



中国大唐集团有限公司
China Datang Corporation Ltd.

SUSTAINABLE DEVELOPMENT REPORT

CHINA DATANG CORPORATION LTD. (CDT)

2022



Report Guide

Organizational Scope

China Datang Corporation Ltd. and its subordinates.

Period

From January 1 to December 31, 2022 (some contents hereof go beyond the foregoing period).

Issuance Cycle

This is an annual report, i.e., the 17th Social Responsibility/Sustainable Development Report of CDT.

Glossary

For the purpose of better presentation and readability, "China Datang Corporation Ltd." is also referred to as "We", "The Group", "Group Company" or "CDT" in this Report.

Data Declaration

The data presented herein are entirely cited from formal documents, statements and information platforms of China Datang Corporation Ltd., which are in line with the relevant provisions.

Extended Reading

This Report is available in hard copy and electronic version. Its electronic version can be accessed and downloaded from the official website of China Datang Corporation Ltd. (www.china-cdt.com).

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Leadership Statement

The year 2022 crystalized memorable achievement and great pride of CDT. As a super-large energy conglomerate, CDT worked hard and moved forward with determination, and exerted unremitting efforts to build a community of all life on Earth and a clean and beautiful world for us all.

We furthered energy cooperation and enjoyed prosperity and development opportunities together with the countries along the "Belt and Road". Energy constitutes an important material basis for the development of human society. CDT actively echoed with the "Belt and Road" Initiative and pushed energy cooperation evolution from "free sketch" to "elaborate painting". Currently, seven overseas projects have been put into operation, including two hydropower stations and four clean coal power plants. Gross installed capacity of 1.5 million kW has been under construction or in service. Power grid projects have been launched for three substations and 294-kilometer lines. All ongoing projects maintained safe and stable operation. CDT reaped plentiful social and economic benefits, promoted international production capacity cooperation in the win-win situation, and contributed to boosting the economic development and people's livelihood development of the countries.

We firmly shouldered responsibility, stayed true to grand mission, tided over difficulties and successfully fulfilled the task of guaranteeing energy supply. Confronted with severe and complicated situation of energy supply guarantee and the daunting operating pressure from overspending power generation cost, CDT placed top priority over guaranteeing supply and raising efficiency, spared no effort to produce electric power and heating power, and gained ground in stable production and output increase for coal and gas. As an enterprise committed to the output of more than 50% of power supply in Beijing and residential thermal energy of 800 million square meters in the northern China, CDT succeeded in fulfilling supply guarantee tasks. The Datang Power Grid, built in Cambodia, transmitted more than 21.4 billion kWh of electricity, propelling the development of Cambodian power industry. Since Dapein I Hydropower Project in Myanmar was put into operation in 2010, it has generated more than 10.2 billion kWh of electricity, lifted the long-standing electricity shortage bottleneck in Bhamo and boosted the rapid development of local economy, which was highly praised by the Myanmar Government and people.

We followed the national strategy of "carbon peaking and carbon neutrality" and quickened the pace of green and low-carbon energy transition all over the world. Advancing the Green "Belt and Road" Initiative in a coordinated manner is of great strategic significance to opening wider to the world and going further in green and low-carbon development. We took the lead in the establishment of Hainan International Carbon Emissions Exchange, China's first carbon market labeled with "internationalization". In this way, CDT deserved to be a example for exploring the introduction of foreign investors and the connectivity and trade with the international carbon market, pursuing a new round of high-level opening-up and high-profile international cooperation, and realizing goals of "carbon peaking and carbon neutrality". With promoting the realization of the goals of "carbon peaking and carbon neutrality" as the vision and ensuring the safe supply

of energy and electricity as the front burner, we deepen the cooperation in the field of global energy transition, guided the way for international cooperation on climate governance, infused more certainties into the uncertain energy market, and pushed forward the joint construction of the "Belt and Road" Initiative to make progress in both depth and breadth in the energy field.

We unveiled sound science and technology innovation system and stepped up the efforts to break through in key core technologies. CDT launched science and technology innovation project, made technological innovation system more well-organized, set up Science and Technology Advisory Committee, bolstered talent pool, appraised "Chief Expert/Top-notch Young Science and Technology Talent" (the First Batch), implemented "Excellent Engineer Cultivation Program", improved the "methodology" of science and technology innovation assessment indicator system, and rolled out more original achievements from scratch.

We performed social responsibilities and set a positive example for building a community with a shared future for mankind. We innovated and established characteristic assistance system of "Three-Support and Three-Assistance, and Five-Sphere Integrated Plan", blazed a path for enabling rural revitalization with industries, diversified channels for construction of "Beautiful Countryside" and consumption assistance, broadened the employment channels for people lifted out of poverty, and made every effort for rural revitalization with down-to-earth and effective measures. We strived to let the majority of the public along the "Belt and Road" share cooperation benefits. Cambodia Stung Atay Hydropower Project changed six-kilometer open diversion channels into underground culverts, effectively protecting the local primary forest ecosystem. Datang Indonesian Power Plant launched "Long-term Ecological Protection Plan for Coral Reef Restoration" in nearby waters and initiated a fund to help the locals develop an awareness of sustainable development and maintain

marine ecological health. We explored CSR Practice Road for medical assistance, cultural exchanges, education donation, skills training and infrastructure construction, vigorously improved the well-being of the people in the host countries, and joined hands with countries and regions along the "Belt and Road" to build "a Community of All Life on Earth".

"From the perspective of overall situation, we should know which direction we should go; From the perspective of general trend, we should make our mark". With outlook on bright future, CDT will endeavor to grow into "China's best and world class", seize good opportunities, follow the trend to take action, seek development while maintaining stable progress, improve quality in the development trajectory, write a new brilliant chapter on "the Second Startup", comprehensively promote green energy cooperation under the "Belt and Road" Initiative, and make contributions to global sustainable development.

Zou Lei

Chairman of China Datang Corporation Ltd.

About Us

Company Profile

About Us



Established on December 29, 2002, China Datang Corporation Ltd. (hereinafter referred to as "CDT") is a state-owned super-large energy conglomerate directly managed by the Central Government. CDT shoulders the important mission of safeguarding energy security, contributing to economic and social development, and advancing the Beautiful China Initiative.

CDT boasts ample assets in 31 provinces (autonomous regions and municipalities), Hong Kong Special Administrative Region and 13 countries and regions overseas. Business lines cover power generation, heat supply, coal, coal chemical, finance, environmental protection, integrated energy services and other fields, while five listed compa-

nies are under management of CDT. CDT has been listed in the Fortune Global 500 for 13 consecutive years.

CDT is the pacesetter in safeguarding the energy security of Beijing. 18 power generation subsidiaries around the city undertake the responsibility for supplying over 50% of the electricity consumed by the capital city, thereby embellishing corporate brand of "devotion to Beijing with unimpeded heat supply". CDT is a backbone of heat supply for the Northeast China, the North China and the Northwest China. 56 coal-fired thermal power plants and 14 heating subsidiaries are committed to heat supply to residents in ten Northern provinces with territory area of more than 800 million square meters.

CDT has a galaxy of industry leading projects as innovative models, such as the Tuoketuo Power Plant, the largest thermal power plant in the world; Datang Saihanba Wind Farm, the world's largest operating wind farm in service, which is invested, controlled and operated by the same entity within the same region; Datang Longtan Hydropower Station, a large hydropower plant with multiple world records, such as "the highest roller-compacted concrete dam" and "the largest underground powerhouse"; Datang Dongying Power Plant, the world's first six-cylinder six-row 1 million kW generator unit; and tidal flat solar project in west side of Changdatu tidal flat in Xiangshan County, Zhejiang, an eco-friendly fishery-solar hybrid project.

With outlook on the future development, CDT will quicken the pace for "Dual Transformation" from traditional power enterprise to green and low-carbon energy enterprise and state-owned capital investment company, make every effort to emerge as the best and strong player in the field of "Six Kinds of Power", achieve coordinated development of "Six Industries", work hard to realize goals of "Four Strong Points" and "Excellence in a Four-pronged Manner", endeavor to grow into "China's best and world class" characterized by "green, low-carbon development, multi-energy integration, efficient synergy and digital intelligence", and take the leader in the construction of Beautiful China.

Development Strategy

One Vision

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

Achieve "Dual Transformation"

To transform from traditional power company to green and low-carbon energy company—by 2025, installed clean energy capacity will account for over 50%; carbon peaking will be achieved by 2030; carbon neutrality by 2060.

To transform from traditional power company—optimizing the layout and bolstering industrial competitiveness, forge core competitiveness, and serve as a professional platform for market-oriented capital operation with capitals as the bond and equities as the foundation.

Emergence as the best and strong player in the field of "Six Kinds of Power" and achieve coordinated development of "Six Industries"

Coal-fired power, hydropower, wind power, solar power, gas-fired power, nuclear power.

To strive for coordinated high-quality development of coal and coal chemical industry, financial industry, environmental protection industry, commerce, trade and logistics industries and emerging industries, with electric power industry as the core.

Realize goals of "Four Strong Points" and "Excellence in a Four-pronged Manner"

Strong innovation power, strong competitive power, strong development momentum, and strong risk resistance.

Excellent market layout, excellent industrial structure, excellent asset quality, and excellent talent skeleton.

Table of CDT Installed Power Generation Capacity Matrix

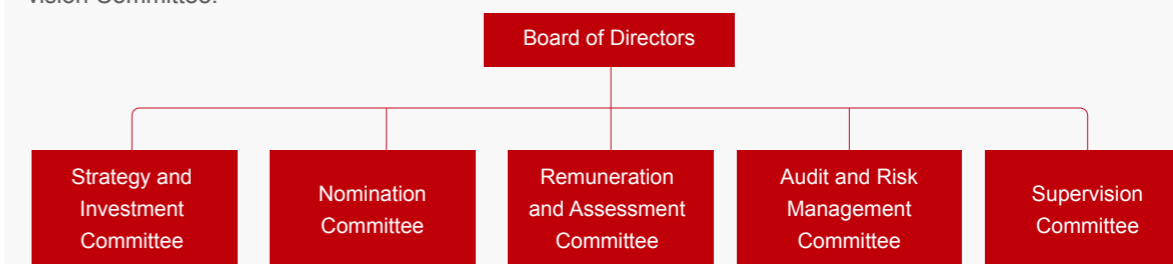
Region	Installed Capacity (10,000 kW)	Proportion in CDT (%)	Region	Installed Capacity (10,000 kW)	Proportion in CDT (%)	Region	Installed Capacity (10,000 kW)	Proportion in CDT (%)
Beijing-Tianjin-Tangshan	1900.0066	11.17%	Fujian	283.3100	1.67%	Guizhou	388.1100	2.28%
Hebei South Grid	245.3500	1.44%	Jiangxi	353.2600	2.08%	Yunnan	669.6020	3.94%
Shanxi	535.3950	3.15%	Shandong	774.6790	4.55%	Tibet	3.1490	0.02%
Inner Mongolia	452.7200	2.66%	Henan	1044.4960	6.14%	Shaanxi	1882.5500	11.06%
Liaoning	379.3200	2.23%	Hubei	77.8050	0.46%	Gansu	215.5300	1.27%
Jilin	550.7600	3.24%	Hunan	632.2900	3.72%	Qinghai	135.5000	0.80%
Heilongjiang	562.2000	3.30%	Guangdong	830.4080	4.88%	Ningxia	144.6500	0.85%
Shanghai	28.1700	0.17%	Guangxi	1155.9460	6.79%	Xinjiang	163.2000	0.96%
Jiangsu	1108.6350	6.52%	Hainan	170.3300	1.00%	Overseas*	81.2000	0.48%
Zhejiang	416.9000	2.45%	Chongqing	403.8330	2.37%	CDT Total	17015.4636	100.00%
Anhui	631.7200	3.71%	Sichuan	794.4390	4.67%			

*Excluding 240,000 kW transmitted by Taiping River Class-1 Hydropower Station to Yunnan Province

Corporate Governance

Board of Directors

CDT actively gives full play to the duties of Board of Directors for "developing strategies, making decisions and preventing risks", and steps up the establishment of corporate governance mechanism with statutory powers and responsibilities, transparent powers and responsibilities, coordinated operation and effective balancing. Board of Directors consists of five specialized committees: Strategy and Investment Committee, Nomination Committee, Remuneration and Assessment Committee, Audit and Risk Management Committee, and Supervision Committee.



Operation of Board of Directors

In 2022, CDT held ten board meetings and deliberated a total of 50 topics for consideration. 30 systems for operation, management, assessment and evaluation of Board of Directors at the Group level and the second-tier subsidiary were introduced. From then on, construction and operation of Board of Directors have rules to follow and systems to abide by. For two consecutive years, CDT Board of Directors Construction Work Meeting was held, which made clear 18 specific tasks and 57 specific measures, and established a regular rectification and upgrading work mechanism.



In 2022
Held **10** board meetings and deliberated a total of **50** topics for consideration

Composition of Board of Directors

By the end of 2022, CDT Board of Directors consisted of nine directors, including four internal directors (the Chairman, General Manager, Deputy Secretary-General, Staff Director) and five external directors.



4 internal directors



5 external directors

Responsibility in Focus

Guaranteeing Power Supply and Heat Supply, Improving People's Livelihood, Tackling Challenges and Forging ahead with a Sense of Responsibility

Energy power supply is a matter of great weight for stable economic operation, energy security and social stability. CDT always bears "the country's most fundamental interests" in mind, constantly strengthens mission and commitment of an energy-focused enterprise, firmly shoulders economic responsibility and social responsibility of energy supply guarantee, and goes all out for safe and stable energy supply, stable economic and social operation and warmth of the people in winter.

Strengthening Organizational Leadership and Taking the Initiative for Energy Supply Guarantee 01

CDT persistently held firm to the people-centered development idea, gave shape to a strong sense of social responsibility and "thinking of potential problems in times of safety", seized the initiative, strengthened the organization and leadership in all aspects, and formed energy supply work pattern with vertical solidarity and horizontal synergy.

CDT functioned as a leader in setting the right direction, keeping in mind the big picture, ensuring the implementation, successively convened heat supply work mobilization and deployment meetings and special meetings on energy supply guarantee, held working meetings of the leading group for energy supply guarantee for many times, closely analyzed and judged supply and demand situations of thermal coal, power and heat, and arranged for various tasks of guaranteeing power supply and heat supply. Members of the leadership team carried out supervision and inspection in Liaoning Province, Shaanxi Province, Shandong Province, Jiangsu Province and other places, with a view to steadily making progress in and effectively implementing various work arrangements.

All enterprises under management of CDT continuously consolidated the primary responsibility of energy supply guarantee. Energy supply guarantee leading group was set up according to the overall arrangement and unified deployment of the Group Company, and coordinated energy supply guarantee work from a holistic perspective. Enterprises took into account their own actual conditions, formulated scientific, effective, practical and feasible energy supply protection plans and emergency plans, clarified the objectives of all stages, broke down detailed tasks, improved emergency measures, improved support capacity, designated accountable persons, delegated energy supply guarantee responsibility hierarchically, thereby laying a solid foundation for work safety, stable production and reliable supply of electric power and heating power.

Increasing Fuel Inventory and Secured "Lifeline" of Unit Operation 02

To guarantee energy supply, it is necessary to "hold the trump card". CDT placed priority over thermal coal inventory in energy supply guarantee work, constantly improved and refined countermeasures, appropriately made raw material provision of energy supply guarantee by improving fuel procurement, transportation, reserve and other aspects, did everything possible to have access to coal resources, unswervingly promoted the full coverage, reasonable pricing and "threefold hundred percent (in contract signing rates, performance and the price implementation)" high-quality availability of coal under long-term agreements, thereby ensuring that fuel was enough to satisfy the demand of units.

Raising full coverage of medium and long-term contracts

CDT firmly seized the opportunity to full coverage of medium and long-term contracts for thermal coal, immediately launched relevant publicity, dynamically tracked the signing progress and gaps of regional companies, and guided these regional companies to actively expand resources, strive for local support and accelerate the matchmaking for medium and long-term contracts. Moreover, CDT paid close attention to signing of medium and long-term contracts for import emergency guarantee. In the second half of 2022, the coverage of medium and long-term contracts reached 100% for the first time.

Planning for coal storage work in advance

In August 2021, special meeting on fuel supply guarantee for the Northeast China from winter of 2021 to spring of 2022 was held, which made clear the coal storage targets before the valve opening of heating line and the inventory control requirements during the heat supply period. Analysis was conducted for the plant-specific and monthly coal storage targets set by CDT and winter heat supply period. Regional companies were instructed to seize the favorable opportunity to replenish inventory in the off-season, which laid a solid foundation for stabilizing the supply of thermal coal from winter of 2021 to spring of 2022.

Sparing no effort to honor more long-term agreements

Through matchmaking and communication between parent companies, CDT continuously consolidated and deepened the strategic cooperation relationship with large state-owned coal enterprises, vigorously coordinated the increments in long-term agreements in the Northeast China, coastal areas and other undersupplied regions and had access to import substitution resources. Special incentives were introduced for supply guarantee. Regional companies were urged to strengthen communication and coordination for long-term agreements, be stationed in the mines or ports to hasten delivery and transportation, and made every effort to raise the fulfillment rate and procurement proportion of medium and long-term contracts.

Overcoming Difficulties for Guaranteeing Power Supply and Heat Supply and Helping People Live a Happier Life

CDT always placed top priority over guarantee of safe and stable energy supply, spared no effort to fulfill tasks of guaranteeing power supply and heat supply during important periods, laid emphasis on such key points as power coal supply, financial backing, production organization and epidemic prevention and control, and performed due responsibilities as “an unflinching mainstay”.

Power supply guarantee

Bearing tasks of power supply guarantee throughout the year in mind, CDT arranged and deployed ahead of time, set up working bodies, formulated plans, made scheduling more reasonable, carried out special supervision for power supply guarantee in all aspects, detected and supervised more than 2,100 governance problems. Enterprises subordinated to CDT adhered to the concept of “temporary power supply guarantee depends on efforts all the year round”, strictly implemented power supply guarantee program, and vigorously made adequate preparations prior to power supply guarantee. During the power supply guarantee period, personnel at all levels stood in readiness, took effective measures, and successfully fulfilled major tasks of guaranteeing power supply. CDT and 15 secondary companies and subsidiaries were highly recognized and praised by competent authorities.



Leading group of Datang International Power Generation Co., Ltd. surveyed and supervised work results of power supply guarantee and high-quality development work



Frontline workers of Datang International Chaozhou Power Generation Co., Ltd. buckled down to power supply guarantee

Heat supply guarantee

Heat supply guarantee in winter is not only a major task related to people's livelihood, but also a project related to the vital interests of people. CDT always kept people's livelihood in mind, endeavored for people's livelihood, and steadily fulfilled heat supply tasks. On November 15, 2022, the 2022-2023 Heat Supply Season kicked off. Located in the Northeast China, the North China and the Northwest China, 56 coal-fired thermal power plants opened valves in all fronts and ensured safe and stable winter heat supply for residents in the Northeast China, the North China and the Northwest China with territory area of more than 800 million square meters. People's well-being was substantially improved.



Datang Baoding Heat Supplying Co. Ltd.



Building smart heating network and improving heat supply quality

Smart heat supply is an inevitable choice to improve the quality of both heat supply and people's lives, thus to promote sustainable social development. CDT passionately explored the construction of smart heating network, propelled clean and efficient heat supply in the northern China, achieved innovative development of heating industry, and simultaneously elevated people's happiness index.

“Compared with the temperature in previous years, the temperature of residents' houses within our operation area has generally increased by 2-3°C”. Reconstruction of “Smart Heat Supply” implemented by Longtang Heating Company under Datang Heilongjiang Power Generation Co., Ltd., initially harvested results. In 2022, the company built an enterprise-level smart heat supply platform, implemented heat source origin station and meteorological dynamic data collection, upgraded 40



Smart heat supply system of Longtang Heating Company under Datang Heilongjiang Power Generation Co., Ltd.

heat exchange stations in the operation area, and covered the intelligent regulating valve to primary networks, secondary networks, units and resident user sides. Moreover, the company integrated the data on temperature, pressure, flow, regulating valve, circulation pump and other relevant data monitored by “intelligent heat supply monitoring software”, and achieved the intelligent balanced operation of heat sources, pipe networks, units and users. This not only improved the quality of heat supply to users, but also further facilitated the energy saving and carbon reduction in heat supply system. station and meteorological dynamic data collection, upgraded 40 heat exchange stations in the operation area, and covered the intelligent regulating valve to primary networks, secondary networks, units and resident user sides. Moreover, the company integrated the data on temperature, pressure, flow, regulating valve, circulation pump and other relevant data monitored by “intelligent heat supply monitoring software”, and achieved the intelligent balanced operation of heat sources, pipe networks, units and users. This not only improved the quality of heat supply to users, but also further facilitated the energy saving and carbon reduction in heat supply system.

Governance



A First-class Giant on the Horizon

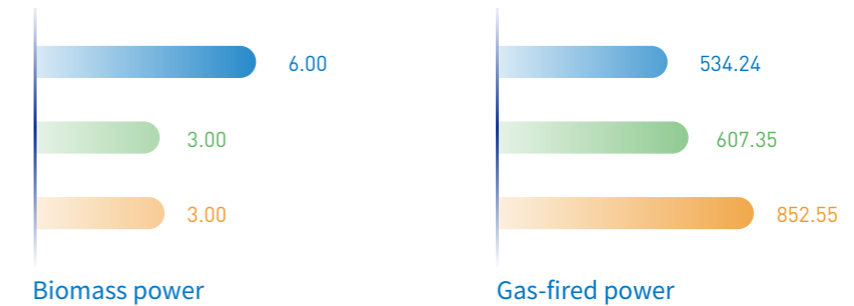
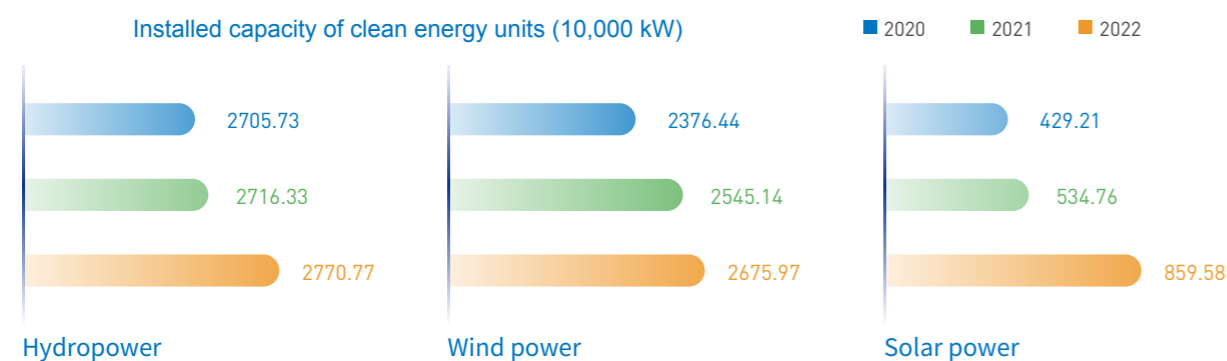
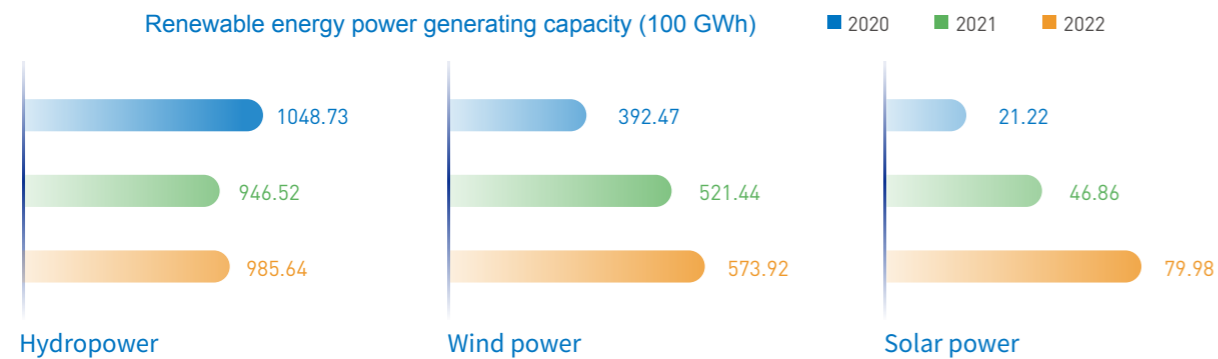
Energy and power industries are not only forerunner industries and fundamental industries of national economic development, but also driving forces to promote and realize modernization. In CDT, a long-established enterprise, diligent employees have taken an unbroken “Long March” in the past 20 years, and converted power industry professionals’ pride and enthusiasm into the light and heat behind national development and progress. At a new juncture of historical significance, CDT will profoundly bear the goal in mind, endeavor to blaze the path of “the Second Startup”, and continue to go further in order to promote the high-quality development of energy undertakings in the new era.



Supplying Quality Energy

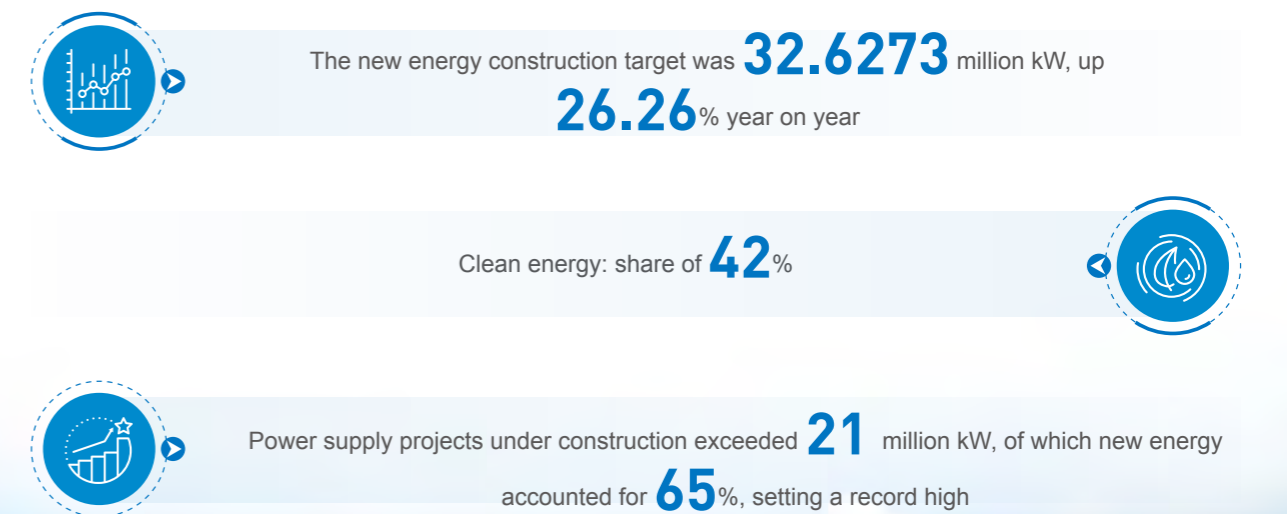
Every enterprise has a long way to go for advancing green and low-carbon economic and social development, which is a crucial move to achieve high-quality development. Engraving the historical responsibility and the mission of the times in inherent gene, CDT firmly puts goals and tasks in practice, cherishes passion and fighting spirit of "the Second Startup", and vigorously builds a clean, low-carbon, safe and efficient energy system and a new-type power system dominated by new energy. From the plains and hinterlands to the deserts and gobi, from the mountain peaks to the seashores, the ever-flowing green energy pours out, ignites warm and bright lights in urban and rural areas, and joins the production of workshops day and night...Vivid practices of modernization are exemplified by "Whole Picture of CDT".

Indicator	2022	2021	2020
Total installed capacity (10,000 kW)	17015.46	16398.18	15859.72
Power generating capacity (100 GWh)	5884.62	5920.91	5603.77



Promoting green and low-carbon transition

Green is not only a color of the Nature, but also the most beautiful background of high-quality development. Promoting comprehensive green transition is an important way to safeguard energy security. CDT spares no effort to promote the green, low-carbon and high-quality transition of energy mix, and writes the energy answer sheet of modernization on its own initiative. In 2022, the annual new energy projects for commencement totaled over 10 million kW for the first time, while the installed power generation capacity exceeded 170 million kW. The annual new energy construction target and the commencement scale recorded new highs. Corporate mission of "Provide Clean Energy to Light up a Better Life" was affectionately demonstrated throughout the prosperous China.



Curbed torrents and gushes from rivers and lakes

In echo with surging rivers, green power is also in an upsurge. As a renewable and clean energy, hydropower is an important cornerstone to safeguard energy security and underpin sustainable economic and social development. CDT plays an active part in the development of watershed bases in Southeast Tibet and the Hongshui River Basin. In 2022, Xunyang Hydropower Power Plant Project and Guolangqiao Hydropower Station Project of the Group were put into operation to generate electricity. Hydropower enterprises dynamically optimized and reduced reservoir capacity during flood season and adjusted the maintenance schedules of units according to the incoming water. No maintenance sewage was emitted throughout the year. Hydropower power capacity increased by 4.87% year on year. Hydropower enterprises pulled through severe situation of continuous high temperature and drought in summertime of southern China.

Mighty Dams and Calm Rivers



From 2007 to 2022, the reservoir of Longtan Hydro-power Station retarded and stored flood water by 91.9 billion cubic meters



Tingzikou Water Conservancy Hydro-junction Project is the only control project on trunk stream of the Jialing River, which is known as "the Dujiangyan Irrigation System in the New Era"



In December 2022, four units of Xunyang Hydropower Power Plant underwent 72-hour test-run, setting a new record of "putting four hydropower units in operation within a single month" for the Hanjiang River Basin in Shaanxi Province



In December 2022, all units of Guolangqiao Hydropower Station were put into operation to generate electricity, which can reduce carbon emissions by 843,800 tons per year, equivalent to the effect of planting 46.8 million trees

Building "No. 1 Project" to Illuminate "the Spine of the World"

Over the years, CDT has committed to electric power aid for Tibet Autonomous Region and laid out the dense electric grids in lofty mountains and high ranges with level difference of several kilometers. With total installed capacity of 1.015 million kW, Zara Hydropower Station is not only an auxiliary project of China's first "large-capacity and impact-type" hydropower turbine generator set, but also the first million-kW hydropower project approved to start construction in Tibet Autonomous Region. This project is expected to achieve an average annual generating capacity of 3.946 TWh, equivalent to saving 1.3 million tons of standard coal. This project is helpful to control the border area and stabilize Tibet. On the snow-capped plateau, CDT draws a magnificent picture brimming with green style, low carbon and high quality.



Towering and swirling wind turbines as fountains of green power

The inexhaustible wind is a type of precious treasure given to mankind by the Nature. Leveraging advantages of natural resources endowment, CDT regards the development and utilization of wind power as a strategic choice for sustainable development. In 2022, CDT participated in building Hainan Yangpu Offshore Wind Power Industrial Park, in an effort to form a green and low-carbon industrial chain integrating offshore wind power research, development and experiment, high-end manufacturing, operation services and equipment export in one. Verdant peaks are mirrored by boundless expanse of sea waves. White wind turbines are scattered like stars in the sky. Green power from the wind is connected into the grid, and provides a steady stream of power for development for numerous towns and cities.

Anchoring in the vast sea and springing up with the help of wind

On October 9, 2022, 1.2 million kW offshore wind power project with total investment of about RMB 14.6 billion, undertaken by CDT in Danzhou City, Hainan Province, was successfully approved. This project is not only the largest offshore wind power project of CDT up to now, but also offshore wind power demonstration project approved with the shortest process in Hainan Province. This project is of great importance in easing the tight power supply situation and helping Hainan Province build wind power equipment manufacturing industrial cluster.

Wind from Zhangbei County as Source of Power Supply for Beijing

"Low-carbon Green" of the Beijing 2022 Winter Olympic and Paralympic Games has bright background and contains far-reaching implications. Thanks to CDT's green promise, Wudengshan Wind Farm, Shandianhe Wind Farm and Suolafeng Wind Farm embrace the wind and smoothly work in the vast Zhangjiakou City.

Taking advantage of the wind and soaring up



On December 10, 2022, Wind Power Project (Phase II) of Baiyushan Wind Farm in Pinglu District, Shuozhou City, was connected to the grid with full capacity



The north wind is piercingly cold in burning gobi. On December 30, 2022, 99MW Project of Santanghu Wind Farm (Phase I & II), managed by Datang Xinjiang Power Generation Co., Ltd. within jurisdiction of the 13th Division of Xinjiang Production and Construction Corps, was successfully connected to the grid for power generation, which is a new energy project with the largest stand-alone installed capacity in this region, equivalent to saving about 102,000 tons of standard coal and reducing carbon dioxide emissions by about 267,000 tons per year. Wind turbines rise from the ground and add radiance to the sky. A new picture of green, low-carbon and high-quality development is brilliantly unfolded



Zaocun Wind Farm Project in Huaxian County, Henan Province, won "the 2022 China Electric Power Quality Engineering Award", the highest honor of engineering quality in the power construction industry

The rising sun as light source for all living things

In all types of new energy, solar power generation is the most economical, cleanest, most environmentally friendly and sustainable energy desired by mankind. CDT is specialized in the field of solar power, gradually explores the diversified application scenarios of "Solar Power +", and strives to offer better energy solutions for the high-quality development of society and economy. In 2022, three county-wide distributed Solar Power projects started construction, which were launched by Datang Jiangsu Power Generation Co., Ltd., Datang Shandong Power Generation Co., Ltd. and Datang International Power Generation Co., Ltd. Datang Henan Power Generation Co., Ltd. built the first-ever "Electricity Sales +" distributed solar project in the Group. Rows of shiny solar panels jointly constitute a giant matrix, and they change solar energy into surging electric power in green and efficient ways.



Label of barren mountains is removed after being enabled by solar power

With a mining history of 120 years, Lengshuijiang Tin Mine is known as "antimony hub of the world". It was once severely scarred due to uncontrolled mining for a long time. At present, blue solar panels spread all over the hills of the mining area. This fragile mine has reinvigorated.



On November 28, 2022, the first batch of Solar Arrays of 1 Million kW Solar Demonstration Project of Datang Huayin Electric Power Co., Ltd. for Ecological Governance of Loudi City, Hunan Province, was connected to the grid for power generation, which is one of large-scale solar demonstration projects (the first batch). This project is not only the largest mountain solar project and the largest single solar project in Hunan Province, but also included in the first batch of large-scale wind power and solar base construction projects with focus on deserts, gobi and desert areas in China. This project is a vivid demonstration model for promoting the local economy to shift from resource-exhausted development to green and low-carbon transition development.



On September 30, 2022, the first solar sub-array of Chencang Solar Project was formally connected to the grid for power generation. This project adopts "woodland and solar energy complement" mode on afforestable barren mountains and wastelands so as to revitalize the forgotten abandoned land



Tidal flat solar project, which is located in west side of Changdatu tidal flat in Xiangshan County, Zhejiang Province, is the first large-scale tidal flat solar project in China. This project changes the millennium-old wasteland into "a coastal magnet", and gives a successful case for eastern coastal areas to use for reference and draw on useful experience

Implementing multiple-energy complement for quality improvement

As an important component of the new-type energy system, the new-type power system is a critical player to promote the low-carbon energy transition and help achieve the goals of “carbon peaking and carbon neutrality”. CDT actively addresses the realistic challenge of “being dependent on weather” in new energy power generation, vigorously advances the construction of a comprehensive energy supply system of multi-energy complement integrating “wind power, solar power, hydropower, thermal power and energy storage, facilitates the coordinated development and scientific allocation of various resources, and improves operating efficiency of the system and the comprehensive benefits of power development.

In 2022, CDT laid equal stress on wind power and solar power, constantly built large-sized eastern, western, northern, southern and central bases with CDT characteristics, and made every effort to fight the tough battle of accelerating and increasing efficiency of new energy. Throughout the year, 25 regional companies applied for 46 large-scale wind power solar base projects. 1 Million kW New Energy Base of Datang International Zhangjiakou Power Plant and 1.35 Million kW New Energy Base of Yuxian County Power Plant (Phase II) were included into large-sized wind-solar power complement base project list of Hebei Province for 2022.

Riding the wind and forging ahead with the light—the largest wind storage integration project was put into operation in the northern china!

On July 24, 2022, Xiangyang Wind-Solar Power Complement “Solar Power+” Project of Datang Jilin Power Generation Co., Ltd. was successfully connected to the grid for power generation, marking the completion and formal operation of the largest wind power, solar power and energy storage integration project with total installed capacity of 1.15 million kW in the northern China. This project is of great significance to the high-quality blend of national energy transition and local revitalization and the faster progress in green and low-carbon transition development.



The average annual generating capacity of this project is about **3.6** TWh



1.18 million tons of standard coal can be saved per year



A super-large “aircraft carrier” of thermal power industry and “green” pioneer in energy transition

Like a shining pearl of power industry in Tuoketuo County beside the Yellow River, Inner Mongolia Datang International Tuoketuo Power Generation Company is currently the world’s largest thermal power plant in service. Due to its unique location and resource advantages, this power plant has become an indispensable energy pillar in this region and makes important contributions to the local economic and social development.

On December 23, 2022, as one of the large-scale wind power and solar power base projects (the first batch) and the first new energy multi-energy complement project based on the existing thermal power channels for bundle delivery, hoisting of the first wind turbine of Tuoketuo 2 Million kW New Energy Delivery Project in Western Inner Mongolia was successfully completed. Therefore, green dream comes true in this “air carrier” of thermal power industry. After the project is put into operation, “green electricity” of more than 5 TWh can be generated every year, more than 1.7 million tons of standard coal can be saved, and carbon dioxide emissions can be reduced by more than 4 million tons. And this will become a symbolic window for the world to witness China’s green energy and energy transition.



Efficient Synergy and Strong Integration

Coal-fired power on fast track for new heights

“China is rich in coal resources, and relatively poor in oil and natural gas”, which is the basic characteristics of energy mix. Therefore, the clean and efficient use of coal is a major demand. CDT follows such requirements that “gradual withdrawal of traditional energy must be based on the safe and reliable alternative basis of new energy” with practical actions. By upgrading coal power stock units and orderly development of advanced coal power, CDT expands coal power capacity and efficiency, holds “rice bowl of energy” in its own hands, and does a good job in the clean and efficient use of coal.



Profit of the coal industry reached
RMB **4.609** billion



up **28.38%** year on year



Crop straw changes into “green wealth” thanks to waste reuse

Crop straw is a type of top-grade clean renewable energy source, which can be used as an important fuel source for electricity production. The use of this energy can not only effectively mitigate environmental pollution, but also provide important power support for economic development.

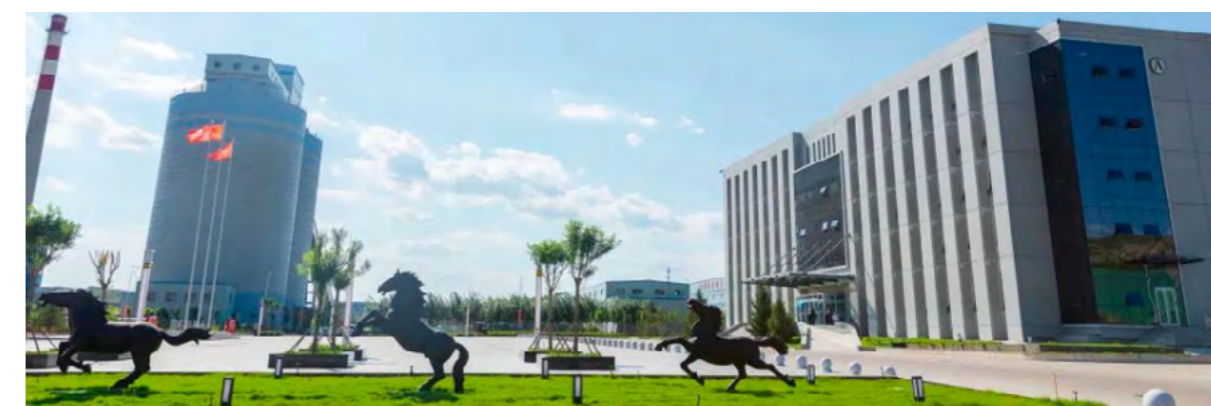
On December 4, 2022, Direct-fired Coupled Biomass Power Generation Project of 660 MW Supercritical Coal-fired Unit, undertaken by Datang Anhui Power Generation Co., Ltd., was put into operation. This is currently not only the largest coal-fired unit coupled biomass power generation project in China, but also the first set of biomass bulk material direct crushing and fuel coupled blending combustion project in China. 250,000 tons of biomass fuel are used per year, equivalent to saving about 100,000 tons of standard coal and reducing carbon dioxide emissions by about 270,000 tons per year. While optimizing the energy mix and promoting green and low-carbon transition development, this project can also allow villagers to obtain considerable incomes, inject “green” momentum into rural revitalization, and bring “green” wealth.



GOVERNANCE A FIRST-CLASS GIANT ON THE HORIZON



China Datang Energy Investment Co., Ltd. produced 17.37 million tons of coal, up 19.57% year on year. The profit reached RMB 3.611 billion, up 56.93% year on year



Longwanggou Coal Mine is the first ten-million-ton super-large underground mine independently developed and constructed by CDT. Through intelligent construction, the coal recovery rate has exceeded 98%, the per capita mining efficiency has increased by 92%, and various economic and technical indicators have marked the advanced level of similar mines

New brilliant achievements in coal chemical segment

Modern coal chemical industry is an important approach to clean and efficient use of coal. CDT thinks of coal chemical operation breakthrough and profitability as the first and foremost battle to achieve “the Second Startup”. CDT sets up a leading group headed by Chairman, and scientifically formulates coal chemical operation breakthrough and profitability strategy. In response to changes in situations and conditions, CDT promptly adjusts the profitability and revitalization ideas, establishes coal-electricity integration development strategies for Tin Mining Company, Tin Power Company, Hexigten Company and Duolun Company, makes progress in the adjustment and optimization of debt restructuring agreements, and offers sound financial support for coal chemical segment...In 2022, coal chemical segment gained overall profitability for the first time in the past decade after going into operation. CDT makes big strides forward on the way to “China's best and world class”.

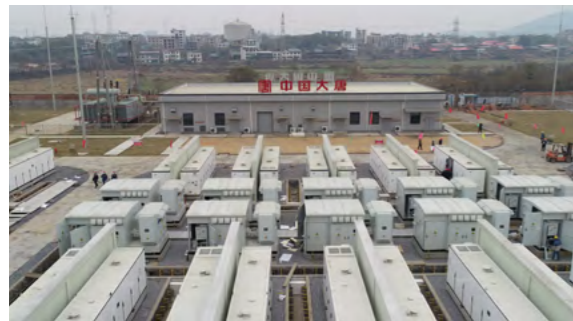


On September 28, 2022, the first trial run of LNG Project end with successful rollout of qualified products in Datang Jilin Zhongxin New Energy Co., Ltd.

Breaking new ground in new industries

The future is here. The only thing remains unchanged in the world is change itself. CDT keeps abreast of changes in “times” and “trends”. While making more efforts to upgrade the chains of traditional industries, CDT constantly establishes the chains of emerging industries, adds layout and input in forward-looking industries (such as hydrogen energy, energy storage and comprehensive smart energy), takes preemptive actions, and forges a “new growth engine”.

In 2022, the Group prepared Energy Storage High-quality Development Plan of China Datang Corporation Ltd., Special Research Report on Hydrogen Energy Industry Development and Special Research Report on Floating Offshore Wind Power. Milestones has been set in the new industry expansion and revitalization projects, such as Jiangdong New Area Comprehensive Energy Project in Haikou City, Ningxia Compressed Air Energy Storage Project, Wudaogou Pumped Storage Power Station in Xinjiang Uygur Autonomous Region, Cellular Catalyst Manufacturing, Disposal and Recycling Project, Approved Capacity Increase of Baoli Coal Mine, etc.



Electrochemical energy storage project, with the **largest single-station capacity in Hunan Province**, has been built in Leiyang City. It is also a domestic electrochemical energy storage power station with the largest size that once constructed



Centralized (shared) energy storage power station, with the **largest single size in Hubei Province**, has been built in Longganhu Administration Zone

Enabling with digital wisdom

On a global front, digitalization and smartness have become irreversible trends in the development of global science and technology, with great impacts on energy industry restructuring. CDT actively decodes “the future”, vigorously promotes the construction of “Digital Datang”, and enables high-quality development and efficient operation with “digital and smart” technology. In 2022, Energy Storage High-quality Development Plan of China Datang Corporation Ltd. was prepared and issued. To this end, the overall construction framework of “three major application platforms and three major foundations” was set up in accordance with the principle of “four unified approaches”. Digital transformation and smart construction were in full swing.

At present, New Energy Monitoring and Big Data Center has been built in the Group, which takes advantage of advanced technologies and concepts (such as big data, cloud computing and artificial intelligence) to deeply integrate production management and control with new technologies, strongly facilitating efficient collaborative management of new energy.



New Energy Monitoring and Big Data Center



Billowy Smart Tide in the Wujiang River

Green hills stand along both riverbanks, and the clear water flows eastwards. Pengshui County, a place in the southeast Chongqing Municipality, is one of the cradles of Ba Culture, where Wujiang Pengshui Hydropower Station is nestled. As the “innovation-oriented enterprise” of the Group and the guardian of “ecological barrier in Southeast Chongqing”, Datang International Pengshui Hydropower Development Co., Ltd. bravely rides the tide of “smart power plant” and has taken the lead in the construction of “smart hydropower plant” from 2019.



Dam of Pengshui Hydropower Plant

Under painstaking efforts in the past three years, Datang International Pengshui Hydropower Development Co., Ltd. not only has “Super Brain” for analyzing equipment data, but also “sharp eyes” for real-time monitoring and security risk warning, as well as artificial intelligence, a “trump card” of detecting geological changes in the reservoir area. This casts a safety shield for the unit equipment, flood prevention and control and geological monitoring, blazes a path with Datang characteristics, and helps “Pearl of the Wujiang River” always shine in Sichuan.



On November 14, 2022, No. 2 Unit of Datang Dongying Power Generation Co., Ltd. successfully applied the intelligent startup and shutdown system to complete the one-click grid connection, which is the first 1 million kW unit to realize whole-process intelligent start until load-carrying status in the Group.

Deepening Reform in an All-round Manner

Only reformers advance, only innovators grow stronger, and only reformers and innovators win. CDT bore the goal of “developing into a world-class energy supplier and taking the lead in building a beautiful China”, regarded deepening reform in an all-round manner as a key move to lift the bottlenecks, shore up weak points, overcome the shortcomings and seek development, exerted more reform efforts, took the faster pace of reform, spared no effort to push forward and successfully conclude the implementation of reform, and further gained tremendous strength for “the Second Startup” of CDT in full swing.



The 2022 Annual Meeting on “Seeking Development while Maintaining Stable Progress, and Promoting Transformation through Reform and Innovation” was held

Laying emphasis on top-level design, promoting reform from the top, and obtaining desired results

CDT earnestly shouldered important responsibility for “Action of State-owned Enterprise Reform”, actively pursued changes, systematically promoted reform, and constantly accumulated strength and enabled for high-quality development.

Shoring up leadership and making overall arrangements

CDT held two meetings of Leading Group for Deepening Reform and two company-wide promotion meetings to lay emphasis on key reform tasks and fulfill tasks by drawing upon the experience gained on key points and advancing stability. CDT organized large-scale study and discussion on “emancipating the mind and embarking on the journey of the Second Startup”, constantly gained insights into reform, and enhanced the awareness and initiative of reform.

Persisting in “regime first” and system integration

CDT formulated (revised) and revolutionized relevant systems in such important realms as refinement of the market-based operation mechanism, and shaped up a regime system with legitimate extensive coverage and solid evidence. CDT established “One General Ledger and Two Lists” to govern its headquarters and all second-tier and third-tier subsidiaries, as well as single-week notification, bi-weekly notification and monthly promotion working mechanism, thereby accurately exerting efforts and making targeted promotion. Seven regional cooperation teams were set up, while regional cooperation and exchange mechanism was established.

Tackling key points and difficult points and promoting high-quality transformation and development

Despite such adversities as fragile reform foundation, leftover problems and overall lag in progress, CDT made greater reform efforts with unprecedented determination and courage, made progress in the reform from “passive make-up” to “catch-up and running neck and neck”, changed the reform momentum from “forced reform” to “pre-emptive reform”, and upgraded the reform results from “standalone players” to “system integration”. CDT resolved many long-standing problems, accomplished many major matters of concern to the overall long-term landscape, constantly reinforced strategic leadership, consolidated the foundation for development, and improved management efficiency.

01

Optimizing governance through reform and gradually improving modern enterprise system with Chinese characteristics

The second-tier and third-tier subsidiaries are headed by concurrent Chairman (Executive Director) and the Secretary-General. All of these enterprises formulated “three lists” and the corresponding working rules.

CDT improved the system of the Board of Directors. 30 systems for operation, management, assessment and evaluation of board of directors at the Group level and the second-tier subsidiary were improved.

All 30 second-tier subsidiaries and 116 third-tier subsidiaries within the required scope established standardized Boards of Directors, ensured that outside directors accounted for the majority, established convener system for outside directors and guarantee system for duty performance, and formulated management system for authorizing board of directors to senior management.

All ten backbone subsidiaries formulated implementation plans for board of directors to exercise the functions and powers, formulated (revised) and implemented six supporting systems related to the functions and powers.

02

Remodeling mechanisms with reform and stimulating internal vitality and driving force

1,567 senior managers of 41 second-tier subsidiaries and 318 third-tier subsidiaries signed annual business performance responsibility statement, tenure-based business performance responsibility statement and job appointment agreement.

Regular mechanism for managers to compete for positions, reshuffle for the persons graded last and quit due to incompetence was established. The proportion of quitting managers increased to 7.68%.

“Open recruitment of new employees” became routine. Open recruitment rate maintained 100% in the past three years.

Subsidiaries comprehensively implemented position contract management and performance appraisal of all employees. Market-oriented quitting rate of employees rose to 3.21%.

CDT comprehensively established such a gross payroll decision-making mechanism that was linked to profitability, performance evaluation, labor cost efficiency and labor efficiency indicators. CDT took the lead in carrying out gross payroll filing system management in China Datang Energy Investment Co., Ltd. and Zhongxin Energy Chemical Corporation Ltd.



Promoting innovation through reform and constantly enhancing the capacity for independent innovation

CDT reformed the system for scientific and technological innovation, integrated China Datang Corporation Science and Technology General Research Institute and China Datang Corporation Renewable Energy Science and Technology Research Institute, and improved four mechanisms for decision-making on innovation, investment in research, project-based organization, and incentives and constraints, respectively.

CDT completed the selection of chief experts and young top-notch science and technology talents in the first batch and the recruitment for "Excellent Talent Program" in the first batch.

CDT constantly increased investment in R&D, with R&D intensity of 3.01% in 2022.

CDT strived to make breakthroughs in core technologies of advanced and efficient coal-fired power generation, large-capacity and high-head hydropower, offshore wind power, solar power, new-type energy storage and hydrogen energy.



Boosting transformation through reform and accelerating green and low-carbon energy transition

CDT made more efforts to authorize and delegate power for new energy development, formulated measures of special incentives in support of new energy projects, and vigorously stimulated the enthusiasm of enterprises at all levels for developing and building new energy projects.

A historic breakthrough was made in the number of clean energy bases with installed capacity of 1 GW under construction and operation, which rose from one to ten. The approved, commenced and commissioned power supply projects and the proportion of new energy projects set record highs. Renewable energy sources, such as wind power, solar power and hydropower, accounted for 88.55%, 77.45% and 68.94%, respectively.

CDT reduced 38 legal person enterprises and divested 20 enterprises engaged in minor business and disadvantaged industries. CDT carried out regular governance of loss-making enterprises, relieved state-owned enterprises from their social functions, and resolved leftover problems.



Stepping up management through reform and greatly improving management ability

CDT deepened the reform of fuel and materials systems, separated management from operation, and accelerated the formation of an integrated operation mode of fuel production, purchase, storage, transportation and marketing.

CDT revolutionized the operation and marketing systems, and combined fuel cost control with electricity marketing management. CDT optimized the coal and coal chemical management systems, achieved better management and control quality of coal and coal chemical segment, and made major breakthroughs in coal chemical industry. Zhongxin Energy Chemical Corporation Ltd. realized profit of RMB 23.87 million, with annual overall profitability for the first time.



Exerting More Efforts for Scientific and Technological Innovation

Scientific and technological self-reliance is cornerstone and top priority of security. Energy and power industries are one of the most vibrant stars in the realm of scientific and technological innovation. CDT strengthened the support for innovation talents, strived to make breakthroughs in key technologies, and passionately played the role on the journey of making China a powerful energy country.



RMB **7.623** billion earmarked for science and technology in 2022

Deep Root · Innovation System

CDT profoundly understood the great strategic significance of scientific and technological innovation, constantly made more efforts for construction of scientific and technological innovation system, improved innovation decision-making mechanism, scientific research investment mechanism, scientific and technological project organization mechanism and scientific and technological innovation incentive and constraint mechanism at a faster pace, continuously unleashed innovation vitality, and stimulated the endless innovation momentum on the upsurge.



Improving the management system

Completing the release of science and technology project initiation system and the revision of science and technology project management measures, and improving the standardized and refined management of projects



Optimizing supporting system

Establishing Science and Technology Advisory Committee, and improving its management regime and normalized operation mechanism



Securing dedicated investment

Formulating and releasing Guidance Opinions of China Datang Corporation Ltd. on Dedicated Research and Development Investment Mechanism, and sparing no effort to back up technology research of strategic, overall and pacesetting significances



Revising incentive schemes

Rewarding enterprises and individuals with important contributions to the Group, and fully arousing the enthusiasm and creativity of enterprises and science and technology personnel



Smart Energy Innovation Center

Delving into research on the intelligent operation and maintenance technology of thermal power, wind power and other power generation equipment, and shaping up typical fault warning technologies tailored to important parameters of main equipment and important auxiliary equipment and health management technologies tailored to typical fault types.



Fuel Gas-Steam Combined Cycle Power Generation Technology R&D Engineering Center

Developing design optimization solutions with independent intellectual property rights to waste heat boiler denitration system, and providing vigorous technical support for efficient denitration of combined cycle units run by the Group.



Wind Power Intelligent Operation Technology Center

Applying big data cloud platform to carry out research on remote diagnosis and evaluation and fault warning technologies, and achieving remote monitoring, effective guidance, prediction and maintenance of power station assets.



Tropical Solar Empirical Research Base

Building China's first MW-class outdoor test platform for tropical humid thermal climate solar systems and components, filling the gap of large-sized advanced solar empirical platforms in hot and humid areas.



Zou Lei, Chairman of China Datang Corporation Ltd., attended Inaugural Ceremony of “New-Type Power System (NTPS) Innovation Alliance” and delivered a speech

Lush Branch · Innovation Ecosystem

Building research and development platforms

CDT stood its ground for opening up and collaboration, vigorously made the best of scientific and technological resources, and tapped the full potential of collaborative innovation. In 2022, by making progress in the construction of research and development platforms in an orderly manner and jointly establishing collaborative innovation platforms, CDT further consolidated core competitiveness in the field of science and technology, and propelled the integration, optimization, transformation and upgrading of related industrial chains.

Autonomously controllable high-performance controller configuration software was developed in a joint research project in cooperation with China Electronics Corporation

CDT was approved for the construction of “New Materials Production and Application Demonstration Platform—Ultra-supercritical Thermal Power Unit Material Production and Application Demonstration Platform”

CDT initiated and established a number of technological innovation alliances in Chinese smart energy industry, New-Type Power System (NTPS) and the like

Exuberant Leaf · Innovation Talents

Talent is the key to the science and technology development. CDT upheld the strategy of “gathering talents, cultivating talents, benefiting talents and impressing talents”, vigorously built a team of leading science and technology talents, fostered talent development “eco-sphere”, and helped science and technology talents ride on the crest of success and compete for brilliance. At present, 943 technological innovation studios are available for employees at all levels in CDT. In 2022, CDT further launched establishment campaign of “Women’s Innovation Workshop”, united “SHE Strength”, and encouraged all female science and technology workers to bravely scale new heights and shine on the path of making China a science and technology powerhouse.



The 1st Working Meeting on Scientific and Technological Innovation was held

Lists of “Chief Expert” and Top-notch Young Science and Technology Talent” (the First Session) were announced



In-house science and technology talents served multiple purposes

China Datang Corporation Science and Technology General Research Institute and Datang Environment Industry Group Co., Ltd. assigned professionals to support the construction of new energy and energy storage projects

Ripe Fruit · Innovation Outcomes

Making breakthroughs in core technologies

In echo with the strategic needs, CDT devoted to original and leading science and technology research projects, resolutely won victory in the tough battle of key core technologies, and made positive contributions to the self-reliance and self-improvement of high-level science and technology. In 2022, according to science and technology planning for the “14th Five-Year Plan” Period and industrial development direction, CDT conceived and made clear 11 major research projects and 32 key science and technology projects, and announced six major research projects of the first batch at the Working Meeting on Scientific and Technological Innovation.

Award/Prize	Award/Prize Grade	Project Name	Technology Niche
China Electric Power Innovation Award	First Prize	Research and Demonstration of the World’s First Six-Cylinder Six-Row Ultra-Low Back-pressure Clean And Efficient 1MW Reheat Generator Unit	Hydropower technology
China Electric Power Innovation Award	First Prize	Key Technology on Stability of Large-Sized Hydropower Units Based on Dynamic Load and Impedance Balance in Water and Its Applications	Hydropower technology
China Electric Power Innovation Award	First Prize	Research on Multi-Dimensional Security Risk Perception Analysis System Based on Industrial Control System	Information technology
Energy Innovation Award of China Energy Research Society	First Prize	Research and Application of Gas Turbine Flow Passage Health Monitoring System	Thermal power technology

Achievements · 2022



After the key core technology, applied by Zara Hydropower Station in Tibet Autonomous Region, has been included into first-ever major technical equipment research projects (sets), it has become the first project in “Breakthrough Project” of the Group



Key research project, entitled “Power Transmission from Multi-Energy Coupling Big Base of Inner Mongolia Datang International Tuoketuo Power Generation Company”, was included into a key research project of “New-Type Power System (NTPS) Innovation Alliance”



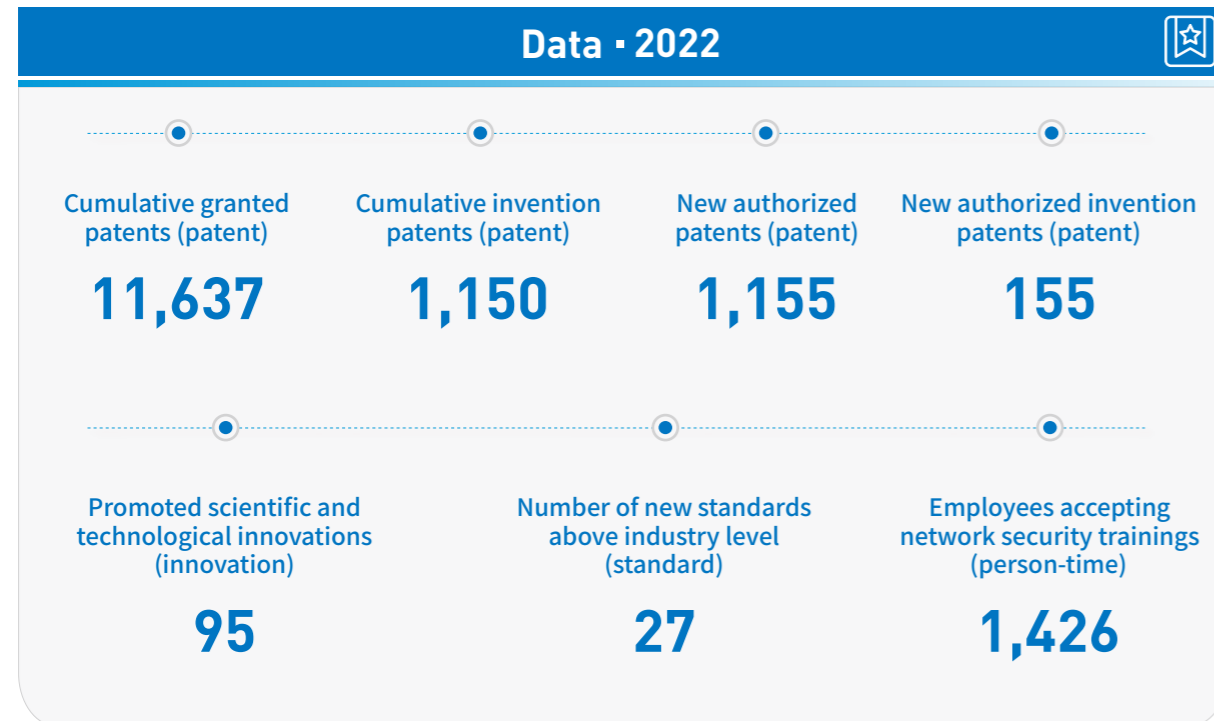
Under “open competition” for the first time, Large-scale Compressed Air Energy Storage Project, which was launched in Zhongwei City, Ningxia Hui Autonomous Region, was successfully designated to be a scientific and technological innovation project of energy sector during the “14th Five-Year Plan” Period



Expert review for feasibility of new materials application in National Power Demonstration Project—Ultra-supercritical Unit with Double Re-heating Cycles at 630°C in Yuncheng County, Shandong Province, was completed

Extensive Coverage · Achievement Commercialization

CDT gave impetuses to the deep integration of industry, academia, research and application, made every effort to resolve the “last mile” problem, promoted the commercialization, demonstration and publicity of scientific and technological achievements, helped translate scientific and technological achievements into real productive forces, and provided strong scientific and technological support for high-quality economic and social development.



Down-to-earth Research Outputs across China

01

Phased array real-time evaluation technology for key components of thermal power units

Operation safety and stability of key components of thermal power units have been significantly improved, with significant economic and social benefits



02

Autonomously controllable wind turbine generator unit control system based on full stack

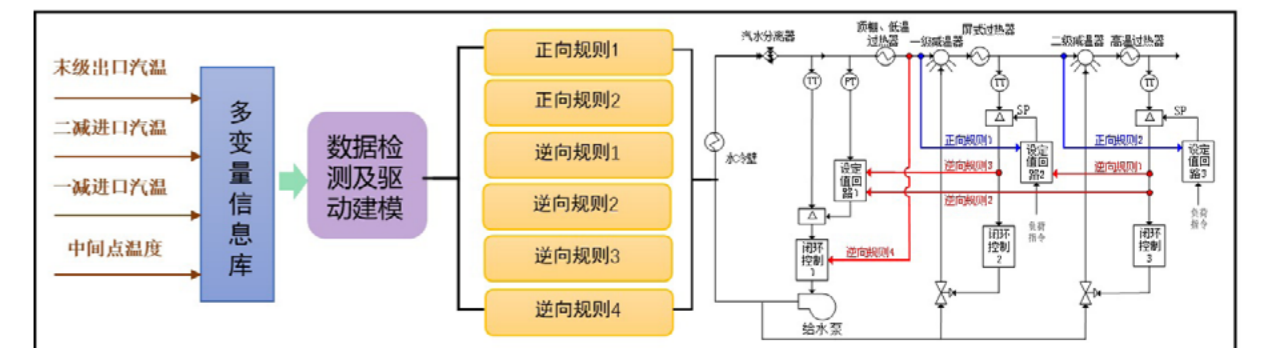
Key software and hardware of the wind power master control system are wholly localized. This marks the success initiation of the first dedicated industrial control chip “Phytium E2000 CPU” developed by China Electronics Corporation in the first energy and power scenario project



03

Key technologies for intelligent control of coal-fired units with new features of source network coordination

Since Ma'anshan Dangtu Power Generation Co., Ltd. put this project into application in July 2022, the monthly assessment power of the two units with primary frequency regulation has decreased by 150,000 kWh/month, equivalent to profit of about RMB 360,000 after six-month application of this project



04

Research on circulating water saving technology and development technology of smart water affairs management system

For a power plant, fuel cost of the about RMB 3 million can be reduced and about 83 tons of water can be saved per year. The annual direct economic benefits total about RMB 2.3 million, and estimated direct benefits total RMB 5.3 million

Setting an Example for Legally Compliant Operation

Strengthening management is an eternal theme of enterprise development and a major cornerstone for “Built to Last” on enterprise front. Based on the further rectification of various problems, CDT focused on compliant operation, set foothold on institutional building, implemented the management improvement program for two consecutive years, and completed rectification tasks. These efforts result in steady improvements in management, and laid a solid foundation for better development of CDT.

Improving the management system

A first-class enterprise is built on first-class management. We continued to advance the special campaign to pursue first-class management, comprehensively formulated the implementation plan, timetable and roadmap, selected 40 internal benchmark organizations for others to follow suit, and encouraged advanced management across the Group for the purpose of better quality, higher economic benefits and stronger growth.

CDT actively improved the leader responsibility system for the rule of law, the system for corporate governance pursuant to law, the system for corporate rules and policies, the system for compliant management, the system for internal control management, and the system for organizational support. Moreover, CDT refined the mechanisms for troubleshooting, rectification and improvement as a whole, integrated organizational supervision, legal supervision and audit supervision in an organic manner, and escorted high-quality development with high-quality rule of law.

Building the rule-of-law culture

CDT gave play to the exemplary role of the “critical minority” in holding the rule of law in awe and veneration, took into account issues, made decisions and handled matters under the rule of law, and created sound environment and cultural atmosphere for rule-of-law building. CDT called on all employees to establish the awareness of rule of law, set up a well-structured rule-of-law talent team featuring strong professional abilities and sound working style, and advanced the fulfillment of rule-of-law building tasks with practical actions and substantive results.

Intensifying auditing and supervision

CDT endeavored to break new ground for audit work by fulfilling central tasks and serving the overall interests. CDT further coordinated audit projects and audit organization modes, worked hard to improve the allocation of audit resources, and continuously enhanced audit coverage, work quality and supervision efficiency.



Audit Working Meeting 2022

Tightening risk control

With a good balance between development and security, CDT constantly reinforced the foundation for work safety, concentrated on the prevention and resolution of major risks, strengthened risk identification and control measures, improved the capability in risk control, and made the supervision system and risk control system more satisfactory. CDT vigorously launched special rectification campaign focused on seven issues to promote risk control, put in place a long-acting mechanism for risk control, intensified process management, clearly defined responsibilities at all levels, and effectively prevent and control risks.



Environment

Unveiling a Better Ecosystem



A sound ecological environment is the most inclusive welfare for people's livelihood. "Nature provides the basic conditions for human survival and development. Respecting, accommodating, and protecting nature are inherent requirements for building a beautiful country in all respects. As a participant and contributor to building a beautiful China, CDT fully masterminded low-carbon policies, conducted emission reduction, kept green promise, fulfilled ecological commitments, regarded green, low-carbon and high-quality development opportunities as the driving force for achieving "the Second Startup" and growing stronger, better and bigger, made unswerving efforts to put green transition in practice, and did its best to jointly make progress in building a beautiful China with harmonious coexistence, prosperity and cleanness in prospect.



Extensively Consulting for Low-carbon Measures

CDT energetically blazed low-carbon path, shouldered its own responsibility for green development, provided carbon management services, devoted to research and development of carbon capture technology, carried out carbon market trading, gave full play to wisdom and sound strategy to achieve carbon emission reduction, and contributed to helping achieve carbon peaking and carbon neutrality.

Providing carbon management services

CDT actively plunged into the construction of carbon trading market, furnished new development ideas and quality management services in green consulting, low-carbon asset operation, green finance and low-carbon investment, built an ecosphere of green, low-carbon and high-quality development and a circle of friends featuring extensive consultation, joint contribution and shared benefits, and contributed to realizing China's goals of carbon peaking and carbon neutrality and the construction of a beautiful China. In 2022, its research paper Strategic Structure and Practice Path of Carbon Asset Management of Large-sized State-owned Power Group under the Goals of Carbon Peaking and Carbon Neutrality won Grand Prize of National Power Enterprise Management Innovation Paper Competition.

Achievements · 2022



- Providing carbon emission accounting technology services for **30** suppliers, and expanding the green asset market
- International green certificates: registering **15** development projects and selling more than **4** million green certificates
- Carbon Emission Rights Pledge Bond of Datang International Power Generation Co., Ltd.: the first carbon emission rights pledge bond in China

Carbon Management · CDT Action

Improving the construction of the top-level system

Establishing and improving carbon asset management system based on the three important systems, namely, Carbon Asset Management Measures of China Datang Corporation Co., Ltd. (Trial), Carbon Compliance Work Rules of China Datang Corporation Co., Ltd. (Trial) and Carbon Trading Work Rules of China Datang Corporation Co., Ltd. (Trial).

Strengthening the construction of carbon asset management team

Holding four carbon asset management series trainings, with about cumulatively 3,400 trainees; mobilizing enterprises to take "National Carbon Market Data Quality Management Training Course" organized by the Ministry of Ecology and Environment and carbon asset trainings organized by China Energy Research Society.

Outreaching scope of carbon asset management services

Reaching international green certificate trading intention with well-known domestic and foreign enterprises such as Sinochem Group, Statkraft SF and Sungrow.

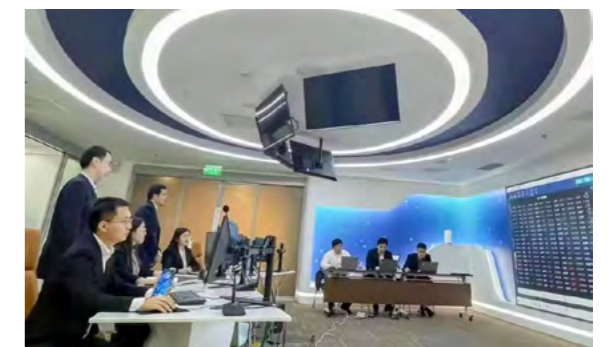
Advancing research on carbon asset management

Originating strategic framework and practice path for carbon asset management, and giving references and suggestions for other enterprises.

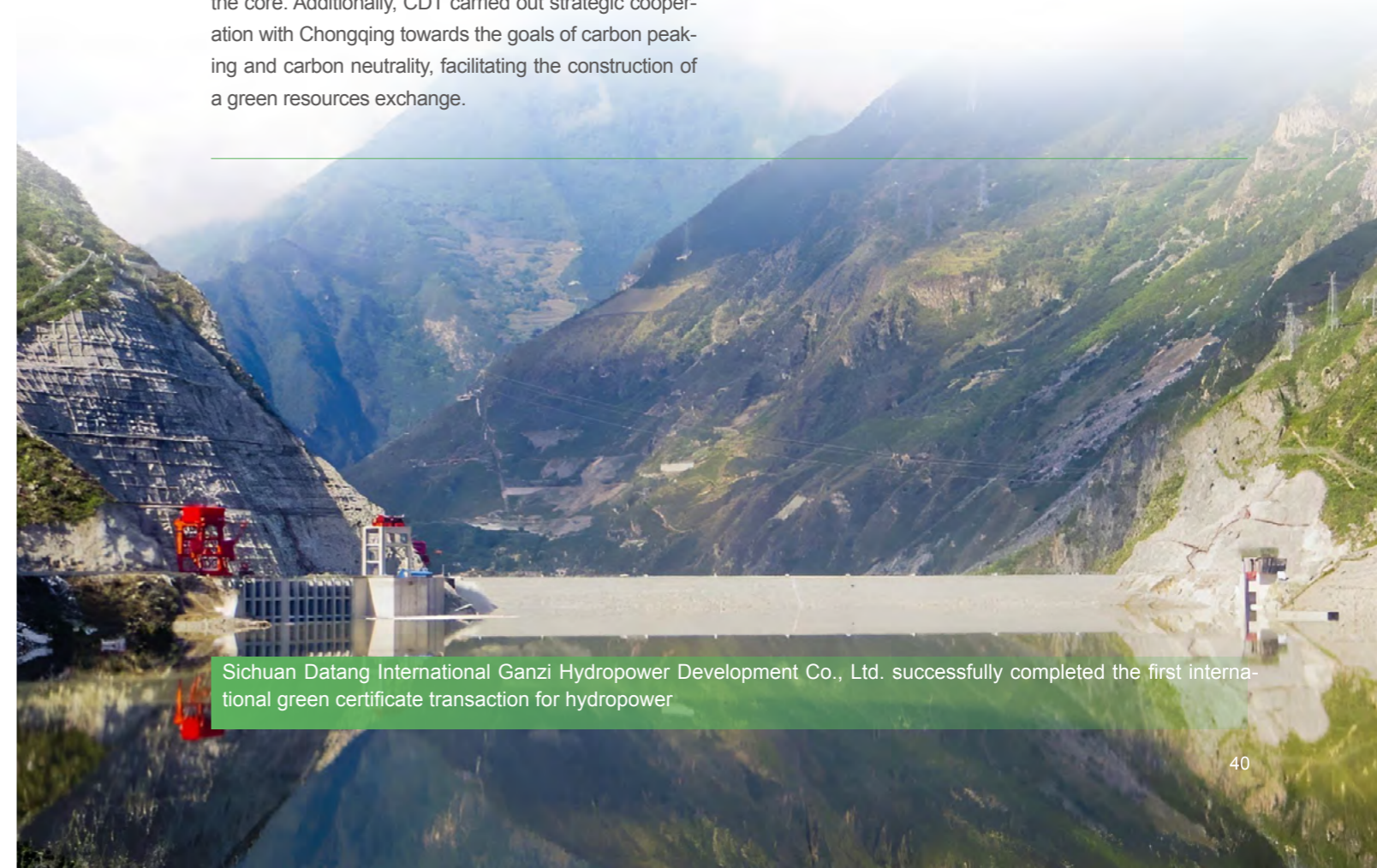


Strengthening carbon asset management and groping for green and low-carbon road

Focused on key regions and critical nodes, CDT developed the domestic market, expanded green consulting business market outside the Group, embraced and constructed a new development pattern, and upheld opening-up and cooperation, building a carbon trading market in pragmatic cooperation in Beijing-Tianjin-Hebei Region, Hubei Province and Shenzhen City, etc. CDT took the initiative to join the construction of Hainan Free Trade Zone (Port), provided consulting services for Hainan International Carbon Emissions Exchange, and helped establish a carbon asset trading platform with international carbon emission reduction (CER) trading as the core. Additionally, CDT carried out strategic cooperation with Chongqing towards the goals of carbon peaking and carbon neutrality, facilitating the construction of a green resources exchange.



China Datang Green & Low-carbon Development Co., Ltd. conducted agreement fulfillment in the Carbon Emissions Exchange



Sichuan Datang International Ganzi Hydropower Development Co., Ltd. successfully completed the first international green certificate transaction for hydropower

Devoting to Research and Development of Carbon Capture Technology

Carbon fixation is the key to addressing the issue of “carbon”. CDT upheld that “Science and technology constitute the primary productive force”, developed carbon capture technology, and gave technical support for “the Second Startup” of the Group on the way to unveiling a better ecosystem and achieving green transition. In 2022, CDT went all out for research and development of carbon capture, utilization and storage (CCUS) technology, undertook gas turbine carbon emission and carbon capture application projects, and planned for carbon drop solutions and implementation paths of gas turbine power plants, making down-to-earth efforts on the road of low-carbon technology.

☆ All-out sprint for development of carbon capture technology

Based on the existing carbon capture demonstration project of Gaojing Thermal Power Plant of Datang Power in Beijing, Datang International Power Generation Co., Ltd. undertook research and development of efficient and low-energy absorbent, which will reduce the minimum regenerative energy consumption to 3.59 GJ/tCO₂, more than 34% lower than operation energy consumption in the initial phase of the project. Datang International Power Generation Co., Ltd. optimized capture craft and process, established simulation model of the main process of demonstration project, and designed three optimization processes, namely, waste heat recovery of resurgent gas, optimal reflux of resurgent gas condensate water and reinjection of absorptive rich liquid. A feasibility study on the application of a small-sized nuclear reactor was carried out in Lower Garden. A nuclear radiation monitoring system for circulating water of the heat network was built, and a non-carbonized nuclear heating system was set up, which can reduce carbon dioxide emissions from heat supply by 350,000 tons per year if heat supply area is set as 10 million square meters.



Two sets of units achieved “dual commencement” in cogeneration project of Gaojing Thermal Power Plant of Datang Power in Beijing

Conducting Carbon Market Trading

CDT kept abreast of new situations of power market reform, pushed forward the integration and mutual promotion of power market and carbon market, and synergy and progress in low-carbon development and high-quality development, and conducting carbon emission rights trading in the context of the goals of carbon peaking and carbon neutrality. In 2022, CDT took the initiative to give full play to its professional advantages. CDT attended official meetings of the Ministry of Ecology and Environment, China Electricity Council and industry associations for many times, and expressed the opinions of market player. On a regular basis, CDT participated in the discussion of Implementation Plan for Setting and Allocating Total Quota of National Carbon Emission Rights Trading (2021-2022), which was organized by the Ministry of Ecology and Environment. CDT successfully completed the research project of “National Carbon Market (Electricity) Boom Index”. Additionally, CDT assisted in transforming “lucid waters and lush mountains” into “invaluable assets” and creating ecological value, and helped achieve the goals of carbon peaking and carbon neutrality.

☆ Clinching the first deal of cross-border carbon trading

On December 30, 2022, with CDT as main sponsor shareholder, Hainan International Carbon Emissions Exchange completed the first cross-border carbon trading. This VCUs product was under globally recognized Verified Carbon Standard (VCS). This trading project, with a trading volume of 10,185 tons, came from India, a country along the “Belt and Road”. This project was the first attempt of Hainan International Carbon Emissions Exchange for giving full play to the advantages of Hainan Free Trade Port and helping domestic and foreign fund owners and asset owners establish partnership in the field of Voluntary Emission Reduction (VER). This project was also a useful exploration of CDT to tap into the “Belt and Road” VER market.



Hainan International Carbon Emissions Exchange issued trading certificates and commemorative certificates for both trading sides



CDT obeyed General Secretary Xi Jinping's important instructions on supporting the establishment of carbon emissions exchange and other trading venues in Hainan, propelling the construction of Hainan International Carbon Emissions Exchange.



Hainan International Carbon Emissions Exchange and Wanning signed Strategic Cooperation Framework Agreement of Wanning City for Carbon Peaking and Carbon Neutrality, which was not only a substantial breakthrough in value transformation of ocean blue carbon resources, but also a useful attempt to change high-quality ecological assets into high-quality development capitals.



Blazing a Path of Emission Reduction Together

Climate change is a common challenge for humanity. Climate change bears on the sustainable development of the Chinese Nation and the future of mankind. Exerting more efforts for energy conservation and emission reduction is urgently needed to address global climate change and promote sustainable economic and social development. CDT played a leading role in emission reduction, prioritized energy conservation and emission reduction in the work, and carried out technological transformation and innovation, to save energy and resources, and intensify pollution prevention and control, blazing the path of emission reduction.

Saving Energy and Resources

CDT is committed to properly handling the relationship between business development and energy conservation and emission reduction, constantly improved the quality and optimization of coal-fired power with successive breakthroughs, and gained ground in optimized operation. Thanks to various energy-saving measures, CDT enhanced the utilization of resources, comprehensively realized the indicators of energy conservation and environmental protection, and created industrial green value.

Achievements · 2022



Coal power

All 88 coal-fired power enterprises of CDT completed economic self-evaluation, rectified their problems, and further minimized main energy consumption indicators.

As 54 coal-fired power units of CDT won awards in National Energy Efficiency Benchmarking Competition, CDT ranked first among the five Chinese major power generation groups.



Wind power

Wind power utilization hours increased by 12 hours year on year, while the average trouble-free duration of wind turbines increased by 51 hours year on year.

In the national competition for top-grade wind farms, 32 wind farms of CDT won the honorable title of "Hundred-day Trouble-free Wind Farm". Therefore, CDT ranked second among the five Chinese major power generation groups.



Hydropower

Longtan Reservoir, Yantan Reservoir and other reservoirs effectively retarded and stored flood water by more than 2.6 billion cubic meters and generated power by 1.86 TWh, setting a record high.

Tingzikou Hydropower Station in Sichuan Province dynamically controlled flood control level. In 2022, it retarded and stored flood water three times in full capacity, and increased electricity generation volume by 270 GWh. Zero drainage of sewage throughout the year.

Integrated dispatching was carried out in the Dadu River Basin, the Shuoqu River Basin and Jintang River Basin, increasing electricity generation volume by about 500 GWh throughout the year.



Solar power

Solar utilization hours reached 1,405 hours, with an increase by 377 hours year on year.

Power generation deviation between the solar array and the standard array declined by more than 20%, with power generation efficiency greatly improving.

Panorama of CDT · 2022

Chifeng Renewable Power Business Division of Datang (Inner Mongolia) Energy Development Co., Ltd.

Since its operation, Chifeng Renewable Power Business Division of Datang (Inner Mongolia) Energy Development Co., Ltd. had supplied clean energy of 35.571 TWh, equivalent to saving standard coal by 10.21 million tons and reducing carbon dioxide emissions by 36.59 million tons, thereby contributing to building a beautiful China.



Datang Wanning Natural Gas Power Generation Co., Ltd.

Two gas units with total installed capacity of 974,200 kW, put into operation by Datang Wanning Natural Gas Power Generation Co., Ltd., were the first to achieve "zero" wastewater discharge in Hainan and the lowest nitrogen oxides emission in China, which is of great significance for Hainan to construct "Five Networks" Infrastructure. Since their operation for power generation, they have saved standard coal by about 250,000 tons and reduced carbon dioxide emissions by about 1.92 million tons per year. CDT contributed to developing "Hainan Clean Energy Island" through this project.



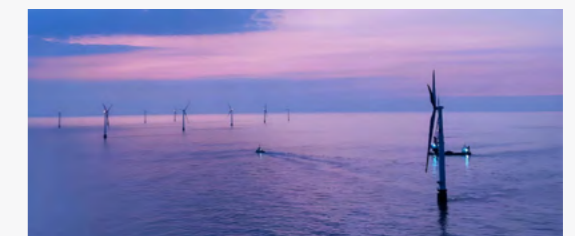
Datang Leizhou Power Generation Co., Ltd.

In Phase I Project of Datang Leizhou Power Generation Co., Ltd., two 1 GW ultra-supercritical coal-fired generating units were built under the application of the domestically advanced secondary reheat technology. Since the operation, they cumulatively generated power of 19.443 TWh, which saved standard coal by 155,000 tons, and reduced carbon dioxide emissions by 502,000 tons, sulfur dioxide emissions by 80,600 tons, nitrogen oxides emissions by 22,300 tons and dust emissions by 2,353 tons compared with those from primary reheating unit. Remarkable energy-saving and emission reduction effects were proved.



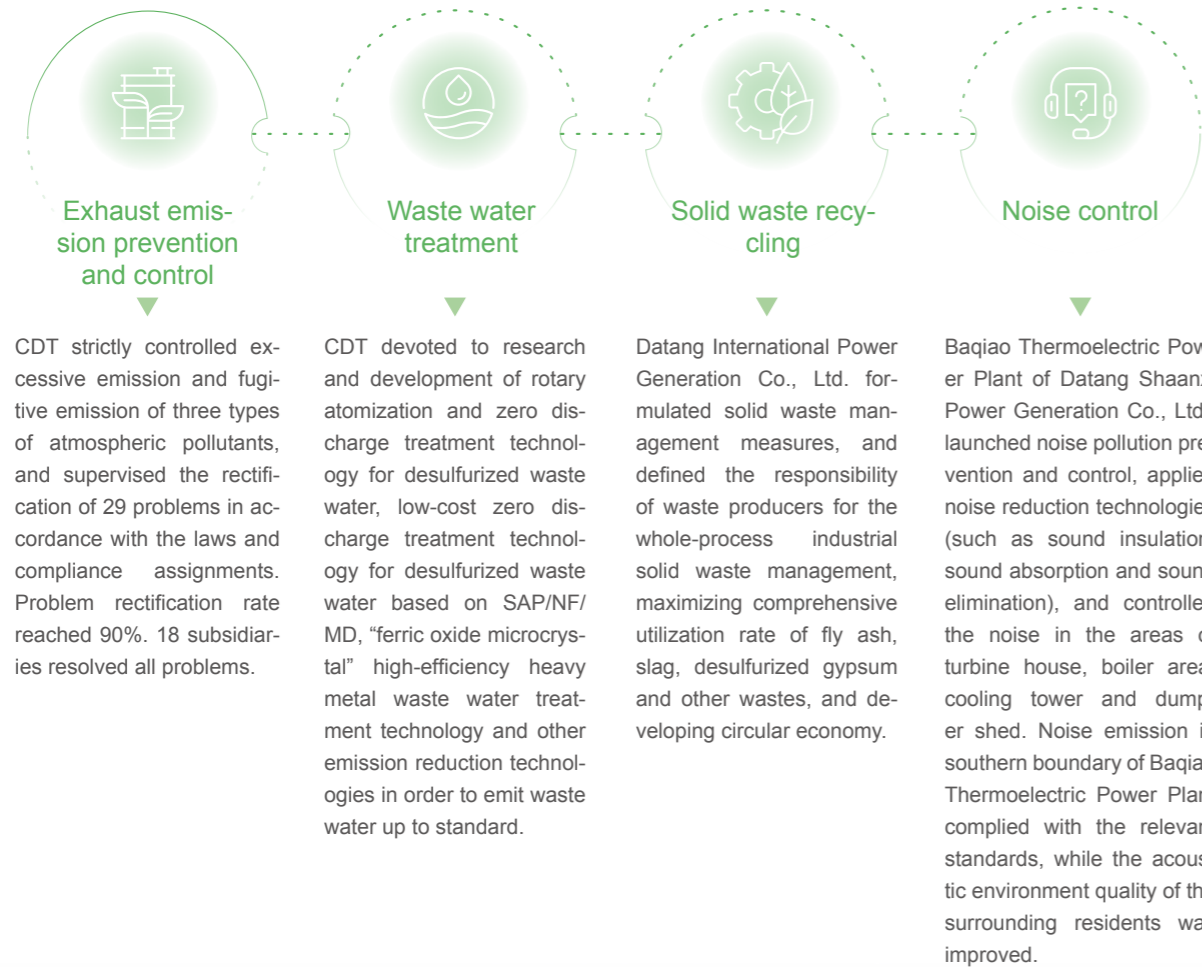
Jiangsu Datang Binhai Offshore Wind Farm

Jiangsu Datang Binhai Offshore Wind Farm is the first offshore wind farm independently developed, constructed and operated by CDT, with total installed capacity of 300,000 kW. Since it was put into operation, the cumulative power generation has exceeded 2.55 TWh. By saving standard coal by about 837,000 tons and reducing carbon dioxide emissions by about 2.544 million tons, it effectively optimized the energy mix, improved the ecological environment, and promoted economic development.



Intensifying Pollution Prevention and Control

CDT strived to win the tough battle of pollution prevention and control, strengthen the pollution prevention and control capacity, and implement China's ecological environmental protection planning, taking the initiative to take the responsibility of environmental governance subject. In 2022, no negative environmental events happened in CDT.



Achievements · 2022

Sulfur dioxide (SO₂) emissions reduction: **21,700** tons

Nitrogen oxides (NO_x) emissions reduction: **19,700** tons

Soot emission rate: **0.013** g/kWh

Total discharged wastewater: **10.8009** million tons

Fulfilling the Promise of Green Practice

Green is the true quality of nature and a beautiful sight in our development. CDT has gained a full understanding of the decisions and requirements of the "Dual Carbon" goal, and hastened the pace of our transition towards a green and low-carbon path. We have examined and approved the Action Plan for Carbon Dioxide Peaking of the Group, reinforcing environmental protection management, cultivating environmental awareness, and forging an ecosystem and community of high-quality development rooted in green and low-carbon principles. Through these efforts, we are fostering a shared commitment to ecological preservation among all staff.



On September 15, Zou Lei, Chairman of the Group paid a visit to Liu Ning, Director of the Standing Committee of Guangxi Zhuang Autonomous Regional Committee in Nanning City. Together, they collaboratively strategized the development of the "Integration of Generation-Grid-Load-Storage" pilot demonstration project and the "New Energy Storage Cluster" pilot trail project in the Hongshui River Basin. During this visit, they also witnessed the signing of a strategic cooperation agreement.

Improving the Management of Environmental Protection

China Datang has formulated the plan for ecological and environmental protection of the company accordingly. This plan clarifies 16 control indicators and emphasizes 9 key tasks, continuously improving the construction of the environmental management system, and refining environmental protection responsibilities from aspects such as environmental supervision, environmental impact assessment, and carbon emission data management. In 2022, the Group Company invested RMB 1.58829 billion in environmental protection, providing a solid foundation for green development.



In 2022, the Group Company invested RMB **1.58829** billion in environmental protection

Enhancement of ecological and environmental protection supervision measures

Refined the ecological and environmental protection supervision measures, and established management systems in the headquarters, such as ecological and environmental protection responsibility mechanisms, aiming at driving the comprehensive implementation of ecological and environmental protection responsibilities across all staff.

Environmental impact assessment and hazard inspection

Conducted regular environmental impact assessments and hazard inspections, addressing a total of 612 ecological and environmental-protection risks through investigation and mitigation.

Standardizing carbon emission data management

Formulated key requirements for carbon emission data management with a focus on timely updates to the carbon emission data management system and monitoring methodologies. Made clear responsibilities and focal areas for carbon data management. Completed on-site verification of carbon emission data for the year 2021 to ensure data accuracy.



On-site carbon emission data verification conducted by Datang Shaanxi Power Generation Co., Ltd.

Effective environmental inspection for inspection preparedness

Throughout the year, we have successfully accommodated 15 inspections of state-level environmental protection and 382 inspections of local environmental protection authorities. We have responsibly addressed 19 instances of public complaints and reports on environmental concerns, without causing any environmental disputes, notices of criticism, or environmental incidents.



Datang International Zhangjiakou Thermal Power Co., Ltd. strengthens environmental equipment maintenance and control, unit emissions of three pollutants are lower than national standard limits

Advocating Green Life

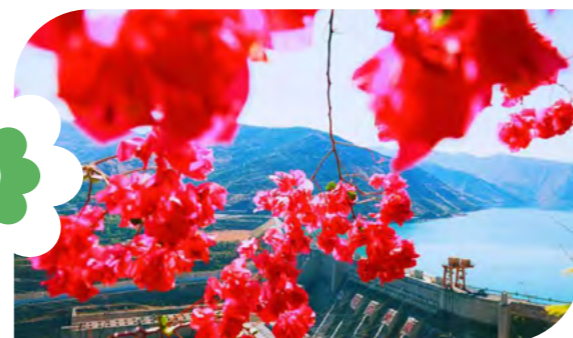
CDT has been fully committed to the principles of green and sustainable development across its entire system. Through intensified environmental awareness campaigns, the implementation of green energy-saving practices, and the promotion of paperless office work, we are actively realizing energy conservation and emission reduction. These efforts aim to cultivate a favorable atmosphere of green, harmonious, and civilized living. Our subsidiary companies enthusiastically respond to the decisions and requirements of the Group, advocating for a green and low-carbon lifestyle and striving to establish a culture of resource efficiency.



Conducted over **1200** sessions of environmental protection training

Covered more than **110,000** participants in environmental protection training sessions

Green power station is adorned with flowers



Leading the green trend with proactive energy conservation and emission reduction

In the pursuit of energy conservation and emission reduction, Datang International Power Generation Co., Ltd. has taken proactive measures in water and electricity conservation, paperless office practices, green travel, sustainable procurement, and eco-friendly lighting. Emphasis has been placed on achieving paperless office practices through the adoption of video conferencing, electronic documentation, and digital approval processes via the OA system. Efforts have also been made to raise awareness about paper conservation and reduce annual paper consumption. Regarding green travel, employees are encouraged to use public transportation or ride bicycles for their daily travels, thereby reducing the reliance on official vehicles. The company has embraced energy-efficient lighting solutions, utilizing technologies such as sound and light sensors to minimize unnecessary illumination. Publicity and education have been implemented through the display of water and electricity conservation slogans, encouraging employees to turn off lights when not in use, and fostering a stronger culture of energy conservation.

Green Life·2022



Datang International Zhangjiakou Thermal Power Co., Ltd. organized a banner signing ceremony of "Building a Clean and Beautiful World Together"



Fengrun Thermal Power Company organized a publicity event on the theme of "World Environment Day (June 5)"



Volunteers from Datang Environment Industry Group Co., Ltd. illustrated the knowledge of waste sorting



Young volunteers from Beijing Datang Taixin Insurance Brokers Co., Ltd. participated in activities on Learning from Lei Feng to plant trees

Embarking Together on the Journey of Ecological Civilization

CDT actively engage in environmental public welfare activities and biodiversity preservation, while systematically and robustly advancing various ecological and environmental management endeavors. The specialized research and innovative ecological governance approaches showcase our dedication to contributing to sustainable ecological development.

Carrying out Environmental Protection Public Welfare

CDT has consistently upheld the principles of conservation and respect for nature and ecology, actively embracing its environmental protection responsibilities. Domestically, in Dahua County of Guangxi Zhuang Autonomous Region, we have established 26 positions of rural public welfare and 17 positions of forest ranger, not only advancing environmental public welfare but also facilitating full employment opportunities for 185 local and returned individuals. Internationally, we have proactively organized overseas environmental public welfare activities to propagate green concepts and bolster the cause of ecological civilization.

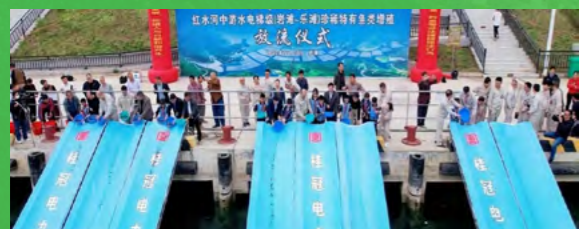
★ Voluntary cancellation of carbon quotas, donations to support environmental protection

CDT Shaanxi Power Generation Co., Ltd. enthusiastically responded to the call of the provincial authorities, leading the voluntary cancellation of 199 tons of carbon quotas of Baqiao Thermoelectric Power Plant of Datang Shaanxi Power Generation Co., Ltd. These quotas were donated to the departments of Shaanxi Provincial People's Government to support the "National Low-carbon Day" publicity event for the year 2022 and the 2nd Carbon Neutrality (Xi'an) International Forum in Shaanxi Province. This action earned high praise from the Government.

Likewise, Liaoning Datang International Jinzhou Thermal Power Co., Ltd. contributed 60 tons of carbon quotas to the Department of Ecology and Environment of Liaoning Province. These quotas were allocated for the 2022 Event on the Environment Day on carbon neutrality. China Carbon Emissions Registration and Clearing Co., Ltd. presented the first "National Carbon Market Voluntary Cancellation of Carbon Quota Certificate" to Datang Jinzhou Thermal Power Co., Ltd. This achievement also stands as the first case in China's carbon market where voluntarily canceled carbon quotas were used for large-scale event carbon offsetting.

Biodiversity Conservation

As a fervent advocate and practitioner of biodiversity conservation, CDT has always given top priority to safeguarding ecosystems and biodiversity. Our endeavors encompass both marine and terrestrial ecosystems, reflecting a proactive approach to fostering environmental value. Initiatives such as the "Coral Reef Restoration Program", "Mangrove Planting Initiative", and "Basin Protection Plan" have been launched in the vicinity of our power plants. Through these endeavors, we are gradually restoring coral reef communities in the adjacent marine areas, planting over ten thousand mangrove saplings, and cultivating a diverse array of 5,365 tropical plants belonging to 30 species. Furthermore, in Dahua County of Guangxi Zhuang Autonomous Region, we have established the Rare and Endangered Fish Stock Enhancement Center with Cascading Hydropower Plant in the middle reaches of the Hongshui River. This center undertakes the tasks of independently feeding, breeding and domesticating 11 species of rare and unique fish. To preserve the biodiversity of the Hongshui River Basin, we have released a total of 1.32 million fish fry across nine designated stock enhancement stations within the reservoir area.



A rare and unique Stock Enhancement event was held on the upstream wharf of Datang Yantan Hydropower Plant, releasing 1.32 million fish fries



"Long-term Coral Reef Restoration and Ecological Protection Scheme" of Kendari Power Generation Company

If the rare animals could speak



Datang International Ningde Power Generation Co., Ltd.
Datang International Chaozhou Power Generation Co., Ltd.
Datang Longtan Hydropower Plant

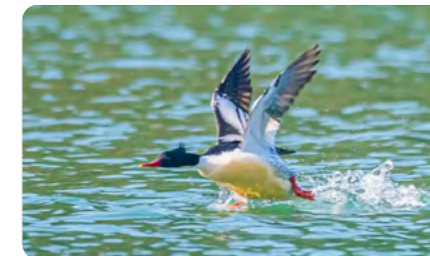
“Indeed, my choice was smart. Look, the lush trees cast shade, the blue ripples of the lake, and an endless feast of nourishment awaits. It is truly a paradise!”

—Egret

Datang Shiquan Hydropower Plant

“Nowadays, I can dance freely and prey by the banks of the Hanjiang River. I am well aware that this harmonious ecological scene has been diligently crafted through the collective efforts of the people of CDT.”

—Nipponia Nippon



Datang Xi'an Hydropower Plant

“We stand as vigilant stewards of the ecosystem, while the companions from the power plant give their annual 'motherly' care to us. Now, our family, once endangered, has gradually expanded from the initial seven in 2020, to nearly forty.”

—Chinese Merganser

Datang International Pengshui Hydropower Development Co., Ltd.

“18 years ago, a nature reserve was built by Datang International Pengshui Hydropower Development Co., Ltd. creating favorable conditions for our survival and reproduction. Thus our family could continue to grow. We are embracing a better life.”

—Trachypithecus Francoisi



Ximeng Renewable Power Division of Datang (Inner Mongolia) Energy Development Co., Ltd.

“With the advent of towering 'windmills' of CDT, the surrounding grasslands have also been safeguarded. A variety of animals returned to their homes. Our homes are becoming more and more comfortable.”

—Corsac Fox

Datang Guanyinyan Hydropower Development Co., Ltd.

“Due to the changes of river hydrologic conditions and natural water, we were listed as 'vulnerable species'. Fortunately, in 2013, Datang established a fish breeding station. Each year, a large number of our artificially bred companions are released back into the Jinsha River, returning to our original home.”

—Procypris Rabaudi



Society

Creating Vitality and Better Life



Bringing benefit to the people is the fundamental principle of governance. CDT, will live up to its mission of the times, demonstrating a profound sense of responsibility towards the people, and the cause. With a proactive stance, we actively shoulder our responsibilities, contributing to rural revitalization, championing safety in production, safeguarding the well-being of our employees, upholding mutually beneficial cooperation, tapping into overseas development, and engaging in charitable endeavors with zeal. Our commitment to the people and our connection to society is evident in our earnest and dedicated efforts. Through practical actions, we exemplify the responsibility and mission in the field of energy. The immutable goal of Chinese modernization is to improve the people's wellbeing. In this context, we contribute the strength of CDT to the magnificent journey of modernization, scripting a remarkable chapter in the legacy of CDT.



社会篇

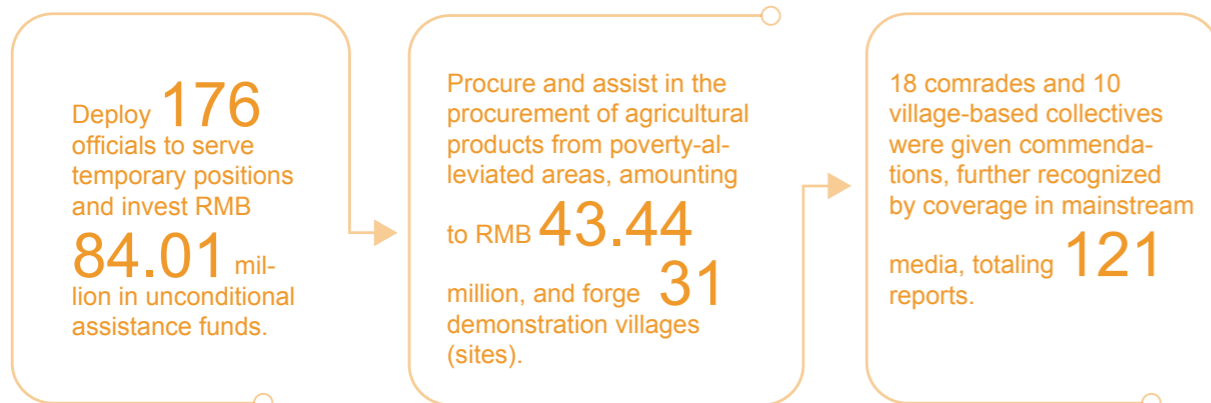


Facilitating Rural Revitalization

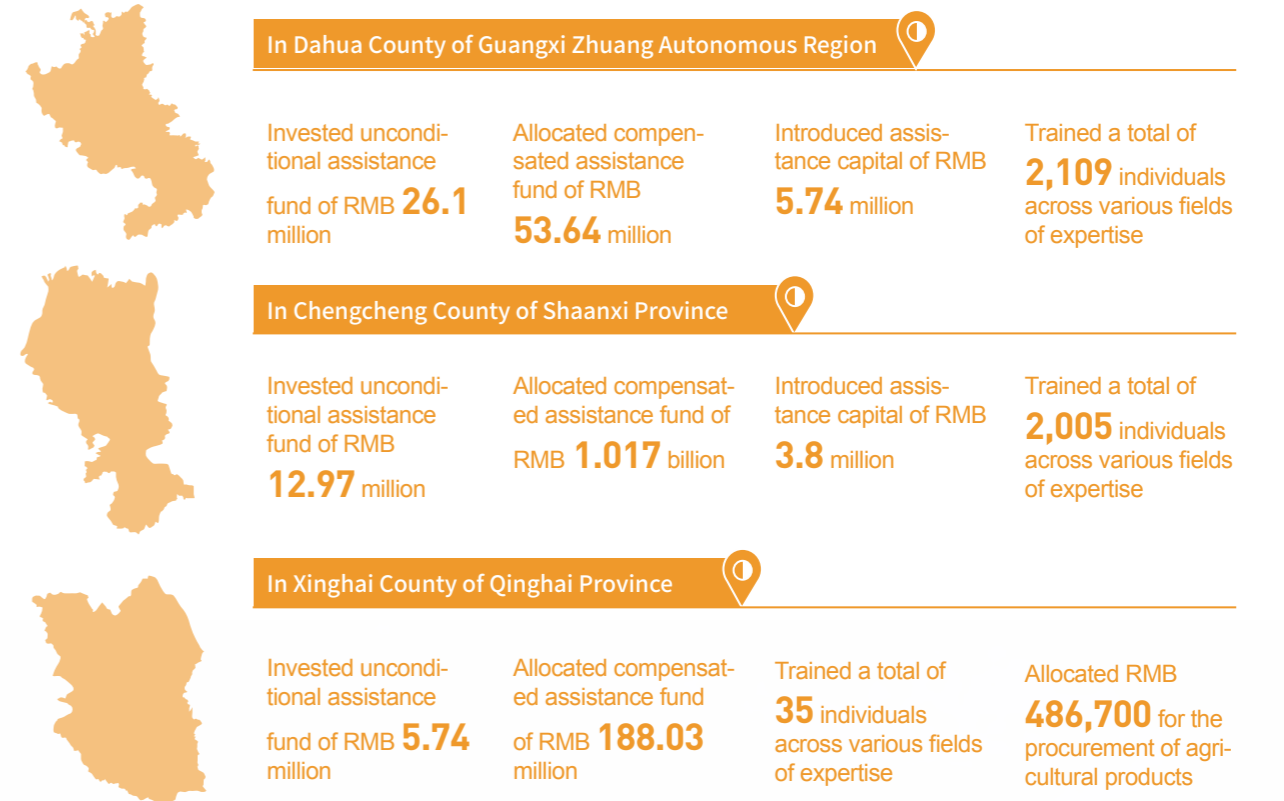
CDT consistently view rural revitalization as our mission and responsibility. Under the support system of CDT characteristics "Three-Support and Three-Assistance, and Five-Sphere Integrated Plan" (Three-Support and Three-Assistance: support for rural construction, support for inspiration/confidence forging, and support for education integrated with sincerity, genuine care, and practical financial support; Five-Sphere Integrated Plan: promote education, industry, livelihood, employment), we have earnestly and comprehensively conducted paired assistance to Dahua County of Guangxi Zhuang Autonomous Region and Chengcheng County of Shaanxi Province, and provided paired-up assistance to Xinghai County of Qinghai Province, along with 70 villages in 25 provinces and autonomous regions. We have successfully contributed to the revitalization of industries, talent, culture, ecology, and organizations, achieving a comprehensive evaluation of "good" in the assessment of the effectiveness of assistance work among state-owned companies that offered paired assistance.



Datang employees helped farmers pick grapes



Cultivating paired-assistance regions, depicting a vibrant picture of rural revitalization



Precise Measures for Benefiting the People

CDT adheres to precise measures, coordinating efforts in education, industry, livelihood, employment, and assistance. We are committed to solidifying and expanding the achievements of poverty alleviation, effectively connecting them with rural revitalization, and promoting a deeper and more substantial rural revitalization. In 2022, CDT provided paired assistance to three designated counties for rural revitalization and 70 designated villages. We assisted 5,954 individuals from poverty-stricken areas in finding employment, conducted 147 paired activities, organized 131 activities focused on rural ideology, ethics, and culture, and implemented 137 actions to improve the rural living environment.

Exploring new paths to educational assistance and enhancing educational standards in assisted regions

CDT has prioritized educational assistance, allocating a sum of RMB 40.92 million from assistance funds, constituting 40% of the total, for educational support. A total of 34 projects have been undertaken, including the construction of eight schools, organizing summer camps, and 15 featured activities, such as "Enable Children Living in Mountains to Explore CDT". Additionally, scholarships, student grants, and teaching grants worth RMB 3.6 million have been disbursed, benefiting a total of 2,912 students and teachers (person-times).



On September 15, 2022, Zou Lei, Chairman of the CDT visited Dahua County in Guangxi Zhuang Autonomous Region. During the visit, he engaged in collaborative discussions with municipal and county leaders, principals, teachers, and student representatives with a focus on the improvement of educational assistance.

Opening up new prospects in industrial assistance, activating regional industrial elements



By making full use of its core energy industry strengths, CDT has effectively integrated industrial development with rural revitalization. Through the economic model of "Solar Power +", CDT has invested over RMB 1.5 billion in the assisted regions, laying a solid foundation for both the industries and economies driving rural revitalization. Aiming to chart a new course for industry-driven economic growth of the region, we earnestly explore labor-intensive industries with local features, elevating employment and income levels in the assisted regions. In 2022, a total of RMB 24.87 million was allocated for industrial development.

CDT has established a diversified and complementary industrial chain in Dahua County. The in-operation Dahua General Hydropower Plant Guangxi Guiguan Electric Power Co., Ltd. (758,000 kW) and Datang Yantan Hydropower Co., Ltd. (1,810,000 kW) have contributed an annual tax revenue exceeding 75% of the total fiscal income of Dahua County

Achieving new breakthroughs in livelihood assistance, meeting the needs and aspirations of the people

CDT, in alignment with the practical conditions of the assisted regions, has allocated RMB 24.8669 million to benefit people, addressing essential requirements such as water supply, electricity access, restroom renovation, road improvement, and clean heating in these areas. By a multi-pronged approach, comprehensive efforts have been intensified in consumer assistance, establishing a "union procurement + canteen procurement + employee purchase + social promotion" assistance model. Six studios have been set up for live broadcasting and sales, collaborating with the Benlai.com to create a platform for the sale of agricultural products. In 2022, a total of RMB 43.44 million was allocated for the purchase and assistance in buying agricultural products from the assisted regions.



The Ningxia Branch of CDT conducted "rural revitalization week - assistance for agriculture" public welfare livestreaming event in Hongde Village

Further promoting assistance in employment, enhancing employment capacity in assisted regions.



Resident Work Team of Datang Yunnan Power Generation Co., Ltd. organized residents from Fenghua Village to work at the strawberry plantation

CDT, through methods such as recruitment and the establishment of rural public welfare positions, gives aid to local farmers in finding nearby employment opportunities, thereby increasing their income. In 2022, a total of 62 college graduates from assisted regions, Tibetan areas, Xinjiang Uygur Autonomous Region, and other regions were hired. The exploration of a "cultivation + assistance" training model has been undertaken, focusing on training personnel for rural revitalization in assisted areas, new agricultural entity leaders, and poverty-alleviated individuals, thereby enhancing the skills and qualities of the local farmers. In 2022, training was provided to 2,452 grassroots officials, 224 rural revitalization leaders, and 1,438 professional and technical talents.

Accumulating new strength in assistance and enhancing rural governance level

CDT highlights the guiding role in rural revitalization and the work focuses on building primary-level organizations, and consolidating the foundations. We have created brands such as "Pioneer Guiguan, Warm the Dahua Yao Autonomous County" and "the Voluntary Datang, the Infinite Power", and conducted joint activities with villages in paired-assistance counties, establishing a total of 107 branch organizations in these areas. This effort has led to a significant improvement in the building of primary-level organizations, a noticeable effect in monitoring the risk of returning to poverty, and a coordinated advancement in cultural-ethical progress.



"Provide dedicated service to our people" ethnic unity and progress themed artistic performance by Guangxi Guiguan Electric Power Co., Ltd.

Upholding the Bottom Line of Safety

CDT has proactively coordinated development with safety, ensured supply and increased efficiency. We have also strengthened responsibilities at all levels, enhanced workforce construction, furthered efforts to secure workplace safety, rigorously controlled risks and hazards, and implemented multiple measures to enhance the fundamental level of safety. These efforts have created a favorable safety production environment, supporting the substantial improvement of “the Second Startup”.

Stringent Safety Management

CDT is intensifying our efforts in five key areas, strengthening the implementation of safety production responsibilities, capabilities, developing a more positive style of work, and optimizing and supplementing the workforce. We have established a three-tier control mechanism for high-risk maintenance and technical renovation operations. We have improved the comprehensive video surveillance system, implemented a three-tier inspection mechanism, conducted daily video spot checks of operational sites, and identified and rectified typical violations. We are advancing the rectification of outsourcing business and workforce. Safety production inspections have been carried out for subsidiary companies, and regulatory talks have been held with subsidiary companies that have issues of immediate concern.

CDT has normalized epidemic prevention and control efforts, adapting to changes in the epidemic situation. We continuously enhance and supplement emergency response plans, establish a three-tier mutual backup mechanism, supervise the implementation of measures such as standby duty, emergency response. This approach minimizes the impact of the epidemic on production and maintains a stable safety production situation. In 2022, CDT effectively prevented major accidents and incidents, maintaining a stable and improving trend in safety production.

Achievements · 2022



CDT earned a commendation letter from Office of the National Electric Power Production Safety Committee

Taking full special actions, preventing and resolving risks

Successfully completed the three-year action plan for specific rectification on safety production. Strengthened process control, conducted regular reviews and examinations, enhanced inspection and supervision, focused on target tasks, rectified prominent issues, and fully addressed major risks and significant issues listed in the “two lists”.

A special inspection was carried out on 120 small, scattered and remote power generation enterprises within the system, focusing on six aspects including the safety production laws and regulations, the implementation of the safety production responsibility system for all staff and the establishment of the dual prevention mechanism.

Conducted a comprehensive investigation of hidden dangers in building structures. Completed a special investigation of 11,758 building structures within the system, identified key hazards, and completed the rectification.

Conducted centralized treatment of safety risks of hazardous chemicals, special rectification of fire hazards in high-rises, and special investigation of safety hazards in oil and gas storage.

Launched a “Special Action on Enhancing the Inherent Safety Level of Steel Structure Equipment and Facilities”. Standardized safety and quality management throughout the lifespan of steel structure equipment and facilities. Made clear key points for phased implementation of the special action and resolving requirements for typical issues, minimizing the occurrence of problems.

Implementing Safety Education

CDT has taken multiple measures to enhance the safety awareness and capabilities of all officials and employees. We have established the “safety production lecture” and innovated an online safety education and training mechanism. This includes the development of a work platform and enrichment of the training resource library. By centralized training through remote video, we have achieved comprehensive coverage of safety production system leaders. Full coverage safety training has been conducted for dedicated safety supervision personnel, registered safety engineers, and team leaders, laying the groundwork for an initial establishment of the safety education and training system. We have developed and completed an education and training system, which includes modules such as case studies, video libraries, and question banks. We have also established an archive for all staff safety education and training. These efforts have provided a solid foundation for conducting safety education and training throughout the system. In August 2022, the Ningxia Branch of CDT won the “the Cup of Safety and Health in China” competition in recognition of its achievements.

Achievements · 2022

Conducted a total of **18,344** safety training sessions

Safety training on staff covered **796,734** person-times

Creating an atmosphere of safety



The Yunnan Branch of CDT carried out safety production promotion and education activities by reaching out to enterprises and schools



“The Cup of Safety and Health in China - Family Messages for Safety Care” Event by The Anhui Branch of CDT

Enhancing Emergency Response Capabilities

CDT places great emphasis on the construction of emergency response capabilities. By refining emergency plans, conducting drills, and storing up emergency supplies, we are vigorously enhancing employees' emergency awareness and boosting the practical capabilities of our emergency teams. Meanwhile, we are continuous to strengthen equipment reliability management, effectively respond to emergencies such as natural disasters, and reinforce our security safeguarding capabilities. These efforts are steadfastly fortifying our safety production defense lines.

Strengthening emergency support

CDT is dedicated to refining emergency plans, enhancing the emergency response capabilities of relevant personnel, and conducting multiple drills throughout the year, including extreme cold weather, entire power outage, and heating interruption scenarios. We have organized the formation of power maintenance and repair teams, detailed lists of emergency supplies, and comprehensive inventories of essential equipment and spare parts. By proactively stockpiling essential resources and establishing proposals for emergency procurement and allocation, we are augmenting our emergency support capabilities. We have established a three-tier defense system for winter Olympics preparation, encompassing internal mutual assistance, regional support cooperation, and inter-regional emergency cooperation. Through proactive learning and training, we are enhancing our readiness to address unexpected risks, ensuring that production and operations remain stable during the winter Olympics period.

Achievements · 2022



12,212 emergency drills

Emergency drills covered 235,440 person times of participation

We implemented the requirements and conducted self-assessment, review, and rectification for power emergency capability building.

During the preparation phase of the power supply safeguards, we have diligently supervised primary-level enterprises in conducting 1,566 emergency drills involving scenarios such as complete power outages, public system malfunctions, and generator fires. Our foundational support, process control, and emergency response capabilities have been significantly enhanced.

Following the earthquake struck Luding County, the CDT's Sichuan Branch swiftly took measures to initiate earthquake disaster emergency plans and effectively address the disaster situation. While ensuring the safe operation of our units, we actively engaged in emergency response and rescue efforts, demonstrating the resilience of our team and enhancing our overall capabilities.



Extinguished nearby township wildfires by Datang International Wulong Hydropower Development Co., Ltd.



Emergency drills on liquid ammonia leakage by Ji-angxi Datang International Fuzhou Power Generation Co., Ltd.



Rapid Response to the Motuo Earthquake by CDT's Tibet Branch

On November 10, 2022, a magnitude 5.6 earthquake struck Motuo County, Nyingchi City, Tibet Autonomous Region. The construction site of Zara Hydropower Station is less than 300 kilometers from the epicenter, and various construction areas experienced varying degrees of tremors. Immediately following the earthquake, the project construction department of Zara Hydropower Station promptly instructed all participating units to assess the status of their construction personnel and the impact on equipment. They swiftly organized personnel to conduct specialized safety inspections of mechanical equipment, scaffolding, and other aspects of the construction site to eliminate potential safety hazards and ensure the safety of personnel and project construction. After the investigation, it was confirmed that neither the project office nor any of the participating units had any casualties or equipment damage.



Construction Site of Zara Hydropower Station

Enhancing Equipment Reliability

CDT has actively advanced the enhancement of equipment reliability through process control and targeted improvements, ensuring a steady improvement in the level of equipment reliability. This effort guarantees that our generating units are fully operational, capable, and stable in the face of major energy supply challenges and critical examinations. In 2022, a total of 14 generating units from the Group received accolades in the Excellence Unit Competition of National Power Reliability Evaluation, securing a second place ranking among the five major power generation groups.



Invested RMB 4.221 billion in reliability technology transformation



Datang International Pengshui Hydropower Development Co., Ltd. put out a fire nearby township



Strengthening overhaul and technical upgrade management

Formulated 20 key requirements for overhaul management enhancement, completed 53 pre-repair mutual inspections for units, 11 in-process mutual inspections for units, and level inspections for 242 units.



Strengthening equipment malfunction inspection and control

Completed anti-wear and anti-explosion inspections on approximately 740,000 pipes of 106 units and reinforced 36 units of 13 coal-fired power plants with electric transformation, and reinforced fabric or electric hybrid dust precipitator bags, as well as conducting over 20,000 inspections on P91/P92 welding seams of supercritical and ultra-supercritical units.



Enhancing technical monitoring management

Issued guidelines for production management enhancement in 17 phases, issued 187 warnings, developed four anti-accident measures, and identified and resolved 6,439 issues of various kinds.



Deepening defect reduction, unplanned shutdown reduction, and striving for gold medal initiatives

Strengthened dynamic cultivation of potential units and optimized maintenance strategies. In 2022, the Group reduced total unplanned shutdowns by 28 compared to the previous year, forced unplanned shutdowns decreased by 19, achieving the best level in years. 30 companies achieved zero unplanned shutdown.

Holding Firm to Lifeline of Work Safety

Caring for Employee Development

Cultivating and nurturing talents is the foundation of a nation. CDT is committed to fully implementing the strategy for invigorating China through education in the new era, paying full attention to the realization of employees' self-worth. At the same time, by adhering to the fundamental requirements of "enterprise's development by the employees", we are continuously advancing the construction of "Top Six" livelihood projects, striving to build the "Happiness Datang", and constantly enhancing employees' sense of gain, happiness, and security. These efforts provide robust intellectual and talent support for the high-quality and sustainable development of the Group.

Safeguarding Fundamental Rights

CDT has consistently upheld a people-oriented approach, strictly adhering to relevant laws and regulations. We have also established regulations to effectively safeguarding the legitimate rights and interests of employees and fostering harmonious labor relations.

Practicing compliant employment

CDT continues to enhance its open recruitment system, ensuring a foundation of merit-based selection. In 2022, the Group issued the Employee Recruitment Management Measures, implementing a market-oriented recruitment system that is open, transparent, fair, and based on merit. We comprehensively regulate labor employment management, staunchly oppose any form of employment discrimination, eliminate forced labor and harassment, respect employee's privacy, and effectively safeguard all legitimate rights and interests of employees.

Achievements · 2022



100%

social insurance coverage

100%

labor contract signing rate

100%

open recruitment rate



Implementation of democratic governance

CDT vigorously advances the institutionalized, standardized, and law-based development of democratic governance. We have formulated the Guiding Opinions of China Datang Corporation Ltd. on Further Strengthening the Construction of the Employees' Congress System, established an information disclosure mechanism for building the "Happiness Datang", and disseminate various types of information to employees through forms such as employees' congress and publicizing factory affairs. We also initiated activities to create and select names for star-rated enterprises of publicizing factory affairs. In 2022, the Group organized over 6,000 employee representatives from various levels to conduct inspections at the primary-level sites, effectively safeguarding the democratic rights of employees to participate in management and oversight.



Union membership rate of employee: **100%**

Enhancing compensation and benefits

CDT is fully advancing the reform of compensation distribution, focusing on matching work with efficiency. We are comprehensively implementing the principle that the total salary amount should increase with performance improvement and decrease with performance decline. We are also focusing on aligning compensation with performance, effectively accentuating disparities in assessment and distribution. We emphasize value creation, continually refining a specialized incentive system that encompasses key areas such as development, profitability, safety, quality, and technological innovation. This system motivates all staff to take on responsibilities. We are concentrating our efforts on precise allocation, directing resources toward core functions and front-line operations, and fully igniting the enthusiasm of our workforce for innovation and entrepreneurship.

Facilitating Development and Growth

Pool the strength of talents, and establish the foundation for development. CDT has been thoroughly implementing the principle in the new era, earnestly carrying out the spirit. We are rectifying the direction of personnel selection and appointment, strengthening the strategic position of talent-led development, and expanding our talent pool of official. With high-quality officials and professionals featuring loyalty, integrity, and a strong sense of responsibility, we are ensuring the realization of the vision to become a "China's best and world-class" energy supplier.

Strengthening Talent Cultivation

CDT Power is actively advancing the "Three Geese Project" (project for rural revitalization), leveraging the "Three Guarantees Mechanism" (guarantee salary, operation, and security for rural students in compulsory education) reinforcing the "Three Empowerments", establishing "Five Teams", and building "Three Platforms". We are committed to cultivating a highly competitive and high-quality talent pool. We are implementing a position sequence system for employees, providing clear career paths for both administrative and technical roles. We are establishing an expert talent system, completing the selection of the chief experts and outstanding young talents. We are driving the construction of an excellent engineering team, actively participating in the Organization Department reform pilot for engineering masters' and doctoral education. The implementation of the "Elite Talent Program" ensures rigorous recruitment standards and strengthens the training and utilization of high-level and scarce talents. These efforts infuse new vitality into our pursuit of high-quality development.

Achievements · 2022



Employee training Investment:
RMB **139** million

Employee training coverage rate :
99.15%

Our Achievements and Honors



We won the Second Prize for group, and the Excellent Organization Award, a Second Prize, and four Third Prizes for individual competition of "the 3rd National Youth Training Instructor Teaching Skills Competition in Electric Power Industry". One of our employees was recognized as a Technical Expert in the electric power industry.

We achieved the First Prize, Second Prize, and Third Prize for group, along with the Excellent Organization Award in the "National Power Industry Skill Competition" (Power Trader category), furthermore, three of our employees were acclaimed as Technical Experts, and four won the title of Power Industry Excellent Skilled Workers.

We received the Excellent Organization Award in the "1st Digital Micro-classroom Competition for the Electric Power Industry Training". Our contributions included Nine-Point Method for Coal Sample Preparation from Datang Huayin Electric Power Co., Ltd., which received the Excellent Work Award, and "Teach Me: Differences Between Longitudinal Differential Protection and Transverse Differential Protection of Generators" from Guangxi Guiguan Electric Power Co., Ltd., which secured the Best Work, Best Teaching Design, and the Best Creativity Award.

Our achievements extended to the "22nd National Vocational Skills Demonstration Competition of Coal Industry Workers", where we achieved the Group Excellence Award and the Excellent Organization Award. Additionally, we secured one Gold Medal and one Bronze Medal for individual competition.

We secured one First Prize and one Second Prize for individual competition in the "National Financial Knowledge Competition for Trade Union".



Liaoning Branch Renewable Power Business Division organized team-building activities for newly hired graduates



Professional training on relay protection in the Xiangtan Training Center of Datang Huayin Electric Power Co., Ltd.

Paving the way for development

CDT proactively paves the way for employees' development and expands space for employees' growth. We are confident that the development of our workforce will become more tangible and promising. Through our efforts, outstanding talents are rewarded with elevated benefits and greater respect, consequently arousing increased enthusiasm, proactivity, and creativity among our dedicated workforce.

Strengthening official team construction

In 2022, CDT convened its inaugural organizational work conference, advancing the normalization and standardization of official selection and appointment. A workflow diagram for the selection and appointment of leadership officials was established, harmonizing the selection process between the choices of the organizations and recommendations from the public. This integration effectively heightened satisfaction levels in official selection and utilization. Historical issues pertaining to the selection and appointment of officials were comprehensively addressed, demonstrating our commitment to confronting difficulties and avoiding evasion of responsibilities. Confronting structural challenges within the official team, we focused on optimizing professional and age demographics. Efforts were intensified in the cultivation and selection of exceptional young officials, thereby establishing a distinct direction towards the accelerated selection of outstanding young leaders.



Carried out outdoor activities for youth members

Market-oriented approach to stimulate vigor

CDT has actively intensified competitive official selection, implementing open recruitment for leadership officials and comprehensive internal competition for positions at secondary units. We have deepened the reform of the compensation system for enterprise leaders, aligning remuneration with performance evaluation and achievements. The term system and contract-based management for managerial level members have been fully implemented, complemented by supporting systems such as the ability to promote or demote leaders, adjustments based on performance, and evaluations for competence and overall performance. These measures have effectively stimulated the enthusiasm and initiative of the officials' team.

Nurturing the Employee Happiness

CDT sticks to the principle of relying on the workforce to run the enterprise and actively promotes the construction of a "Happiness Datang". We closely link the creation of a company with the shared benefits, focusing on addressing the pressing concerns of employees. This approach aims to fulfill their material, emotional, and value-based needs, enhancing their quality of life and boosting the cohesiveness and unity of the company.

Caring and support for employees

CDT fully implements the people-centered development philosophy, and continuously enhanced the establishment of the "Employee Service Center" and "Employee Archives". The construction of mature employee service centers has achieved full coverage. By emphasizing daily interactions and prioritizing festivities, we strengthen efforts to deliver the sense of warmth and care to different groups of employees, including model workers, those facing difficulties, and those in remote areas. We intensify communication, coordination, and care for regions severely affected by the pandemic. We also provide substantial support to areas facing challenges and to units with major needs. Starting from small gestures and paying attention to details, we demonstrate genuine concerns. Through these efforts, employees can perceive positive changes, receive tangible benefits, and feel the regard of our actions.



Datang Anhui Power Generation Co., Ltd. actively carries out activities of employee-satisfied canteen building



Datang International Power Generation Co., Ltd. creates self-service kitchens for employee apartments



Balance between work and life

CDT actively promotes the concept of “Joyful Work, Healthy Life”. We consistently organize cultural elites to conduct primary-level performing tours, delivering the Company’s care and concern to model workers and front-line employees at the primary level. Through the employee activities such as vibrant and lively cultural performances, on-site portrait painting for model workers, and calligraphy written, we celebrate this splendid era and promote the spirits of model workers, craftsmanship, and the Datang spirit. This approach effectively enriches the cultural lives of employees, fosters a harmonious and cohesive corporate atmosphere, and helps achieve a balance between work and life. In these circumstances, we create a harmonious and pleasant environment within the Company.



Datang Foshan Thermal Power Co., Ltd. held the “Chasing Dreams in Foshan Thermal Power, Affectionate Love Between Couples” Themed Activity



Datang Fujian Power Generation Co., Ltd organized and carried out activity: “Our Festival –Making Zongzi”



International Women's Day in Guangxi Guiguan Electric Power Co., Ltd.



Datang Shandong Power Generation Co., Ltd. cheered and celebrated the Lantern Festival

Safeguarding physical and mental health

Occupational health is crucial to the healthy and sustainable development of CDT and is closely linked to the happiness of millions of Datang families. CDT places high importance on occupational health endeavors, striving to provide a secure and healthy work environment along with ample personal protective equipment for all employees. Furthermore, proactive efforts are undertaken in offering occupational health training, enhancing the awareness and competence of our employees in matters of occupational health.

In the meantime, in accordance with the geographical locations of our subsidiary companies, CDT has established “Staff Psychological Service Center in South and North Areas”. This initiative aims to achieve the “Three Goals”: conducting a round of psychological health knowledge training and consulting activities every quarter, establishing a batch of employee psychological counseling rooms (care rooms), and nurturing a team of psychological counselors. Additionally, an online counseling platform and resource-sharing strategies have been implemented to ensure comprehensive psychological health services for employees. As of 2022, a total of 197 primary-level enterprises have established psychological counseling and care rooms for employees.

Achievements · 2022

Investment in occupational disease prevention and control: RMB **149.6** million

New case(s) of occupational diseases among employees that confirmed: **0**

Coverage rate of employee health records: **100%**



Football match of Datang Jiangxi Power Generation Co., Ltd.

Advancing Together with Our Partners

CDT actively gathers advantageous resources from various parties, and continues to expand comprehensive strategic cooperation both within and beyond the industry in multiple fields and at ever-deeper levels. Through collaborative efforts, a win-win approach is pursued. Adhering to the practices of responsible, transparent, and eco-friendly procurement, CDT strengthens supplier management, collaborates with industry stakeholders across the value chain, promotes exchange and progress within the sector, and collaborates with partners from all walks of life to jointly compose a new chapter in China's high-quality energy development journey.

Deepening Cooperative Exchanges

CDT adheres to a cooperative stance of mutual benefit and win-win outcomes. By continuously expanding its network of business relationships and fostering an ecosystem, CDT deepens strategic cooperation with partners including enterprises, and academic institutions. Together, we actively contribute to the high-quality development of China's energy industry and the advancement of modernization.

Cooperation with government agencies

CDT has actively planned and organized strategic collaborations related departments. This effort resulted in the successful signing of strategic cooperation agreements with related departments of Henan, Fujian, Shandong, and Hubei, as well as project cooperation agreements signing with the Army Corps of Kunyu City. Additionally, alignment and review work have been undertaken for strategic cooperation agreements with provinces and autonomous regions including Ningxia, Sichuan, and Gansu. CDT, in its renewed capacity and fulfilling its responsibilities, is integrating actively with and contributing to local development features. Through advancing key projects and fostering featured industries, CDT is making practical contributions to the high-quality development of the local economy and society.

Cooperation with enterprises

CDT is deepening its strategic collaborations with leading enterprises, aiming for mutual development and advantages. With focuses on promoting cooperation and exchanges in various areas such as energy security, technological innovation, and corporate management, these efforts are driving a healthy and orderly development of the industry and facilitating a high-quality win-win cooperation between the parties involved. In 2022, CDT successfully concluded strategic collaborations with enterprises including Contemporary Amperex Technology Co., Ltd. (CATL), China Anneng Construction Group Corporation Limited, China South-to-North Water Diversion Corporation Limited, China National Petroleum Corporation (CNPC), China National Nuclear Corporation, Beijing Energy International Holding Co., Ltd., State Power Investment Corporation Limited (SPIC), Shaanxi Coal and Chemical Industry Group Co., Ltd., China National Coal Group Corporation, China General Nuclear Power Corporation, Harbin Electric Corporation.



On June 10, CDT signed a strategic cooperation agreement with China National Nuclear Corporation in Beijing



On July 25, CDT signed a strategic cooperation agreement with Shaanxi Coal and Chemical Industry Group Co., Ltd. in Beijing

Industry-academia-research cooperation

Deepening industry-academia-research collaboration and promoting the integration of industry and education is not only an industry demand, but also an inevitable choice for the development of China Datang. China Datang is wholly implementing the important instructions on deepening integration of vocational education with industries and promoting cooperation between colleges and businesses. We have established strategic partnerships with multiple universities and research institutes, fostering comprehensive collaboration in talent development, management innovation, technological research and development, and more. We uphold the principles of joint contribution, shared benefits, and win-win cooperation, and are committed to yielding more, newer, and better collaborative outcomes.

Establishing a Chain of Responsibility

China Datang always regards supplier management as a critical link that concerns the fundamental safety of production and operation. In accordance with the Supplier Management Regulations of China Datang Corporation Ltd. and the Material Management Provisions of China Datang Corporation Ltd., we reinforce supplier management across our system and rigorously rectify unqualified suppliers.



Supplier access

China Datang adheres to the principles of "openness, fairness, and justice" and the work principles of "honesty and trustworthiness, centralized management, implementation at different levels, dynamic evaluation, and nurturing the superior and eliminating the inferior". Suppliers are categorized and managed according to these principles.



Basic requirements for accessed suppliers:

The supplier must be a registered supplier with the necessary production and business licenses required by the industry, or the Group Company with good reputation, and demonstrate a track record of good performance and after-sales service capabilities over the past three years. The supplier should not bear history of legal violations or major legal disputes in their business activities and should not have exhibited issues like non-performance or severe contract breaches after winning bids in the past three years.

Supplier evaluation

The Group Company regularly organizes relevant units to conduct dynamic comprehensive evaluations of supplier performance. Following the principle of “the user is responsible for evaluation”, each unit with procurement demand periodically assesses suppliers comprehensively based on participation in procurement and contract fulfillment. Scores are calculated and aggregated through weighted calculations, and after thorough review, the final comprehensive evaluation grade for the supplier is determined. The evaluation results can provide necessary reference for subsequent procurement and contract terms. Training is conducted to enhance the quality and capabilities of suppliers in procurement business. The implementation of Supplier Management Regulations of CDT is promoted to further enhance strict supplier management and create a favorable market environment.

CWEME

After enhancing the punishment of unscrupulous suppliers, a total of 1,226 cases of misconduct were addressed throughout the year. The Data Operations Center has been officially launched and issued a cumulative total of 2,001 early warning messages. Among these, there were 274 instances of collusive-bidding, out of which 212 cases were confirmed to be true. As a result of the collusive-bidding, 851 suppliers had their participation in procurement activities indefinitely revoked.

Datang International Power Generation Co., Ltd.

In the bidding documents, the suppliers' certification of the three systems (quality, environment, occupational health and safety management systems) is included as a component of the commercial evaluation. For projects involving labor outsourcing, suppliers are explicitly required to adhere to the salary and insurance regulations of the contract location, and to fulfill contractual obligations in compliance with legal and regulatory standards.

Guangxi Guiguan Electric Power Co., Ltd.

Adhering to the principles of fairness, justice, and openness in procurement, we regularly conduct supplier evaluations based on established systems and standards. Our aim is to continuously enhance the overall capabilities of suppliers, fostering synergistic development within the industry chain. We proactively integrate business processes of supply chain, advancing the modernization of supply chain management systems and capabilities. This empowers reform and development, ensuring efficient material supply and timely operation of projects.

Datang Anhui Power Generation Co., Ltd.

All material procurement is conducted through the electronic commerce platform of the Group Company, ensuring a transparent and equitable process. We are intensifying procurement process management to prevent occurrences of uninvited bids or bid splitting. Rigorous review of procurement documents is performed to eliminate unjustifiably restrictive conditions and to scrutinize procurement evaluation outcomes. We are consistently enhancing supplier management, adhering to the Group Company's directives for full disclosure of any undesirable supplier behavior, thereby purifying the procurement environment.

Jointly Building Overseas Communities

Openness is an important driving force for the progress of human civilization. Also, it is the only way to achieve global prosperity and development. As a practitioner of the “Going Out” and the Belt and Road Initiative, China Datang is committed to working hand in hand with Chinese and foreign enterprises to solve development issues, facilitate cooperation, gather ideas of innovation, and seek blessings of sharing through openness. This would promote resource sharing and mutual complementarity, as well as economic globalization, therefore bringing benefits of development achievements to all peoples in a more and fairer manner.

Exploring Overseas Markets

CDT is actively engaged in international competition and cooperation based on the “Going Out”. CDT also continuously enhances the service guarantee efficiency and value contribution of our international business sector to the main business.

Promoting international coverage

Under the strong leadership of CDT, the relevant departments of the headquarters, companies in the system engaging foreign businesses, and overseas branches, especially the overseas front-line employees have overcome difficulties and made progress in a steady manner. They conscientiously implemented the “1264” development strategy. Along with the principles of “risk control, profit improvement, and devotion making” and “no exceeding of project deadlines or estimated budgets, and no incidents in quality, safety, and environmental protection”, CDT strives to resolve various potential risks overseas, making sure the continuous stability of overseas production and operation, the increase in the profits of overseas projects year by year, and the win-win cooperation of opening up to the world.

Achievements · 2022



Number of overseas active projects: **6**

Total amount of overseas assets: RMB **25.879** billion

Overseas operating income: RMB **13.978** billion

Total amount of overseas profit: RMB **620** million

Overseas in-service installed capacity: **1.052** million kW

Number of countries/regions covered: **13**



Meulaboh Project in Indonesia

The Meulaboh Project is located near the city of Meulaboh, Aceh Province, Indonesia, with an installed capacity of 450,000 kW. It is an important infrastructure as a power supporting station in North Sumatra, ensuring the stability of the local power grid and power supply, promoting industrial development, and improving local livelihood. It is also the first Chinese-funded power project in Aceh Special Administrative Region and the first large-scale infrastructure project by foreign investment and construction. The project is planned to be put into commercial operation by the end of 2023. Upon completion, it will become the power source of Aceh Province, significantly contributing to the local economy and livelihood.





Dapein I Hydropower Project in Myanmar

The Dapein I Hydropower Project in Myanmar is the first overseas project invested by CDT, with an installed capacity of 240,000 kW. The power station was constructed by a joint venture between CDT and the Ministry of Electric Power of Myanmar in the BOT mode. Since the completion of establishment, the operation has been proven stable. With the steady supply of clean energy to Bhamo, Myanmar, the project has made outstanding contributions to the local social and economic development. Therefore, it has been highly recognized.



Phnom Penh West – Buddha – Battambang 230kV Power Transmission Project (Cambodia)



Cambodia Stung Atay Hydropower Project

Promoting international exchanges

Throughout the year, CDT organized and participated in 19 trade events such as the China International Import Expo. Also, the main leader of CDT has given voice multiple times for energy enterprises in key international conferences and mainstream media, contributing “Datang’s solutions” towards global energy governance and sustainable development in the post-pandemic era.



CDT Chairman Zou Lei delivered a keynote speech at the Lushan Conference for Global Business Leaders



CDT's booth at China-ASEAN Expo



CDT's booth at the AESIEAP CEO Conference 2022

Expanding international cooperation

Aiming at key foreign markets and key partners, CDT expanded its strategic cooperation network and integrated resources to develop markets. Acted as the “chain leader” to mobilize domestic upstream and downstream enterprises to jointly “go out” and build a green “Belt and Road”; conducted mutually beneficial cooperation with energy regulatory agencies, business associations, and leading enterprises in the host country on new realms such as low-carbon environmental protection, green development, etc.; maintained the original strategic partnership with Électricité de France (EDF) and GE; signed strategic cooperation agreements with Fortune Global 500 companies including Siemens, ThyssenKrupp, Hitachi Energy, etc., to promote pragmatic cooperation in terms of new energy, hydrogen energy, energy storage, and digitalization as well as third-party markets, and to plan on cooperation and development around CDT’s “six powers” and “six industries”.



CDT practically implements the concept of open-up cooperation

CDT has purchased equipment and materials imported from international manufacturers since the 1st CIIE in 2018, including natural gas-fired power generation units, mining equipment, generator pipelines, and coal, for five consecutive years. At the 5th CIIE in 2022, CDT and its affiliated companies signed transaction cooperation agreements separately with Siemens Energy, ThyssenKrupp (China) Investment Co., Ltd., Hitachi Energy (China) Limited, Nippon Steel Corporation, LX International Corp., Sandvik Group, and Beijing Dosco Mine Equipment Technology Co., Ltd. This will actively facilitate CDT to give full play to its investment advantages in new industries such as new energy and hydrogen energy, further promoting carbon emission reduction plans and goals to be achieved.



CDT signed a strategic cooperation agreement with Siemens Energy

Serving Territorial Development

While continuously expanding international business and improving internationalization, CDT has continued to strengthen the fulfillment of its overseas responsibility, gaining great achievements in the active participation in the global fight against COVID-19, global poverty reduction, and joint construction of the Belt and Road at high levels. Therefore, CDT has been highly appreciated by local departments.

Localized operation

While keeping providing clean power for the economic and social development of the host country where the project is located, CDT actively fulfills its overseas social responsibilities by promoting localized operations in full effort, therefore creating employment opportunities for local people.

EDP PTPL engineer talent training program successfully completed

In December 2022, the first-batch EDP PTPL engineer talent training program for the three power plants of PT Datang DSSP Power Indonesia (DDPI) through school-enterprise cooperation was successfully completed. Among them, 78 engineers and technicians formally became employees of the company after a year of practice in the plants, training courses, and graduation assessments. This has brought Chinese wisdom into exploring school-enterprise connections and industry-university talent training mechanisms.



EDP PTPL engineer talent training program

Serving local livelihood

CDT has been strengthening its overseas brand construction, actively fulfilling its economic, social, and environmental responsibilities in the host country. To be specific, CDT has carried out construction, assistance, and charity projects, such as constructing bridges and roads, donating funds for schools, and cooperating to combat the pandemic to benefit local people. In this manner, CDT has continued to enhance the popularity and reputation of its brand overseas, building up an external image of fulfilling responsibilities.

PT Datang DSSP Power Indonesia won the Indonesia Top CSR Awards 2022 (4-Star)

PT Datang DSSP Power Indonesia (DDPI), a subsidiary of China Datang Overseas Investment Co., Ltd, has actively fulfilled its social responsibilities. By carrying out a series of assistance projects called as "Going into the Community" to help over 1,200 local needy Indonesians participate in social security, CDT has ensured the essential living quality of those in poverty. This move was highly appraised by BPJS Kesehatan, and the official in charge made a special trip to DDPI's headquarters to express gratitude and issue certificates of merits. In March 2022, DDPI won the 4-Star Award in the Indonesia Top CSR Awards 2022 by TopBusiness.



Jakarta expresses gratitude to DDPI



DDPI won the Top CSR Awards 2022 (4-Star)

Promoting cultural exchange

For enterprises, their cultures need to go out before they do. Culture can help eliminate communication barriers and deepen cultural identity, therefore creating a good business environment for enterprises. CDT respects and understands the cultures, religions, customs of different countries. Through rich and colorful cultural exchange activities, we continue to connect with local people in heart, heading towards a bright future together.

The "Marine Library" Project of IPP Kendari

The organization and implementation of distinctive local culture promotion projects by DDPI have enriched the cultural activities of employees and local people, further promoting the integration of and exchange between Chinese and Indonesian cultures. The "Marine Library" Project of IPP Kendari opened an overseas social media account "Panredilao" to update the series of reading activities in a timely manner. This move has expanded the popularity and influence of the project, therefore winning the highest CSR award in Indonesia.



The "Marine Library" Project of IPP Kendari

Devotion to Public Welfare and Charity

Since its establishment, apart from continuous development, CDT has also devoted itself to public welfare and charity activities. We have called upon our employees as volunteers to do their best to be devoted to pandemic prevention and control, emergency rescue and relief, respect for the elderly, caring for children, cultural assistance, public welfare, environmental protection, etc. In this way, we aim to brighten the road of love with our effort in public welfare.

Emergency Rescue for Anti-Pandemic

CDT actively fulfilled its social responsibilities. We took action upon hearing orders and voluntarily shouldered our responsibilities to assist local governments and people in pandemic prevention and control, eventually winning the battle to protect people's lives, health, and safety.

Joining hands to fight against the pandemic

In 2022, CDT voluntarily took its social responsibility in fighting against COVID-19. Faced with the severe situation of repeated outbreaks, all officials and employees worked together to present themselves with donation and materials in the frontline fighting against the pandemic. Our action included actively organizing volunteer service teams, and assisting communities and helping villagers to carry out pandemic prevention and control while taking care of ourselves. All of these put together have turned out CDT's contribution to jointly winning the battle against COVID-19.

CDT donated RMB 10 million to support the fight against COVID-19 in the Inner Mongolia Autonomous Region

Since October 2022, the outbreak of COVID-19 in many areas in Inner Mongolia had adversely impacted the local economic development and social life. CDT immediately donated a total of RMB 10 million as the anti-pandemic funds to those areas suffering the outbreak through the governments and the Red Cross Societies of its leagues and cities. Furthermore, according to the deployment of the Inner Mongolia Autonomous Region pandemic prevention and control headquarters as well as its own headquarters, CDT's branches in Inner Mongolia did their best to ensure safe and stable operation and reliable supply of power, heat, and coal systems while ensuring the pandemic prevention and control.



Anti-pandemic volunteer service team rushed to fight the pandemic in Hainan Province

After the outbreak of the "0801" pandemic in Hainan Province, CDT's Hainan Branch immediately established the anti-pandemic volunteer service team for emergency rescue to Sanya City and Ledong Li Autonomous County, the regions suffered the most. At the most critical moment of pandemic prevention and control, CDT urgently deployed their own commuter buses to transport over 2,600 stranded passengers. Moreover, CDT also provided a large number of anti-pandemic materials and living materials to cities and counties such as Dongfang City and Danzhou City, which were more severely impacted in Hainan Province, as well as the medical team from Ningxia Hui Autonomous Region. This has been highly appraised by all walks of life.

Rescue and disaster relief is obligatory to CDT

CDT strongly believes in the saying "when one side is in trouble, assistance comes from all sides". Faced with sudden danger, CDT actively fulfilled its social responsibilities, rushing to the disaster-stricken areas as soon as possible with disaster-relief materials. We also strived to call upon rescue forces to the frontline for emergency rescue, thereby assisting in post-disaster reconstruction.

CDT Sichuan branches responded immediately to Luding Earthquake

On September 5, 2022, in the face of a 6.8-magnitude earthquake in Luding County, Ganzi Tibetan Autonomous Prefecture, Sichuan Province, CDT responded and acted immediately. We actively organized and mobilized relevant units under the unified arrangement to fully devote ourselves to the earthquake-relief work, especially in terms of power supply and material security. After the earthquake, the hydro-power stations of Changheba, Huangjinping, and Tingzikou urgently started six standby generating units, increasing the system's rotating reserve capacity by 2,175 MW. This effectively ensured the power supply in the disaster area. Sichuan Datang International Ganzi Hydro-power Development Co., Ltd. formed a rescue team for earthquake relief and completed the loading of emergency supplies overnight. Furthermore, within 72 hours of the most significant rescue period, we transported nearly 200 trapped people and rescuers with our boats, strongly supporting the timely transfer of more than 700 victims. Caring for the earthquake-stricken people, we donated RMB 10 million to support their earthquake relief and post-disaster reconstruction.



The CDT electric power emergency crew went deep into the earthquake-stricken area. They looked into over 60 km of village lines in seven days and eliminated over 10 hidden dangers, thereby helping over 400 households restore power supply



CDT water rescue team

Keen on Public Welfare and Charity

Following the idea of sharing achievements with the society, CDT actively participates in public welfare and charity and conduct volunteer services, thereby responding to social expectations, as well as enhancing the people's sense of happiness and gain. At present, CDT has 465 volunteer service teams enrolled. Among them, the "Three-color Flower" volunteer service team has been awarded the Excellent Voluntary Organization by the government.

In CDT, we have 465 volunteer service teams including "Datang Star Class", "Sansehua" from Datang Environment, "Wupeng Boat" from the branch of Shaoxing City in Zhejiang Province, "Tangxiaoxiang" from Huayin Power, "Qingfeng" from branch of Huludao City in Liaoning Province, "Tianshan Yakexi" from Xinjiang branch, and "Voluntary Datang" from the headquarters of Anhui branch, "Tangqingqing" from Qinghai branch, etc., all together establishing the CDT volunteer service brand association. Also, we held the 16th CDT Open Day event. 35 CDT branches invited Zhang Guimei, a role model of the times, as well as resident officers, and school teachers and students, to pay a deep visit to us. This aims at bridging communication and interaction with the society, and further impressing the public with CDT's brand image to go deep and long.

★ "Tianshan Yakexi" volunteer service team of Datang Xinjiang Power Generation builds a bridge of responsibility

Since 2022, the "Tianshan Yakexi" youth volunteer service team from Datang Xinjiang Power Generation Co., Ltd. has continued to carry out various public welfare events. The resident working team in Wensu County, Aksu City, and the kindergarten in Hetian Poverty Alleviation Village in southern Xinjiang, both of which are supported by Datang Xinjiang, have organized multiple voluntary events in campus. Through the "Datang Star Class" event, the volunteer service team taught children with knowledge in terms of electric power and electricity safety warning. In addition, we also donated school uniforms and stationery, and taught minority students to learn mandarin and sing songs such as "Ode to the Motherland". With one heart, one mind, and one language, we expect to incorporate the Chinese traditional culture into it, therefore forging a strong sense of community among the Chinese nation.



★ CDT's "Sansehua" cares thousands of families

Established by Datang Environment Industry Group, with the purpose of "standing on the vocation and serving the society", the "Three-color Flower" volunteer service association aims to help CDT achieve high-quality development. Specifically speaking, the association has built the "Red Carnation" project, shaping up the cultural confidence of migrant workers' children through cultural assistance, and carrying out service activities to take on the social responsibility. Secondly, the association has built the "Green Ivy" project to lead the development of green and environmental protection. Thirdly, the association has built the "Blue Starry Sky" project, vigorously cultivating and implementing innovative work such as technological innovation, technological breakthroughs, process upgrades, and scientific research, thereby continuing to stimulate employees' enthusiasm for innovation and creativity.



"My Motherland and I" music class for thousands of children in the Datang Star Class series

Meanwhile, through a series of youth volunteer service events such as "Tangxiaoxiang", "Sansehua", and "Cuncaoxin", the youth volunteer service brand of "Datang Youth Hand in Hand" has been shining, and gradually formed a public welfare brand matrix with strong social impact. In other words, the youth power of Datang makes a great contribution to building a better society.

★ Chasing Lei Feng's step, Datang youths are "young and different"

In March 2022, on the 59th "Learn from Lei Feng Memorial Day" and the 23rd "Chinese Youth Volunteer Service Day", the CDT Youth League Committee organized the "Datang Youth Volunteer Service Month" activity. All the organizations responded positively, establishing 320 youth volunteer service teams covering more than 21,600 Datang youth volunteers. By carrying out a total of 1,154 volunteer service events, it showed vigorous looks and the richness of "young and different".



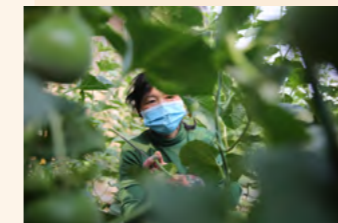
Young volunteers from Datang Chongqing Branch popularized the knowledge of flood control for community residents



CDT's Shaanxi Branch carried out event themed with "Greenness Covering Hutu Mountain, Creating Datang Forest" with joint construction



Responsibility Outlook



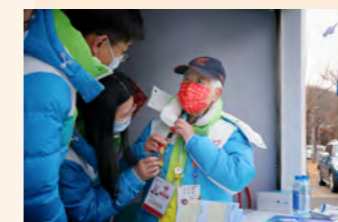
Villagers worked in a greenhouse built with the aid of CDT



Datang International and Tibetan children jointly participated in the 2022 rare fish breeding and releasing event



Guangxi Guiguan Electric Power held 1st "Building Dreams in CDT" summer camp



The youth from China Datang Technological and Economic Research Institute volunteered in Beijing Winter Olympics



"Datang Star Class" by Datang Ningde Power Generation went in campus



Datang Tianshan Yakexi volunteer service team walked into the "Fanghuiju" Primary School in the village

Management on Sustainable Development

In recent years, various global challenges have been increasing day by day. ESG has gradually become an international consensus, therefore entering accelerated development stage. ESG is an investment philosophy focusing on corporate sustainable development performance and long-term investment value. Given the high compatibility with China's high-quality development requirements, ESG has become the inevitable factor for Chinese enterprises to be world-class enterprises. The trend is unstoppable.

Energy is a key material basis for the survival and development of human society. The development and utilization of energy is closely related to the sustainable development of the world economy and human society. As a large state-owned energy enterprise, CDT anchors the title of "China's best and world class", deeply integrating into and serving the construction of a beautiful China. We also act as the main force and leader in green development, pollution prevention and control, self-reliance and self-improvement in energy science, as well as promoting the realization of carbon peak and carbon neutrality. Along with the ESG management and practical experience featured in CDT's characteristics, we strive to walk on the road of energy modernization development steadily and securely.

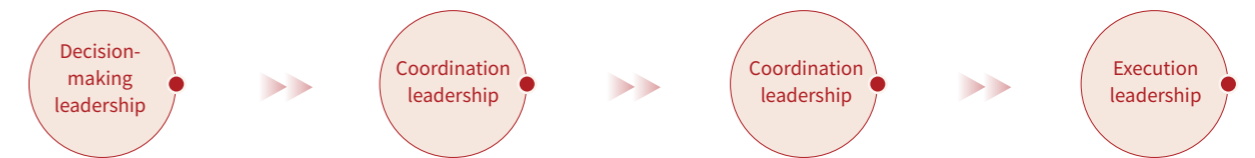


Vision

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

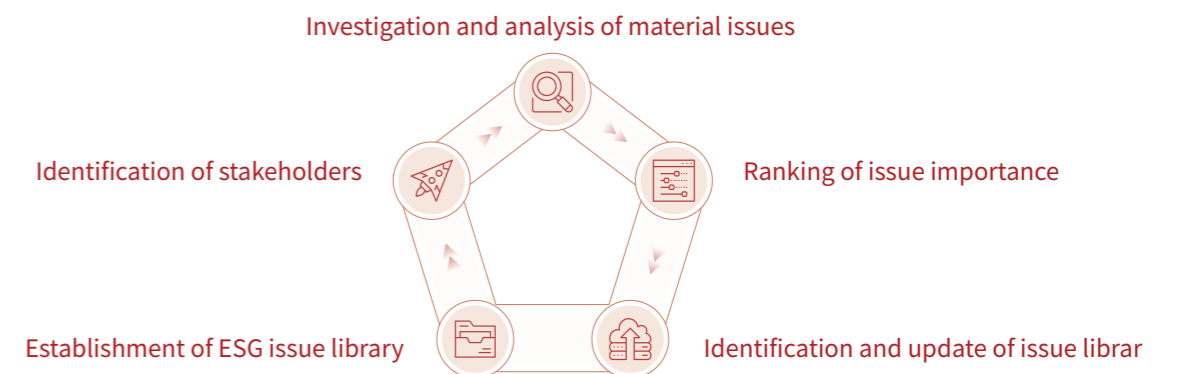
Responsibility Organization

CDT actively builds an ESG governance structure and system in line with the Company's current situation, and establishes a four-tier ESG governance system of "decision-making leadership - coordination leadership - coordination leadership - execution leadership". Each level performs its duties and assumes its own responsibilities to ensure ESG work direction is clear and can be implemented. Incorporate ESG work into the daily work management of the Shareholders' Meeting, Board of Directors and its specialized committees, the Board of Supervisors and the management, and promote the integration of ESG concepts into the entire process of corporate development strategies and daily operations. At the same time, by carrying out ESG special training, incorporating ESG into the Company's key performance indicator assessment, and participating in external ESG excellent selections, etc., we can improve our own ESG construction capabilities, identify and judge possible ESG opportunities and formulate targeted coping strategies. Drive long-term development and continuously expand the prospect value of sustainable development.



Issue Management

The identification of important issues is the starting point of corporate sustainable development management. CDT actively carried out the identification and management of substantive issues, focused on the concerns and expectations of internal and external stakeholders, and continued to improve the pertinence and responsiveness of information disclosure. At the same time, according to the results of the analysis of the importance of issues, we will build and implement relevant systems, set goals and performance appraisal systems to ensure that the ESG management system has rules to follow and rules to follow.



Responsibility communication

CDT actively builds long-term communication channels with stakeholders, candidly interact with the society on its own ESG concepts, strategies, actions, performance, commitments, plans, etc., and integrates the feedback obtained from stakeholders into the ESG management system, while gaining understanding and recognition, it provides impetus for the continuous innovation and quality improvement of the sustainable development management system.

Outlook 2023

Those who keep up their efforts often achieve their goal; and those who keep on walking often reach their destination. We will continue to follow the guidance, insist on making progress while maintaining stability, and improve quality while making progress, and focus on increasing the speed and efficiency of new energy and improving the quality and efficiency of coal-fired power, coal and coal chemical industry capacity expansion and efficiency enhancement, new industry development and expansion "Four Tough Battles", systematically promote the "Six Major Projects" of intrinsic safety, technological innovation, digital intelligence, management upgrading, talent strengthening enterprises, and strive to promote high-quality development, solidly promote the construction of the ESG management system, fully realize the effective improvement of quality and reasonable growth of quantity.

Appendix

Key Performance

Index	Unit	2020	2021	2022
Economic Performance				
Total assets	RMB 100 million	7965.63	8301.64	8494
Revenue	RMB 100 million	1927.06	2238.25	2529.67
Economic contract performance rate	%	100	100	100
Total installed capacity	10 MW	15859.72	16398.18	17015.46
Power generation volume	100 GWh	5603.77	5920.91	5884.62
Heat supply	10,000 GJ	29943.23	30129.93	30896.35
Technological investment	RMB 100 million	35.74	53.94	76.23
Accumulated number of patents	Patent	9432	10482	11637
Accumulated number of invention patents	Patent	881	995	1150
Number of new authorized patents	Patent	1424	1050	1155
Number of new authorized invention patents	Patent	172	140	155
Number of promoted technological innovations	Innovation	64	83	95
Number of new standards above industry level	Standard	27	35	27

Index	Unit	2020	2021	2022
Environmental Performance				
Investment in environmental protection	RMB 100 million	13.22	13.72	15.8829
Proportion of clean energy	%	32.08	35.35	42
Coal consumption for power supply	gce/kWh	296.3	295.92	294.93
Total SO ₂ emission volume	10,000 tons	4.94	5.18	3.01
SO ₂ emission reduction volume	10,000 tons	0.36	-0.24	2.17
YoY decrease of SO ₂ emission volume	%	6.79	-4.86	41.8
SO ₂ emission rate	g/kWh	0.12	0.11	0.095
Total NO _x emission volume	10,000 tons	7.00	7.39	5.42
NO _x emission reduction volume	10,000 tons	0.60	-0.39	1.97
YoY decrease of NO _x emission volume	%	7.89	-5.57	6.55
NO _x emission rate	g/kWh	0.17	0.16	0.145
Total fly ash emission volume	10,000 tons	0.359	0.356	0.444
Fly ash emission rate	g/kWh	0.015	0.014	0.013
Total wastewater discharge volume	10,000 tons	996.93	1012.26	1080.09
Wastewater discharge rate	kg/kWh	45	42	39
Number of negative environmental events	Events	0	0	0

Index	Unit	2020	2021	2022
Social Performance				
Number of on-site employees	Person	95582	93874	91272
Number of female employees	Person	20420	19596	18599
Number of ethnic minorities employees	Person	6394	6235	6207
Overall labor productivity	RMB 10,000/ person	92.75	49.62	96.83
Trade union membership rate	%	100	100	100
Social insurance coverage	%	100	100	100
Total fees paid for social insurance	RMB 10,000	289023.28	487360.37	491893.05
Number of trained employees	Person-time	—	—	110000
Employee training coverage	%	—	—	99.15
Investment on employee training	RMB 100 million	—	—	1.39
Investment on safety in production	RMB 100 million	62.02	77.64	75.87
Number of employees in safety training	Person-time	—	296827	796734
Major personal accident and above	Time	0	1	0
Major equipment accident and above	Time	0	0	0
General personal accident	Time	2	5	3
General equipment accident	Time	0	0	0
Total amount of social donation	RMB 10,000	—	—	10768

Indicator index

Chapters	The Ten Principles of the United Nations Global Compact (UNGC)	GRI Standards	CASS-CSR4.0	
Report Guide	—	102-45,102-50-53	P1	
Leadership Statement	—	102-14-15	P2,P3,G3.1	
About Us	—	102-1-4,102-6-8,102-16,201-1	P4,G1.1,A3	
Responsibility in Focus	Guaranteeing Power Supply and Heat Supply, Improving People's Livelihood, Tackling Challenges and Forging ahead with a Sense of Responsibility	Principle 1、 2	203,413-1	P3, S4.1,S4.5
	Supplying Quality Energy	102-11	M1,M2.2	
	Deepening Reform in an All-round Manner		S1.4	
Governance: A First-class Giant on the Horizon	Exerting More Efforts for Scientific and Technological Innovation	Principle 7、 9	404	M2.1-M2.7
	Setting an Example for Legally Compliant Operation	Principle 10	102-18,102-21,102-27,102-29,102-33,102-40,102-42-44,102-46-47,103-1, 205	M1.1,M1.3,M1.4,S1.1,S1.2,G1.2,G2.1,G3.3,G4,G6
	Extensively Consulting for Low-carbon Measures	Principle 7、 8、 9	201-2,302-4-5,305	E1.9,E1.3,E1.10
	Blazing a Path of Emission Reduction Together	Principle 7、 8、 9	201-2,302-4-5,305,307	E2.3,E2.4,E2.12-E2.15,E2.24,E2.25
Environment: Unveiling a Better Ecosystem	Fulfilling the Promise of Green Practice	Principle 7、 8、 9	303-1, 306-1	E1.1, E1.5, E1.8, E3.1, E3.2
	Embarking Together on the Journey of Ecological Civilization	Principle 7、 8、 9	304	E3.4,E3.6

Chapters	The Ten Principles of the United Nations Global Compact (UNGC)	GRI Standards	CASS-CSR4.0	
Society: Creating Vitality and Better Life	Facilitating Rural Revitalization	Principle 1、2、8	203,413-1	P3, S4.1, S4.5, S4.8, S4.10-S4.14
	Upholding the Bottom Line of Safety	Principle 1	203-2,416	S3.1-S3.3,S3.6,S3.7
	Caring for Employee Development	Principle 1、2、3、4、5、6	102-8,201-3,203-1-2,401-1,403-2,404,405-1	S2.1-S2.4,S2.8, S2.10-S2.19
	Advancing Together with Our Partners		204,414-1	M2.11, M3.1, M3.3-M3.16
	Jointly Building Overseas Communities	Principle 1,2,6	203, 413	S1.5,S4.1-4.6
	Public Well-being and Charitable Efforts	Principle 1,8	203, 413, 415	S4.1,S4.5-S4.11
Outlook 2023	—			A1
Appendix	Key Performance		200,305-5, 305-7, 308-1, 401-1	A2
	Indicator index		102-55	A5
	Rating Report		102-56	A4
	Feedback		102-53	A6

Rating Report

Entrusted by China Datang Corporation Ltd., Chinese Expert Committee on CSR Report Rating selected experts to form a rating group to rate the "CDT 2022 Sustainable Development Report" (hereinafter referred to as the "Report").

I . Rating Criteria

Guidelines on China's Corporate Social Responsibility Reports (CASS-CSR 4.0) by Chinese Academy of Social Sciences, and Rating Standards on China's Corporate CSR Reports (2020) by the Chinese Expert Committee on CSR Report Rating.

II . Rating Process

1. The rating group reviews and confirms the Corporate Social Responsibility Report Process Data Confirmation Letter and relevant supporting materials submitted by the Report writing group;
2. The rating group evaluates the preparation process and content of the Report, and drafts a rating report;
3. The Vice Chairman of the Chinese Expert Committee on CSR Report Rating, the leader and the experts of the rating group jointly sign review the rating report the rating report.

III. Rating Results

Process (★★★★☆)

The Company's Strategy and Investment Committee is the leading organization for social responsibility, with the Chairman serving as the team leaders. Its strategic planning department takes the lead in compiling the Report. All functional departments and enterprises at all levels are responsible for providing materials and participating in preparation and review. The Report is submitted to the Board of Directors for final approval. The Report is positioned as an important tool for compliant disclosure of information, improvement of responsibility management, strengthening of communication with stakeholders, and promotion of corporate image. This indicates a clear functional value positioning. The material issues are identified subject to related requirements, domestic and foreign CSR standards, benchmarking analysis in the industry, stakeholders' opinions, and corporate development strategies. The company also actively propels its subordinates to compile the Report and plans to present it in electronic and printed forms. This indicates a leading performance in process.

Substantive (★★★★★)

The Report discloses key issues in the industry, such as ensuring power supply, safe production, developing green power, saving resources and energy, developing circular economy, and reducing "three wastes" emissions. This indicates an excellent performance in materiality.

Integrity (★★★★☆)

The majority of the Report discloses 83.09% of the industry's core indicators from the perspectives of "Governance: A First-class Giant on the Horizon", "Environment: Unveiling a Better Ecosystem", and "Society: Creating Vitality and Better Life". This indicates a leading performance in integrity.

Balance (★★★★★)

The Report discloses negative data such as "new case(s) of occupational diseases among employees that confirmed", "negative environmental events", "major personal accidents and above", "major equipment accidents and above", "general personal accidents", "general equipment accidents", etc. It also introduces the process and results of handling ill-behaved suppliers to the company's subordinates. This indicates an excellent performance in balance.

Comparability (★★★★★)

The Report discloses the comparative data of 42 key indicators for 3 consecutive years, including "revenue", "total installed capacity", "investment in technology", "investment in environmental protection", "coal consumption for power supply", "overall labor productivity", "investment in safety production", "total amount of social donation", among others. It also discloses the horizontal comparison of the data such as "ranking 411th in the Fortune Global 500 in 2022". This indicates an excellent performance in comparability.

Readability (★★★★★)

The Report contains three chapters: Governance, Environment, and Society, systematically specifying the Company's actions on responsibility and relevant achievements in energy supply, technological innovation, ecological and environmental protection, safety production, overseas operations, public welfare and charity, etc., with all-around responses to stakeholders' requests. On the cover, inner pages, and chapter pages, the Report mostly uses high-resolution cross-page images, which integrate the primary business elements of the company, thereby highlighting its industrial characteristics. The Report design has a colorful set of elements, with color blocks extensively used in the background. The colors are saturated and appealing, and the text is smooth and literary, which makes the report more pleasant to read. All of these indicate an excellent performance in readability.

Innovativeness (★★★★☆)

The Report sets up a special topic of "Guaranteeing Power Supply and Heat Supply, Improving People's Livelihood, Tackling Challenges and Forging ahead with a Sense of Responsibility", focusing on energy supply. It is considered a way of highlighting its corporate responsibility. The chapter "Embarking Together on the Journey of Ecological Civilization" also contains a small column called "If the rare animals could speak", bringing interest to the Report. The key performance has been highlighted, which is easy for readers to read and understand. This indicates a leading performance in innovativeness.

Comprehensive rating (★★★★★)

According to the evaluation of the rating group, the CDT Sustainable Development Report 2022 is a five-star report, which is an excellent corporate social responsibility report.



The CDT Sustainable Development Report received a five-star rating for the first time

IV.Suggestions

Strengthen the construction of social responsibility system and management system, and improve the process performance of the Report.

黄群慧
Vice Chairman of the Chinese Expert Committee on CSR Report Rating

钟宏武
Rating Group Leader

张洪忠
Rating Group Expert



Date: July 25, 2023

Scan the QR code to view the rating files

Feedback

Thank you for reading the CDT Sustainable Development Report 2022. Please give us your opinions and suggestions here for us to improve our future reports.

1. What's your overall impression of the Report?

Good Poor Average

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

Good Poor Average

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

Good Poor Average

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

Good Poor Average

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

Which type of stakeholder do you belong to?

Investor Community resident Customer Financial institution
 Research institution/university Supplier Media Social organization Others

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