



China Datang Corporation Ltd.



2021

Social Responsibility Report



To build CDT into a world-class energy supplier featured by green low-carbon multi-energy integration efficiency synergy and digital intelligence, and become a leading enterprise in building a beautiful China.



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Message from the Leadership

The year 2021 was a milestone in the history of the Communist Party of China (CPC) and our country, and a year that would go down in history. It engraved CDT's endeavor to start new undertakings towards new journey during the 14th Five-Year Plan period. Facing the unprecedented global changes and the COVID-19 pandemic, CDT resolutely shouldered its social responsibility as a central SOE. We thoroughly implemented the important instructions of President Xi Jinping as well as the decisions and plans made by the CPC Central Committee and the State Council, and braved challenges ahead. We have clarified the "1244" vision and the "2456" measures, concentrated on the "four tough battles", and systematically implemented the "five major projects of improvement". All officials and employees have engaged in the new undertaking with great confidence and enthusiasm, and striven to ensure a good start during the 14th Five-Year Plan period in the face of difficulties. Despite of unexpected challenges in coal-fired power companies, we still secured a stable performance with good momentum for growth, and yielded overall positive results.

We consolidate the foundation by comprehensively strengthening the Party leadership and Party building. Specifically, we thoroughly study and implement the guiding principles of Xi Jinping's speech made on July 1, 2021 to mark the centenary of the CPC and those of the Sixth Plenary Session of the 19th CPC Central Committee, and follow the arrangements made at the symposium on strengthening Party building in central SOEs. We improve the "four systems" for Party building, and grasped the decisive significance of the Party's decision on establishing Comrade Xi Jinping's core position on CPC Central Committee and in the Party as a whole, and defining the guiding role of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. We continue to rectify formalities for formalities' sake, bureaucratism, hedonism, and extravagance, and firmly implement the plan of "strengthening the foundation in two years and achieving upgrades in three years". We strengthen Party building with pragmatic measures, and comprehensively improve its quality by integrating Party building into our central tasks, so as to ensure high-quality corporate development.

We keep people's well-being on our mind and have achieved key results in guaranteeing power supply. To serve the country's most fundamental interests, we proactively cope with the risks and challenges brought about by the tight supply of thermal coal and surging in coal prices. Balancing COVID-19 control and business development in a more coordinated way, we strengthen organizational leadership, focus on key processes in guaranteeing power supply, and attach great importance to stable power supply during key periods and to key areas. In 2021, we completed the major tasks of ensuring power supply to the Beijing 2022 Winter Olympics(Beijing 2022) and the "Two Sessions" and guaranteeing heat supply in winter, and successfully responded to emergencies including severe floods in Henan and cold wave sweeping across Northeast China. We phased out coal-fired power plants whose coal storage was available for less than 15 days, and our unit availability rate increased from 70% to over 97%, higher than that of most central power generation companies. We have demonstrated our role as a "pillar" in fulfilling our responsibilities with practical actions.

We deepen reform to effectively forestall and defuse major risks, and continuously unleash the results of reform. In 2021, we pressed forward with the three-year action plan for SOE reform by holding five group-wide conferences on promoting reform, continuing to enhance publicity and supervision, and developing relevant systems and mechanisms. These efforts have allowed us to produce tangible results. Upholding the bottom-line

thinking and systematic thinking, we have set up a leading group and a task force with a working mechanism to crack difficulties and ensure no systemic risks. We clarify the goal of "easing difficulties in two years and achieving development in three years" and the strategy of "taking actions separately to overcome challenges". Furthermore, we have strengthened policy support to guide the establishment of a market-oriented operating mechanism to energize enterprises to excel and make breakthroughs.

We accelerate adjustment towards green and low-carbon transformation. Following the requirements of grounding our work in this new stage, applying the new philosophy, fostering a new pattern, and promoting high-quality development, we contribute to China's goal of peaking carbon dioxide emissions before 2030 and achieving carbon neutrality before 2060 (China's 30-60 Decarbonization Goal), and seize strategic opportunities to promote structural adjustment. In response to national strategies, we promote project implementation, and actively integrate into the new development pattern. In 2021, we deepened cooperation with 13 provinces, autonomous regions and municipalities, and signed 11 strategic cooperation agreements. Our 10 regional subsidiaries obtained more than 1,000 MW in new energy quotas. China's first large tidal flat solar project in Xiangshan, Zhejiang was put into operation. With a focus on building large wind power and photovoltaic bases, we highlighted "Source-Grid-Load-Storage" integrated operation and a multi-energy complementary layout, and strove to map out large-scale multi-energy complementary bases. The projects totaling 7.93 GW quota in six large bases, including the Tuoketuo and Weinan, were successfully listed as the first batch of national base projects.

Taking multiple measures, we contribute to the national rural vitalization strategy. We earnestly implement the decisions and plans of the CPC Central Committee, and the policies issued by the SASAC and the National Administration for Rural Revitalization, and work tirelessly to consolidate poverty alleviation achievements and align them with rural vitalization. In 2021, we dedicated to rural vitalization, with a focus on improving local education, industries, livelihoods, employment, and Party building. We launched projects to support featured rural industries, and introduced measures to improve people's well-being and employment. We offered paired assistance with a focus on strengthening local Party building, and worked hard to solve problems while supporting education in rural areas, so as to make greater contributions to rural vitalization.

2022 is a significant year in the history of the CPC and our country, which also marks CDT's 20th anniversary. We will act on the general principle of pursuing progress while ensuring stability, and fully, accurately and comprehensively implement the new development philosophy while weathering ups and downs in our pursuit of innovation-driven development. We will press forward with our new undertakings to build CDT into a world-class energy supplier featured by green and low-carbon development, multi-energy integration, efficient synergy and intelligence, and become a leading enterprise in building a beautiful China. We will strive to make new and greater contributions towards realizing the Chinese Dream of national rejuvenation, and set the stage for the 20th CPC National Congress with fruitful results.

Zou Lei, Chairman

China Datang Corporation Ltd. (CDT)

Overview

About CDT

Established on December 29, 2002, as an extra-large state-owned power generation enterprise group in China, China Datang Corporation Ltd. (CDT) is a government-mandated investment institution and a pilot of state-holding company approved by the State Council. With a registered capital of RMB 37 billion and five listed companies, CDT engages in business sectors of power generation, heat supply, coal, coal chemical, finance, environmental protection and integrated energy services. As of the end of 2021, CDT's total assets had reached RMB 830.164 billion, covering 32 provinces and cities nationwide and 13 countries and regions overseas. CDT has a total installed power generation capacity of 163.9818 GW, accounting for 7% of the total installed capacity in the country, of which clean energy accounts for 39.1%. All coal-fired power units realize upgrading of desulfurization and denitration, and ultra-low emission equipment accounts for 98.8%. CDT has been listed as a Fortune Global 500 Company for 12 consecutive years.

CDT is the pacesetter in safeguarding the energy security of the capital and the main force of heat supply for the Northeast China, North China and Northwest China regions. 18 power generation subsidiaries around Beijing undertake the responsibility for supplying two-thirds of the electricity consumed by the capital. 56 coal-fired thermal power plants and 14 heating subsidiaries are responsible for heating more than 800 million square meters of residents in 10 provinces in the Northeast China, North China and Northwest China regions.

CDT has a large number of industry leading projects as innovative models, such as the Tuoketuo Power Plant, the largest thermal power plant in the world with a total installed capacity of 6.72 GW, Datang Saihanba Wind Farm, the world's largest operating wind farm invested and operated by the same entity within the same area, Datang Longtan Hydropower Station, a large hydropower plant with multiple world records, DaTang Dongying Power Plant, the world's first six-cylinder six-row 1000MW generator unit and the 300MW tidal flat solar project in Xiangshan, Zhejiang, an eco-friendly fishery-solar hybrid project.

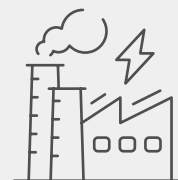
RMB **830.164** billion

Total assets



163.9818 GW

Total installed capacity



592.091 TWh

Power generation in 2021



RMB **223.825** billion

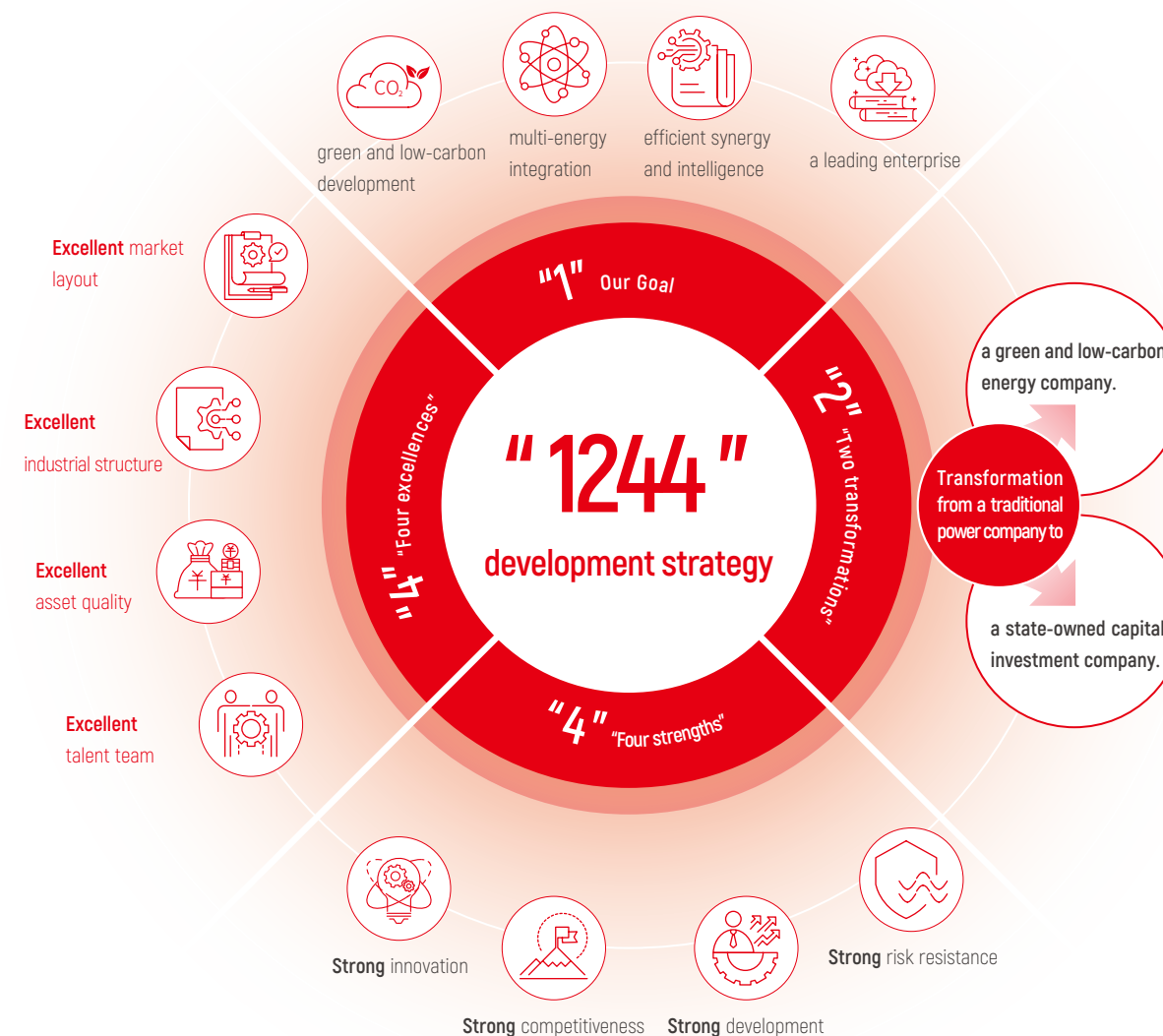
Revenue



New Development in a New Journey

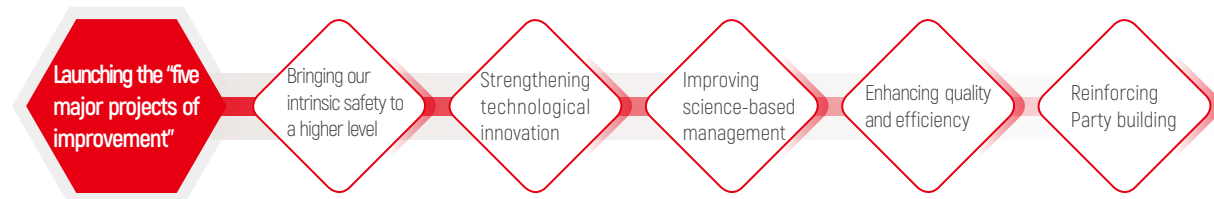
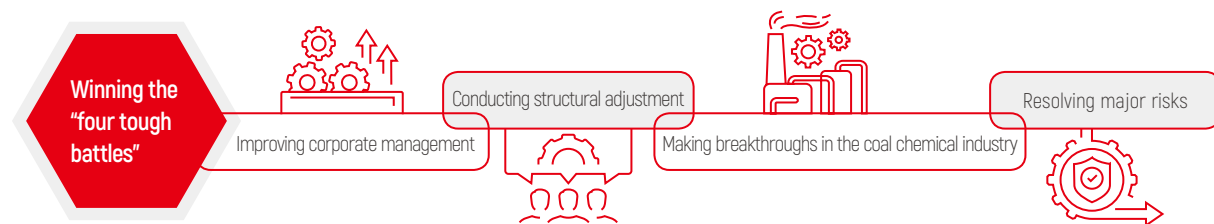
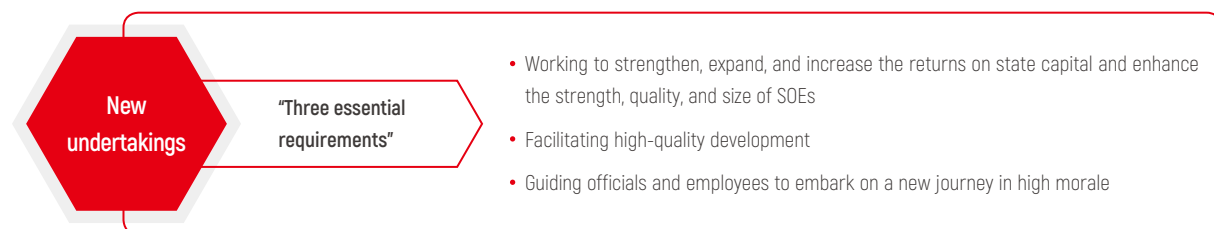
In 2021, based on the corporate mission as an energy company, CDT built an accurate understanding of its main contradictions and adapted to the development needs of the latest round of technological revolution and industrial transformation. We rolled out the "1244" development strategy to promote high-quality development, with a focus on building CDT into a world-class energy supplier featured by green and low-carbon development, multi-energy integration, efficient synergy and intelligence, and a leading enterprise in building a beautiful China. We devoted ourselves to the mission to "strengthen, expand, and increase the returns on state capital and enhance the strength, quality, and size of SOEs" and started new undertakings.

To build CDT into a world-class energy supplier featured by green and low-carbon development, multi-energy integration, efficient synergy and intelligence, and become a leading enterprise in building a beautiful China



A Good Start for New Horizons

CDT has pursued high-quality development as the general aim, advanced supply-side structural reform as the main task, and worked hard to strengthen the Party leadership and Party building. Based on that, we focus on the "four tough battles", and work to bring our intrinsic safety to a higher level, strengthen technological innovation, improve science-based management, enhance quality and efficiency, and strengthen Party building. In 2021, we completed all the goals and tasks at a high level of quality, making a good start in the 14th Five-Year Plan period, and commemorated the centenary of the CPC with outstanding achievements in development.



Focusing on national strategies and optimizing structural layout: Optimizing regional planning and layout; developing key projects; promoting the integrated development of various industries; moving faster towards internationalization.

Focusing on enhancing independence and developing cutting-edge technologies while pursuing innovation-driven development: Clarifying the direction of innovation and improving the innovation system; making planning and intensifying efforts on innovation; optimizing the incentive mechanism to stimulate the innovative vitality.

Focusing on the three-year action plan for SOE reform, and pushing the modernization of management systems and capabilities: Improving the corporate governance structure; building a group-wide management and control system; promoting the labor, personnel and assignment reforms.

Grasping the "six focuses"

Focusing on improving operational efficiency, comprehensive quality and efficiency: Carrying out various tasks aimed at improving quality and efficiency; strengthening investment management and control; improving operational efficiency in asset management.

Focusing on key and difficult issues in forestalling and defusing major risks: Bringing the Corporation's intrinsic safety to a higher level; maintaining zero systemic risk record.

Focusing on law-based corporate governance and scientific management, and consolidating the management foundation: Deepening law-based corporate governance; strengthening institutional construction and audit-based oversight; comprehensively promoting lean management.

Power Generation Assets

CDT's installed capacity

Unit: MW

Region	Installed capacity of equipment	Proportion in CDT (%)	Region	Installed capacity of equipment	Proportion in CDT (%)
Beijing- Hebei- Tianjin Region	20,116	12.27%	Zhejiang	4,101.0	2.50%
Shaanxi	18,075.5	11.02%	Chongqing	3,989.0	2.43%
Guangxi	12,442.6	7.59%	Jiangxi	3,763.5	2.30%
Henan	11,387.1	6.94%	Liaoning	3,614.2	2.20%
Shanxi	8,999.3	5.49%	Guizhou	3,521.1	2.15%
Jiangsu	7,725.7	4.71%	Fujian	2,798.1	1.71%
Shandong	7,531.8	4.59%	Gansu	1,906.3	1.16%
Sichuan	7,011.9	4.28%	Xinjiang	1,533.0	0.93%
Guangdong	6,731.3	4.10%	Ningxia	1,446.5	0.88%
Yunnan	6,351.6	3.87%	Qinghai	1,355.0	0.83%
Anhui	6,205.5	3.78%	Overseas	1,052.0	0.64%
Hunan	5,970.9	3.64%	Hainan	499.1	0.30%
Heilongjiang	5,432.5	3.31%	Hubei	465.8	0.28%
Jilin	5,308.1	3.24%	Shanghai	336.2	0.21%
Inner Mongolia	4,299.8	2.62%	Tibet	11.5	0.01%
			Total	163,981.8	100.00%

(Information is collected by December 2021)





Features

Ensuring Heat and Power Supply with Concerted Efforts

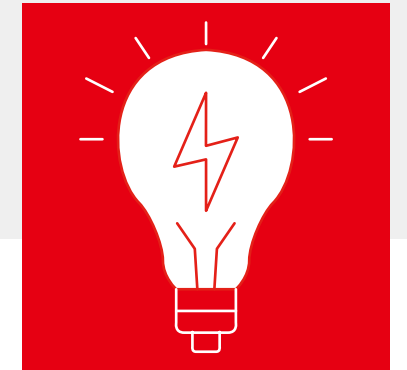
Tackling all difficulties in energy supply with effective leadership

To strengthen leadership and improve work arrangement, we established a leading group, a task force, and working mechanisms for weekly meetings and daily scheduling, and coordinated the resolution of key and difficult problems in energy supply. We developed the "1+7" work plan, set up the Supply Guarantee Headquarters with the three focuses of work safety, fuel supply guarantee, and fund guarantee, which were further divided into seven fronts including emergency response management. We also launched the special action of "work hard for a hundred days to make new contributions and guarantee energy supply against all difficulties". During that period, we played the exemplary role of Party and Youth League branches and members on the front line, forming a situation where every member was involved in guaranteeing power supply from all aspects.



A delegation led by Zou Lei, Chairman of CDT, inspected Gaojing Thermal Power Plant for its work safety performance, power and heat supply, etc. He pointed out the unity and coordination is a must to guarantee power and heat supply and efficient COVID-19 control for Beijing 2022, and encouraged all staff wholeheartedly to support the successful holding of Beijing 2022.

CDT regards energy supply as an important political task, and insists on implementing and improving supply guarantee mechanisms. We unite and lead our employees to bear in mind the country's most fundamental interests. With growing awareness of our political responsibility, we go all out to ensure people's livelihoods, power generation, and heat supply, and are determined to guarantee energy supply against all difficulties. We completed all kinds of power supply tasks in 2021, demonstrating a great sense of responsibility as a central SOE.



Working together to tackle the coal shortage

Coal is the "food" for power generation companies. CDT took the initiative to seek opportunities in the coal crisis, and made every effort to ensure fuel supply with sufficient funds, efficient coal procurement and operation of generating units.

Developing special plans to guarantee the funds for coal procurement

We compiled and released the *Urgent Notice on Further Guaranteeing Sufficient Funds for Coal-fired Power Companies* and special plans to clarify the main responsibilities. Strategic partnerships with local governments and financial institutions were consolidated to enhance CDT's capital management and ensure sufficient funds for coal procurement.

Holding the bottom line and increasing coal storage by all means

We clarified coal storage targets by region and strengthened process management for regional coal shortage management. While carrying out daily monitoring and supervision of coal inflow, consumption, and storage situations in each region, we paid special attention to the dynamic coal balance of power plants that offer heating service for Northeast China, North China and Northwest China regions, as well as power plants that served Beijing 2022. Communication and coordination with the government and large coal companies were strengthened to maximize coal procurement, enhance the coverage and fulfillment of long-term coal procurement contracts, and fully play the role of long-term coal procurement contracts in stabilizing coal supply.



Putting people first and guaranteeing energy supply

Striving to safeguard people's wellbeing

Being a central SOE that supplies two-thirds of the electricity consumed by the capital and 800 million m² of residential buildings in Northeast China, North China, and Northwest China regions, CDT adheres to the people-centered philosophy and upholds the bottom line in heat and power supply. We earnestly strengthen equipment management and governance, and enhance the troubleshooting of generating units to ensure their sound operation. According to geographic and climatic conditions, we have improved our ability to deal with extreme weather, such as ultra-low temperatures and ice/snow disasters, thus ensuring power supply in summer and heat supply in winter. In 2021, CDT's annual power generation capacity reached 592.091 TWh and annual heat supply reached 301.2993 million GJ

Case Standing with the people against torrential rains and floods

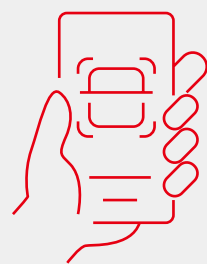
In July 2021, Henan Province was battered by torrential rains and severe floods hardly seen in history. Based on the reality of CDT and the characteristics of the industry, we engaged in flood control, security of power supply, emergency rescue, and disaster relief in the local area immediately. We planned ahead, organized meticulously, and acted promptly, racing against time in the fight against the torrential rains. The safety of our employees is our top priority and we activated emergency response in our subsidiaries in Henan Province. CDT's power generation subsidiaries in Henan strengthened the monitoring of generating units and the emergency duty team, tightened patrols of key production facilities, and enhanced the supply of flood prevention materials. During the flood control period, we mobilized 5,929 emergency rescue staff, deployed 565 vehicles for emergency rescues, and added 286 sets of drainage facilities to ensure a stable and orderly work safety situation.

Case Bringing warmth to homes against cold waves

Affected by cold waves, Northeast and North China experienced extreme weather events, such as drastic temperature drops, strong winds, and blizzards. Datang International Power Generation Co., Ltd. (Datang Power), by preventing the impacts of low temperatures and frost, and preparing fuels, electricity, and heat supply, faced up to the cold waves. Contingency plans targeting extreme weather were made in advance and measures are improved to mitigate the impact of low temperatures, strong winds, and frost, and make personnel, vehicles, and materials stand by. To stabilize coal prices and ensure coal supply, Datang Power increased the proportion of coal transported by train in Zhangjiakou, and opened up the energy container transportation channel along Huaihe River in the Beijing-Tianjin-Hebei region to minimize the impact of extreme weather. Meeting users' heat and electricity demands in winter is a key part for people's livelihoods. In response to extreme weather conditions, the company successively improved operating parameters and stored heat in advance, ensuring that the local residents spend the winter warmly.



Scan to learn about how CDT guarantee heat supply in winter



The emergency repair staff of the Chengde New Energy Business Unit of Datang Power checks the cable joints with bare hands in snow to guarantee electricity supply for every household.

Playing a key role in serving great undertakings of China

Leveraging our strengths and experience in guaranteeing heat and electricity supply, we completed major power supply tasks for the Two Sessions, the celebration of the centenary of the CPC, Beijing 2022, and other major events, by coordinated planning and systematic implementation, showing a great sense of responsibility as a backbone in China's power industry.



Employees from Dahua Power Plant of Datang Guiguan Electric Power Co., Ltd. stick to the frontline of power supply during the National Day holiday.

Case Guaranteeing heat and electricity supply during COVID-19

In the face of severe COVID-19 outbreaks, Datang Shaanxi Power Generation Co., Ltd. made full preparation to ensure heat and electricity supply. A strong line of defense against COVID-19 was built to facilitate orderly prevention from ten aspects, such as awareness enhancement, organizational leadership, information investigation, control measures, gate access, COVID-19 testing, environmental disinfection, logistical support and employee care. The company thus ensured the safe and stable operation of grid-connected generating units and the implementation of the "AB angle" contingency plan, thereby guaranteeing timely supply of thermal coal and providing sufficient electricity and heat for Shaanxi to win the battle against COVID-19.



Case Supplying heat and electricity for Beijing 2022 venues



Scan to learn about how CDT guarantee power and heat supply for Beijing 2022

Following the instructions by President Xi Jinping on Beijing Winter Olympics and Paralympics (Beijing 2022), CDT prioritized the heat and electricity supply for the event among our key tasks. We compiled and released the "1+9" Work Plan for Serving Beijing 2022, the Implementation Plan for Serving Beijing 2022, and the Notice on Further Safeguarding the Safety and Stability of Beijing Winter Olympics and Paralympics to elaborate on power supply guarantee measures at different stages of the event. Power supply guarantee leading groups and task forces were formed to commit to the goal of preventing eight problems and fulfilling eight guarantees. We also encouraged all subsidiaries to purchase and stockpile bulk materials and emergency materials in advance, and strictly implement the requirements for clean transportation and joint COVID-19 control in various regions, thus ensuring safe and reliable power supply for Beijing 2022.



60 days before the Beijing 2022, CDT held a mobilization meeting for guaranteeing heat and power supply for the event.

Zou Lei, Chairman of CDT and head of the energy supply guarantee leading group, chaired a special meeting and made clear requirements on energy supply. The meeting highlighted the political responsibility of CDT as a central SOE in the energy sector and CDT's determination to guarantee energy supply against all difficulties.



Gaojing Thermal Power Plant of Datang Power in Beijing

Determined to meet new challenges, the plant built a grid energy supply system to supply sufficient high-quality clean energy for 2.8 million households in Beijing.

Inner Mongolia Datang International Tuoketuo Power Generation Company

Over 1,700 employees stuck to the frontline to fulfill their responsibilities.

Datang Shanxi Power Generation Co., Ltd.

Based on careful operations, meticulous adjustments, and lean management, the company supported Beijing 2022 with the supply of 298.6375 GWh of clean electricity.

The company coordinated power generation, heat supply, fuel supply, and financial security through seamless collaboration to match supply and demand.

Datang Shandong Power Generation Co., Ltd.

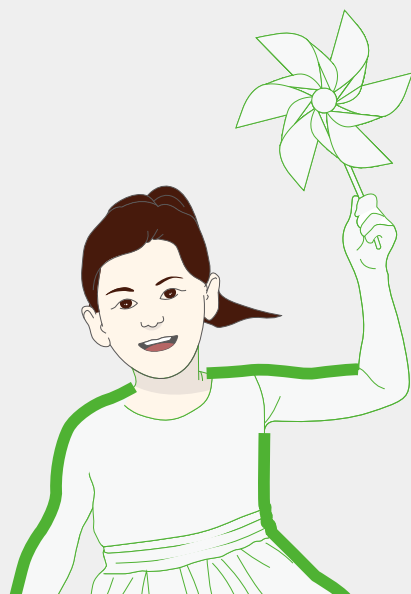
The company completed 244 supply tasks. It overcame the COVID-19 impact, and assigned key staff to supervise the unloading of coal 24/7 to ensure coal supply. The coal stocks of three key primary-level enterprises could use for more than 20 days.

Datang Henan Power Generation Co., Ltd.

Features

Pursuing Green Future

to Serve China's 30-60 Decarbonization Goal



Releasing action plan to accelerate green transition

In June 2021, CDT issued the *Action Plan for Carbon Peak and Carbon Neutrality* (hereinafter referred to as the "Action Plan"). While accelerating the construction of a new electric power system and making sure we realize our decarbonization goals on schedule, we also help the whole society achieve the goals with high quality. The *Action Plan* puts forward practical action paths and concrete measures through innovation-driven, green and low-carbon development in the future.

The *Action Plan* puts forward three paths and ten key measures to realize the carbon peak and carbon neutrality goals and formulates the timetable and roadmap for CDT. Guided by overall goals of the *Action Plan*, CDT will focus on green, low-carbon, and self-reliant development and promote innovation around energy technologies. While vigorously advancing the energy production revolution through clean and low-carbon development, we will also boost the energy consumption revolution through green energy utilization and energy efficiency improvement. In 2021, we established the China Datang Green and Low-carbon Development Co., Ltd. based on Datang Carbon Assets Co., Ltd., which has ten-year experience in the carbon market. We have built up a platform for promoting 30-60 goals with our rich experience, contributing to China's Decarbonization Goal. This not only shows our confidence and resolution to advance green, low-carbon, and high-quality development and realize the goals, but also helps accelerate the implementation of the *Action Plan* and contributes our wisdom and strength to China's green transition and sustainable development.



CDT releases the *Action Plan for Carbon Peak and Carbon Neutrality*.



The Cover of *Action Plan for Carbon Peak and Carbon Neutrality*

With green development as the main task and science and technology innovation as the driving force, CDT has integrated development quality, efficiency, and effectiveness and vigorously constructed a new electric power system with new energy as the mainstay. We have compiled and released the *Action Plan for Carbon Peak and Carbon Neutrality*, involving in the development of carbon market. We have stepped up the adjustment of the energy mix and made every effort to advance green transition and green development, thus contributing to building a beautiful China and realizing China's carbon peak and carbon neutrality goals.



Three paths to realize carbon peak and carbon neutrality:



Focusing on green, low-carbon, and self-reliant development and advancing the energy technology revolution.

Focusing on the strategic demand of "carbon peak and carbon neutrality" and facing the supply-side demand on low-carbon, zero-carbon and negative-carbon technology and the demand of big multi-energy supplementary integration projects, we have served the user-side personalized needs in "electricity, heat, cold, steam, and hydrogen energy storage and carbon services" and comprehensively promoted technical research in areas of new energy, hydro-power, and integrated intelligent energy.



Focusing on clean and low-carbon development and boosting the energy production revolution.

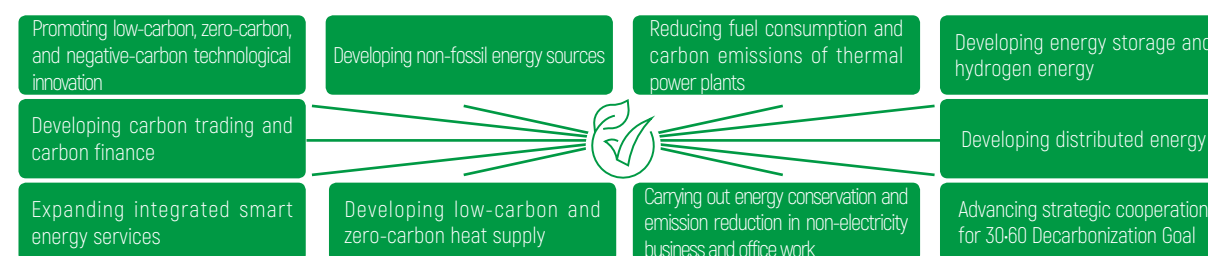
We have adhered to the simultaneous development of centralized and distributed energy projects, onshore and offshore energy projects, projects for meeting local electricity needs and electricity export, single green scenarios for power generation and integrated scenarios of development, and greenfield development and cooperative mergers and acquisitions. Great efforts have been made to develop new energy and renewable energy, and to turn thermal power from the main supplier of electricity to the main supplier of power.



Focusing on green energy utilization and energy efficiency improvement, and striving to promote the energy consumption revolution.

By innovating in the supply of green electricity, green energy, new fuels, raw materials, and materials, we provide consumers with economical, convenient, safe, and reliable green products and services, and help them conserve energy, reduce carbon emissions, and realize green production and ways of life.

Ten key measures:



CDT's timetable and roadmap to achieve "carbon peak and carbon neutrality"



Taking carbon control as the core, we will strictly control the development of coal power projects and coal consumption, vigorously develop non-fossil energy, and increase the proportion of non-fossil energy in the overall installed capacity to about 60%. We aim to achieve "carbon peak" by 2030 and reduce CO₂ emissions by about 20% per kWh of electricity.

Prioritizing carbon reduction, we will continuously replace thermal power with non-fossil energy and achieve deep decarbonization of stored thermal power. The proportion of non-fossil energy in the overall installed capacity will be increased to over 90%. CDT will accelerate our path to carbon neutrality by 2060.

Centering on new energy to create new driving forces

25.6824 GW

New energy projects (to file) approved

25.8405 GW

New energy projects approved, including

5.0584 GW

Wind power projects

20.7816 GW

PV projects

6.7655 GW

New energy projects started construction

CDT has accelerated to develop new energy with a focus on the key tasks and goals of the structural adjustment, facilitating the applications for building national large-scale wind power and photovoltaic base projects and competitive allocation of new energy organized by different provinces and regions nationwide. In 2021, new energy projects account for 94.8% of all approved power projects of CDT. The total amount, quality, and proportion of new energy construction hit a record high. Ten regional companies, including Datang Qinghai Energy Development Co. Ltd., Datang Beijing Tianjin Hebei Energy Development Co. Ltd., Guangxi Guiguan Electric Power Co., Ltd., Datang Shaanxi Power Generation Co., Ltd. and the Inner Mongolia Branch of CDT got approved to construct 16GW of new energy projects.

Constructing large bases with CDT characteristics in "Eastern, Western, Southern, Northern, and Central China". Centering on constructing large wind power and photovoltaic bases, we highlight "Source-Grid-Load-Storage" integrated operation and a multi-energy complementary layout, and strive to plan more bases with multi-energy complementary layout. Projects totaling 7.93 GW electricity in six large bases, including the Tuoketuo and Weixian County, were successfully listed as the first batch of national base projects.

Creating innovative development paths for offshore wind power and distributed photovoltaic projects. We have innovated in approaches to obtain offshore wind power in Hainan Province based on the "three bases + three chains", and carried out offshore wind power distribution planning. To promote county-wide distributed photovoltaic development, we have researched and formulated the threshold for development, technological standards, developing procedures, and typical designing solutions. 11.98 GW of PV resources in 51 pilot counties and regions have been obtained, with wide expansion on rooftop distributed photovoltaic projects in more areas and green and low-carbon development.

Engaging in the competitive allocation of new energy projects based on scientific argumentation. Considering the resource endowment, the exporting routes, the power market and CDT's development in different regions, we have participated in competitive allocation in an all-around way and yielded good results in regions such as Inner Mongolia.

Strengthening communication with local enterprises for win-win cooperation. We take the initiative to cooperate with leading enterprises in the sector, such as Goldwind, Envision Group, Trinasolar, and LONGi, as well as top enterprises, such as China National Petroleum Corporation, China Everbright Limited, China Communications Construction Company Limited, and China National Nuclear Corporation. Strategic cooperation agreements have been signed with 13 provinces, regions, and municipalities, such as Hunan, Sichuan, Guangdong and Jilin, for the construction of a community for development.

Indicator	2020	2021	
Power generation (TWh)	5603.77	5920.91	
Electricity generated from clean energy (Twh)	Hydropower	104.873	
	Wind Power	39.247	
	Solar power	2.122	
Total installed capacity (GW)	158.5972	163.9818	
	Wind Power	23,764.4	25,451.4
Total installed capacity of clean energy (MW)	Biomass	60.0	30.0
	Hydropower	27,057.3	27,163.3
	Solar energy	4,292.1	5,347.6
	Gas turbines	5,342.4	6,073.5
	Coalbed methane	5.0	5.0

Seizing opportunities to contribute to the development of carbon market

To build carbon emissions trading market is an innovative breakthrough in controlling and reducing carbon emissions and propelling corporate green development and transition based on the market mechanism. CDT follows the trend and grasps the opportunities. We have established the China Datang Green and Low-carbon Development Co., Ltd. to transform our rich experience in domestic and foreign carbon markets to the platform advantage for carbon peak and carbon neutrality. To get involved in developing carbon market, we have fully coordinated and modulated the allowance gap in the system.

Case CDT achieves 100% performance rate in the first performance cycle of the national carbon emissions trading market

The national carbon emissions trading market was officially commenced in July 2021. Subsidiaries and branches of CDT participated in the first-day trading and obtained the certificate of "First-day Trading of the National Carbon Emissions Market". In November, China Datang Green and Low-Carbon Development Co., Ltd. assisted key emitters to complete their first carbon allowance performance and payment of CDT. In December 2021, 96 subsidiaries and branches of CDT completed their carbon allowance performance and payment ahead of schedule, achieving 100% performance rate in the first performance cycle of the national carbon market. By issuing carbon asset management measures, rules on carbon emission trading, carbon performance rules, and other management rules, CDT formulated performance and trading plans to ensure timely completion of performance and payment, and contributed to the stable operation of the first performance cycle of the market.

Case CDT promotes trading of national carbon emissions market

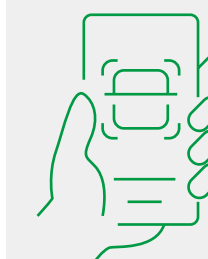
In July 2021, four power plants under CDT completed the first batch of transactions in Shanghai Environment and Energy Exchange. Key emitters opened trading accounts in the national carbon emissions market, trading funds got approved and allocated, and whole-process agency and trading work of low-carbon companies got operated. All these laid a foundation for the further improvement of CDT's carbon trading management system and got recognized by the Shanghai Environment and Energy Exchange.



Employees of China Datang Green and Low-Carbon Development Co., Ltd. actively proceed with green and low-carbon trading.



Scan to see CDT's contributions to the development of carbon market



Case The biggest wind-solar-storage integration project in northern China



Scan to see the biggest wind-solar-storage integration project in northern China

Xiangyang 2nd phase 600MW Wind Power Project of Datang Jilin Power Generation Co., Ltd., the biggest wind-solar-storage integration project in northern China, was connected to grid for power generation on December 30, 2021. As a large-scale clean energy base project developed by CDT, it was constructed with a focus on the carbon peak and carbon neutrality goals and based on the industrial layout of "one pillar, six pairs" in Jilin Province. Once completed, the project can achieve an average annual power generation of about 3.3 TWh, save 1.09 million tons of standard coal equivalent, and reduce CO₂, SO₂, and NO_x emissions by 2.69 million tons, 28,000 tons, and 24,000 tons respectively. It can also provide a large amount of electricity generated from clean energy for enterprises in the downstream of the energy chain, which is vital to accelerate the green and low-carbon transition. The project can also send clean power to Shandong through the Zarud-Qingzhou UVDC Line to optimize the balance of power supply and demand in Shandong, further improve the utilization efficiency of new energy, and play a greater role in the national ecological environment protection and economic development.

By the end of 2021, the Liaoning Branch of CDT had put into operation 29 wind power projects and 3 PV projects, with a cumulative power generation capacity of 3.432 TWh and 2,588 hours of wind power utilization. It is equivalent to saving 1.1322 million tons of standard coal and reducing 102,500 tons of smoke and dust emissions, 3.6334 million tons of CO₂ emissions, and 27,900 tons of SO₂ emissions.



In August 2021, the first wind turbine of Datang Shantou Nan'ao Lemen Offshore Wind Power Project, CDT's first offshore wind power project in the South China Sea, was successfully hoisted. The project has a planned installed capacity of 245 MW and is estimated to generate 751 GWh of power annually. Its annual output value is RMB 565 million. It can save 240,000 tons of standard coal equivalent and reduce 450,000 tons of CO₂ emissions every year, which will significantly promote the transformation of Shantou's energy mix and low-carbon upgrading of the industry.



Serving national strategies.

We have implemented and participated actively in national strategies for regional development, such as Beijing-Tianjin-Hebei Region, the Yangtze River Economic Belt, the Yellow River Basin, Yangtze River Delta Integration, Guangdong-Hong Kong-Macao Greater Bay Area, etc. Regional high-quality development plans, such as the Key Measures for Ecological Protection and High-quality Development in Yellow River Basin, have been compiled and issued to promote regional green and coordinated development.

CDT's main measures to serve national strategies for regional development

We have vigorously developed large wind power PV bases, and accelerated the optimization and upgrading, low-carbon and high-efficiency transformation of the thermal power industry. The in-depth research on carbon capture, utilization, and storage technologies and smart city construction have been conducted. We strive to integrate a number of major projects into the national and Beijing-Tianjin-Hebei regional power development plan during the 14th Five-Year Plan.

We highly value the construction of clean energy projects along the Yangtze River Basin and have carried out environmental governance along the Yangtze River Economic Belt to accelerate its green and low-carbon development and improve the long-term mechanism against environmental risks.

We have stepped up developing and constructing natural gas power plants, orderly developed wind power, and developed solar energy and biomass power projects according to local conditions. Efforts have been made to explore and research new business forms, such as energy storage, integrated energy services, and an incremental power distribution network, and science and technology innovation has been strengthened.



Attaching great importance to the ecological protection in the Yellow River Basin, we have completed the comprehensive survey of ecological and environmental risks along the Yellow River and enhanced our efforts in the green and low-carbon transition in this area.

We have developed offshore wind power, onshore wind power, distributed photovoltaic, and natural gas projects in Shanghai, which coincides with local conditions. Aiming at building Jiangsu Province into a "clean energy island + smart energy city", we have developed PV, offshore wind power, onshore wind power, and distributed wind power projects. With a focus on PV generation, distributed wind power, and gas power, we have completed the construction of 300 MW of tidal flat PV project. We have also carried out strategic research on ecological restoration, fishery-solar hybrid projects, agriculture-solar hybrid projects, and advanced PV governance in coal-mining subsidence areas.

"This is our first PV project on the tidal flat and we keep summarizing experience and exploring while constructing the project. Now we have mastered a series of mature construction methods. Our application of new technologies and new processes has greatly boosted the construction efficiency".

Project leader of Datang Changdatu photovoltaic project

Chasing the sun on 301 hectares of tidal flats—the Datang Changdatu photovoltaic project, with a total installed capacity of 300 MW, is the first fishery-solar hybrid project on the coastal tidal flat in China.





Features

Taking Multiple Measures to Facilitate Rural Vitalization Unremittingly

Bearing the missions with top-level support

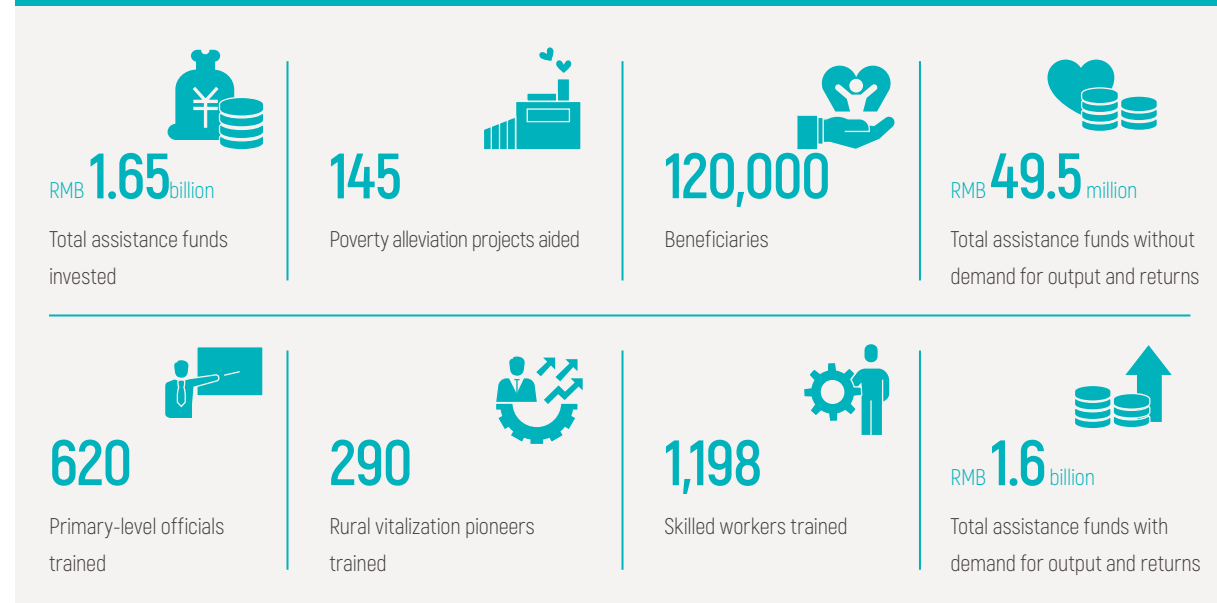
Strengthening top-level planning

CDT has formulated and issued the *Work Plan and Action Plan for Supporting Rural Vitalization and Implementing the Assistance System with CDT Characteristic During the 14th Five-Year Plan Period*, and the *Opinions on Consolidating Poverty Alleviation Achievements and Aligning Them with Rural Vitalization* to plan systematically for the five-year transition period in rural vitalization.

Enhancing organizational leadership

CDT has established a rural vitalization leading group to consolidate poverty alleviation achievements and align them with rural revitalization. A mechanism for rural vitalization work featuring level-by-level supervision of the Corporation, branches and subsidiaries, and primary-level enterprises has been created to provide organizational support for rural vitalization. Leaders of CDT have led teams to visit targeted assistance counties to inspect the local progress in rural vitalization work.

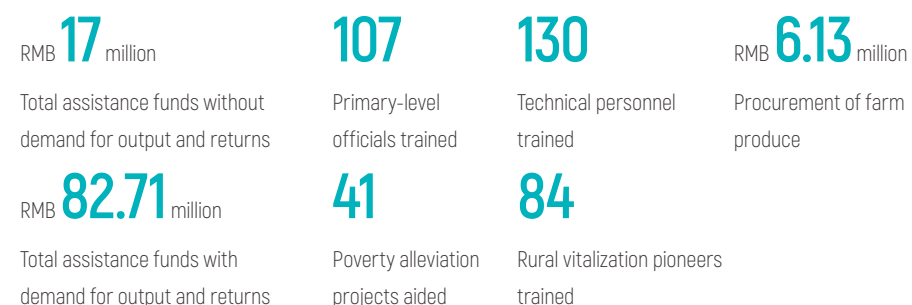
In 2021, in the **53** villages of Dahua County (Guangxi), Chengcheng County (Shaanxi), and Xinghai County (Qinghai), and other targeted assistance areas of CDT:



There will be no national rejuvenation without a thriving countryside. Bearing in mind the country's most fundamental interests and focusing on agricultural modernization, rural development, and electrification in rural areas, we provide assistance to rural residents and help them build up self-belief and gain access to education. We have invested heavily in rural vitalization, and made coordinated endeavors to improve local education, industries, livelihoods, employment, and Party building. We have established our assistance system with CDT characteristic based on the above five-sphere assistance, aiming to contribute to the national rural vitalization strategy continuously.



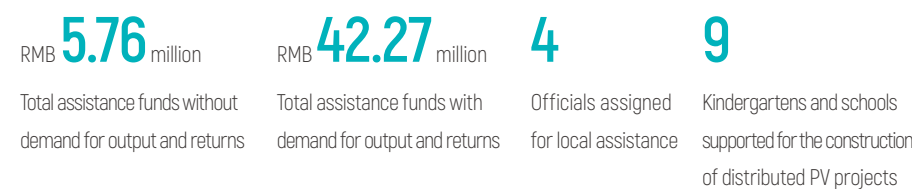
Dahua County, Guangxi Tan Dange, chief accountant at Guangyuan Branch, Datang Guiguan Power Generation Company, serves as deputy county magistrate of Dahua County



Chengcheng County, Shaanxi Wang Dong, deputy director of Datang Shaanxi Xihe Hydropower Plant, serves as deputy county magistrate of Chengcheng County



Xinghai County, Qinghai Province Li Yantao, chief engineer of Gaojing Thermal Power Plant of Datang Power, serves as a member of the Standing Committee of the County Party Committee and deputy county head



Supported the purchase of devices for improving the local healthcare

Supported the development of the featured dairy industry

Completed the clean heating pilot project in the local ethnic senior high school

Building beautiful villages with concrete actions

Targeting the improvement of education, industries, infrastructure construction, rural governance, and social programs, we support the rural vitalization through industry development, talent training, culture inheritance, ecological progress, and organizational consolidation.



Educational support

Education is a primary task that is crucial for generations to come. Attaching top priority to educational support, CDT has cooperated with Beijing Normal University and other famous universities to share their teacher resources with local areas for higher local educational standards. By offering incentives and rewards for teachers, providing scholarships and grants for students, improving local educational facilities, and organizing training and exchanges for officials, we train local talents on all fronts. In frontier regions inhabited by minority groups, various mandarin training programs are organized to popularize the national language.

Jointly improving the education in impoverished areas

CDT and Beijing Normal University jointly launched an educational assistance program to help address local educational problems, including the shortage of teachers, the lack of teaching experience, and weaknesses in teaching and educational research. In the program, key teachers from assisted areas are selected to get trained at Beijing Normal University, while outstanding teachers of the university devote to supporting education in Dahua County, Guangxi. The "Lecture by Famous Teacher", Targeted online training for students, and teacher training programs are also launched on the online education platform. These measures will improve the quality of local education and enrollment rate and enhance the expertise of local teachers.

"The children's smiling faces are like blooming flowers. I feel all my hardships worthwhile".

A poverty alleviation official in Xinghai County, Qinghai



Industry development

Developing featured industries drives rural prosperity. Based on the local resource endowment, we push forward the "one industry for one township" and "one product for one village" strategies, to develop local featured industries with rural characteristics, facilitate the improvement of featured planting and breeding industries, and enhance our supporting measures for the entire industrial chain. We actively engage in the distributed PV and wind power projects in villages to help the local area develop new energy projects. An assistance model featuring "new energy + enterprise + government + farmers" has been formed to boost rural vitalization and high-quality corporate development in parallel. In 2021, CDT invested RMB 23.77 million in 46 industrial assistance projects and RMB 1.6 billion in the main businesses of assisted areas. New energy projects with a total installed capacity of 9.65 GW were available for CDT.



Zou Lei inspects CDT's assistance to the local industry development in Chengcheng County, Shaanxi

In October 2021, a team led by Zou Lei, Chairman of CDT, inspected CDT's progress on consolidation of poverty alleviation achievements and rural revitalization in the assisted Chengcheng County, Shaanxi. During the visit, Chairman Zou expressed his respect and sympathy for all officials fighting on the frontline of poverty alleviation. He said that rural vitalization plays a key role in promoting socialist modernization, and that CDT would give full play to its strengths and resource endowment to promote local industry development and employment. CDT strives to help the county realize self-sufficient development, seek new achievements in the rural vitalization work in Chengcheng County, and continue to contribute to the high-quality economic and social development of Chengcheng County.



Zou Lei, Chairman of CDT, meets with CDT's officials working in Hejialou Village for targeted assistance, members of the Party Branch Committee and the Villagers Committee of Hejialou Village.

Promoting rural vitalization through "PV+" industries

Based on the concept of comprehensive land use, Datang Yantan Hydropower Co., Ltd. gives full play to the areas above and below solar panels to develop water-surface PV projects. The company has explored a modern eco-friendly rural PV industry integrating water-surface and ground PV projects, thus contributing to rural vitalization and creating continuous benefits for agriculture, rural areas, and farmers.



In 2021

86

New hires

1,031

Locals find jobs elsewhere under the support of CDT

Employment

We coordinate our recruitment plan with the local employment need, and have scaled up the hiring of personnel from targeted assistance areas and those from border areas inhabited by minority groups, stabilizing the local employment continuously.



"Order-based" targeted assistance

CDT has introduced Tangwei Garment Factory to Chengcheng County based on "order-based" assistance mode. We place orders for workwear to the factory, and meanwhile provide jobs for people relocated from inhospitable areas. We thus created the new poverty alleviation model of "central SOEs lead private companies to drive employment". Our "order-based" assistance to Tangwei not only enhances the factory's resistance to market risks and contributes to local fiscal revenue, creating a new model for win-win cooperation between enterprises and the local. By the end of 2021, the garment factory had hired 150 to 200 relocated people, with an annual per capita income of over RMB 30,000.

"I have made a stable income of more than RMB 2,000 per month since CDT opened the garment factory in our neighborhood. I don't have to worry about finding a job anymore".

Duan Lingyun, an employee of Tangwei Garment Factory, Chengcheng County, Shaanxi

"Getting a job in the village enables me to take care of my parents and my son and do farm work. I feel quite contented".

Sepuddin Narman, a 47-year-old villager of Qianjin Village, Qiagelake Township, Xinjiang Uyghur Autonomous Region



Livelihood improvement

We prioritize consumption-driven assistance to improve local livelihoods. Various forms of assistance activities, such as purchase of and assistance in the sales of farm produce from areas lifted out of poverty, are organized to help the poverty-stricken population and low-income rural population increase their incomes. In addition, we concentrate on the governance of rural ecology, rural environment improvement, infrastructure construction, toilet revolution, kitchen revolution, and garbage classification to improve the living environment in rural areas. In 2021, we helped with the sales of RMB 5.26 million worth of agricultural products from areas lifted out of poverty, and purchased agricultural products worth RMB 28.76 million.

In 2021

RMB 10.44 million

Invested in livelihood improvement

80,000 +

Beneficiaries

RMB 28.76 million

Worth of agricultural products from areas lifted out of poverty purchased



Datang Anhui Power Generation Co., Ltd. facilitates the sales of farm produce.



Datang Jiangsu Power Generation Co., Ltd. launches the "Rural Vitalization - Datang is with You" farmer assistance activity.



Village-based officials from Datang Chongqing Power Generation Co., Ltd. help a left-behind senior resident replace an old cable.



Datang Jilin Power Generation Co., Ltd. assigns a first secretary and a village-based work team to guide local assistance work.

Party building

We have strengthened Party building training among primary-level officials, and organized Party history learning and a campaign themed with "staying true to our founding mission". By organizing paired activities between Party branches of companies and Party organizations in rural areas, we give full play to the resources and human resource of both sides in solving problems in rural vitalization, so as to realize common development.



Datang Jilin Power Generation Co., Ltd. assigns a first secretary and a village-based work team to guide local assistance work.

"CDT's great sense of responsibility, aspiration to build itself into a first-class enterprise, and achievements in Party building has made itself a great model for us to learn from".

Lei Nan, Party Secretary of Siqian Town, Chengcheng County, Shaanxi Province

120

Party branches established

RMB 350,000

Donation by Party members

Management

Comprehensively Deepening the Reform

At CDT, comprehensively deepening the reform is regarded as the key to solving stranglehold problems, addressing inadequacies and seeking development. Therefore, the Corporation continues the reform at a faster pace to inject strong impetus into its development.

Taking a key step to improve the modern enterprise system with Chinese characteristics

We take the Party leadership over SOEs as a major political principle and the establishment of a modern enterprise system as the direction of the reform of SOEs. The headquarters and our key subsidiaries have comprehensively revised the decision-making and authorization system and the work procedures to further clarify the boundaries between powers and responsibilities. We continue to improve the Board of Directors, and all subsidiaries have established their boards of directors dominated by external directors. We also promote the standardized operation of the boards of subsidiaries at all levels to make the boards execute their rights in an orderly manner.

Achieving positive results in building high-quality development systems and mechanisms

We advance the reform of the headquarters to streamline the organization and build a headquarters with strong political capability, strong strategic leadership, strong governance efficiency, strong resource allocation, strong service guarantee and strong risk prevention and control. The reform of secondary organizations is also promoted to incorporate the functional business into localized management and ensure that regional companies fulfill their main responsibilities. Meanwhile, we have deepened the new energy management system to promote the industrialized, specialized and intensive management, and continue the reform of the scientific research and service guarantee systems to build a "224" technological innovation system in line with the actual conditions of the Corporation.

Consolidating the market-based operating mechanism

We adopt the tenure system and contract-based management for the managerial staff on all fronts. To improve the market-based employment mechanism, the headquarters takes the lead in the "two-contract" management and full-staff performance appraisal. Moreover, we strengthen the full-scale employment management, and streamline labor dispatching and business outsourcing to improve the productivity of all staff. The performance appraisal and salary distribution mechanism is reformed, the payroll determination mechanism improved, and the payroll filing system piloted.



CDT Headquarters Staff Meeting and the Fourth Meeting on Implementing the Three-Year Action Plan for SOE Reform

Improving Corporate Governance

To build a solid foundation for corporate governance, CDT continuously promotes the modernization of the governance system and governance capabilities. We are committed to compliant operation and strict risk control to facilitate our sustainable corporate development,

Governance structure

Improving the modern enterprise system

We strengthen the Party's leadership throughout the whole process of corporate governance, and take the Party leadership over SOEs as a major political principle and the establishment of a modern enterprise system as the direction of the reform of SOEs. We have further clarified the power and responsibilities of governance bodies to ensure the Party Group's role in charting the course, crafting master plans, and promoting the implementation of policies, the Board's role in laying down strategies, making decisions, and guarding against risks, and the management's role in seeking business development, implementing strategies and strengthening management, and guarantee the unity of decision-making quality and decision-making efficiency. We also accelerate the establishment of a corporate governance mechanism with statutory and transparent power and responsibilities, coordinated operation, and effective checks and balances. In 2021, CDT held 11 board meetings. As of the end of 2021, the board of directors had a total of eight directors, including four internal directors and four external directors.

Strengthening the top-level design with systematic thinking

We closely link the Party Group meetings, the Board meeting, special meetings presided over by the Chairman, and the GM Office meetings, and have formulated the "four checklists" to strengthen topic linkage and agenda coordination, and make decision-making on major matters, appointment and dismissal of key officials, investment in major projects and use of large amounts of funds more scientific. We have issued the *Guiding Opinions on Further Standardizing Decision-Making on Major Matters, Appointment and Dismissal of Key Officials, Investment in Major Projects, and the Use of Large Amount of Funds* to guide secondary subsidiaries to build relevant systems. We keep standardizing the use of relevant system, and submit decision data to the SASAC in time.



11

Board meetings held in 2021

8

Directors in the Board by the end of 2021, including

4

Internal directors

4

External directors

3

Subsidiaries rated as outstanding companies in the national legal popularization campaign.

Law-based governance

Thoroughly studying and applying Xi Jinping Thought on the Rule of Law.

CDT has organized a number of study sessions through the central group for theoretical learning of the Party Group and the leading group on the rule of law, and distributed the *Selected Materials on Studying and Applying Xi Jinping Thought on the Rule of Law and Essentials of the Study of Xi Jinping Thought on the Rule of Law* to get everyone involved.

3

Employees rated as outstanding individuals in the national legal popularization campaign

Strengthening compliance management in key fields

We investigate and analyze the compliance system, and put forward improvement measures for deficiencies. Based on our annual compliance inspections, we clarify compliance behaviors and prohibitions in key fields such as corporate governance and investment decision-making. Furthermore, we improve overseas compliance management systems, and issue compliance guidelines for key fields. The early warning of similar risks is strengthened, and notification letters on risks such as environmental public interest litigation and patent infringements are issued to prevent potential risks.

Consolidating the foundation of law-based governance

CDT's legal system has been interconnected with all 32 financial sharing centers. In 2021, a total of 117,000 contracts were managed online, attracting 6,800 visits on a daily basis. We continued to improve our ability to prevent and control online legal risks, and our performance was recognized by the SASAC.



CDT's Zhejiang Branch organizes a legal popularization activity.

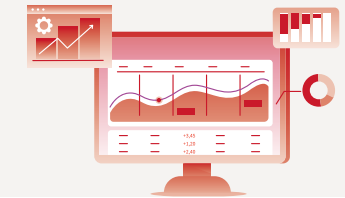
Risk management

Forestalling and defusing major risks

We have set up a leading group and a task force with a working mechanism to hold the bottom-line of no systemic risks. We have clarified the general requirements of "revitalizing assets, reducing losses, holding the bottom-line, and getting out of tight corners for revitalization", and made every effort to make breakthroughs in the coal chemical industry. Focusing on risk control from the source, we comprehensively investigate financial debts, legal litigation, etc., and have established a supervision mechanism over major lawsuits to effectively resolve risks such as financial debts. The *Compliance Guidelines for Overseas Projects* is issued and risk prevention and control measures targeting key fields of key overseas projects are developed to strengthen the prevention of major risks overseas. In addition, with an focus on the decisions and plans of the CPC Central Committee and the State Council and concerns of the Party Group, we conduct audits and supervision to reveal potential risks timely.

Strengthening risk management of cases

We have innovated in the case management mechanism, established the case handling system under the supervision of the CDT's leadership and the "monthly analysis, weekly scheduling, and daily tracking" system for case management. Meanwhile, we strengthen case notification and assessment to urge rectification, and have made some progress in controlling the occurrence of cases and reducing the number of existing cases. We systematically analyze closed cases, existing cases and potential cases, as well as the causes of cases, and strengthen risk control to prevent the recurrence of similar cases or risks.



Committed to Sustainable Development

CDT actively explores the effective path of integrating the sustainability philosophy into business operations, pays attention to and responds to the key concerns of stakeholders, and promotes the win-win results of corporate development and social values based on the development of the Company.

CSR management

In accordance with the *Company Law*, the *Securities Law* and the *Code of Corporate Governance of Listed Companies*, CDT incorporates social responsibility into the daily work management of the Shareholders' Meeting, the Board of Directors and its specialized committees, the Board of Supervisors and the management, forming a scientific and effective management model. We have set up a CSR work leading group with the core leadership of the Corporation as the group leader. The group studies and deliberates major CSR issues and matters of CDT, and formulates CSR system measures. As the leading department for CSR affairs, the CSR Division of Strategic Planning (Rural Vitalization Office), is in charge of CSR routine of the Corporation.

• CDT's CSR cases are selected into the *Research Report on Corporate Social Responsibility of Central State-Owned Enterprises and Research Report on Overseas Social Responsibility of Central State-Owned Enterprises*.



• CDT Social Responsibility Report 2020 was rated as *GoldenBee Excellent CSR Report 2021 - Leading Enterprise*.

CSR communication

Management of material topics

The Corporation continues to improve the identification, evaluation, and analysis process of material topics. In 2021, combined with the global sustainable development trend and CDT's development strategy, we benchmarked with the relevant international and domestic standards of social responsibility, and followed the principles of materiality, completeness, and stakeholder inclusiveness to collect social responsibility topics in various forms, such as seeking suggestions from the management, organizing internal and external expert analysis, and obtaining information from daily business work. Then we determined the material CSR topics from two dimensions, i.e. "value creation" (assessing the relevance, importance, and feasibility of topics to comprehensive value creation) and "social concern" (assessing the concern of stakeholders and society for the topics) after comprehensive analysis and identification.

Material CSR topics in 2021

CSR area	Material topics	Contribution to UN SDGs
Building a Solid Foundation for Safety	<ul style="list-style-type: none"> Strengthening safety management COVID-19 response 	  
Forming a Green Development Pattern	<ul style="list-style-type: none"> Developing clean energy Developing clean and efficient thermal power Saving resources and energy Reducing pollution emissions Addressing climate change Protecting biodiversity 	  
Leading the Future with Innovation	<ul style="list-style-type: none"> R&D of innovation technology Training innovative talents 	 
Joining Hands for the Win-win Industry Development	<ul style="list-style-type: none"> Promoting win-win partnership Contributing to the development of overseas communities Localized operation Strengthening international management 	   
Building a Harmonious Society	<ul style="list-style-type: none"> Protecting the rights of employees Cultivating innovative talents Improving community livelihood 	    

Stakeholder management

CDT values the communication with internal and external stakeholders and tracks the expectations and demands of stakeholders through diversified communication channels. We have built communication platforms such as CDT official website and WeChat official account to consciously accept public supervision. By the end of 2021, we have released social responsibility reports for 15 consecutive years.

Stakeholders	Expectations and Demands	Communication Approaches	Performance Indicators
Government	<ul style="list-style-type: none"> Complying with laws and regulations Ensuring energy security Paying taxes in full according to law Optimizing energy structure Driving social employment 	<ul style="list-style-type: none"> Work meeting and reports Statistics report Information delivery 	<ul style="list-style-type: none"> Power generation volume Tax payment EVA Ratio of clean energy to total installed capacity Providing jobs
Shareholders	<ul style="list-style-type: none"> Legal compliance Stable operation Risk management 	<ul style="list-style-type: none"> Shareholders' Meeting Announcements of the Corporation Regular reports 	<ul style="list-style-type: none"> Market share Total profits Investment income
Partners	<ul style="list-style-type: none"> Fairness and transparency Contract fulfillment with integrity Win-win cooperation 	<ul style="list-style-type: none"> Industry communication Strategic cooperation Contract and agreement 	<ul style="list-style-type: none"> Integrity Contract performance rate Period of cooperation Responsible procurement
Employees	<ul style="list-style-type: none"> Protecting the rights of employees Protecting employees' health and safety Supporting employee development Providing humanistic care 	<ul style="list-style-type: none"> Workers' Congress Letters and visits Disclosure of corporate affairs 	<ul style="list-style-type: none"> Labor contract coverage rate Level of salary Working environment Accident rate Staff training investment Labor union membership rate
Customers	<ul style="list-style-type: none"> Safe and stable supply of electricity and heat Products and services with high quality and low price 	<ul style="list-style-type: none"> Contracts and agreements Electricity, heat and coal products Related technical service 	<ul style="list-style-type: none"> Customer satisfaction
Communities	<ul style="list-style-type: none"> Engaging in community development Supporting charity cause Safeguarding public security 	<ul style="list-style-type: none"> Charitable activities Open day 	<ul style="list-style-type: none"> Investment in community development Investment in charity Public security complaints
The Environment	<ul style="list-style-type: none"> Climate change Energy conservation and emission reduction Biodiversity conservation Charity on environmental protection 	<ul style="list-style-type: none"> Environmental impact assessment Open day Environmental protection activities 	<ul style="list-style-type: none"> Ratio of clean energy to total installed capacity Energy saving target Emission reduction target Pollution complaints
NGOs	<ul style="list-style-type: none"> Positive interaction Contributions to institutes and associations Promoting sustainability 	<ul style="list-style-type: none"> Conferences and activities Suggestions 	<ul style="list-style-type: none"> Frequency and profoundness of activity engagement Membership fees
Media	<ul style="list-style-type: none"> Information disclosure and transparency 	<ul style="list-style-type: none"> Press conference Media interview and communication 	<ul style="list-style-type: none"> Number of press conferences Number of core media reports



CDT Official Website (Chinese)



CDT Official Weibo account



CDT Official Wechat account

Building a Solid Foundation for Safety

Our CSR Practice

Strengthening safety management

Improving emergency response capabilities

Heightening safety awareness

Our CSR Performance

RMB **3.832** billion
Invested in technology transformations for improving equipment reliability

6,981
Emergency response drills

11
Units received gold awards for reliability



3 GOOD HEALTH AND WELL-BEING

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Strengthening Safety Management

Upholding "work safety is the lifeline of corporate development", CDT has remained committed to improving the safety management system to enhance work safety and prevent major safety hazards, and building CDT into a corporation that is intrinsically safer. In 2021, no major equipment accidents happened at CDT.

Improving the safety management system

Abiding by Chinese laws and regulations including amended *Work Safety Law*, we have improved regulations related to work safety, and revised 11 systems including the *Regulations on Work Safety*. Meanwhile, we have strengthened the appointment of safety supervisors, clarified the allocation of all-level security personnel and their responsibilities, and urged subsidiaries at all levels to carry out relevant work. In addition, we have revised and issued the *Responsibilities, Interfaces and Procedures of Safety Supervision Departments* to ensure the implementation of safety responsibilities and effective management.

Enhancing work safety management

CDT promotes the model for managing work safety on an ongoing basis and has revised the *Regulations for Work Safety Rewards and Punishments*. According to the principle that "the root cause of accidents should be found, responsible personnel should be held accountable, rectification should be implemented properly, and relevant personnel should be educated", we investigate workplace accidents without delay. Meanwhile, we focus on prominent problems such as weak safety foundation and weak work safety awareness, and have intensified efforts to rectify these problems. We have also conducted "five special rectifications" to comprehensively and systematically improve work safety management.

Strengthening safety hazard investigation and rectification

While advancing the Three-year Action Plan on Work Safety, we have followed the requirements of routine COVID-19 response in carrying out hazard source assessments, spring inspections, and centralized inspections on work safety, and launched a comprehensive investigation of ideology, institutional system, safety management, hazards of accidents, construction of the rule of law, and logistics, with 1,032 hidden risks addressed. Centering on the "rectification of the five prominent problems", we have embarked on work safety rectification following the three stages of self-inspection, supervision and inspection, and summary and improvement. In 2021, CDT investigated and rectified 3,042 safety hazards, laying a foundation for deepening safety management.

Consolidating safety risk management

CDT has formulated the *Administrative Measures for Safety Risk Assessment of Power Generation Companies*, and continued to improve the standards and manuals for risk control assessment. We have optimized the index system for prioritizing work safety risks, and carried out regular internal and external risk control assessments, enabling us to promote all-round improvement of the overall risk management.

In 2021, CDT **did not have** major and above major equipment accidents



Improving Emergency Response Capabilities

CDT continues to refine the emergency management system to improve emergency response capabilities and equipment reliability management, so as to effectively respond to emergencies such as natural disasters and ensure work safety.

Strengthening emergency preparedness

Assessing emergency response capabilities. To enhance emergency management, CDT has issued the *Administrative Measures for the Development of Emergency Response Capabilities Evaluation of Power Generation Companies*, and formulated rectification plans for the problems identified.

Carrying out self-examination on emergency response capabilities. CDT has implemented various inspection items in the comprehensive examination of the Corporation's current emergency response capacities. In 2021, 606 problems were discovered, with no major problems.

Improving emergency planning system. CDT has issued comprehensive emergency plans, special emergency plans for workplace accidents (incidents) and sudden natural disasters, and more than 50 on-site handling plans. In addition, we have compiled the *Special Emergency Plan for Guaranteeing Power Supply to the 2022 Olympic and Paralympic Winter Games*, effectively improving the ability to handle emergencies while supplying electricity and heat to the events.

Conducting emergency response drills. Taking opportunities such as the "Work Safety Month" campaign, our subsidiaries have organized different types of emergency response drills to improve their preparedness for frequent natural disasters in the northwest and southwest regions. We have also compiled the *Guidelines on Workplace Emergency Reporting and Response* for subsidiaries. In 2021, CDT conducted 6,981 emergency response drills and formulated 436 emergency plans.

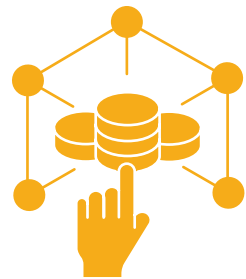


Datang International Zhangjiakou Power Plant and the Bureau of Ecology and Environment of Zhangjiakou conduct a joint emergency response drill on hydrochloric acid leakage.

Increasing equipment reliability

RMB **3.832** billion

Invested in technology transformations for improving equipment reliability in 2021



We have taken solid steps in reducing defects and unplanned shutdowns, and creating gold award-winning units. For example, we have carried out plant-wide power outage prevention, troubleshot hidden troubles concerning facilities such as grounding grids, pressure vessels, etc., and ensured that all defective units have been repaired. We have strengthened technology transformations, and formulated relevant projects scientifically. In 2021, we completed the comprehensive upgrade for the ultra-supercritical generator unit of Luohe Power Plant No. 5 Unit, and ensured its safe and reliable operation. Through competitions among units, we continuously improved the work system by identifying deficiencies through benchmarking and promoting improvement through concrete rectification, thus ensuring improvement in macro indicators by fulfillment of micro indicators. In 2021, CDT invested a total of RMB 3.832 billion in technology transformations for improving equipment reliability, and 11 generating units received gold awards for reliability.

Case Datang Heilongjiang Power Generation Co., Ltd. addresses winter heat supply problems in summer

Following its four-sphere integrated plan, Datang Heilongjiang Power Generation Co., Ltd. has carried out hidden hazard investigations and heat supply risk assessments toward its goal of eradicating five major problems. In 2021, it formulated adequate overhaul schemes, including 7,256 maintenance projects, 6,253 inspection projects, and 43 technology transformation projects. The company investigated hazards in the boilers' four main pipes, heating network system, important auxiliary machines, thermal protection logic, and electrical control loop, and eliminated a number of major hazards in its effort to deal with heat supply problems in advance.

CDT's generating units with excellent reliability performance in 2021

Unit grade	Number	Name
1,000MW generating unit	1	• No. 1 Unit of Guangdong Datang International Leizhou Power Generation Co., Ltd.
600MW generating unit	4	• No. 6 Unit of Inner Mongolia Datang International Tuoketuo Power Generation Co., Ltd. • No. 1 Unit of Fujian Datang International Ningde Power Generation Co., Ltd. • No. 3 Unit of Jiangsu Datang International Lvsigang Power Generation Co., Ltd. • No. 1 Unit of Datang Guizhou Fa'er Power Generation Co., Ltd.
300MW generating unit	6	• No. 4 and 5 Units of Yangcheng International Power Generation Co., Ltd. • No. 2 Unit of Datang Linzhou Thermal Power Co., Ltd. • No. 4 Unit of Leiyang Branch of Datang Huayin Electric Power Co., Ltd. • No. 12 Unit of Inner Mongolia Datang International Hohhot Thermal Power Co., Ltd. • No. 4 Unit of Datang Luoyang Shouyangshan Power Generation Co., Ltd.



Grade A overhaul site of the No.1 Unit of Datang International Nalan Hydropower Development Company



Employees of CDT's Shandong Branch repair the wind turbine.



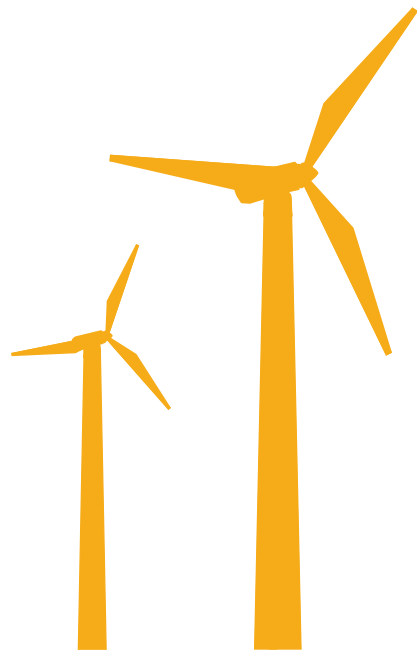
Inner Mongolia Datang International Tuoketuo Power Generation Co., Ltd. strengthens equipment inspection.



Changfeng Wind Farm under Datang Hubei Energy Development Co., Ltd. conducts an equipment inspection.



Responding to emergencies



CDT has strengthened information sharing and consultation with meteorological departments to improve monitoring, forecasting and early warning. In 2021, we successfully responded to various natural disaster hits, including typhoons such as In-fa and Chanchu, rainstorms in Henan, over-level floods, offshore earthquakes, etc. We took proactive measures in response to severe power shortages during the peak electricity consumption period and the winter heating period, and secured heavy loads of power consumption and work safety.

Case Datang Binhai Offshore Wind Power Generation Co., Ltd. quickly responds to an earthquake and ensures safe power supply

In November 2021, an earthquake measuring 5.0 on the Richter scale occurred off the coast of Yancheng City, Jiangsu Province, with a focal depth of 17 kilometers. It was clearly felt at the offshore booster station and onshore centralized control center of Datang Binhai Offshore Wind Power Generation Co., Ltd. The company immediately activated an emergency response plan. The leaders commanded on the front line with detailed planning, and contacted offshore maintenance personnel in the wake of the quake to ensure their personal safety and the implementation of adequate protective measures. They urgently evacuated personnel at the wind farm and the company's office in Yancheng to safe areas. It also thoroughly troubleshot the onshore centralized control center, offshore booster station, offshore wind turbines, etc., and verified the safety of personnel, equipment and buildings. The operation mode of offshore wind turbines has been reasonably arranged, with stricter video surveillance and quick alarm response, thereby identifying and addressing hidden hazards in time to ensure the safety of personnel and equipment, and guarantee reliable power supply.



The offshore wind farm of Datang Binhai Offshore Wind Power Generation Co., Ltd.

Heightening Safety Awareness

We have launched the "Work Safety Month" campaign, compiled the collection of accident cases in 2021, and produced films warning employees against workplace accidents to enhance their safety awareness and ability to prevent accidents. We have also carried out safety training for various systems, positions and types of work to comprehensively improve the safety capabilities of personnel at all levels. In 2021, CDT organized 2,651 safety training sessions with 296,827 participants in total.

Case Enhancing overall safety through the "Work Safety Month" campaign

Always pursuing safe development, Datang Huayin Electric Power Co., Ltd. bears in mind the significance of work safety and environmental protection. The company has comprehensively carried out activities during the "Work Safety Month" campaign, the three-year special action for work safety improvement, the centralized rectification on safety and environmental concerns, and safety and environmental inspections in spring. To further improve employee safety awareness and consolidate work safety management, it has launched a comprehensive investigation of ideology, institutional system, safety management, hazards of accidents, construction of the rule of law, and logistics with rigorous, sophisticated and pragmatic attitudes.

In 2021

2,651

Safety training sessions organized

296,827

Participants in total



Datang Qinghai Energy Development Co., Ltd. organizes a knowledge competition on work safety.

Launching ceremony of the "Work Safety Month" campaign at Datang International Zhangjiakou Thermal Power Co., Ltd.

Forming a Green Development Pattern

Our CSR Practice

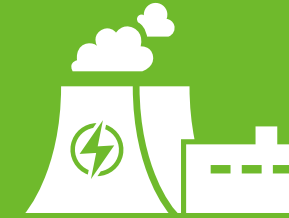
Reducing the pollutant discharge

Saving energy and resources

Protecting the environment

Embracing a green life

Our CSR Performance



RMB **1.372** billion
Invested in environmental protection

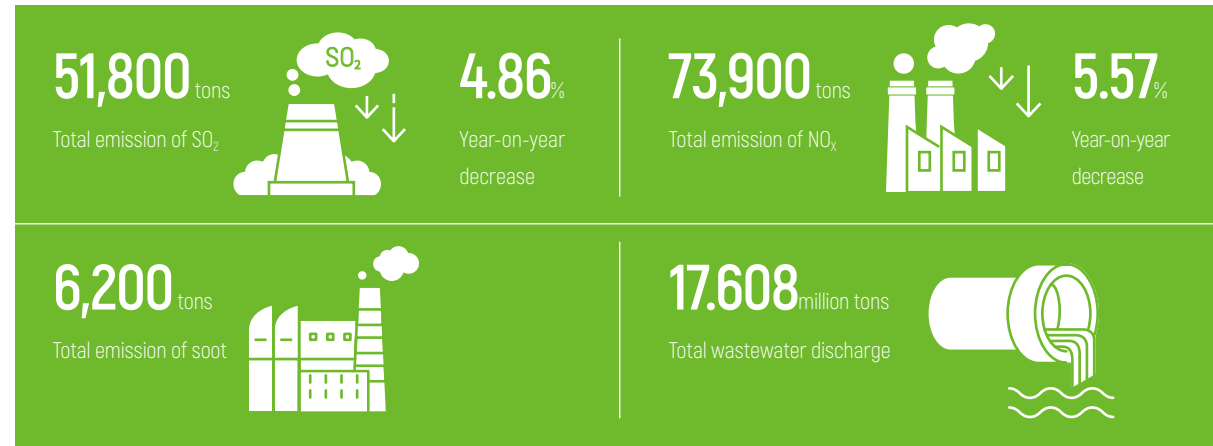
295.92 grams of
standard coal per kWh
Coal consumption for power supply

254
Generating units with ultra-low emission transformation completed



Reducing the Pollutant Discharge

CDT continues to improve the environmental management system, implements action plans for controlling pollution and protecting the blue sky, and ensures stable discharge of pollutants in compliance with standards. In 2021, CDT experienced no environmental incidents, and invested RMB 1.372 billion in environmental protection.



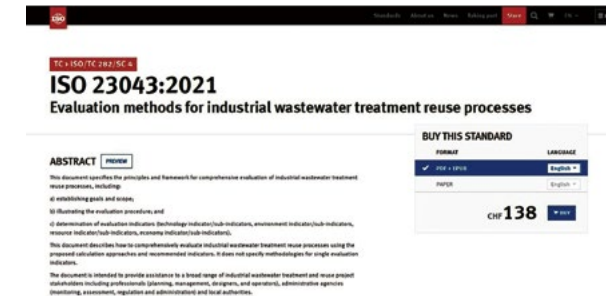
Strengthening the control of pollutant discharge

Based on the environmental data monitoring platform, we have strengthened the online monitoring, real-time alarm, and status evaluation of environmental data, and ensured the stable operation of environmental facilities and equipment. We respect and abide by

local policies on controlling after-combustion, and strictly implement local governments' early warning and response measures for heavily polluted weather to ensure the stable and up-to-standard discharge.

Increasing investment in environmental R&D

Datang Environment Industry Group Co., Ltd. and its affiliates including Datang Environmental Science and Technology Research Institute, China Datang Technologies & Engineering Co., Ltd., and Datang Nanjing Environmental Protection Technology Co., Ltd. have advanced a range of environmental science research projects, and completed 3 national key R&D projects including the "Technology for Controlling Organic Pollutant Emissions in Coal Combustion Process". To inject new impetus into the CDT's sustainable development, we have actively participated in the formulation of international standards. For example, we have officially released and implemented the *Industrial Wastewater Treatment and Reuse Technology Evaluation Method* (ISO 23043), which was compiled in cooperation with Nanjing University.



The *Industrial Wastewater Treatment and Reuse Technology Evaluation Method* (ISO 23043), jointly developed by Datang Environment Industry Group Co., Ltd. and Nanjing University, was officially released and implemented in March 2021.



Honors and awards

The "Development and Engineering Demonstration of Intelligent Denitrification Technology Under the Ultra-Low Emission" and the "Analysis of Catalyst Chemical Composition [Pellet Method]" independently conducted by CDT won the first prizes of the Technical Achievement Award from the China Electricity Technology Market Association (CETMA). The "Control System and Method of Ammonia Injection Optimization in SCR Denitrification" won the first prize of the Patent Award by the CETMA.

Implementing action plans for controlling pollution and protecting the blue sky

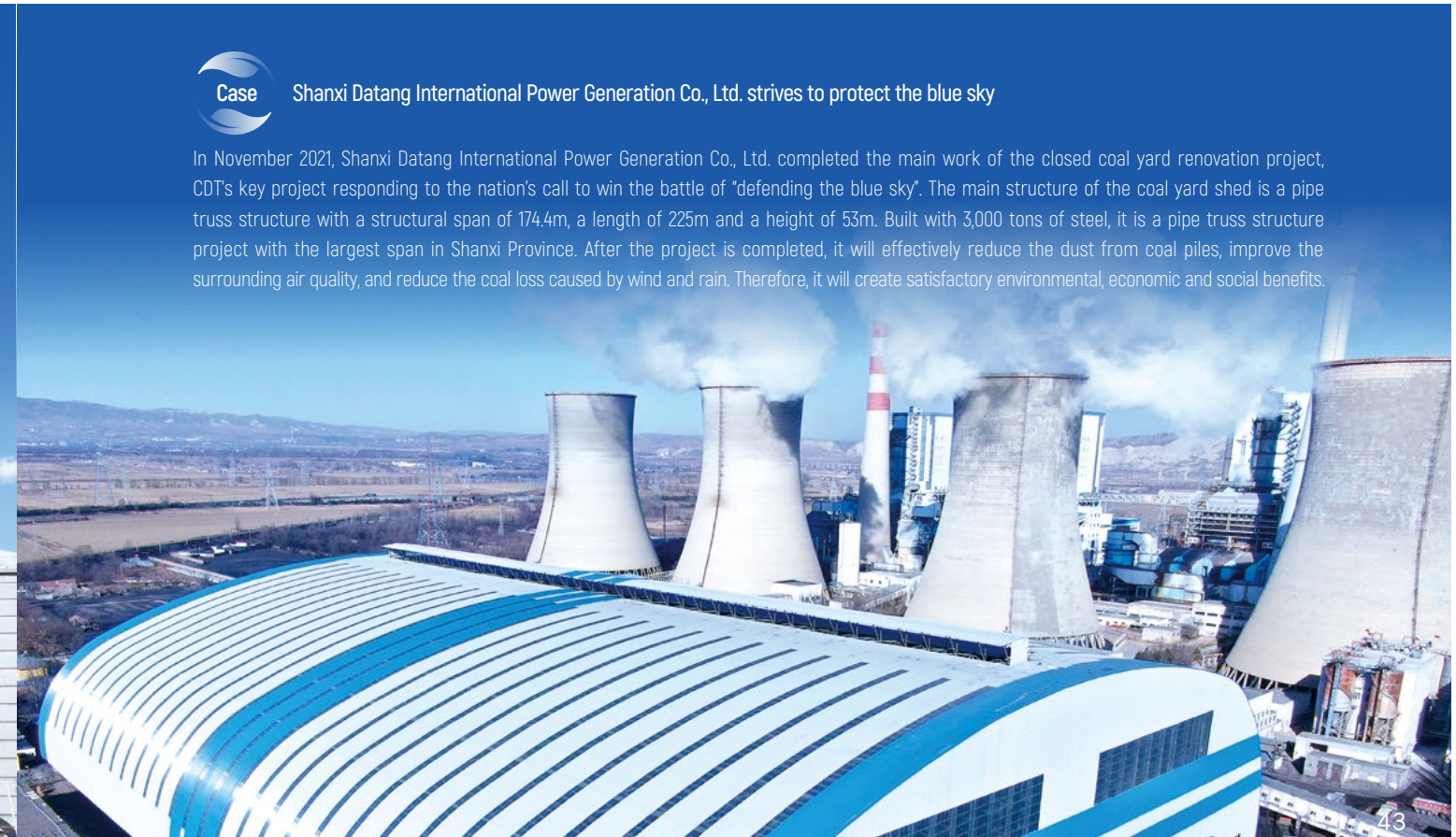
Following both national and local policies, we have closed 51 coal yards located in the Beijing-Tianjin-Hebei and its surrounding regions, as well as in provinces such as Shaanxi, Henan and Shandong, and achieved ultra-low emissions of 98.8% of the total installed capacity of 254 generating units. We have vigorously promoted the conversion from road transportation to railway transportation, accelerated the construction of special railway lines for coal transportation, and steadily promoted the transformation to zero discharge of wastewater.

Case Liaoning Huludao Heat Supply Company puts into operation two ultra-supercritical coal-fired units to promote energy conservation and emission reduction

Liaoning Huludao Heat Supply Company has put into operation two ultra-supercritical coal-fired units with upgraded SCR denigration equipment. Guaranteeing that the pollutants and the concentration of emissions comply with the special emission standards in Liaoning Province, the company has adopted centralized heat supply to replace the 158 small coal-fired boilers in the current heat supply areas. Using the coal designed for new facilities, it can reduce SO₂ emissions by 5,774 tons, NO_x emissions by 3,024 tons, and soot emissions by 3,571 tons annually. The company has taken practical actions to reduce emissions.

Case Shanxi Datang International Power Generation Co., Ltd. strives to protect the blue sky

In November 2021, Shanxi Datang International Power Generation Co., Ltd. completed the main work of the closed coal yard renovation project, CDT's key project responding to the nation's call to win the battle of "defending the blue sky". The main structure of the coal yard shed is a pipe truss structure with a structural span of 174.4m, a length of 225m and a height of 53m. Built with 3,000 tons of steel, it is a pipe truss structure project with the largest span in Shanxi Province. After the project is completed, it will effectively reduce the dust from coal piles, improve the surrounding air quality, and reduce the coal loss caused by wind and rain. Therefore, it will create satisfactory environmental, economic and social benefits.



Case CDT's Fujian Branch improves hazardous waste management

According to the Chinese laws including *Law on the Prevention and Control of Environmental Pollution Caused by Solid Wastes* and the *Standard for Pollution Control on Hazardous Waste Storage*, CDT Fujian Branch has compiled its *Regulations on Hazardous Waste Management*, which clarifies the responsibilities of each department and the management procedures of hazardous wastes, and regulates their generation, collection, storage, treatment and transfer. The branch has built warehouses and other facilities that meet relevant requirements.



Datang International Xiahuayuan Power Plant has invested RMB 13 million in its closed renovation of coal yard, which covers 14,175 m² and stores coal of 45,000 tons, making an outstanding contribution to maintaining air quality during the Beijing 2022 Winter Olympics.

Comparison of pollutant emission rate over the years

	2017	2018	2019	2020	2021
SO ₂ Emission Rate (g/kWh)	0.21	0.16	0.14	0.12	0.11
NO _x Emission Rate (g/kWh)	0.26	0.22	0.19	0.17	0.16
Flyash Emission Rate (g/kWh)	0.06	0.04	0.025	0.015	0.014
Wastewater Discharge Rate (kg/kWh)	80	60	50	45	42

Saving Energy and Resources

We scientifically plan and construct advanced coal-fired power generation projects, apply advanced, mature, and applicable technologies, and actively implement the energy conservation and consumption reduction transformation, heat supply transformation and flexibility transformation of coal-fired units. We explore the potential of blended coal combustion, and through the *Monthly Report on Dynamic Management and Control of Coal Blending and Combustion* and the "Dynamic Blended Coal Combustion Monitoring" information management module, we have moved forward the management and control processes of coal blending and combustion to maximize its comprehensive returns. In 2021, CDT's coal consumption for power supply was 295.92 g/kWh, a year-on-year decrease of 0.38 g/kWh. In the national energy efficiency benchmarking competition, 62 coal-fired units and 12 gas-fired units of the Corporation won awards.



"People think that the smoke from the chimneys contains harmful gases, but it is actually water vapor."
 Lou Qi, an employee of Datang Nanjing Power Plant

The Phase II 2×655MW gas turbine innovation-driven development demonstration project at Datang Nanjing Power Plant, China's first coal-fired "smart power plant" version 2.0

CDT optimizes the joint scheduling of reservoirs and secondary load distribution, actively coordinates and implements measures such as artificial precipitation and scientific flood storage, and strives to improve power generation and water utilization efficiency. In 2021, Guangxi Guiguan Electric Power Co., Ltd. decreased its water consumption rate by 0.14 m³/kWh year on year. Tingzikou Power Plant of Datang Sichuan Power Generation Co., Ltd. scientifically stored floodwaters, and increased power generation by 397 GWh. Daxihe Grade 3 Power Station and Yajiang Power Station of Datang Chongqing Branch were awarded Demonstration Green Small Hydropower Station by the Ministry of Water Resources.

Case Recycling every drop of water

At Datang Huaibei Power Plant, except for chemical water, fire water, and make-up water for HVAC, all industrial water is recycled from the wastewater of cooling towers. With an advanced circulating water and wastewater treatment system, the Plant desalinizes and reuses the power generation wastewater and part of the drainage from the recirculating cooling water system. In 2021, by treating 44 million tons of wastewater and reusing 13 million tons of water, Lingyun Water Treatment Plant of Datang Huaibei Power Plant saved 13 million tons of groundwater.



The official launch of Datang Nanao Lemen I Offshore Wind Power Project opens a new chapter in developing offshore wind power in eastern Guangdong



The beautiful landscape in Datang Pengshui Hydropower Station

Protecting the Environment



CDT strictly follows the "Three Simultaneities" requirements for project acceptance, and improves its environmental management throughout the project planning, construction and production. We have established a supervision mechanism based on assignment book task about environmental protection, and dynamically tracked environmental protection and urged rectification through the work safety management and control platform. We have revised the *List of Environmental Protection Priorities*, and formulated the *Key Measures for Promoting Ecological Protection and High-Quality Development in the Yellow River Basin* and *Key Measures for Further Strengthening High-Quality Development and Ecological Protection in the Yangtze River Economic Belt*. Moreover, we have investigated environmental risks, and formulated the power plant-based plans for ecological protection, which have effectively improved our environmental capabilities. In 2021, no environmental or water protection incidents occurred in CDT power projects.

Case A pioneer in biodiversity conservation

Having taken various measures, Datang Guanyinyan Hydropower Development Co., Ltd. has realized the harmonious coexistence of clean energy development and the natural environment along the Jinsha River. The company has planted 200,000 saplings of banyan, mango, pomegranate, laurel, and bougainvillea in the green belts of the camp and the hub area, advancing ecological civilization by creating a green landscape. In addition, it has invested RMB 133 million in building a 7.41-acre fisheries enhancement station to promote the sustainable and healthy growth of rare fishes.



Case CDT produces a short film about its commitment to biodiversity conservation

Fisheries enhancement, plant patrol, and bird watching etc are always our pledges. We are committed to protecting animals and plants, and promoting ecological civilization through practical actions. Protecting nature and biodiversity is what CDT has been doing assiduously. Let's take a look at the short film about biodiversity conservation produced by CDT - *Symbiosis with All Life*.



Scan to watch *Symbiosis with All Life*

Case Protecting lucid waters and lush mountains in Zhejiang - Wushashan Power Generation Company devotes itself to environmental protection

While building modern, eco-friendly power plants under the concept that "lucid waters and lush mountains are invaluable assets", Zhejiang Datang Wushashan Power Generation Company has remained committed to promoting the all-win harmony between ecological construction in Zhejiang and the corporate development since its establishment 18 years ago. The company has exemplified the leading role of central SOEs in advancing ecological civilization. Let's take a look at the story about CDT's pursuit of green development in the new era written by Zhejiang Datang Wushashan Power Generation Company.



Scan to learn more about the contribution of Wushashan Power Generation Company to environmental protection

Embracing a Green Life

CDT encourages low-carbon and eco-friendly ways work and life, and enhances employees' environmental awareness; vigorously creates a green office culture, saves electricity and water, and promotes a paperless office. CDT carries out various environmental activities, and uses online and offline methods such as posters, lectures, brochures, and the WeChat official accounts to popularize knowledge about energy conservation, low carbon, and environmental protection. We are committed to becoming a disseminator, practitioner, and model of low-carbon development and environmental protection.

Themed by "harmonious coexistence between man and nature", Datang Shanxi Power Generation Co., Ltd. organizes the June 5 World Environment Day publicity activity to build employees' awareness to respect, accommodate to and protect nature.



Datang International Chongqing Shizhu Power Generation Company launches the "Enterprise Environmental Protection Open Day" activity at the Environmental Protection Education Base.

The New Energy Department of Datang Chongqing Branch organizes a tree planting activity, contributing to constructing beautiful wind power projects and the integration of wind power projects into nature.



Leading the Future with Innovation

Our CSR Performance

Improving innovation management

Stimulating innovation momentum

Seeking advances in technological innovation

Our CSR Performance

RMB **5.394** billion
Investment in technological R&D

1,050
Newly authorized patents

35
New standards of industry-level or higher undertaken



Practices



7 AFFORDABLE AND CLEAN ENERGY

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Improving Innovation Management

RMB **5.394** billion

Investment in technological R&D in 2021

To contribute to China's goal of sci-tech self-reliance and self-strengthening, we strengthen the top-level design and improve the technological innovation system during our implementation of the three-year action plan for the SOE reform. In 2021, we invested RMB 5.394 billion in technological R&D.



Strengthening the top-level design to identify the strategic direction

In line with the principle of "targeting science frontiers in the energy sector, meeting the significant needs of the country, and serving the main battlefield of CDT's high-quality development", we have compiled and released the *Scientific and Technological Innovation Plan During the 14th Five-Year Plan Period*. The plan points out two focuses, namely integrated innovation on energy technologies and breakthrough of advanced technologies, and identifies technological innovation priorities in the six areas of renewable energy, thermal power generation, integrated energy, intelligent technology, coal, and coal chemical industry.



Improving the innovation system to increase the efficiency of innovation

We have established the Sci-Tech Consultation Committee and issued the *Management Measures for the Sci-Tech Consultation Committee* to make sci-tech management and decisions more scientific and standardized. Technological innovation incentives are improved to fully mobilize the enthusiasm and creativity of innovators from various fields. Meanwhile, a two-tiered technological innovation and R&D system mainly formed by group-level scientific research institutions and primary-level enterprises is set up and the *Management Measures for the Initiation of Sci-Tech Projects* and the *Guiding Opinions on Investing in Special R&D Projects* are formulated to further optimize the allocation of technological innovation resources.

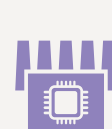


Bringing together innovation resources to create an innovation platform

To bring together innovation resources and work with outstanding industry peers, we try to establish a joint innovation institution to deepen the industry-university-research cooperation and support significant advances in research and innovation. In 2021, China Datang Corporation Science and Technology General Research Institute and Datang Yuncheng Power Plant participated in the development of the national demonstration platform for material production and application approved by the Ministry of Industry and Information Technology; CDT and China Electronics Corporation signed a strategic cooperation framework agreement, and accordingly CDT will officially join the innovation LHT of central SOEs to jointly promote industrial control systems and build demonstration projects on informatization and import substitution; CDT joined the innovation consortium on advanced power equipment, offshore wind turbines, hydrogen energy, and fuel cell technology, which was led by Dongfang Electric Co., Ltd., to contribute to the creation of sources of original technologies.

Case CDT creates a national platform - Wind and Solar Power Intelligent Operation Technology Center

Based on the new energy monitoring and big data platform, CDT has built a national R&D platform - Wind and Solar Power Intelligent Operation Technology Center. With access to the data of in-service wind power and PV power, the center conducts data analysis and governance continuously to promote the utilization of data resources. The center also monitors the standard state of the wind turbines, analyzes the reasons for shutdowns, controls the difference between the amounts of power that is actually generated and should be generated, and conducts multi-dimensional benchmarking analysis. It applies data mining, artificial intelligence, and other technologies in the early warning of equipment safety conditions, and analyzes the service life and deterioration trend of large components, thus enhancing the Corporation's control over core aspects of the new energy industry.



Applying digital intelligence to promote industrialization and IT application

Guided by the goal of a digital CDT and smart power plants, we continue to enhance CDT's digital management and promote the pilot and demonstration smart power plants in an orderly manner. According to our *Three-Year Action Plan for Building a Digital CDT and Smart Power Plants (2021-2023)*, we have further deepened IT application. The technological innovation management system is put into operation to promote the integration of multi-business processes and data sharing. In 2021, CDT's case of "Industrial Internet Smart Power Generation Monitoring, Diagnosis and Service Platform" was selected as an excellent case for network security and informatization of central SOEs during the 13th Five-Year Plan period; the "Digital Operations Room of the Power Generation Group" and the "Power Generation Group-Level Industrial Control Security Monitoring and Diagnosis" were selected as typical cases for digital transformation of SOEs.



The "digital financial management based on RPA for power companies" project becomes a management benchmarking project of the SASAC

The project of "digital financial management based on Robotic Process Automation (RPA) for power companies" developed by China Datang Finance Co., Ltd. was selected as a management benchmarking project by the SASAC. The company's innovative practice of using RPA to realize the automation of business applications and processes provides a reference for the Corporation and its counterparts to carry out RPA and business implementation. It is of great significance to improving corporate digitization and intelligent management.



Longwanggou Coal Mine gathers momentum through intelligent mine construction

The Longwanggou Coal Mine of Ordos Guoyuan Mining Development Co., Ltd. is a staunch advocate of building intelligent coal industry, and also one of the 71 pilot intelligent coal mines in China. The intelligent coal mine software of the Longwanggou Coal Mine includes 28 subsystems, delivering a new management model featuring full coverage of information collection, full sharing of data resources, fully automatic statistical analysis, full transparency of business management, full monitoring of man-machine state, and full recording of production processes. The Longwanggou Coal Mine has deeply integrated artificial intelligence, industrial Internet, cloud computing, big data, robotics, and intelligent equipment with the modern development and utilization of coal mines. Committed to becoming a first-class demonstration intelligent mine in China, the coal mine has explored a high-quality development path for the top-level design and innovation in key technologies for intelligent mining.

"Through intelligent construction, the number of direct workforce engaging in the comprehensive mechanized work has been reduced from 12 to 5. Compared with the traditional process, the number of personnel has been reduced by more than 50%, the coal recovery rate has reached over 98%, and the per capita coal mining efficiency has increased by 92%. Our economic and technical indicators are ahead of other mines of the same type".

Dai Yebin, Deputy General Manager of the Longwanggou Coal Mine



Stimulating Innovation Momentum

943

Employee innovation workshops established

6

Innovation workshops rated as provincial "innovation workshops"



CDT actively responds to China's innovation-driven development strategy, and focuses on solving problems, achieving goals, and yielding results. The Corporation has increased investment in science and technology, and strives to discover, cultivate, and gather talents in its efforts to create new achievements and pursue continuous innovation.

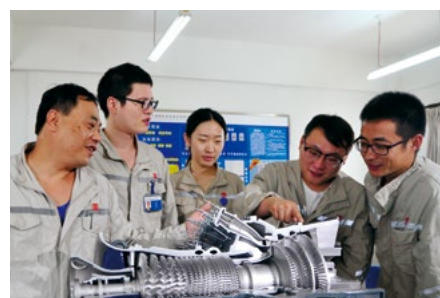
We have scaled up input in innovation, fostered sci-tech talents, and encouraged more employees to engage in innovation and create benefits. Making good advantage of think tanks and professional institutions, we have established a science and technology advisory committee composed of academicians, experts and scholars from various fields, such as thermal power, hydropower, new energy, etc. In addition, we regularly hold sci-tech symposiums, expert webinars, and enterprise meetings. We vigorously build labor model innovation workshops and workshops for high-skilled personnel to guide employees to improve their skills. By the end of 2021, CDT has established a total of 943 employee innovation workshops, 279 of which have been titled by the Corporation.

Case Datang Heilongjiang Branch holds a launch meeting on employees' achievements in sci-tech innovation

In July 2021, Datang Heilongjiang Branch held a launch meeting on the achievements of employees in science and technology as well as in creating benefits. 13 innovation teams and 11 benefit-creation teams from 8 subsidiaries presented their projects on site. The launch promoted the spirit of science and craftsmanship, built a communication platform for innovation, and mobilized all employees to make breakthroughs in innovation.



Datang Hainan Wanning Branch wins the title of Hainan Provincial Innovation Workshop.



Employees share ideas at the innovation workshop.



Members of the Qingyang Innovation Workshop of Datang Jixi Thermal Power Co., Ltd. discuss innovation and benefit creation.

Seeking Advances in Technological Innovation

CDT always regards technological innovation as the first step towards high-quality development, and continues to promote technological breakthroughs in core projects. The Corporation leads technology upgrades with intellectual property rights and technical standards, and strives to enhance the application of scientific innovations to lay a solid foundation for our industrial layout and strategic planning.

Standard development

CDT has vigorously participated in the formulation and revision of international standards, national standards and industry standards, and has made new achievements in preparing international standards. In 2021, CDT formulated 3 nationally recommended standards, 35 industry standards, and 11 group standards; won 62 industry awards; undertook the formulation and revision of 35 national industry standards, of which 15 standards were compiled by our subsidiaries.

Breakthroughs in core technologies

We focus on major national strategies, respond to regional development strategies, and intensify efforts to make major breakthroughs in core technologies in key fields with the goal of improving independent innovation capabilities. In 2021, CDT launched 11 major research projects, and obtained 1,050 new patents, increasing the Corporation's total number of patents to 10,482. We obtained 140 new invention patents, amounting to 995 in total. In 2021, CDT won its first-ever China Patent Award while our one invention patent was presented with the Excellence Award of the 22nd China Patent Award. In 2021, CDT won six industry first prizes, highlighting CDT's endeavor to innovation.

Case Datang Nanjing Power Plant starts the DCS system software and hardware security and controllability research project for the 660MW ultra-supercritical coal-fired generating unit

In May 2021, China's first full-featured "100% autonomous and controllable" DCS system was put into operation at Datang Nanjing Power Plant. The system, whose components, overall performance and technical indicators of the system are comparable to similar products designed and produced based on global procurement, are significantly better than mainstream imported DCS systems in terms of power adaptability, processor capability, and response speed. In addition, it has passed the 100% autonomous controllability certification by a national authoritative institution, as well as the performance test and authentication of the Chinese Association of Automation (CAA). Its overall technology has reached international advanced levels, among which its power switch design and anti-interference technology of the analog card are leading international counterparts.

Case China Datang Corporation Science and Technology General Research Institute wins the Excellence Award of the 22nd China Patent Award with its invention patent

The patent of "a device for removing SO₃ through flue injection of dry powder adsorbent" invented by the North China Institute of China Datang Corporation Science and Technology General Research Institute has broken the monopoly of foreign manufacturers on the same type. The core technology has been successfully applied in 5 large coal-fired generating units, addressing the blockage of the air preheater, ash formation and fouling of the dust collector and the induced draft fan, and the equipment corrosion caused by SO₃ in the flue gas. It has indirectly brought about nearly RMB 100 million in economic benefits, and made positive contributions to China's energy sector.

In 2021,

3

New standards recommended by the nation released

35

Industry-level and above standards newly undertaken

1,050

New patents obtained

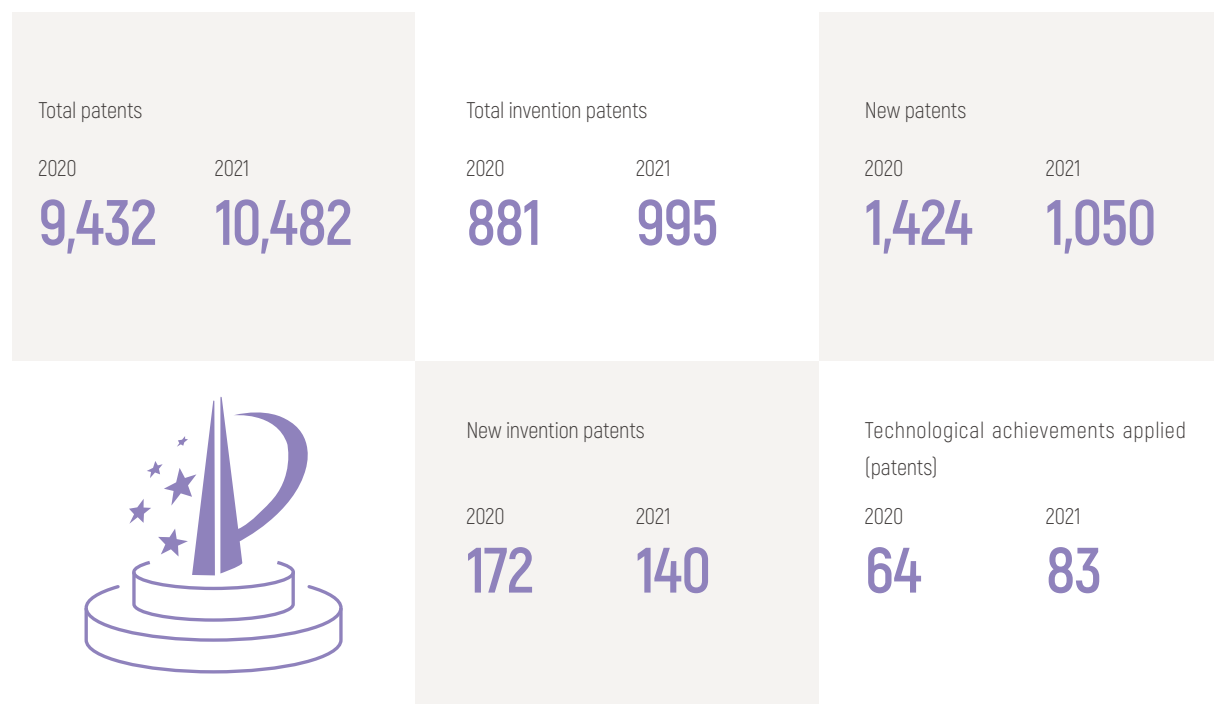
140

Invention patents gained

First prizes for technological innovations won by CDT in 2021

No.	Name of award	Prize	Prize-winning project	Field
1	Science and Technology Progress Award of the Chinese National Committee on Large Dams	First prize	Key technology and application of plugging large-flow water inflow from karst over 100m deep of Yunnan Wanjiakouzi Hydropower Station	Hydropower technology
2	Innovation Award of the China Electricity Council	First prize	Research and application of key technologies for data-driven intelligent safety and energy conservation optimization of heat supply units	Coal-fired power generation technology
3	Innovation Award of the China Electricity Council	First prize	Research and application of key technologies for intelligent control of large coal-fired power generating units for absorption of new energy	Coal-fired power generation technology
4	Innovation Award of the China Electricity Council	First prize	Research and application of industrial control safety monitoring and diagnosis at the power generation group level	Information technology
5	Energy Innovation Award of the China Energy Research Society	First prize	Research and application of key technologies for intelligent control of coal-fired generating units towards the carbon peak and carbon neutrality goals	Coal-fired power generation technology
6	Energy Innovation Award of the China Energy Research Society	First prize	Research and application of integrated intelligent and centralized heat supply technology based on multi-energy complementation covering "power supply, power grid, load and energy storage"	Coal-fired power generation technology

Patents granted to CDT



Application of innovations

We have strengthened the protection, use and operation of patents, improved systems and mechanisms for applying R&D achievements and industrial transformation, and explored effective ways to commercialize innovations. In 2021, the Corporation issued the Catalogue of CDT Technological Achievements, which classified all innovations into several categories, including thermal power, hydropower, wind power, photovoltaics, environmental protection, and electrical engineering, and selected 83 technological achievements (patents).

Case Independent main control system on wind turbines

The main control system, which was developed by China Datang Corporation Renewable Energy Science and Technology Research Institute using CDT's independent architecture, is equipped with a domestically produced CPU and real-time operating system. Its key software and hardware were also indigenous. The system has been successfully applied to the No. 60 Huachuang 2MW wind turbine of phase III project of Ningxia Tongxin Wind Farm. The system has broken the monopoly of foreign companies on programmable logic controllers (PLCs) on wind turbines, and realized the optimal control of both units and stations, which has increased CDT's revenues from power generation.

In the automatic optimization project of ammonia injection, the innovation project team of Datang Shizhu Power Generation Co., Ltd. has established the NOx mathematical model through cutting-edge technologies such as big data analysis and linear regression modeling, optimizing the control of ammonia injection and improving unit energy efficiency.



83 Scientific and technological innovation achievements (patents)

Joining Hands for the Win-win Industry Development

Our CSR Practice

Serving the Belt and Road Initiative

Deepening exchanges and cooperation

Supporting the development of overseas communities

Our CSR Performance

RMB **25.745** billion
Total overseas assets

1.05 GW
Total overseas installed capacity

900
Foreign employees for overseas projects and dispatched agencies

Practices



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

17 PARTNERSHIPS FOR THE GOALS

Serving the Belt and Road Initiative

RMB **25.745** billion

Total overseas assets by the end of 2021

CDT proactively integrates into the new development paradigm featuring dual circulation, in which domestic and overseas markets reinforce each other, with the domestic market as the mainstay. We constantly strive for substantive and solid progress to achieve high-standard opening up and promote cooperation under the Belt and Road Initiative.

We stay true to the path of high-quality development and strive to build a healthy image of integrity and reliability in the international market. We maintain our firm commitment to the high-quality Belt and Road development and enhance the planning and development of green and modern energy to achieve the shared green development with other countries. In 2021, we actively explored the international market and worked to open up emerging markets such as Central and Eastern Europe, Latin America, and Africa.

Case **Guaranteeing the construction of Meulaboh project with responsibility**

In June 2021, PT Meulaboh Power Generation set up a CSR committee and a CSR supervisory committee, with three branches for safety engineering, business, and administration, becoming the first central SOE there to incorporate CSR leadership innovation into the corporate governance in Indonesia. As a responsible company, it strictly implements COVID-19 control measures and tackles major difficulties such as financial security, logistics, and workers' early access to construction sites to ensure that the project is advanced according to the milestone plan.



Work safety for 3,000 days at Stung Atay Hydropower Project



In September 2021, Cambodian Hydropower Development Co., Ltd. received a letter of appreciation from EDC, considering the company a good partner for hydropower development in Cambodia.

Deepening Exchanges and Cooperation

We continue to serve the diplomatic interest of our country and have actively participated in major events such as Boao Forum for Asia, China-ASEAN Expo, and China International Import Expo. Leveraging the advantages of our circle of friends both inside and outside the industry as well as at home and abroad, we balance the strategy of "bringing in" and "going global", to carry out international exchanges and cooperation, thus continuously improving our management and business.

Valuing the COVID-19 response

During the special period, we further strengthen foreign affairs management to ensure a safe and orderly flow of personnel. In 2021, we organized 58 teams of 172 members to conduct foreign exchanges without violating regulations on foreign affairs and COVID-19 prevention. Faced with the severe overseas COVID-19 situation, we made full use of foreign affairs channels to coordinate the on-site vaccination of the project staff in Bangladesh and solve the problems of staff's entry into Myanmar, thus guaranteeing the safety of our staff overseas.

Serving innovative development

Coordinating both domestic and foreign markets and resources, we enhance cooperation with China National Offshore Oil Corporation (CNOOC), China Railway Construction, Dongfang Electric Corporation (DEC), and other central SOEs to develop the resource sharing mechanism, achieve mutual complementarity, and go global together. In partnership with foreign companies such as General Electric Company (GE), Electricite De France (EDF), and Thyssenkrupp, we deepen practical cooperation on green and low-carbon transformation to facilitate our innovative development through experience sharing, technological exchanges, and project linking.

Case **Signing with EDF in green and low-carbon cooperation via cloud videos**

In June 2021, Zou Lei, Party Secretary and Chairman of CDT, and Jean-Bernard Lévy, Chairman and CEO of EDF, conducted in-depth and friendly dialogue through cloud videos from Beijing and Paris respectively. The two sides reached a broad consensus on the future green and low-carbon cooperation and jointly signed the *Green and Low-Carbon Overall Strategic Cooperation Framework Agreement between China Datang and EDF*. Communication and cooperation will be further strengthened in green and low-carbon energy projects, technological development, and exchanges of technical talents.



Signing ceremony of green and low-carbon strategic cooperation between CDT and EDF

Actively undertaking major events



2021 Belt & Road Trade and Investment Forum organized by CDT

To implement the guiding principles of key speeches of President Xi at the third symposium on the development of the Belt and Road Initiative, the 2021 Belt & Road Trade and Investment Forum, approved by the State Council, was held at China World Hotel Beijing on December 2, 2021. CDT, as one of the chairs of the China Committee for Silk Road Business Council, successfully organized the event.

Kalteng Power Plant of Indonesia Datang Sinar Mas Power Co. Ltd.



Supporting the Development of Overseas Communities

CDT always bears responsibility in mind overseas, engages in charity, and contributes to local development. Based on CSR fulfillment overseas, we continue to build up a responsible, competent, and reliable image as a world-class energy supplier.

Contributing to COVID-19 response

Against the raging COVID-19 situation abroad, we coordinate the COVID-19 response and project development. By strictly implementing the overseas COVID-19 control and safety requirements, we have ensured the safety of foreign assets and overseas employees. While maintaining "zero infectious and zero confirmed cases", we actively support local pandemic prevention.

Case Contributing to Indonesia COVID-19 response

PT Meulaboh Power Generation handed out the guidance on COVID-19 control and diagnosis in Indonesian to local governments, PT Perusahaan Listrik Negara (PLN), an Indonesian government-owned corporation, the shareholder PPE Indonesia and other stakeholders to share our experience in COVID-19 response, demonstrating the sincere friendship of pulling together in times of difficulties. Besides, the company invited heads of government, media, and representatives of local people to inspect its pandemic prevention. It donated 93,800 masks and 345 bottles of hand sanitizers to local provinces, municipalities, and villages three times and won their praise.

Building CDT image

We continue to expand the publicity of the down-to-earth and well-recognized fruits of the Belt and Road Initiative, tell stories of CDT and build up the responsible image of central SOEs. In November 2021, CDT's Cambodian Power Grid Project appeared in the documentary *Revival Silk Road* by CCTV, demonstrating the changes brought by the Belt and Road Initiative to Cambodia.

Case Promoting cross-cultural integration and introducing the Chinese culture abroad

Based on investment in power projects, we aim to promote the high-quality development of the local economy and society. We continue to improve the cross-cultural communication mechanism, introduce the Chinese culture abroad, and make concrete efforts to strengthen people-to-people bond and mutual help, thus advancing the community of a shared future to bloom and bear fruits. We give full play to our official account on overseas social networks to further spread our culture and build an excellent image of CDT abroad. We hold public open days offline and online, which have received recognition from local people. We also organize school-enterprise cooperation to develop highly skilled talents to strengthen the competence of local talents.

Honors and awards

- ★ China Datang Overseas Investment Co., Ltd. was selected as one of the excellent overseas CSR cases by *Research Report on Overseas Social Responsibility of Central State-Owned Enterprises (2021)*.
- ★ Dapein I Hydropower Project in Myanmar was awarded the BRI "Best Practice Cases of International Energy Cooperation" under the category of improving people's livelihood.
- ★ Datang Environment Industry Group Co., Ltd.'s PTG waste-to-energy project in Thailand received the GoldenKey-Honorable award of GoldenKey-SDG Solutions.



CDT holds the public open day activity

Serving local development

We proactively accept the leadership of foreign embassies and consulates, actively join local chambers of commerce and industry associations, engage in charity undertakings, promote localized employment, and improve local people's wellbeing with concrete efforts. In 2021, we hired 900 foreign employees for overseas projects and dispatched agencies.

Case Concerning local education development

In November 2021, at the invitation of the Cambodian Minister of Minerals and Energy, Cambodian Power Grid Co., Ltd., along with officials from Pursat Province, attended the resumption ceremony of Suy Sem Noti Setha High School and donated school supplies and anti-epidemic materials.

Case Recognized for sending relief to forest fire

In February 2021, A fire broke out in the primary forest near the Meulaboh project, affecting surrounding villages. PT Meulaboh Power Generation offered sprinklers and bulldozers, supported the firefighting and the rescue organized by the local government, and brought food and water to Indonesian firefighters, which was fully recognized by the governor of Aceh Province commanding on site.



Kendari Power Generation Company invests in the construction of a rural library at sea to help improve the literacy of nearby villagers.



The resumption ceremony of Suy Sem Noti Setha High School in Pursat Province.

Building a Harmonious Society

Our CSR Practices

Growing with our employees

Practicing responsible procurement

Passing on warmth

Our CSR Performance

93,874

Employees in total



31,090

Training projects conducted



RMB 85.68 million

Donation



Growing with Our Employees

93,874

Employees in total

19,596

Female employees

6,235

Ethnic minority employees

Harmonious labor relations underpin a better corporate development. Committed to people-oriented development, CDT resolutely protects employees' legitimate rights and interests, establishes a sound compensation system and cares about employees' physical and mental health. We also continue to optimize the training mechanism for employees, build a platform to help show themselves and diversify employees' cultural life to improve their sense of fulfillment and happiness.

Protecting employee rights

We protect employee rights. In compliance with relevant rules and laws, we uphold equal employment and keep upgrading the compensation distribution mechanism. We care about employees' physical and mental health and highlight democratic communication in order to build harmonious and stable labor relations. In 2021, we had 93,874 employees in total, including 19,596 female employees, accounting for 20.87%, and 6,235 ethnic minority employees, accounting for 6.64%.

Equal employment

In compliance with Chinese laws and regulations, such as the *Labor Law*, and the *Contract Law*, we are committed to a fair and open recruitment principle, respect employees' individual differences and provide an inclusive platform for their growth. In 2021, we signed labor contract with all staff.

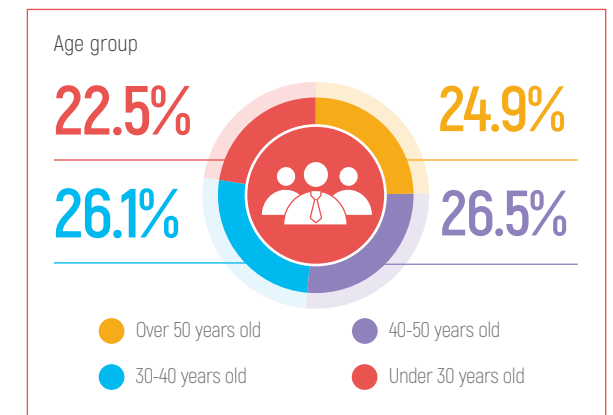
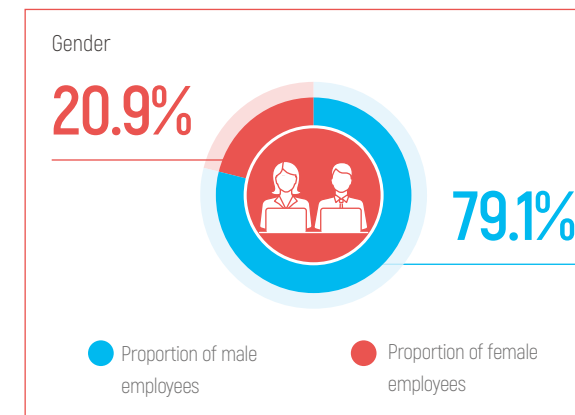
Democratic management

We strive to build a happy CDT by launching the "Six Major Concerns" livelihood programs (including education, employment, income, social insurance, health care and food safety) to address employees' concerns and rolling out democratic practices including "Serving the People with Concrete Actions" and "Proposals on Employee Care" campaigns. We listen to and adopt employees' opinions and suggestions and protect their rights to know, to participate and to supervise. In 2021, CDT introduced 5,922 measures to resolve problems concerning staff commute, office affairs and accommodations, improving the overall employee satisfaction. CDT's labor union membership rate reached 100% in 2021.

Datang Shanxi Power Generation Co., Ltd conducts the "Sunshine Psychology" action plan to provide psychological services for its staff.



Employee structure



Datang Yunnan Power Generation Co., Ltd carries out "Bringing Cool in Hot Summer" activity to deliver cold drinks to front-line staff.



Compensation and benefits

We engage in building an institutionalized and standardized compensation and benefit system and improve the compensation incentive mechanism. We aim to guarantee our employees' reasonable compensation and a sound welfare security system to improve their sense of happiness. In 2021, we realized full coverage of social insurance.

Employees' health

We continue to optimize the employee health management system to improve our protection of their safety. We carry out regular physical examinations for the sake of employees' health. We have also established a system to safeguard both their physical and mental health and improve their sense of happiness. In 2021, we provided mental health services for employees, for which the Staff Psychological Service Center in South and North Areas was launched, 112 staff counseling rooms and mental care rooms were established and 230 psychological counselors were cultivated.



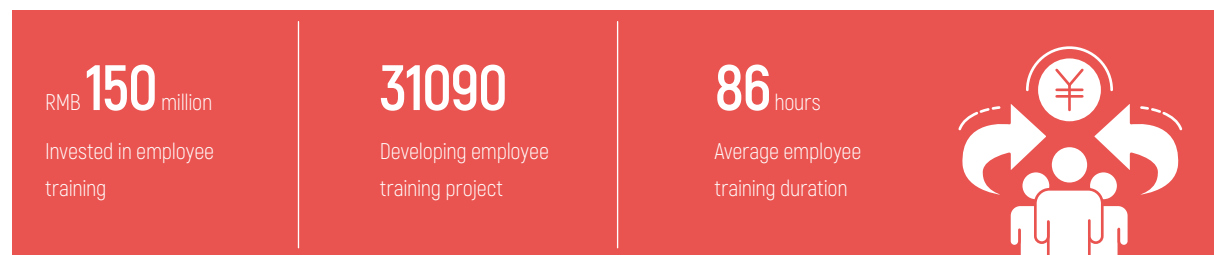
Datang Ningde Power Generation Co., Ltd holds a psychology-related group activity of "Freeing Mind and Empowering Staff to Move Ahead".

Promoting employee development

Prioritizing staff training and development, we conduct a variety of training sessions and advocate employees to participate in all sorts of competition events, aiming to build a high-quality staff team. We provide unimpeded promotion channels for our staff and have formulated and issued the *Guiding Opinions on Establishing Multiple Career Development Channels for Primary-level Employees* to provide a multi-sequence and multi-channel path for employees' future career development.

Staff training

To meet various career development needs of employees at different levels and of different business types, we continue to carry out diverse and multi-tier training sessions and strive for an environment where everyone can become a talent and make full use of his/her talents. In 2021, CDT invested RMB 150 million in 31,090 staff training projects, with around 2.05 million participants and 86 staff training hours on average.



Case CDT Party School helps build up official and talent teams through targeted training

CDT Party School remains in line with the CPC Central Committee and committed to open education. A science-based, efficient and compatible curriculum system has been established. It also held 14 key classes successfully including the training class for heads of secondary subsidiaries, training class for young officials (3 sessions)

and political competence improvement class for managerial officials at the headquarters, with 8,309 trainees in total. The training classes have achieved satisfying effect, providing strong support for the building of "Five Talent Teams".

Case Guangxi Guiguan Electric Power Co., Ltd builds up high-quality talent teams

Aiming to cultivate high-level talents, build up high-quality talent teams and reserve backup strengths, Guangxi Guiguan Electric Power Co., Ltd dispatches its employees to the four power plant training bases at Longtan, Yantan, Dahua and Xijin each year to receive skill training. The training involves theory examinations, hands-

on practices, oral examinations and seminars on the analysis of accidents and problems, which are set to consolidate employees' knowledge and improve their problem-solving ability. In addition, it adopts a cultivation model of apprenticeship for new employees, to foster a virtuous circle and make new employees grow faster.



The induction training class of 2021 in Datang Jiangxi Power Generation Co., Ltd



CDT Party School conducts the training class for young and middle-aged officials of 2021

Employee development

We widely roll out competitions at all levels and encourage and guide our employees to not only expand career development space and improve professional quality, but to vigorously dedicate to CDT's new undertakings and high-quality development. By the end of 2021, our subsidiaries at all levels had rolled out over 1,600 labor competitions, with 68,000 participants.



Case Improving efficiency and boosting development with strengths gathered in labor competitions

CDT Guangdong Branch further carries out the theme competition of "Making Contributions during the 14th Five-Year Plan Period, Embarking on a New Journey". In the 2021 National Thermal Power Unit Energy Efficiency Competition held by the China Electricity Council, the No.1 Unit of Guangdong Datang International Leizhou Power Plant won the first place among 5A generating units with excellent reliability performance in the national 1,000 MW unit energy efficiency competition. The No.7 and No.8 units of Shenzhen Baochang Power Supply Co., Ltd. and No.1 Unit of Guangdong Datang International Zhaoqing Thermal Power Co., Ltd won the title of "National 5A Unit". The No.1 and No.3 units of Guangdong Datang International Chaozhou Power Generation Co., Ltd also won the title of National 4A Unit.



CDT organizes and participates in the 13th National Power Industry Skill Competition (operator and maintenance worker of wind-generator sets on duty). Of CDT's five representative groups, 10 candidates win prizes, 6 win the title of Power Industry Technical Expert and 4 win the title of Power Industry Excellent Skilled Workers.



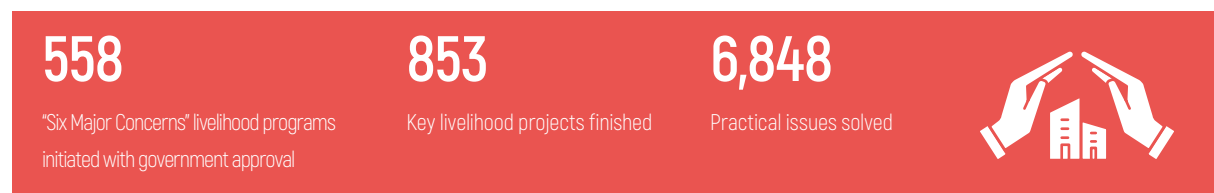
The Longtang Heating Company under Datang Heilongjiang Power Generation Co., Ltd participates in the labor skill competition held in Daqing City.



The skill improvement competition held by Datang Jilin Heat Supply Company

Caring about employees

Following the people-oriented principle, CDT endeavors to build a happy CDT with efforts in five aspects, including employee care, food, accommodation, travel and entertainment. In 2021, CDT initiated 558 "Six Major Concerns" livelihood programs with government approval, constructed and renovated 96 staff cultural activity sites and resolved 560 key problems related to staff accommodation, transport and meals.



Datang Yunnan Power Generation Co., Ltd holds the 5th Group Wedding Ceremony for Young Employees themed with "Being Loyal to the Party, Building a Happy CDT".



Datang Fujian Power Generation Co., Ltd organizes an event of "Our Festival-Making Zongzi".



Datang International Baoding Thermal Power Plant holds the activity of sending Chinese New Year couplets to create a warm and harmonious festival mood, in which over 200 couplets and "Fu" have been given to employees.



A volleyball match for employees themed with "Following the Party, Embarking on a New Journey", one of "6+1" cultural activities held by Datang Jiangsu Power Generation Co., Ltd

Practicing Responsible Procurement

CDT highlights the development of material procurement and supply chain management. Strictly following the goal of "lean management and procurement benefit improvement", we strive to standardize procurement management. We build and improve the responsible supply chain under unified plan, procedure, standard, platform and implementation". In 2021, about 130,000 suppliers registered on Datang e-commerce platform and 111,472 pieces of comments from suppliers who had finished closed-loop purchase orders received.



Lowering procurement costs

We endeavor to lower procurement costs efficiently based on timely and secure power supply. In 2021, CDT's total procurement amount reached RMB 59.2 billion, with a capital-saving rate of 16%. The procurement amount of new energy projects was RMB 31.9 billion, with the capital-saving rate of 17%.

We have launched the Procurement Research Center. Based on the "Four Steps" procurement mechanism, we have realized end-to-end connection of applications in procurement research, procurement tracking and tracing of suppliers' contract performance behaviors.

Upgrading procurement procedures

Tightening supervision

We tighten the whole-process supervision on suppliers and strictly manage the procurement procedures. In 2021, CDT fulfilled the whole-process supervision of 18 Tier 1 suppliers and 303 projects.

We have formed a special work group dealing with purchase complaints. We aim to gradually standardize the complaint procedures to ensure that we respond to the complaints in a fair and open manner, and to conclude the closed-loop complaint management in time.

Promoting closed-loop management of purchase complaints

Improving procurement efficiency

We continue to adjust the procurement, review and authorization lists for new energy projects and gradually build a management model compatible to new energy development. Considering the short construction period of new energy projects, we have adopted multiple measures including "Streamlining the review process", "Replacing Shuttle Buses with Taxis", "Enhancing BOQ Liquidation and Review" and "Quick review after issuing certificate", to improve overall procurement efficiency.

We have specified thresholds for suppliers to register on Datang e-commerce platform and clarified the review requirements according to material, construction and service types, aiming to eradicate misbehavior disturbing procurement activities such as collusive bidding and dishonest behaviors. By the end of 2021, CDT had punished 219 suppliers for misbehaving.

Building a clean supplier team

Passing on Warmth

RMB **85.68** million

In 2021, Donation

CDT has always been dedicated to the social public welfare cause. We organize a variety of public services and volunteer activities such as public welfare donations, educational support and Public Open Day, and encourage our employees to engage in volunteer work. We have formulated the *Management Measures for Staff Service Activities* to perfect CDT's mechanism for voluntary activities. We uphold regular, standardized and institutionalized activities and advocate the CDT volunteer spirit of dedication, friendship, mutual assistance and progress. In 2021, CDT donated RMB 85.68 million in total, of which RMB 16.62 million was to public relief and public well-being cause.

Public well-being and charitable efforts

We vigorously participate in social public welfare and charity cause to step up all-round development of social charitable cause. We have initiated some CDT-featured brand philanthropic activities including "Datang Start Class", "Learning from Lei Feng" and "Caring the Elderly".

Case Datang Henan Power Generation Co., Ltd. donates RMB 6 million to some flood-hit cities in Henan Province

In July, 2021, catastrophic floods stroke many areas in Henan Province, causing serious losses. After CDT donated RMB 10 million to stricken areas through Henan Charity General Federation, Datang Henan Power Generation Co., Ltd. also took active part in flood control, disaster relief and post-disaster reconstruction and sent relief materials to local governments and people in time. It also donated RMB 6 million to six prefecture-level cities including Gongyi City of Zhengzhou, Anyang City, Zhoukou City, Kaifeng City and Xinxiang City, to help local governments with disaster control and reconstruction work.

Case "Responsible Tangxiaoxiang Volunteer Service" program under Datang Huayin Power Company selected in the 2021 Power Industry Outstanding CSR Cases

In recent years, "Tangxiaoxiang" volunteer service team has been engaged in all sorts of social volunteer services, contributing CDT's share to the progress of social civilization and showing our corporate image of "being responsible, competent and reliable". In October 2021, the "Responsible Tangxiaoxiang Volunteer Service" program under Datang Huayin Power Company was selected in the 10 social public welfare programs of 2021 Power Industry Outstanding CSR Cases by the China Electricity Council.



The "Datang Start Class" held by "Tangxiaoxiang" volunteer service team under Datang Huayin Power Company

Datang Zhejiang Power Generation Co., Ltd. holds the event of "Children Standing with the Party at the Central Primary School in Xizhou County" under "Datang Start Class" program.



Volunteer activities

We resolutely publicize the volunteering spirit. We repay the society through concrete deeds. In 2021, CDT formed 465 volunteer service teams and organized over 1,200 volunteer service activities, with over 2,340 hours on employees' voluntary activities.

1,200

In 2021, CDT developed voluntary activities over

Case CDT's Youth League Committee organizes young volunteers to participate in volunteer activities during Beijing 2022

2,340 hours

Employees' volunteer time over

CDT vigorously promotes joint construction with local governments. We maintain close contact with the Youth League Committee of Beijing 2022 Organizing Committee and local governments and local Youth League Committees in Beijing and Zhangjiakou, Hebei. We have formed 7 young volunteer service teams for Beijing 2022 Olympic Winter Games and Paralympic Winter Games, with 93 young participants from the Youth League. The volunteer service teams partook in over 50 events including Winter Olympic urban volunteer services, technical support at stadiums and in-game volunteer services at home stadium. Our teams have shown the vanguard spirit of CDT youth and displayed their bravery and social responsibilities.



Volunteers from Datang Gaojing Thermal Power Plant conduct services including community newspaper translation, public English lectures and civilized publicity. They dedicate their strength to Beijing 2022 with actual deeds.



The volunteer team from Jiangbing Thermal Power Plant of Datang Shaoxing Power Generation Co., Ltd. carries out "Constitution Into Campus" activity in the Central Primary School in Lihai Street.



Performance

CSR Performance

Economic

Performance Indicator	Unit	2019	2020	2021
Installed capacity	GW	144.21	158.5972	163.9818
Power generation volume	TWh	545.4	560.377	592.091
Total assets	RMB billion	758.5	796.563	830.164
Revenue	RMB billion	189.733	192.706	223.825
Economic contract performance rate	%	100	100	100

Environmental

Performance Indicator	Unit	2019	2020	2021
Proportion of clean energy	%	36.26	38.16	39.05
Coal consumption for power supply	g/kWh	298.31	296.3	295.92
NOX emission rate	g/kWh	0.19	0.17	0.16
SO2 emission rate	g/kWh	0.14	0.12	0.11
Flyash emission rate	g/kWh	0.025	0.015	0.014
Wastewater discharge rate	g/kWh	50	45	42

Social

Performance Indicator	Unit	2019	2020	2021
Major personal accident and above	time	0	0	1
Major equipment accident and above	time	0	0	0
General personal accident	time	1	2	5
General equipment accident	time	0	0	0
Number of on-the-job employees	headcount	95,758	95,582	93,874
Trade union membership rate	%	100	100	100
Collective contract coverage	%	100	100	100
Number of female employees	headcount	21,220	20,420	19,596
Number of ethnic minorities employees	headcount	6,095	6,394	6,235

Outlook 2022

In 2022, CDT will resolutely follow the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and implement the guiding principles of the 19th CPC National Congress, the plenary sessions of the 19th CPC Central Committee and the Central Economic Work Conference. We will prioritize stability and seek progress while maintaining stability, insist on high-quality development and introduce all-round policies. We will coordinate the four "tough battles", consolidate the "five major projects of improvement" and further implement the special action plan to improve quality and efficiency by improving marginal profits, investment quality and overall labor productivity, lowering financial expenses and fuel costs and managing enterprises in the red. We will forge ahead with reforms and innovations, surmount difficulties and further develop our new undertakings, thus setting the stage for the 20th CPC National Congress with remarkable achievements.



Appendix

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Preparation Description

Reporting Scope

Headquarters of China Datang Corporation Ltd. as well as its subsidiaries.

Reporting Period

The Report covers the period between January 1, 2021 and December 31, 2021, with some dating back to previous years or referring to later years.

Reporting Cycle

This is an annual report and also our 16th CSR report.

Reference

For better readability, "China Datang Corporation Limited" is also referred to as "we", "the Corporation" and "CDT" in the Report.

Data Sources

All data in the report are taken from official documents, reports and information platforms of the Corporation in compliance with regulations of the *Accounting Standard for Business Enterprises* and *Accounting System for Business Enterprises* issued by the government.

Compilation Conformance

- *Guidelines to the State-owned Enterprises on Better Fulfilling Corporate Social Responsibilities* released by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC)
- *GB/T 36001-2015 Guidance on Social Responsibility Reporting* issued by the General Administration of Quality Supervision, Inspection and Quarantine of China (AQSIQ) and Standardization Administration of China
- *Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 4.0)* issued by Research Center for Corporate Social Responsibility of the Chinese Academy of Social Sciences
- *GRI Sustainability Reporting Standards (GRI Standards)* issued by Global Sustainability Standard Board (GSSB)
- *Guidance on Social Responsibility (ISO 26000:2010)* issued by International Organization for Standardization (ISO)
- *The UN 2030 Agenda for Sustainable Development*

Access to the Report

The report is available in printed and electronic formats. Welcome to visit our official website to read and download the electronic report at <http://www.china-cdt.com>.

Report preparation team

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Deputy team leader:

Members:

Feedback

Thank you for reading the *CDT Social Responsibility Report 2021*. Please give your opinions and suggestions here for us to improve our future reports.

1. What is your overall impression of the Report?

Good Poor Fair

2. Do you think the Report covers all aspects of social responsibility performance of CDT?

Good Poor Fair

3. Could you easily find the topics you are interested in this Report?

Good Poor Fair

4. Do you think the layout of the Report is reader friendly?

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5. Which part of the Report do you like most?

6. What other information do you expect to know in the Report?

7. Is there any suggestion on our CSR performance and future Reports?

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