate supply sources and we believe South Africa offers a better-defined path to bring new gas to market in that it is "…already producing helium (Virginia Gas Project), with proven and favourable geology, at least a minimum of established infrastructure and a mature regulatory framework." Interestingly, the shock to the supply system has historically been a catalyst for upstream consolidation and we see the same drivers emerging in the helium space but this time with few genuine alternatives to start or grow supply within the window. <u>We see D3 Energy Limited (ASX:D3E) as presenting a compelling investment case for new gas production with the potential to deliver material re-rating events through 2026</u> on the anticipated granting of its Production Right Application and completion of FEED. Although the market will very likely be dominated by existing production assets, new supply provides, even if commencing at a small scale, the requisite diversification and natural hedge unavailable under current industry characteristics. This should be the time for markets and industry to focus on next-generation supply options, which will need capital and economic support (partnering and / or offtake agreements. The 'renewing / recharging' nature of the helium province in South Africa and for D3E in particular, suggests the value upside could potentially be considered as "open-ended". The company is intending to return to the field for further geophysics in support of a drilling campaign from mid-year. Importantly, results from the campaign should better define FEED results, particularly through production rates, likely upgrading of reserve and resource attributions and advancement of gas sales.

The case for D3E as a consolidation target

We consider D3E to hold the most advanced greenfield primary helium project in Africa which positions it as a mid-term supply entrant with genuine geological and regulatory progress.

High grade helium.-	Running up to 5%, which is rare in a global context. High-grade helium translates to lower operating costs and simpler processing. Biogenic regeneration – the resource 'renews' with the asymptotic rate to be determined.
Certified resources with potentially material upgrades on further appraisal drilling this year.	
Production right application submitted.	…provides a credible path to first production before 2030. Limited scale (1–3 mcm pa initially), whilst small globally can be considered **material in a deficit market.**
Lassonde value curve status: resource phase to development[A]	Potential for material value creation through commercial definition. Sits in the 'value creation sweet spot'.
Key upcoming derisking events.	Approval of Production Right PR016. Independent reserve upgrade (2P/3P). Binding offtake agreements with industrial gas majors. FID with definition of economic pathway – stand-alone or shared facilities

D3E is currently working through its production path strategy (explorer to producer) and would likely be reviewing its development model options as **an independent development, a co-operative commercial arrangement** which could entail a tolling fee or third-party gas sales on an ex-field gas basis or a **merger / joint venture style integration.**

We see the logic of D3E as a consolidation candidate and choose to keep the analyses at a high level, rather than focus on specific on third parties which would potentially represent a highly speculative analysis and imply interest that perhaps does not exist.

Our analysis is naturally D3E centric. Philosophically, joint or shared development, or corporate merger / joint venture needs to come from a place of mutual benefit or be driven by say, a gas buyer which sees merit in 'owning the molecules' although that can be achieved by locking it all up under a Gas Sales Agreement (GSA) as an alternative.

Tolling gas through an alternative facility (the Virginia Plant or a 'new build') or selling well head gas as third-party supply both have merit in terms of early commercialisation and cashflow on a capex-lite basis.

However, we see the beneficial returns as too weighted towards the facility owner, with gas access perhaps at risk as 'swing' production through the plant (say Virginia facilities) with the potential to be bumped for equity gas.

Without specific economic and capital data, we can only qualitatively suggest the tolling option could deliver greater returns simply through the avoidance of plant capex and opex, but the margin 'above' would depend on the skew on tolling fees and D3E being able to align its product generation with field output.

On an ex-field gas sales basis**,** D3E would simply be selling 'a raw gas stream'. Although this could be profitable after accounting for capex, financing and operating savings, the company would not capture any processing premium and in broad terms would likely be the 'low-value' option, given the excess returns are intrinsic in the helium content.

As a short-term revenue generating option whilst concurrently pursuing an independent development project, perhaps this scheme would have some merit, but is likely to limited in scope and returns as we see it.

If local industry behaviour (Australian domestic gas industry) on these types of agreements can be considered as the norm, then often the tolling fee is priced at a disproportionately high 'creaming' level…high enough to benefit the owner-operator, but low enough to make stand-alone options economically marginal at best.

D3E could become a feedstock supplier with reduced margin (transferred to the infrastructure owner).

A merger or joint development appears to make the most commercial sense with obvious high capital and operating benefits through the potential for each party to focus on programmes aligned with the respective operational strengths or development standing.

Being positioned at different points along the value chain could become very advantageous in a combined sense.

In combination the companies could potentially form a **vertically integrated helium producer, where the whole could be greater than the sum of the parts.**

In merger terms the obvious candidate would be ASP Isotopes (NASDAQ:ASPI)] given the commonality of operations and being at the two distinct ends of the value chain, D3E in the field and ASPI with an operating facility and expansion plans.

ASPI has also demonstrated its acquisitive nature, putting a stake in the ground on South African He/LNG through its takeover of Renegen (completed 7 January, 2026).

We can only surmise the nature of any discussions between the parties should they occur as ASPI appears to be in an advantageous position, looking at brownfields growth versus a greenfields build.

Could / should D3E be viewed as an investment opportunity for downstream parties – gas buyers?

At a high level, that's a definitive yes from us.

One of the greatest missed opportunities within the Australian gas supply squeeze thematic, has been for gas buyers to migrate into upstream gas ownership, partly to secure product (equity gas) and as a natural hedge against rising prices where forward markets don't exist. Why can't that apply to the helium users?

The benefits for D3E could include:

- Retaining leverage / control in an integrated project;
- Better financing profile – a joint venture entity is potentially more bankable, better for project finance, better for long-term contracts with security of supply pricing premiums;
- Arms-length project validation;
- Offsetting capital /financing requirements; and
- Leveraged access into a greater pool of potential buyers.

The benefits for a partner could include: -

- Guaranteed supply - direct or optioned over all production;
- A multiplier effect whereby the incoming partner could hold a minority direct equity interest to achieve greater product control; and
- A natural hedge not just through He ownership, but potentially on natural gas sales.

Dealing as a joint venture would not preclude any further sell-down of interests or any future corporate merger appeal…in fact, securing a downstream partner may make D3E more attractive, should market mis-pricing persist.

We note that quantifying any benefits that may flow to D3E is difficult from the perspective of the early-stage nature of the company's respective projects and scarcity of publicly available capex information (actual and forecast).

Any assumptions and estimates we report should be considered within the context of extrapolating from a restricted data set based on the ASPI (Renegen) Virginia Processing Plant and associated infrastructure, adjusted for inflation and should be considered as subjective and indicative only.

Global helium production does need new pathways, so can history repeat?

Recent history in the energy sector demonstrates that supply/pricing disruption results in sector consolidation. Assuming history repeats, then we recognise the current helium landscape appears strongly favourable for potential aggregation. We suggest in this regard that D3 Energy looks particularly attractive as an early-stage opportunity offering geographic and political diversification, with the potentially 'open-ended' helium potential and a de-risked production analogue operating in the same time and space.

The current Middle East (ME) crisis has exacerbated the helium supply squeeze on an already existing tight market, with projections on the return to balance ranging out to 2031.

There is a window for smaller companies to take advantage of the increasing need for diversification to stable ex-ME, ex-Russia projects, although scale and timing factors remain the commercial constraints and most significant risk to value creation.

The logical extension of the market issues is for companies with complimentary assets/projects or ahead of the operational curve to explore potential synergy benefits on a consolidated basis.

We hold to our previously published premise, that South Africa appears to be one of the most credible emerging African jurisdictions for helium supply, with near-term, scalable, commercially proven helium where two projects are progressing, unsurprisingly with juxtaposed areas of interest, albeit currently at an early stage.

In that regard, D3E has an operating advantage in the field (we see the company leading in terms of asset quality and geological understanding) and making significant progress towards a greenfield production outcome perhaps mirroring the adjacent ASPI operations. ASPI holds an existing plant in production and has outlined material growth ambitions to provide the commercial analogues both on a regulatory and operational level.

We note that the recent periods of industry consolidation have featured 'mega-mergers' of global majors through the oil price collapse over 2014-2016 and asset-driven acquisitions of smaller companies by 'the majors' in the scramble for Australian coal seam gas (CSG) assets around 2008-2014 on LNG supply shortages and rising prices.

The crude oil market collapsed from roughly US$3.3–3.6 Tr in 2014 to approximately US$1.2–1.5 Tr 2016 (Mb pd_{av} x \$ pb_{av} x 365 days). Similarly, the LNG market during the 2008–2014 period was approximately US$150 Bn rising to US$240 Bn per year depending on spot versus contract exposure.

The common feature of these aggregation periods was the need for scale.

Although in absolute terms the helium industry does not have the same global scale either in current production or defined reserves potential, demand growth driven by critical industry end users and (most certainly) the politically fragile nature of supply, could fuel the desire for new, diversified and stable sources of production.

High-value buyers are likely to seek supply diversification and (relative) scale becomes attractive at a macro level.

At the corporate level, consolidation can shorten the pathway and timeline to production/production growth, if for no other reason than financing which is always a critical and limiting factor for smaller companies given the risks of material capital dilution through equity financing.

Within the context of a major supply crisis, new developments and geographic diversification are important.

In an industry with **a multi-year structural deficit, non-substitutability and a supply response that can only come from existing facilities or genuinely de-risked new entrants,** smaller companies can be critically important…not by competing against the dominant suppliers (Qatar, Russia, US), but by slotting into the gaps the majors cannot fill.

This has been a key component of the operating premise of the LNG industry with smaller production projects able to fill in the 'demand wedges' and short-term gaps that result from the stepped nature of supply additions.

We suggest the helium industry today is contending with a massive supply shock exacerbating an intrinsic structural deficit and fragmented supply base.

The investment story for smaller helium companies

Smaller companies matter in a market where the supply deficit is real, persistent and not fixable by the big players alone.

The macro story is relatively simple. The helium market is in a three-five+ year structural deficit that cannot be resolved by the large producers in isolation, **that can manifest a window of exceptional pricing power**.

The world is estimated to currently be short ~70 mcm pa of helium after the Qatar outage, which has magnified the structural tightness of a market that was (is) already tight **with no redundancy or material spare capacity.**

Helium demand is forecast to grow significantly, is non-substitutable (MRI, semi-conductors, aerospace, quantum, fibre optics) and new large-scale supply (Qatar rebuild, Amur stability) is historically slow to deliver, potentially politically compromised and uncertain.

We suggest this confluence of events **supports a rare commodity window, where (super) pricing can persist**, buyers begin to prioritise security of supply (lower risk) over price even if only for marginal volumes and smaller, new projects can secure premium long-term contracts.

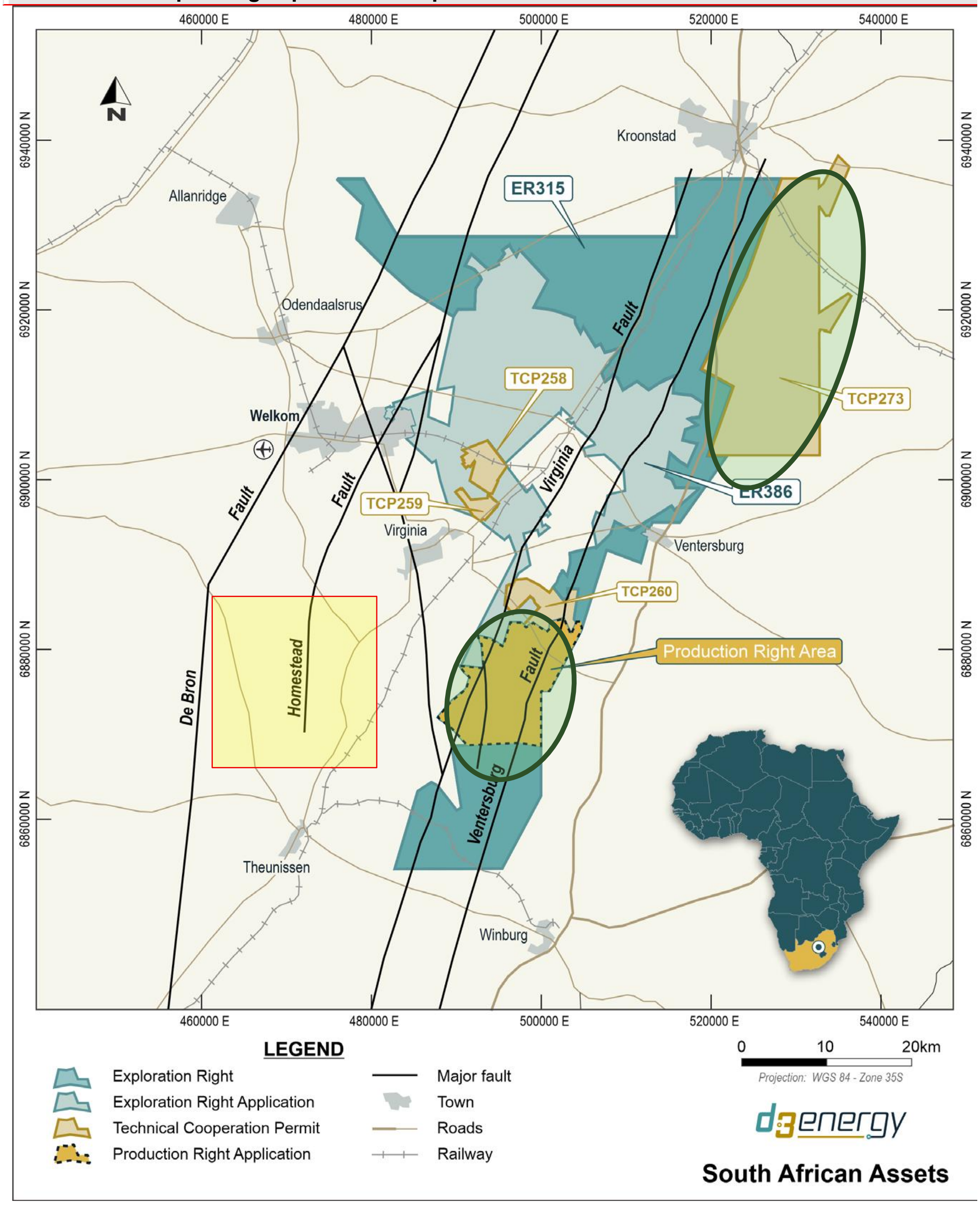
Smaller companies with credible, near-term or high-grade projects can become disproportionately valuable because they can deliver incremental supply into a market where every molecule matters.

The current major producers (Qatar, Russia, US) are playing catch-up with significant capital expenditures just to return to nameplate (before growth) and need to contend with multi-year rebuilds, geopolitical constraints, and capital allocation competition, with no incentive to oversupply.

The juniors can offer 'speed', high-grades and scalable primary helium, new basin optionality, smaller capex based modular growth and strategic diversification value.

In a deficit market, small volumes matter…1-3 mcm pa from a junior is meaningful when the world is short 70 mcm pa.

Exhibit 1: An expanding exploration footprint



Source: Company data, Approximate location of the ASP Isotopes owned Virginia Gas Field and plant

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Quarterly highlights for period ending 30-Apr[1]…running ahead of the plan

Post the successful placement, D3E is now well financed to deliver its planned drilling campaign and materially progress FEED studies. In combination with the increasingly supportive industry environment underpinning stronger-for-longer helium pricing and what may end up being a prolonged supply squeeze, D3E could find itself in a strong position by the end of 2026. The success case would see the company exit the year with increased reserves, higher confidence on field deliverability and a defined (preferred) development option. We see the supply issues as suggestive of increasing operational and sovereign risk, with the potential to generate significant change in the makeup of the industry through partnering or merger outcomes…in a tight market 'any supply is important' and new projects provide financing and acquisition potential.

Exhibit 2: Cashed up for drilling and FEED…there's a significant upside to deliver through 2026.

Operations	
South Africa **ER315 continues to progress** Building the tenement footprint is strategically imperative for defining the optimal development option. **Refer Exhibit 1**	The South African projects continued to progress with: • Acceptance of multiple Exploration Right Applications. • Award of a new Technical Co-operation Permit (TCP 273) immediately adjacent to the current operating area[B]. TCP 273 increases the acreage position to 478,699 acres and lies along the critical and prospective structural trends underpinning the reserves and resources included for the initial PR application. The TCP has been granted for one year with a work commitment of geological and geophysical studies. D3E holds the right to convert the TCP to an Exploration Right (ER) permit after 12 months. The permit provides low-cost exploration optionality…essentially a 12 month 'free-look'. At ER 315, the company is well progressed towards the commencment of its planned drilling campaign and acquition of seismic.
South Australia **PELs -121 and -122**	The farmout process continued to advance with the company seeking a partner commitment for the drilling of the Hydrohelix prospect. During the quarter, the company completed the acquisition of the tenements, in part through the issue of 5m ordinary shares (escrowed for 12 months) to the vendors for 100% of the shares in Unleash Energy Pty Ltd at $0.10/share. Current activity is focussing on the planning for seismic acquisition and further technical evaluation.
Corporate and regulatory	
Continuing to tracking under budget on the Prospectus estimates…**that's a good outcome.**	Less than expected outgoings on lower driling capex and stronger production rates allowing for "…accelerated lodgement of the PRA with less wells than previously planned". Companies in a pre-development / pre-cash-flow position will always be subject to financing to deliver required field works and front-end evaluation studies.

Use of funds ($m) – to 31-March	**As per IPO Prospectus**	**Actual**	**Variance (under)**
Exploration and feasibility costs on D3 Project	(7.0)	(5.2)	(1.7)
South Africa Exploration Right Applications (ERA 341, TCPs -235 / 240)	(0.4)	(0.1)	(0.3)
New project generation and acquisition	(1.0)	(0.4)	(0.6)
Offer expenses, admin and working capital	(2.5)	(3.9)	1.4
	(10.9)	**(9.6)**	**(1.3)**

A successful equity capital raise lifts the cash balance to $8.1m (31-March)	With the completion of the recent $6.12m equity placement raising the compny appears adequately funded to complete planned drilling operation in South Africa, progress through FEED activity and accelerate activity related to a South Australian farmout for the eventual drilling of the Hydrohelix Pprospect. *FEED activity is looking to define the development concept, advance gas sales opportunities and underpin (and upgrade?) current reserves and contingent resource certifications.*

Period ending (A$ 000s)	**30-06-2025**	**30-09-2025**	**31-12-2025**	**31-03-2026**
Opening cash	6,281	5,268	4,130	3,555
Administration	(598)	(658)	(866)	(698)
Exploration and evaluation	(406)	(487)	(615)	(659)
Closing cash	**5,268**	**4,130**	**3,533**	**8,095**

Source: Company data; *RaaS commentary.* All currencies are Australian dollars unless specifically noted

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The NAV Premium Reflects The Success Case Upside Potential

We have adjusted our valuation range based on the capital base dilution from the recent capital raise placement[2].

Post the placement our valuation adjusts to a range of $1.31–2.54/share with a mid-point of $2.05 (-10%) but would highlight the potential de-risking potential to come, including drilling in South Africa and the potential for reserves upgrades, delivery of FEED potentially culminating in the definition of the preferred development strategy, securing of a farm-out on the South Australian project (drilling Hydrohelix) and perhaps, initiation of a partnering deal in South Africa, the subject of this update.

We apply Lassonde Valuation Curve theory[A] as a broad benchmarking tool to value creation and highlight the 'value' uplift possible on a phased and aggregate basis as a company travels the path from "concept to production and cash-flow".

We caution that these estimates are indicative only and success-case progress to the next stage is not guaranteed. We also highlight that reflection of the increased value into share price upside is very much dependent on the financing mechanisms.

Exhibit 3: Post the capital raise, the NAV remains at a material premium to the share price

	Pr	Risked range (A$m) Low	Mid	High	
PRA	75%	$32	$99	$131	'P' reserves although small and nominally pre-commercial. The reserves represent only ~10% of ER 315.
ER 315					
Contingent Resources	30%	$143	$183	$219	Based on a risk-weighted value multiplier assuming conversion of 'C' to 'P' and a commercial outcome.
Other assets		$20	$25	$30	Nominal only - includes permits (ex-ER 315), technical study areas and South Australian holdings.
		$195	**$307**	**$379**	
Net cash/(debt)			$6		
Corporate			($3)		
TOTAL		**$198**	**$310**	**$383**	
Ordinary shares (m)	151	$1.31	$2.05	$2.54	

Source: RaaS analysis. Risked ranges based on discretionary RaaS adjustments

The company has successfully completed capital raise through the issue of 17m new shares at $0.36 via a placement to *"…new and existing sophisticated and professional investors"*. As noted, this *"…marks the first capital raising undertaken by D3 Energy since listing on the ASX in May 2024".*

The raise proceeds are intended to support the company's growth initiatives, particularly related to commercialisation (FEED) studies and activities over the next 12 months.

Works include but will not be limited to:

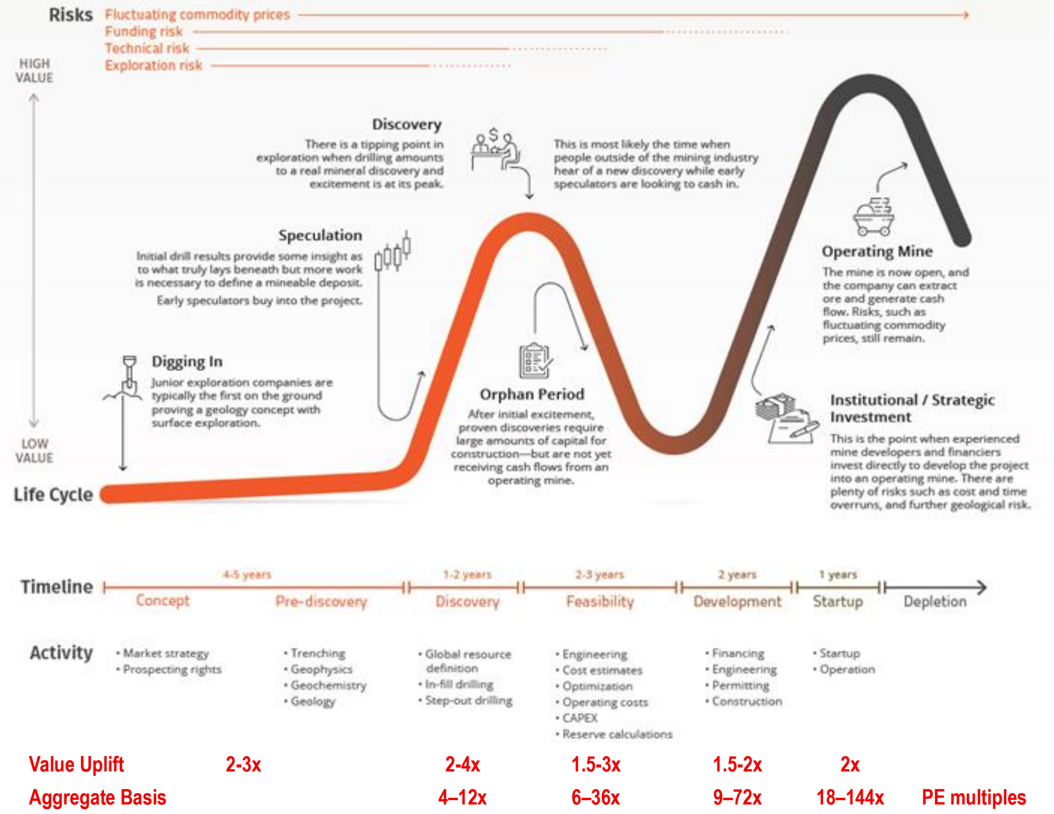
- Commencement and completion of a new appraisal drilling campaign in South Africa, aiming to underpin reserves growth and confirm deliverability;
- Progression the current FEED studies seeking to define the optimal commercialisation pathway for helium and natural gas production and sales, supporting a Final investment Decision; and
- Acquisition of seismic across the Arckaringa Basin permits in South Australia.

The capital raise was not wholly unexpected given smaller resource companies with no existing cash-flow from operations are mostly tied to financing through equity capital markets. We would note that since listing, the company has pretty much delivered its field outcomes as outlined in its 'uses of funds', at costs well under budget[1].

What is the Lassonde Curve (LC) telling us about D3E?

Assuming the current capitalisation of the company ($63m at 42cps as at 1-May) represent the 'value' of the company, at least on a market adjusted basis, then that represents a c.3x uplift in value from listing ($22m at 20cps as at IPO on 9-May-2024)…and that broadly accords with the indicative LC uplift moving into the current Discovery-Feasibility stages.

Exhibit 4: 'The lifecycle of a mineral discovery' – indicative success case upside



Source: Visualizing the Life Cycle of a Mineral Discovery - Visual Capitalist
We caution that the timeline as denoted is indicative only, with D3E for example in a Discovery to Feasibility phase less than two years from listing.

Our valuation is based on a risked (discounted) success-case outcome with the risk weightings discretionary and reflecting the commercial timeline and project definition of the reserves / resources base as we see it.

We are not advocating our NAV as representing a 12-month price target but as the intrinsic value of the asset base assuming progress along a commercialisation pathway.

Our carrying 'asset value' as noted is ~$300mn, back-solving to a c.15x uplift from the capitalisation at listing. On the LC as per **Exhibit 4** and fitting within the aggregate range (6-36x) to the end of the Feasibility stage.

Unwinding our risk overlays can materially improve the valuation success case and 2026 field activity has the potential to deliver further progress to the point where the **basis of valuation can shift from a pre-development, weighted gas-in-ground model, to a defined project NPV extrapolated through the bankable 2P gas reserves where value becomes a probability equation.**

For emerging minerals companies (helium, lithium, rare earths, graphite, hydrogen-adjacent gases), LC benchmarking can act as a guide to what investors would need to see in terms of derisking events.

The model sets an intuitive framework noting value accretion and indicative market pricing using the psychology of investor risk appetite mapped onto the technical milestones of a resource project. It's not geology, it's not finance, it doesn't predict anything other than directionality with broad nominal value uplift ranges at each stage.

For emerging minerals companies (helium, lithium, rare earths, graphite, hydrogen-adjacent gases), it can at least be a guide as to what investors need to see in terms of derisking events.

We reiterate commentary from our recent update[A]:

"Assigning values to early-stage volumes is subject to potentially material change on field and engineering results, with D3E holding alternative pathways to first gas sales and the unique nature of gas estimates by virtue of the ***biogenic nature of the gas resource (recharge) which likely understates the gas potential as measured.***

The rechargeable nature of the gas generation provides upside to any 'spot' analysis, subject to the determination of the asymptotic production level of wells – the rate at which production equals recharge.

Importantly, the valuation range is not static *and is subject to material change both positive and negative through the remaining development and commissioning, and growth processes.*

Given the notional size of the acreage and resource base, the rolling NAV ***could perhaps be considered as somewhat open-ended and likely to continue to lead the share price****."*

Exhibit 5: Initial gas reserves / resources – we expect 'P' volumes to grow in 2026

	Reserves			Contingent Resources		
Bcf	1P	2P	3P	1C	2C	3C
Gross gas	7.21	14.43	22.97	329	533	835
Gas composition						
Net helium (He)	0.353	0.706	1.124	13	22	34
Assumed He conc.		*5.6%*			*4.1%*	
Net methane (C1)	5.45	10.91	17.36	286	464	727
Assumed C1 conc		*86.5%*			*86.7%*	

Source: Company data

Appendix - A Walk On The Wild 'Macro' Side

The global helium market is in an acute supply-shortage phase, driven primarily by the shutdown of Qatar's Ras Laffan complex which pushed the market from "tight to crisis" by removing some 30+% of global supply, exacerbating an existing structural deficit with little to no short-term replacement capacity.

Global supply is concentrated with the US, Qatar, Russia, and Algeria accounting for ***>90%*** of world production lending a particular aspect of structural fragility to the supply landscape resulting in magnified global consequences from any outage.

Russia's Amur plant is ramping, but sanctions and logistics limit any ability to offset Qatar's loss.

Algerian output is stable but flat, with no spare capacity to compensate.

Helium supply is heavily dependent on LNG plants with 80% of global production tied to particular LNG operations. When LNG trains shut down for whatever reason, helium supply can be significantly impacted. Supply chain fragility is "…amplified by **cryogenic logistics bottlenecks** and the inability / intrinsic difficulty to store helium "over the long-term.

Demand remains strong, inelastic and growing

It appears demand across all major sectors (healthcare, semi-conductors, aerospace, and electronics), remains structurally strong and we suggest largely price-insensitive.

Healthcare (MRI) provides a stable, non-deferrable baseline.

Semi-conductor manufacturing continues expanding globally, increasing helium intensity.

Aerospace and space launch require high-purity helium for pressurisation and cryogenic operations.

Electronics and fibre-optics add incremental growth.

Demand is described as **"essential and irreplaceable"**, with no viable substitutes for critical applications.

Pricing: Firm to bullish

Early 2026 pricing is "…**elevated and supply-sensitive"**, showing "…**minimal regional variation …** indicating a globally synchronised shortage reflecting constrained production and strong industrial demand."

The short-term outlook has been described as **bullish.** However, we suspect with material uncertainty tied to Qatar's restart timeline and continuing geopolitical risk, pricing should likely reflect a 'stronger-for-longer' overlay.

We would add though that price forecasting is speculative without a clear view of *who* can actually bring new molecules to market and *when*.

Global Helium Supply Trends in 2026: Market Disruption, Regional Shifts, and What Procurement Teams Must Do Now	*10 April 2026*	*yigasgroup.com*
Global Helium Supply Shock Exposes Critical Market Vulnerabilities	*17 March 2026*	*discoveryalert.com.au*
Helium Price Trend 2026: Global Market Analysis, Supply Demand Insights & Forecast	*24 March 2026*	*LinkedIn*
Helium Price Trend and Forecast 2026-2027	*27 March 2026*	*Expert Market Research*
	12 August 2025	*Research Nester*

The Ras Laffan impact

On 20 March 2026, Qatar confirmed two LNG trains at the Ras Laffan site were destroyed, representing 12.8 Mtpa of LNG capacity (approximately 17% of Qatar's exports).

As a consequence, because helium is extracted only when LNG trains operate, the helium market immediately lost Qatar's entire output (~30–38% of global supply).

Multiple independent analyses (Wood Mackenzie [quoted within references], Oil & Gas Middle East, Ship Universe) converge on the same structural issues.

"Qatar's Ras Laffan, the world's largest liquefied natural gas (LNG) refinery, will not be fully back online until the end of August at the earliest, with a fifth of its capacity gone for years, energy consultancy Wood Mackenzie said."

With two LNG trains effectively written off and requiring full industrial rebuilds, this implies a multi-year reconstruction estimated at three to five years, with the potential for "…long-term capacity loss".

The Pearl GTL facility also sustained major damage, further complicating upstream integration.

By extension and implication of the repair and restoration timeline, it's reasonable to assume that helium supply from Qatar may not normalise before 2029–2031.

Given the scale of the damage holistically, the rebuild capex is likely to be in the order of US $3–6b with perhaps risk to the upside.

Ras Laffan Hit Hard as Qatar Confirms Years of Lost LNG Capacity	*20 March 2026*	*shipuniverse.com*
Ras Laffan outage to persist as LNG capacity loss hits global supply	*10 April 2026*	*Oil & Gas Middle East*
Wood Mackenzie: Ras Laffan attacks fundamentally reshape global LNG outlook	*19 March 2026*	*LNG Industry*

Where can new (meaningful) supply emerge?

For timeline purposes, we assume the effective helium supply outage is running at about 70 mcm pa of helium until Ras Laffan is rebuilt and fully integrated with North Field expansions.

The projected 'new' supply as per the table should be considered as nominal, name-plate capacities only with embedded risks to notional timing, completion and efficiency post commissioning.

2026–2027

Cumulative new supply could total 15–40 mcm pa from Russia (Amur - between 10–30 mcm pa) and North America (underpinned by the La Barge facilities - 5–10 mcm pa)

We suggest the top end of the range intrinsically appears too high and recent anecdotal information suggests production is at best only incrementally higher from non-impacted projects.

We think on balance, the Qatar outage estimate will persist mostly in whole through the immediate short-term and through 2027.

Market implication is that the structural deficit persists; pricing pressure will remain high.

2028–2030

Assuming and relatively rapid end to the ME crisis with no further material impact on existing supply facilities, the market could begin to close back to 'balance' but significantly dependent on the extent of repair (and remaining damage) to Ras Laffan.

The medium to longer term outlook suggests -

- Amur closer to full: 30–60 mcm pa (if no new disruptions);
- US/Canada juniors: 5–15 mcm pa;
- Algeria debottlenecks: 3–7 mcm pa; and
- South Africa: 2–3 mcm pa (between ASPI and D3E [if FID can be delivered in 2027]).

The cumulative potential new supply (ex-Qatar) could range between 40-85mcm pa if the optimistic cases for new supply timing and capacity are delivered.

On the low case, the market remains short, on the high case, global balance could broadly be considered to be restored but remaining 'fragile and unstable' with marginal supply likely to heavily dependent on Russia.

By 2030, Las Raffan could have restored some (likely not all) of its production loss, but on the historical basis that new developments (and two trains would need to be completely rebuilt) run late and cost more, it's more likely to closer to the end of the time line (five years) than the earlier, in our view.

2031–2035

Cumulative new supply against the Qatar outage could (should?) see the original 70 mcm pa gap more than covered *iff* Qatar and Amur both deliver and incremental supply from smaller companies is delivered.

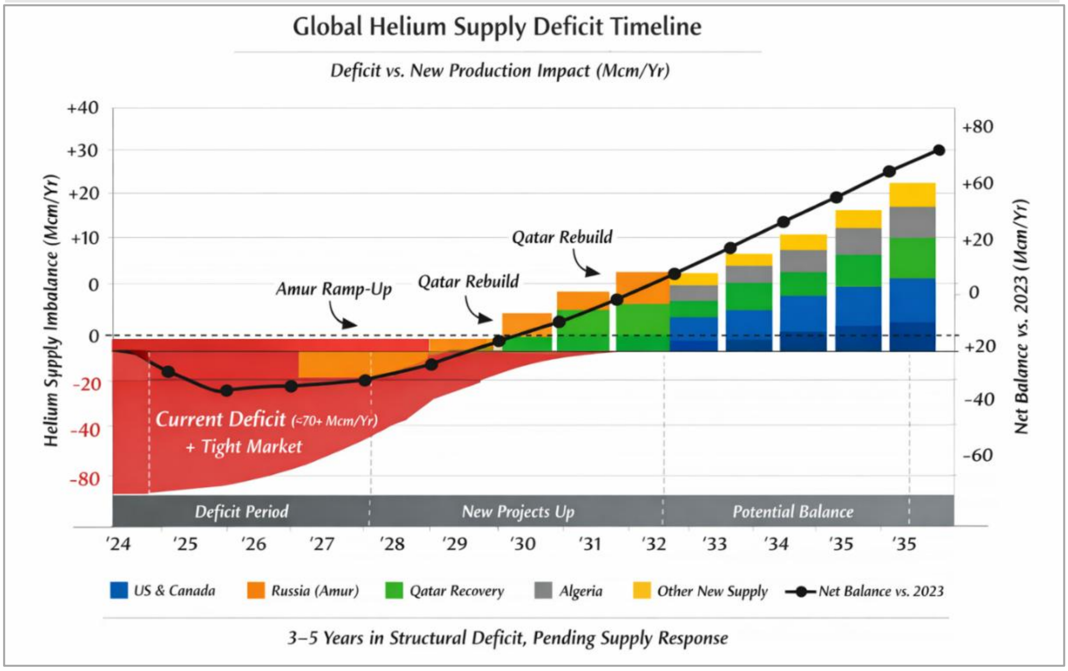
Global helium Production increases by 8% in 2023: Qatar and Russia lead production growth	*19 February 2023*	*en.igascn.com*
Popping the Bubble: helium Supply Beyond the Headlines	*18 September 2025*	*butterworth-labs.co.uk*
	12 August 2025	*Research Nester*

Exhibit 6: When and how much? A synopsis of the return to production

Country	Project	Stage (2026 lens)	Window	Capacity (mcm pa)	Risk level
Russia	(Gazprom) Amur GPP	Ramp-up after incidents	2026–28	**30–60**	High (sanctions, logistics, technical)
US	(Exxon) LaBarge	Operating, incremental	2026–30	**5–10** incremental	Low–medium
US/Canada	North American Helium + juniors	Early production / pre-FID	2026–32	**5–15** cumulative	Medium–high
Qatar	Ras Laffan rebuild + North Field expansions	Under repair / construction	2029–33	**70–90** (restore + growth)	Medium (execution, geopolitics)
Algeria	Sonatrach LNG/helium optimisation	Existing, de-bottlenecking	2027–30	**3–8**	Medium
Sth Africa	ASP Isotopes (	Producing, Phase 2 FID	2027–30	**1–3**	Low–medium
Sth Africa	D3E Motuoane primary helium	Pre-development	2029–32	**1–3**	Medium–high

Source: Various websites and articles as referenced through the Appendix

Exhibit 7: The helium market may remain in structural deficit for an extended period



Source: RaaS compilation

Notes - A **red deficit zone** from 2025 out to 2031

Stacked **offset bars** for new supply (US & Canada, Russia Amur, Qatar Recovery, Africa & Others) rising through 2029–2035.

The black trajectory line shows the **net balance vs. 2023**, crossing from deficit into equilibrium only after Qatar's recovery and multiple smaller projects deliver.

This suggests, based on current assumptions that the world remains **structurally short for three-five years**, with recovery dependent on successful project execution rather than just adding nominal capacity.

The structural deficit actually **predates** the Middle East crisis.

By late 2024 and into early 2025, the helium market was already short on supply because:

- **Amur (Russia)** was still recovering from its 2021–2022 explosions and hadn't reached full output.
- **US federal reserve drawdowns** (BLM Cliffside) were winding down, removing a stabilising buffer.
- **Qatar's plants** were running near nameplate capacity with no spare margin.
- **New projects** (North American Helium, ASP Isotopes, D3E, etc.) were still small or pre-FID.

That combination meant the world was operating with **no redundancy** — a "tight equilibrium" where any outage would push the system into deficit.

When the **Ras Laffan attacks in March 2026** removed roughly one-third of global supply, the market flipped from tight to **structurally short**, deepening a deficit that was already forming.

So, the crisis didn't *create* the deficit; it **amplified** an existing imbalance. The dotted black line's early red zone (2024–2028) captures that pre-existing shortfall — the world was already below balance before the Middle East shock made it explicit.

Note Reference	Document Ref	RaaS Reports	Date Published	Title
	[A]	D3E RaaS Update Report	17-03-2026	The helium squeeze is on
	[B]	D3E RaaS Update Report	23-02-2026	Seeking commercial definition through 2026
		Data referenced in this Report		
[1]		D3E ASX release	30-04-2026	Quarterly activities report and Appendix 5B
[2]		D3E ASX Release	23-03-2026	Substantial excess demand received for $6.12m placement

All financial data in Australian currency unless otherwise specifically stated

FEED	Front End Engineering and Design	kb (d)	thousand barrels (per day)
FID	Final Investment Decision	Mb	million barrels
SPA	Sales and Purchase Agreement	Bb	billion barrels
PEL	Petroleum Exploration Licence	mcf (d)	thousand cubic feet (per day)
PEP	Petroleum Exploration Permit	mmcf (d)	million cubic feet (per day)
EP	Exploration Permit	Bcf	million cubic feet
LNG	Liquified Natural Gas	Tcf	trillion cubic feet
		gj	gigajoules (mcf equivalent)
		TJ	terajoules (mmcf equivalent)
		PJ	petajoules (Bcf equivalent)
		boe	barrel of oil equivalent
		mmBtu	million British thermal units (TJ equivalent)

Conversion factors – note conversion factors may vary from company to company and project to project

Gas	cubic feet to joules	=	1.06	1 Bcf	=	1.06 PJ
	joules to boe	=	0.163	1 PJ	=	0.163 Mboe
	mmBtu to joules	=	0.952	1 mmBtu	=	0.952 TJ
Oil				1 barrel	=	1 boe
Condensate				1 barrel	=	0.935 boe

Reserves and resources classification

1,2 3 P	Proven, probable and possible reserves certified as being likely to be in production within five years 1P = 90% confidence limit; 2P = 50% confidence limit; 3P = 10% confidence limit
1,2,3 C	Contingent resources. As above but nominally higher risk in terms of commerciality; 1= Low, 2 = Best, 3 = High
1,2,3 U	Potential Resources. Largely undefined by drilling and testing. Classification; 1 = Low, 2 = Best, 3 = High

CCS	Carbon capture and storage
CH_4 / C1	Methane (natural gas)
CO_2	Carbon dioxide
CO_2-e	Carbon dioxide equivalent
H_2	Hydrogen
He	Helium
EUR	Estimated Ultimate Recovery

Exhibit 8: Financial Summary

D3 ENERGY LIMITED		D3E		
YEAR END		Jun		
NAV	A$mn	$2.05		
SHARE PRICE	A$cps	$0.370	close of trading	5-May
MARKET CAP	A$mn	56		
ORDINARY SHARES	M	151		
OPTIONS	M	28		

nm = not meaningful
na = not applicable

RATIO ANALYSIS		FY24	FY25	FY26E	FY27E
Shares Outstanding	M	121	121	151	151
EPS (pre sig items)	Acps	(4.95)	(3.38)	(1.74)	(1.56)
EPS	Acps	(4.95)	(3.38)	(1.74)	(1.56)
PER	x	na	na	na	na
OCFPS	Acps	(0.02)	(0.03)	(0.03)	(0.02)
CFR	x	na	na	na	na
DPS	Acps	na	na	na	na
Dividend Yield	%				
BVPS	Acps	0.11	0.08	0.04	0.07
Price/Book	x	3.1x	4.2x	8.1x	5.4x
ROE	%	na	na	na	na
ROA	%	na	na	na	na
(Trailing) Debt/Cash	x	na	na	na	na
Interest Cover	x	na	na	na	na
Gearing dn/(dn+e)		na	na	na	na

EQUITY VALUATION	Risked Range			Low	Mid	High
A$mn	Low	Mid	High	A$/share		
PRA	32	99	131	$0.21	$0.66	$0.87
Contingent Resources	143	183	219	$0.95	$1.21	$1.45
Other Assets	20	25	30	$0.13	$0.17	$0.20
	195	**307**	**379**	**$1.29**	**$2.03**	**$2.51**
Net cash/(debt)		6				
Corporate costs		(3)				
TOTAL	**198**	**310**	**383**	**$1.31**	**$2.05**	**$2.54**
Shares on issue (M)	151					
Shares on issue (M)		diluted				

EARNINGS	A$000s	FY24	FY25	FY26E	FY27E
Sales					
Corporate and admin		(1,416)	(1,187)	(1,997)	(2,000)
Exploration expense		(881)	(1,775)	(750)	(375)
Employee benefits		(497)	(840)		
Share based payments					
DD&A		(25)	(23)	(23)	(23)
EBIT		(3,518)	(4,083)	(2,627)	(2,356)
Profit/(Loss) before tax		(3,518)	(4,083)	(2,627)	(2,356)
Tax payable					
Profit/(Loss) after tax		**(3,518)**	**(4,083)**	**(2,627)**	**(2,356)**
Other Comprehensive Profit/(Loss)					
Forex		90	**254**		
Total Comprehensive Profit/(Loss)		**(3,428)**	**(3,829)**	**(2,627)**	**(2,356)**

CASHFLOW	A$000s	FY24	FY25	FY26E	FY27E
Operational Cash Flow		**(2,395)**	**(3,222)**	**(4,486)**	**(3,190)**
Net Interest		41	86	105	5
Taxes Paid					0
Other					
Net Operating Cashflow		**(2,436)**	**(3,308)**	**(4,592)**	**(3,195)**
Payments for Acquisitions		(79)			
Proceeds from sales					
Dividends received					
Other			(9)	(100)	(99)
Net Investing Cashflow		**(79)**	**(17)**	**(100)**	**(99)**
Share Issues		9,167			
Convertible bonds					
Option exercise					
Net debt movement					
Other					5,000
Net Financing Cashflow		**9,167**	**0**	**0**	**5,000**
Net Change in Cash		6,653	(3,321)	(4,692)	1,706
Cash		**8,587**	**5,268**	**576**	**2,282**

BALANCE SHEET	A$000s	FY24	FY25	FY26E	FY27E
Cash		8,587	5,268	576	2,282
Exploration & Evaluation		4,625	4,872	5,955	7,455
Other		433	251	370	471
Total Assets		**13,645**	**10,391**	**6,901**	**10,208**
Payables		110	238	350	350
Provisions					
Debt					
Convertibles					
Total Liabilities		**110**	**238**	**350**	**351**
Total Net Assets/Equity		**13,535**	**10,153**	**6,551**	**9,857**
Net Cash/(Debt)		8,587	5,268	576	2,282
Share Capital		17,677	17,661	17,661	17,661
Reserves		1,397	2,114	1,139	6,801
Retained Earnings		(5,539)	(9,622)	(12,249)	(14,605)
Shareholders Funds		**13,535**	**10,153**	**6,551**	**9,857**

Source: Company data, RaaS estimates

FINANCIAL SERVICES GUIDE

RaaS Research Group Pty Ltd

ABN 99 614 783 363

Corporate Authorised Representative, number 1248415, of

BR SECURITIES AUSTRALIA PTY LTD; ABN 92 168 734 530; AFSL 456663

Effective Date: 26th March 2024

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