

DATANG HOLDINGS
CORP.,LTD



大唐国投简介 / INTRODUCTION

大唐国投控股有限公司（简称大唐国投）是党的十八大以来，新常态新动力践行国家安全发展战略的一支生力军。

以整合创新金融激活优化现代生产力和生产关系为使命；
携手科技与实体经济促进国家信息化；工业化协调健康发展。

Datang International Investment Corp. Ltd. (Datang Holdings) is a fresh power practicing national security development under the new normal and new force since the 18th National Congress of the Communist Party of China.

Datang Holdings takes integrating innovative finance and activating, optimizing modern productive forces and relations as its mission, combining technologies and the real economy to promote the informatization of China and the health development of industrial coordination.

构建国家主权的安全公共网络与数据工程；大信息经济生态基础设施暨“国家大数据”，实现大数据应用化，城市智慧化，国家现代化。

以国投公信主导与相关机构协同，从金融安全普惠人民出发，

搭建基于网络信息大数据云服务的“互联网金融自贸区”暨互联网金融生态示范区；统一完善征信风控支付等体系建设，为市场金融要素和市场经济要素落户促成高效配置。

解决中小企业和大众创业投融资问题，支持解决盘活存量资产，集中金融资本进入产业经济，支援解决智慧化城市建设中的民生，交通，旅游，农业，能源，水务，基础设施及国家重大工程建设的金融解决需求。

大唐国投率先执行国家安全发展战略，整合资源优化配置，立足本土放眼海外，进军“一带一路”走出去谋远略。

To help medium and small-sized enterprises and mass entrepreneurship out with investing and financing difficulties, Datang Holdings supports to liquidize remnant assets, encourages to integrate financial capital into industrial economy and provides financial solution needs to people's livelihood, transportation, tourism, agriculture, energy, water affairs, infrastructure and China's major national construction projects in the construction of smart cities.

Datang Holdings carries out national security development strategies, integrating resources allocation, seeking international development while sticking to local culture. At meantime, by participating in "one belt one road" strategy, Datang Holdings goes out of China to develop its international horizon.



大唐国投信息科技

Datang Holdings Information and Technology Co., Ltd

将世界先进技术与国内外市场的需求紧密结合全面推广高端、精密、高效低耗、方便安全的科技类产品。

To use world's advanced technology to serve for domestic and foreign markets to promote high-end, sophisticated, efficient low-cost, convenient and safe technology products

大唐国投能源

Datang Holdings Energy Co., Ltd

推动能源技术革命，带动产业升级，还原能源商品属性构建有效竞争的市场结构和市场体系，形成主要由市场决定能源价格的机制。

To promote the energy technology revolution and industrial upgrading, to build an effective competition and market system with the restoration of energy product attributes, as well as to form a market-oriented energy price mechanism

大唐国投石油天然气

Datang Holdings Oil and Gas Co., Ltd

集自身资源优势在国内、国际领域开展上下游油气资源的开发与销售。

Set own advantages in the domestic and international fields to exploit and sale oil and gas resources of its upstream and downstream

大唐国投林业

Datang Holdings Forestry Co., Ltd

立足中国农林等相关产业，布局规划充分挖掘农林产业在绿色发展中的优势和潜力，推进农林产业融合发展。

Based on the layout of China's agriculture, forestry and other related industries, to fully use advantages and potentials in the green development and to promote the integrated development of agriculture and forestry industry

大唐国投国际贸易

Datang Holdings International Trade Co., Ltd

覆盖机械、电子、能源、大宗商品等多个业务领域，致力于通过增量发展带动存量调整，推进企业商业模式转型升级。

Business covers machinery, electronics, energy, commodities, and we are committed to stock adjustment driven by incremental development, to promote business model transformation and upgrading

大唐国投旅游

Datang Holdings Tourism Co., Ltd

打造国内外旅游景点顶级游服务，为高端客户提供尊享金卡套餐，食、宿、行、游等各方面享受 VVIP 待遇。

To provide top service in domestic and international tourist attractions for high-end customers to enjoy the gold card packages, basic necessities, etc. and to enjoy the VVIP treatment

大唐国投装饰

Datang Holdings Decoration Co., Ltd

采用国际先进的创新型环保装饰材料为精装修楼盘、高档别墅、办公楼提供全面一体化的装饰、施工服务。

To use international advanced innovative environmentally friendly decorative materials to provide comprehensive and integrated decoration and construction services for the fine decoration of real estate, high-grade villas and office buildings

大唐国投新能源科技

Datang Holdings New Energy Technology Co., Ltd

大唐国投新能源科技响应国家政策顺应世界能源产业发展趋势，将势必成为中国新能源建设的领军者。

Adapt to national policy and development trend of the world's energy industry, and we are bound to become China's new energy construction leader

大唐国投文化传媒

Datang Holdings Cultural and Media Co., Ltd

打造文化品牌打造、文化艺术交流、综艺性文艺演出、商业影视剧制作等于一身的多元化综合性文化公司。

To promote a cultural brand, cultural and artistic exchanges, variety of theatrical performances, commercial film and television production as a diversified integrated culture company

大唐国投基金管理

Datang Holdings Fund Management Co., Ltd

致力于互联网金融产业，从产业结构上必须打造成完整的金融产业链条，也是未来大唐国投的互联网发展保障基金。

Committed to the internet financial industry, to create a complete financial industry chain, and functioned as the future of Datang Holdings' International Investment Protection Fund

大唐国投水务

Datang Holdings Water Co., Ltd

通过自身的集团背景优势，从区域水资源、水源、防洪、供水、排水等方面对水务相关的工程 and 项目进行一体化管理。

To provide integrated management for water-related projects, such as regional water resources, water, flood control, water supply, drainage and others

大唐国投医药

Datang Holdings Medicine Co., Ltd

保障国民的基本医疗服务，建立特色医疗，涵盖六大板块：药物研发、生产、配送、销售、特色理疗、国际合作。

To provide national basic medical services, and established characteristic medical care, covering the six plates: drug research and development, production, distribution, sales, special therapy, international cooperation

大唐国投云数据

Datang Holdings Cloud Data Co., Ltd

采用大数据+云服务的数据分析架构并将分析的数据整合分析和挖掘，最终在数据分析的基础上指导客户做出正确的决策。

Using big data plus cloud service as data analysis framework to provide integration analysis, and help customers to makes right decisions

大唐国投资产管理

Datang Holdings Asset Management Co., Ltd

对于经营困难的问题企业提供托管服务，综合运用专业手段提供全面的解决方案，帮助企业资产盘活、价值提升，实现商业盈利。

To provide hosted services for enterprises with operational problems, and to provide professional comprehensive solutions to help enterprises revitalize their assets and enhance their value and realize business profits

大唐国投隧道

Datang Holdings Tunnel Co., Ltd

公司具有国际先进的机械设备和经验丰富的专家团队,坚持以科技为先导以质量求发展，在激烈的行业竞争中树立了品牌，赢得了口碑。

The company has the international advanced machinery and equipment as well as the team of experienced experts, adhere to the science and technology as the leading quality, and set a brand and reputation in the fierce competition

大唐国投农业

Datang Holdings Agriculture Co., Ltd

对外开展国际合作，开发国外农业、畜牧业等优质资源对内参与农业产业化，服务“三农”，积极发挥在农业领域的影响和带动作用。

To carry out international cooperation and develop foreign agriculture, animal husbandry and other high-quality resources, involved in domestic agricultural industrialization, service agriculture, and actively play in the field of agriculture

大唐国投物联网

Datang Holdings Internet of Things Co., Ltd

基于物联网技术和产业的特点，主要业务涉及智能家居、生产物联网专用芯片、车联网、智能穿戴设备等产品的研发、设计、生产及销售。

Based on the characteristics of Internet of Things (IoT) technology and industry, the main business involves products' development, design, production and sales, such as smart home, production of networking special chip, car networking, intelligent wear equipment and others



大唐国投物流

Datang Holdings Logistics Co., Ltd

整合资源，建立农产品冷链物流园区，搭建农产品 O2O 物联网服务平台创建中国最大的有质量控制体系的冷链物流覆盖网络。

To establish cold chain logistics park of agricultural products, set up agricultural products o2o networking services platform to create China's largest cold chain logistics network with quality control system

大唐国投环保

Datang Holdings Environmental Protection Co., Ltd

致力于环保节能与可再生能源技术的开发和推广并组织一批具有国际先进科研水平的专家教授突破一些关键性核心技术。

To develop and promote environmental protection and renewable energy technology, and to organize a number of international advanced experts to breakthrough some key technology

大唐国投铁路设备

Datang Holdings Railway Equipment Co., Ltd

建立一个服务于高铁发展战略先国内，后国外的贸易及核心零部件国产化平台。

To establish the national platform for trade and core components to service the high-speed rail domestic-and-foreign strategy



石油及石油制品项目 Petroleum and Related-Products

随着经济与资源全球化发展的深入，全球各个国家对能源的需求越来越迫切，竞争也越来越激烈。我国石油对外贸易特别是原油进口占据相当重要的地位，大唐国投石油天然气有限公司致力于发展成为具有较强竞争力的国际能源公司，成为全球石油石化产品重要的生产和销售商之一。

目前我司已在江苏南通如皋市拥有七个码头以及长达约4公里的稀缺岸线使用权及中国最大民营造船厂；广东虎门拥有5000吨存储罐；河北曹妃甸在建港口等配套设施。

With the deepening of the globalization of economy and resources, the demand for energy in various countries is increasingly urgent, and the competition is becoming increasingly intense. China's oil foreign trade, especially crude oil imports occupies a very important position, Datang Holdings Oil and Gas Corp. Ltd aims to become a competitive international energy company, and the main player to produce and sell petroleum and petrochemical products around the world.

At present, we have owned the right of use of seven terminals and up to about 4 km of scarce shoreline in Rugao Nantong, Jiangsu Province, as well as China's largest private shipyard; in Humen, Guangdong Province we have owned 5,000 tons of storage tanks; in Caofeidian Hebei Province, there is the construction of ports and other supporting facilities.

大唐国投石油天然气有限公司控股中国石油汉中中原销售有限公司和大唐国投石油天然气（香港）有限公司两家销售公司。成立至今广泛从事与石油、天然气有关的各项业务。原油和石油产品的炼制、运输、储存和销售；基本石油化工产品、衍生化工产品及其他化工产品的生产和销售；天然气、原油和成品油的销售。现已成功打开国内与国际市场，与国内各大知名企业及俄罗斯、伊朗、委内瑞拉、东南亚、印尼等国家进行石油及石油制品贸易往来。

Datang Holdings Oil and Gas Corp. Ltd holds the ownership of China Petroleum Hanzhong Zhongyuan Sales Co., Ltd and Datang Holdings Oil and Gas (Hong Kong) Corp. Ltd. Our company is widely engaged in oil and gas related business as follows, the refining, transportation, storage and sale of crude oil and petroleum products; the production and sale of basic petrochemical products, derivative chemical products and other chemical products; the transportation of natural gas, crude oil and refined oil, as well as the sale of natural gas. We have successfully opened the domestic and international markets, and cooperate with the major domestic well-known enterprises as well as Russia, Iran, Venezuela, Southeast Asia, Indonesia and other countries for oil and petroleum products trade.



National Iranian Oil Company
伊朗国家石油公司



泛亚能源投资开发有限公司



KFC Group, S.A.



中国海洋石油总公司



中国石油天然气
集团公司

战略合作伙伴
Strategic Partners



国储能源

中国国储能源化工集团



金融服务项目

Financial services

大唐国投基金管理有限公司致力于解决高成长性的科技类企业和政策支持类产业融资问题，集中金融资本进入产业经济，为商业模式的中国顶尖新思想企业家提供财务顾问服务。主要业务为提供保理、融资租赁、私募股权投资、资产管理、定向增发、并购等。专注于投资



掌门人：刘鹤

新技术、新材料、高端机械制造、海洋科技、生物医药、通讯、绿色节能、金融平台（如互联网保险）、国家政策鼓励方向（参与地方母基金合作如 PPP、军民融合、特色小镇）等。

Datang Holdings Fund Management Co., Ltd. is committed to solving problems for high-growth science and technology enterprises and policy-supported industry financing, to collecting financial capital into the industrial economy, and to providing financial advisory services for the China's entrepreneurs with new business model. The company's business includes private equity financing, mergers and acquisitions and industry securities research. The investment focuses on new technologies, new materials, biomedicine, communications, green energy, financial platforms (such as Internet insurance), national policy-encouraged direction (participation in local parent fund cooperation such as PPP, military-and-civilian-use product integration, characteristic town) and so on.

公司拥有高素质的专业化团队，科学的管理制度，严格的风险控制体系。并与国内多家金融机构建立了良好的合作伙伴关系，享有良好的信誉、较高的知名度，在为广大中小企业提供融资服务的同时，拓宽了信息渠道。

我们将凭借在金融服务方面的卓越实力和丰富经验，继续把握未来的市场机遇，不断强化我们的核心竞争力，打造国际金融服务一流品牌。

The company has high-quality professional team, scientific management system, with strict risk control system. We establish a good partnership with a number of domestic financial institutions, enjoying a good reputation. Meanwhile, we also broaden the information channels when providing financing services for many small and medium enterprises.

We will rely on our excellence and experience in the area of financial services, to continue to grasp future opportunities, and constantly strengthen our core competitiveness, to create international financial services first-class brand!



经济顾问：孔丹



经济顾问：马蔚华



Finished Product in B.C. Canada

林业项目

Forestry Program

国安九洲林业科技有限公司立足中国农林等相关产业布局规划，充分挖掘农林产业在绿色发展中的优势和潜力，以政策为引导、发展特色产业，打造产业品牌，优化产业结构，壮大产业集群，推进农林产业融合发展。

公司拥有一支高端运营团队，凭借“强大的研发实力、卓越的设计品质、完善的服务体系”，赢得了广大合作伙伴的好评与青睐。业务领域涵盖了木材改性、新型建材等核心板块。

Guo'an Jiuzhou Forestry Technology Co., Ltd., based on China's layout planning in agriculture and forestry as well as other related industries, has fully tapped the advantages and potentials in agroforestry industry with policy guidance, which is in turn to develop characteristic industries, to build brands for industries, to optimize the industrial structure, to grow the industrial cluster, and to promote the integration of agriculture and forestry industry development.

With a high-end operation management team, the company has won the praise and recognition from the majority of our partners by "Strong R&D capability, excellent design quality, and sophisticated service system". Our business areas include core plates such as wood modification, new building materials.

我公司的木材改性加工过程完全无度无害，没有任何污染，突破了国外 30 公斤压力导致木纤维破坏的结论，工作压力达到 80 公斤，保证了处理的均匀性。木材改性后其指标完全达到



硬杂木水平，并具有环保、抗腐蚀、抗虫蛀及阻燃等性能。具有很强的市场替代性，已得到了国内及国际市场的完全认可。

我公司的新型建材构建集成房屋等装配建设技术具有节地、节能减排、低碳环保和防火、防震、防老化等独特功能，适用于国防与民用的建筑领域、路桥建设领域、舰船领域等等。该项技术国家科技鉴定为“国际先进”水平，该产品获国家“城乡建设产品质量认证”。



Our company's wood modification process is completely non-toxic and harmless, without any pollution. It is a revolutionary breakthrough that the 30kg pressure would lead into the destruction of wood fiber in foreign wood industry. The uniformity of the treatment is ensured even the working pressure reached 80 kg. Modified wood has fully met the standard of hardwood, with features such as environmental friendly, anti-corrosion, anti-moth, and flame retardant. It has a strong potential for alternative market, which has been fully recognized by domestic and

international market.



Finished Product in Manila, Philippines

Integrated with prefabricated house-building technology, our company's new building material has the unique features such as land-and-energy-saving, low-carbon, environmental friendly, fireproof, earthquake-proof, anti-aging, which is suitable for national defense and civilian use, including but not limited to construction, road and bridge, ship and vessel and so on. This technology is assessed as "internationally advanced" by China's Science and Technology Bureau, and it also gains national certification, namely "Product Quality Certification for Urban and Rural Construction".

我公司率先执行国家安全发展战略，整合资源优化配置，立足本土放眼海外，并以国际履约和合作交流为平台，深度参与全球林业合作和生态治理，统筹国际国内两种资源、两个市场，

形成全方位林业对外开放新格局，为维护全球生态安全做出新贡献，最大程度的促进国家农林产业间的深度合作。

Our company takes lead in implementing the development strategy regarding China's national security and optimizing the allocation of resources. Based in China and looking overseas, we take the international compliance and cooperation exchange as a platform for in-depth participation in global cooperation and ecological management of forestry industry. The new landscape is shaped, namely the full-scale opening-up in forestry industry, by allocating and coordinating the two resources and two markets, namely domestic and international ones, which will make new contribution to maintain global ecological security, and to promote the deep cooperation of agroforestry industry among nations, to the greatest extent possible.



Concept for China's New Village Building

集装箱项目

Project of Container Freight Transportation



世界经济一体化的进程大大加速了国际间的贸易往来，而百分之九十的国际间货物运输都是以集装箱作为运载器具，集装箱

的安全、高效运作成为促进贸易、维护国际正常贸易秩序的重大课题，已引起了世界范围的高度重视。阻碍集装箱运输乃至全球货物运输链的发展有两大问题：

首先，全球范围内的集装箱装卸平台都十分拥挤。其次，集装箱运输量的持续增长与各国各地海关对集装箱有限的查验之间的矛盾所产生的漏洞使得全球供给链成为恐怖行动的目标和危险物品偷运的途径。

International trade is growing and gathering pace with the process of the globalization of economy all over the world. About ninety percent of international transportation is carried out with container as the means of delivery. The safety and the efficiency has become the main task to promote the trade and maintain the international order. At present, there are two main problems impeding the container freight transportation and the chain of world cargo transportation:

Firstly, the platform of container loading and unloading is too way crowded. Secondly, the gap between the increase of volume of transportation and limited check of the custom makes the chain

of dangerous goods smuggling.

截止目前为止，美国政府与集装箱安全直接相关的法律有两部，安全口岸法案和 2007 年颁布实施的 9/11 委员会建议案（CSI）。“CSI”，被编撰

入安全口岸法案。CSI 与 WCO 的标准也是一致的，要求所有将运往美国的发货信息以电子形式在装船前 24 小时上报。到目前为止，总共有 58 个国外港口参与了 CSI 计划。同时形成法律的还有贸易伙



伴关系（C-TPAT）C-TPAT、国际贸易数据系统（ITDS）、自动化贸易环境（ACE）、电子载货单（E-Manifest）、船货安全倡议（SFI）、不间断检查计划 CBP 等。中美已达成“海关集装箱安全倡议”和“海关与商界反恐伙伴计划”；欧盟制定 CSP（海关安全计划）、经济经营者授权（AEO）证书、盟第七框架计划。于此同时，2007 年我国国家发展改革委国防科工委印发关于促进卫星应用产业发展的若干意见的通知；2008 年第七届亚欧首脑会议中，中方倡议探讨建立亚欧贸易安全与便利多边合作机制；2011 年中国第二代卫星导航系统专项管理办公室关于北斗导航系统在海关应用事。

So far in USA there are 2 laws in direct relation with container safety – the port safety Bill and the 9/11 commission advisory Bill (CSI), which was issued in 2007. The CSI has been enrolled into the port safety Bill. CSI and WCO have the same standards. By requirements of the standards, all the information about the goods, that will be sent to USA should be declared no later 24 hours before shipment. As so far totally 58 foreign ports have

participated the CSI program. At present the laws about C-TPAT, ITDS, ACE, E-Manifest, SFI, CBP etc have been passed. China and USA reached the agreements on “the proposal on the Customs container safety” and “the Customs – business antiterrorism partnership program”; The EU has enacted the CSP, AEO certificate, the EU 7-th frame program. At the same time the chinese National Development and Reform Commission, State Administration of Science, Technology and Industry for National Defence have issued the Notice about some advices on promotion of the satellite application industry in 2007. China initiated to build the multilateral mechanism on Asian - european trade safety and convenience at the 7-th ASEM in 2008. The Project management office of the second generation satellite navigation system about the application of Beidou satellite navigation system in the Customs in 2011.



保证港口及国际贸易运输链的安全，提高集装箱的智能化监管水平、改善集装箱的运营手段势在必行。

大唐国投与欧洲数据公司（EDC 公司）在华签订了唯一的产品与平台服务合作伙伴，向大唐国投开放集装箱安全有关产品标准，欧美应用的全部集装箱监管终端在中国制造，该项技术的产业化推广由国安九洲安全服务有限公司承载。

据数据统计，全球每年约 2 亿集装箱运输量。仅我国集装箱出口量就一亿多。

Datang Holdings Co.,Ltd and Europe Data Company (EDC) signed the exclusive products and platform service corporation partnership. EDC opens the container safety standards to Datang. All the monitoring terminals will be manufactured in China and the industrialization of this technology will be carried by Guo'an Jiuzhou safety services Co., Ltd. According to the statistics the annual container export volume is about 200 million cases and the volume from China is over 100 millions.

智能集装箱
的关键是 Unit
产品，包括符合
美国、欧洲、加
拿大、新西兰等
国法律和标准的
陆路运输集装箱
的智能化装置
(EDC75)、
用于海洋运输及
陆路运输集装箱
的智能化装置

2016 排名	2015 排名	港口	所属国家	集装箱吞吐量 (万 TEU)	同比 (%)
1	★ 1	上海港	中国	3700~3720	1.2~1.7
2	2	新加坡港	新加坡	3000~3020	-3.0~-2.3
3	★ 3	深圳港	中国	2460~2480	1.6~2.4
4	★ 4	宁波-舟山港	中国	2130~2150	4.0~4.9
5	6	釜山港	韩国	2010~2030	3.4~4.5
6	★ 7	青岛港	中国	1820~1840	5.3~6.5
7	★ 5	香港港	中国	1800~1820	-10.3~-9.3
8	★ 8	广州港	中国	1780~1800	3.2~4.4
9	9	迪拜港	阿联酋	1655~1670	6.2~7.1
10	★ 10	天津港	中国	1420~1430	1.2~1.9
11	11	鹿特丹港	荷兰	1260~1270	3.0~3.8
12	12	巴生港	马来西亚	1240~1250	4.5~5.3
13	14	安特卫普港	比利时	1000~1010	3.6~4.6
14	13	高雄港	中国	990~1000	-3.5~-2.6
15	17	丹戎帕拉帕斯港	马来西亚	950~960	5.0~6.1
16	16	厦门港	中国	930~940	1.3~2.4
17	15	大连港	中国	920~930	-2.5~-1.5
18	18	汉堡港	德国	850~860	-3.4~-2.3
19	19	洛杉矶港	美国	840~850	2.9~4.2
20	20	长滩港	美国	750~760	4.3~5.7

(EDC76)、数据服务平台。内置集装箱状态电子监控系统，并与卫星定位相结合，即时报告集装箱在移动过程中的路线、位置和状态，保障货物安全；并在海关互认的基础上实现电子通关。产品是一套完整的解决方案、成熟的技术和技术产品，并且获得了国际多方的认证和试验，开始形成规模化应用。EDC 产品所带来的不仅如此，它是一次物流史上的革命。

The key of the intelligent container is UNIT product, including the intelligent device (EDC75) for the road transportation container, which meets the laws and standards of USA, Europe, Canada,

New zealand etc, the intelligent device (EDC76) for the road and marine transportation container, Data service platform. Inside there is equipped with electronic monitoring system connected with satellite positioning. It is used to report timely the route, position and condition of each container in course of moving. Besides, it can also achieve the custom clearance based on mutual recognition. The product is a totally complete solution, mature product and technological product and it is certificated and tested by the multiple international authorities. The product already has been applied in large scale. The above-mentioned is not all, which has been brought by the EDC product and it's a real revolution in the logistics history.

利用北斗系统冲破美欧集装箱安全领域的垄断,力争在亚太地区集装箱安全领域的主导地位,实现在全球集装箱安全领域的更大话语权及集装箱安全领域的产品国产化从而远销国际。

By using the Beidou system we can break through the US-Europe monopoly in the field of the container safety and try to get the leading status in the field of the container safety in the Asian-Pacific area. We are trying to get the more voice in the field of the container safety and realize the localization and oversea sales in the field of the container safety.



新能源项目 New Energy Project



国安九洲新能源有限公司牢牢把握"低碳经济、绿色发展"方向，以"打造中国乃至世界一流新能源企业"为战略目标，致力于斯特林碟式太阳能热发电产业的研究和投资经营。

在常规化石能源资源逐渐枯竭且成本大幅度上升的今日，作为一种清洁可再生能源，太阳能的大规模开发利用正日益受到全球范围内关注，各国的政府纷纷通过立法及财政支持的方式鼓励使用太阳能。

太阳能的利用目前主要有两条途径：一类是太阳能光伏发电系统；一类是太阳能热发电技术。

光伏发电系统由于太阳能能量密度低，使其占地面积会很大；并且转换效率低是阻碍光伏发电大面积推广的瓶颈；光伏发电只能间歇性工作，受气候环境因素影响大，地域依赖性强；系统成本高；不仅要消耗大量能源，还会造成环境污染。

CLEAN ENERGY

New Energy Co.,
Ltd firmly grasps
the direction of
"low-carbon
economy and
green

development", and aims to "build China's and even world-class new energy enterprise" as its strategic goal, which is dedicated to the research and investment operation of Stirling disc solar thermal power industry.

As the result of the gradual depletion of conventional fossil energy resource as well as its substantial increase in cost, solar power, as a clean and renewable energy, is increasingly gaining worldwide attention for its large-scale development and utilization. Governments have encouraged the use of solar energy through legislative and financial support. There are two main ways of make use of solar energy: one is the solar photovoltaic power generation system; the other is the solar thermal power generation technology.

Due to low solar energy's density, photovoltaic power generation system occupies large area; and low conversion efficiency is a bottleneck for the promotion of photovoltaic power; photovoltaic power can only intermittent work, affected by climate and environmental factors, and depended strongly on geography; cost of the system is high; and it not only consumes much energy, but also causes environmental pollution.

与传统的电厂相比，太阳能热电厂具有两大优势:整个发电过程清洁，没有任何碳排放;利用的是太阳能，无需任何燃料成本。太阳能热发电还有一大特色，那就是其热能储存成本要比电池储存电能的成本低得多。能够将太阳热能储存，就意味着太阳能热电厂可以克服传统电厂发电可能中断的弊端。

Compared with traditional power plant, there are major advantages of solar thermal power plant: the entire power generation process is clean, without any carbon emissions; solar energy is used without any fuel costs. There is another major feature of solar thermal power generation, that is, its thermal energy storage costs much lower than that of the battery storage power. To realize store of the sun heat, it means that solar thermal power plants can overcome the drawbacks of power generation in traditional power plant.



太阳能热发电基本有以下几类技术线路：

三类太阳能热发电技术优劣式比较

类型	槽式 	塔式 	碟式 
优点	1、目前已有 7 个项目进入我国首期光热发电示范项目，相对较成熟。	1、目前已有 9 个项目进入我国首期光热发电示范项目，相对较成熟。	1、不需要水资源； 2、对土地平整度要求低，坡度不超过 30 度即可搭建； 3、整个电站并联回路，一台设备损坏不影响其他设备发电，维护成本低； 4、转化效率高，现已达到 35%； 5、核心设备 25 年不衰减； 6、综合度电成本低，约 0.3 元/度。
缺点	1、大量使用水资源； 2、土地必须平整，1MW 长 100 公里； 3、使用焦油，昼夜温差造成焦油粘稠，不利于热传导； 4、若对槽进行保温处理，成本增加； 5、整个电站串联并网，维修成本高； 6、转化效率低，一般在 14%~15%； 7、综合度电成本高。	1、大量使用水资源； 2、土地必须长期平整，保证平面镜子吸光率； 3、整个电站串联并网，维修成本高； 4、转化效率低，一般在 16%~17%； 5、综合度电成本高。	1、目前仅在内蒙古鄂尔多斯建有 10 台碟式电站的示范基地，但已有两百万小时的工作。

Comparison of Three Kinds Solar Thermal Power Generation Technology

Type	Concentrating Power Generation 	Tower-type Power Generation 	Disc -type Power Generation 
Advantages	At present, seven projects have entered China's first phase of light and heat power generation demonstration project, they are relatively mature.	At present, nine projects have entered China's first phase of light and heat power generation demonstration project, they are relatively mature.	1、No dependence on water resources; 2、Low requirement of land flatness, no more than 30 slope degrees is accepted; 3、The entire power plant employs parallel circuit, the damage of a device does not affect other equipment's power generation, the maintenance costs is low ; 4、Conversion efficiency is high, reaching 35% ; 5、Core equipment lasts for 25 years without attenuation; 6、Comprehensive cost of electricity is low, about 0.3 RMB / kWh
Disadvantages	1、Require much water resources; 2、The land must be flat, 1MW requires 100 km; 3、It uses tar, temperature difference between day and night causes tar viscosity, and is not conducive to heat conduction; 4、If adding insulation treatment for the tank, the cost will increase; 5、The entire power station is in series with the network, maintenance cost is high; 6、Conversion efficiency is low, about 14%-15% ; 7、Comprehensive high cost of electricity	1、Require much water resources; 2、The land flatness must last long term to ensure that the plane mirror absorbance ; 3、The entire power station is in series with the network, maintenance cost is high ; 4、Conversion efficiency is low, about 16%-17% ; 5、Comprehensive high cost of electricity	1、Currently there are 10 sets of power plant only in Inner Mongolia Erdos as demonstration base, but it has two million hours of work

在野外不受控环境下建设一个大规模的串联回路的系统，一旦一个环节出问题就直接导致全系统的瘫痪，加之对水资源和土地平整度的要求，建设槽式发电和塔式发电不具有长远可操作性。而斯特林碟式太阳能热发电不需要水资源、对土地要求极低，对于光热条件不好的地区仅仅增加少量的碟盘面积即可解决问题。因此，斯特林碟式太阳能热发电技术以其特有的技术优势远超前于槽式发电和塔式发电，是未来太阳能热发电技术选择的必须趋势。与此同时，核心设备的技术生产路线完全是采用传统的机械加工的方式，不涉及任何的贵金属和特殊加工工艺。所有的零部件均可以按照汽车行业的方式进行加工生产。

To build a large-scale series circuit system in the field of uncontrolled environment, once there is problems in one link, it directly leads to paralysis of the whole system. Besides, it requires water resources and land flatness, the concentrating power generation and tower-type power generation are without long-term operability. While Stirling disc solar thermal power requires no water resources and less land flatness. For the hot and humid regions, just the addition of a small disk area can solve the problem. Therefore, Stirling disc solar thermal power generation technology, with its unique technical advantages, is far better than the concentrating power generation and tower power generation, and it is the future of solar thermal power technology selection trend. At the same time, the technical production of the core equipment is entirely through traditional mechanical processing, involving no precious metals and special processing technology. All the parts can be produced in accordance with the way of the automotive industry.



目前我司已与欧洲 Cleanergy 公司达成协议，独家成立合资公司。欧洲 Cleanergy 公司是该项技术最为成熟的公司。分别在美国 SANDIA 国家实验室，法国国家实验室，位于西班牙的欧洲太阳能研究中心经受过十年以上的测试。被证明了高可靠性和稳定性。而且，该公司使用 VOLVO 的团队对其产品进行了全部的应用汽车行业的 FMEA 和 PPAP 进行全过程的标准化设计。其 CHP 型机（采用完全一样的核心部件）已经累计了超过两百万小时的运行记录。



At present, our company has reached an agreement with the European Cleanergy Company, and established exclusively of a joint venture. Cleanergy Co., Ltd. has the most mature technology. It has conducted more than 10 years of testing in the United States SANDIA National Laboratory, the French National Laboratory, the European Solar Energy Research Center located in Spain respectively. It has proven its high reliability and stability. Moreover, the company used the VOLVO team to apply all of its products into FMEA and PPAP for the entire process of standardized design in the automotive industry. Its CHP machine (with exactly the same core components) has accumulated more than two million hours of operating records.

我公司独家引进欧洲 Cleanergy 公司最成熟的太阳能 CSP 技术，光电转换效率可达 35%；发电机寿命长达 25 年不衰减，同时拥有较长的免维护周期；对环境没有任何污染；发电量高，不受环境温度影响；对土地平整度要求低，拥有极具吸引力的成本潜力。落地中国制造，国产化后将实现产业转型升级，直接推动大规模社会就业。

我公司在鄂尔多斯成功地完成了我国第一个斯特林太阳能热发电并网型的示范工程。迄今运行良好，使太阳能由补充能源变为替代能源，量产后度电综合成本（含各环节利润）低。实现了市场化推动新能源发展的要求，同时提高了企业参与国际竞争的能力和综合经济效益，成为新能源产业新的增长点。



Our company exclusively introduced the most matured solar CSP technology. The efficiency of generator shall not decline for as long as 25 years without attenuation, whereas it has a rather long maintenance-free period; It does not cause any pollution to environment; With high yield rate of power generation, it is not affected by environment temperature; It only has a low requirement on flat land, which has an attractive potential to lower costs. After localization, we

will achieve industrial transformation and upgrading, directly promoting large-scale social employment.

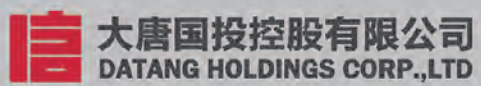
Our company has successfully completed China's first demonstration project of Stirling solar thermal power with grid-connection in Ordos. By far the project runs well, transforming solar energy from auxiliary energy into alternative energy, with low combined costs of electricity (including profits of all procedures). It has met the market demand to promote the

development of new energy, and also improves the ability of enterprises' participating in the international competition and comprehensive economic benefits, which is an emerging growth point for new energy industry.

国安九洲新能源有限公司将结合中国国情，保证产品长期的核心竞争力，在符合我国节能减排的要求同时，拉动我国传统制造行业产能，带动我国现有的存量机械加工产业的发展，逐步替代煤发电、光伏发电，成为主流发电方式，远销海外，为全球市场提供中国制造的高端产品。

Guo'an Jiuzhou New Energy Co., Ltd will combine China's national conditions to ensure long-term core competitiveness of products. When meeting requirements of China's energy-saving emission reduction, we will help build our capacity of traditional manufacturing industry, as well as develop China's existing stock processing industry. We aim to make new energy replace coal power generation and photovoltaic power generation, becoming the mainstream power generation. Besides, we also aim to sell it overseas, to provide high-end products made in China for the global market.





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