



国家能源集团

2021 社会责任报告

2021 SOCIAL
RESPONSIBILITY REPORT

CE·CE



国家能源 责任动力
CHN ENERGY CSR ENERGY

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MESSAGE FROM CHAIRMAN



WANG Xiangxi
Secretary of Leading Party Members' Group, Chairman

The year of 2021 was a milestone in the history of the Party and the country. It was the 100th anniversary of the founding of the Communist Party of China (CPC), a historical intersection of the "Two Centenary Goals", and the first year to implement the 14th Five-Year Plan and start the new journey of fully building a modern socialist China. The change unseen in a century shapes opportunities for the era. Through active responses to multiple challenges such as energy supply shortage, great market volatility, intense vying for resources, and pandemic outbreaks in many places, China Energy pushed forward all areas of work in an effective and orderly manner, and completed annual objectives and tasks, with remarkable performance worthy of the history, the era and the people.

We face up to changes of the times without fear of a long and perilous journey ahead. The Party's history over a century manifests the great wisdom of "where we come from and where we are heading". All employees, guided by XI Jinping Thought on Socialism with Chinese Characteristics for a New Era, comprehensively carried out the guidelines of the 19th CPC National Congress and its sessions, and thoroughly implemented the guidelines of important instructions of General Secretary XI Jinping and his important speech during his inspection tour

to Yulin Chemical Company, thus fostering great synergy to start the implementation of the 14th Five-Year Plan. Resolutely shouldering the mission and responsibility of a primary contributor to our country, we proactively adapted to market changes and continued to strengthen delicacy management. We intensified efforts to increase the output and profits of coal and new energy, adjust the price of coal power to reduce loss, raise the output and revenue of the chemical industry, and tap into the potential of transport for efficiency improvement. As a result, in 2021, we saw a YoY 8.8% increase and a YoY 12.2% increase in coal sales and power generation, respectively, both hitting a record high. We achieved operating income of RMB 690.8 billion, total profit of RMB 88.8 billion, and net profit of RMB 61.8 billion, effectively playing the role as "stabilizer" and "ballast" of energy supply.

We keep up with the trend of the times amid changes and challenges. Adhering to the philosophy of "Digital-driven Transformative Development and Smart CNH Energy", we tackled such technical difficulties as direct liquefaction of 1-million-ton coal, indirect liquefaction 4-million-ton coal, 8.8-meter large mining height, secondary reheating of coal power, and low-speed efficient fans. Achievements such as Mine Harmony OS sprang up. A total of 85 projects won industrial or provincial (ministerial) science and technology awards throughout the year. And the coal mine intelligent technology and construction coverage reached 85%, marking data-driven access to a new stage of quality growth. Riding over the carbon peaking and carbon neutrality goals, we advanced green and low-carbon transformation at high standards, established the Investment Fund for Green and Low-carbon Development, and put the Carbon Capture Demonstration Project of China's largest coal-fired power plant into operation. We also made positive leaps in a series of major projects such as Zhangjiakou Wind and Solar Power Demonstration Project for Hydrogen Production, Storage and Utilization. The development and construction scale of new energy hit a record high in corporate history. Through these practical actions, we contributed to building a beautiful world with bluer sky, lush mountains and clearer waters.

We strive for creating a warmer world in the new era. Under the overarching responsibility concept of "CHN Energy CSR Energy", we insisted on responsibility-driven high-quality development, and boosted the in-depth integration of responsibility mindset, management, practices and explorations into the building of a world-class energy corporation. We completed the enterprise reform, reorganization and integration in an all-round way, launched and implemented the RISE brand strategy, and further modernized our governance system and governance capability. A total of RMB 336 million was invested in consolidating and expanding our poverty alleviation achievements, and pushing forward rural revitalization. We helped more than 30,000 children with leukemia and congenital heart disease. We continuously propelled the construction of "China Energy Ecological Forests", planting a total of 206,000 mu (approx. 13,740 hectares) of trees. We also joined emergency rescue and disaster relief in Henan, Hubei, Shanxi, Xinjiang and other places. These endeavors illustrated vividly to our purpose of "Powering Social & Economic Development".

Our journey will go on and on. Only by keep moving forward can we march toward greater victories and win more glories! The year of 2022 is significant to our sustained efforts to pull off the 14th Five-Year Plan. China Energy will continue to thoroughly implement the development strategy of "one goal, three characteristics, five-pronged development and first-class performance in seven domains". By progressing bravely and earnestly, we strive to set an example in improving the responsibility system, serving the "Top Priorities of the Country", and building China into a strong and world-class energy country as a world-class brand with responsibility of a central SOE, devotion to family and country, and international influence.

王祥喜

MESSAGE FROM PRESIDENT



LIU Guoyue
Deputy Secretary of Leading Party Members' Group, President, Director

Setting sail against the stormy waves, we struggle to leave indelible imprints in high spirits. The year of 2021 was the centenary of the founding of the CPC and saw changing situation interwoven with the century pandemic. At the historic intersection of "Two Centenary Goals" and guided by XI Jinping Thought on Socialism with Chinese Characteristics for a New Era, China Energy unwaveringly practiced the statement that "socialism is achieved with hard work". We shouldered heavy responsibilities with the spirit of leaving marks after stepping on the stone, and took solid steps to raise our quality development to a new level and get the 14th Five-Year Plan off to a good start.

It is our original aspiration to follow the leadership of Party building. China Energy deeply studied and implemented the guidelines of the Sixth Plenary Session of the 19th CPC Central Committee and worked hard to build a work pattern for big Party building. We organized in-depth learning of the guidelines of General Secretary XI Jinping's important speeches on July 1 and during his inspection tour to Yulin Chemical Company, promoted the study and education of the Party history with high quality, stayed confident in the path, theory, system,

and culture of socialism with Chinese characteristics, and upheld Comrade XI Jinping's core position on the Party Central Committee and in the Party as a whole, as well as the Central Committee's authority and its centralized, unified leadership, continuing to arm ourselves with theory. We advanced the Party building at the grassroots level, and focused on the primary-level construction, basic work and training of basic skills, in order to constantly strengthen team building. We extensively carried out a series of activities to celebrate the 100th Anniversary of the CPC to secure high-quality development under the guidance of high-quality Party building. In 2021, the Company was rated as Level A for the second consecutive year in the assessment of the Party Building Work Responsibility System of Central SOEs.

It is our ultimate goal to build into a first-rate brand through transformation and upgrade. China Energy responded to complex domestic and international situations and made breakthroughs resolutely. Under the strong leadership of the CPC Central Committee with Comrade XI Jinping at its core, we unwaveringly implemented the new development philosophy, comprehensively promoted SOE reform and development around "Six New Stages", and ramped up concerted efforts into scientific and technological innovation, striding ahead to boost transformation and upgrade. In 2021, the Company insisted on pursuing progress while ensuring stability, registering operating income of RMB 690.8 billion and profit of RMB 88.8 billion. The Company was also awarded Level A in the 2021 Assessment on the Operation Performance of Persons in Charge of Central SOEs, opening a new chapter of quality development.

It is our commitment to protect our ecology for a greener and better homeland. Focusing on the carbon peaking and carbon neutrality goals, China Energy thoroughly implemented XI Jinping Thought on Ecological Civilization, and continued to improve its 14th Five-Year Plan and Action Plan for Carbon Dioxide Peaking Before 2030. We enhanced the clean and efficient development and utilization of coal, stepped up the high-end and diversified low-carbon development of coal chemical industry, and mobilized all employees to develop new energy. We ranked top 1 among central SOEs by 13.9 GW generated from the national first batch of large wind power and PV base projects. In terms of new energy, we started construction of 19.68 GW projects and put 10.89 GW projects into operation, both figures hitting a record high. The Company's renewable capacity accounted for 28.6% of its generation fleet, a year-on-year increase of 2.7 percentage points. All these figures illustrated our progress made in green development.

It is our responsibility to serve the country and the people. Shouldering responsibilities and pressing ahead, China Energy put into practice the corporate purpose of "Powering Social & Economic Development" in a unified way, and put forward the social responsibility concept of "CHN Energy CSR Energy". The Company invested assistance funds of RMB 336 million to effectively consolidate achievements in poverty alleviation and rural revitalization. We fought against COVID-19 together through emergency rescue, disaster relief and energy supply guarantee managed with multiple measures, fully demonstrating our role as a "ballast" for energy supply. We continued to create a public welfare brand, with public welfare donations amounting to RMB 500 million, and won the China Charity Award for the fifth time. We strived to build a warm enterprise under the people-oriented and safety-first principle.

We are embarking on a new journey with a new and magnificent blueprint. In 2022, the CPC will convene its 20th National Congress. The new era calls for new actions. We must rally more closely around the CPC Central Committee with Comrade XI Jinping at its core, and sustain the revolutionary spirit. Looking ahead, we aim to become the pace-setter and main force in energy transformation and development, striding forward on the road of building a world-class energy corporation with global competitiveness!

ABOUT US

In 2022
Fortune Global 500 ranking

85th

Over last year
up by

16 places

COMPANY PROFILE

China Energy Investment Corporation Limited ("China Energy") was officially inaugurated and established on November 28, 2017. It is a key central energy enterprise incorporated through the merger of China Guodian Corporation and Shenhua Group with the approval of the CPC Central Committee and the State Council. The Company also integrates the "Four Pilots": a pilot of central SOEs merger and reorganization, a pilot of state-owned capital investment company reform, a pilot world-class model enterprise, and a pilot SOEs corporate governance model enterprise. China Energy operates the full industry chain business including coal, electric power, transportation and chemical in 31 provinces, autonomous regions and municipalities at home as well as over ten countries and regions globally such as the US and Canada. It is the largest coal producer, thermal and wind power generator, and coal-to-liquids and coal chemicals producer in the world. In 2021, the Company was awarded Level A in the 2021 Assessment on the Operation Performance of Persons in Charge of Central SOEs as well as the 2019-2021 Corporate Performance Assessment. In 2022, China Energy ranked 85th in Fortune Global 500, up by 16 places over last year.

BUSINESS COVERAGE

Overseas



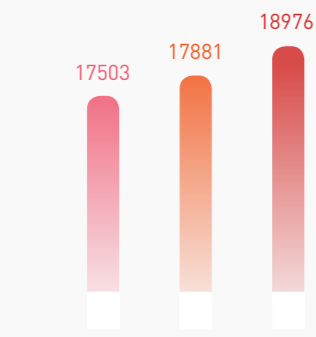
BUSINESS COVERAGE

China

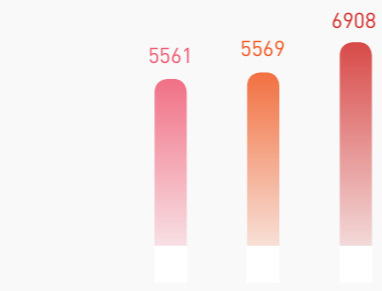


BUSINESS PERFORMANCE

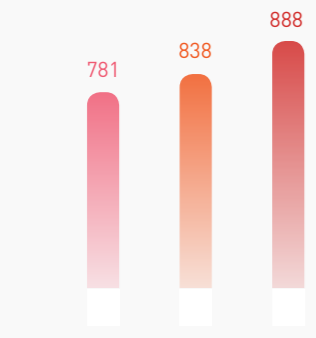
■ 2019 ■ 2020 ■ 2021



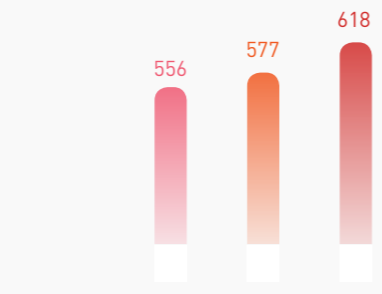
Total assets (in RMB 100 million)



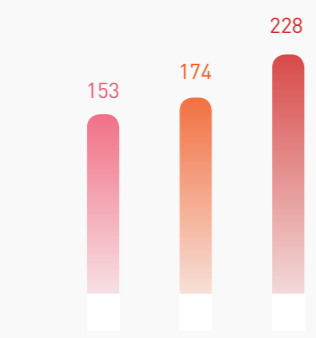
Total operating income (in RMB 100 million)



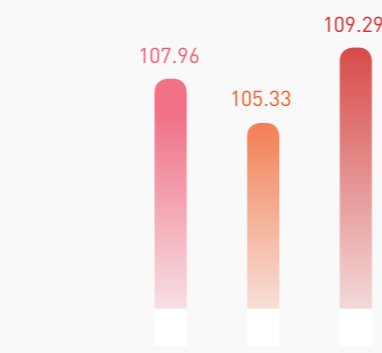
Total profit (in RMB 100 million)



Net profit (in RMB 100 million)



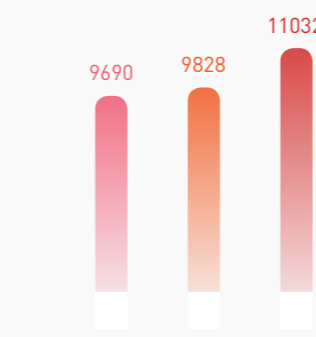
Economic value added (in RMB 100 million)



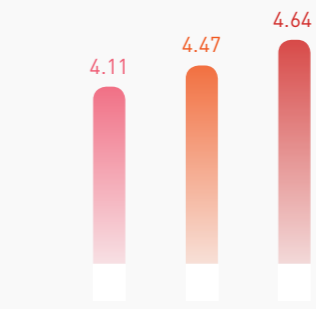
State-owned capital preservation and appreciation rate (%)

PRODUCTION PERFORMANCE

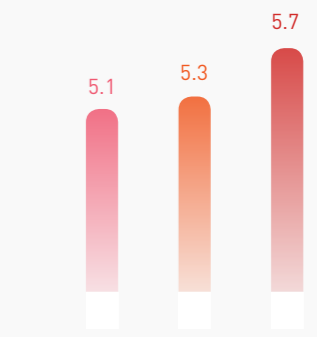
■ 2019 ■ 2020 ■ 2021



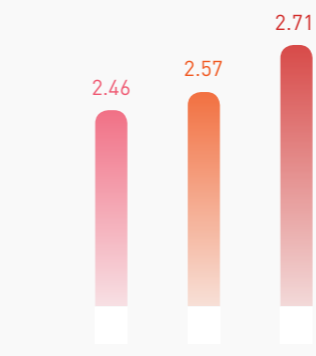
Power generating capacity (in 100 GWh)



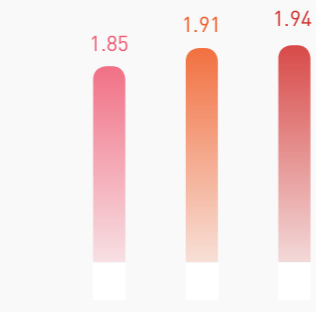
Heating capacity (in 100 million GJ)



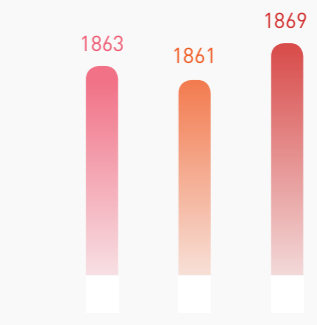
Coal production (in 100 Mt)



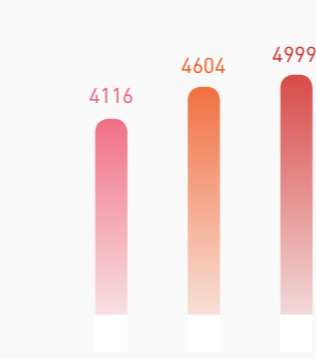
Installed generating capacity (in 100 GW)



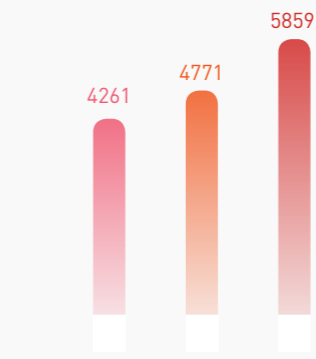
Installed capacity of thermal power (in 100 GW)



Installed capacity of hydropower (in 10 MW)



Installed capacity of wind power (in 10 MW)



Installed capacity of new energy (in 10 MW)

CORPORATE CULTURE

Culture is the lifeblood of a nation, and it gives people a sense of belonging.

— Xi Jinping



Our Goal
To build a world-class energy corporation with global competitiveness



Our Strategy
One Goal, Three Characteristics, Five-pronged Development and First-class Performance in Seven Domains

One Goal: To build a world-class energy corporation with global competitiveness

Three Characteristics: Innovative, leading and value-oriented

Five-pronged Development: Environment-friendliness, integration, perfection, intelligence, and internationalization

First-class Performance in Seven Domains: Safety, quality, efficiency, technology, talents, branding and Party building



Our Purpose
Powering Social & Economic Development



Our Mission
Stabilizer of Energy Supply and Pioneer in Energy Revolution



Our Core Values
Green Development & Pursuit of Excellence



Our Ethos
Doing solid work, Dedicated, Innovative and Striving to be the best



Our Branding
China Energy -- Driving force for constant progress



Our Social Responsibility Concept
CHN Energy CSR Energy (CE·CE)

SENIOR EXECUTIVE TEAM

BOARD OF DIRECTORS



Chairman

WANG Xiangxi



Director

LIU Guoyue



Director

WANG Min



External Director

WANG Shoujun



External Director

ZHAO Jibin



External Director

YANG Ya



External Director

LI Yanjiang



External Director

YANG Aimin



Employee Director

WU Guoping

MANAGEMENT TEAM



Secretary of Leading Party Members' Group, Chairman

WANG Xiangxi



Deputy Secretary of Leading Party Members' Group, President, Director

LIU Guoyue



Director, Deputy Secretary of Leading Party Members' Group

WANG Min



Head of Discipline Inspection and Supervision, Member of Leading Party Members' Group

BIAN Baochi



Member of Leading Party Members' Group, Executive Vice President

WANG Shumin



Member of Leading Party Members' Group, Chief Accountant

CAI Anhui



Member of Leading Party Members' Group, Executive Vice President

YANG Peng



Member of Leading Party Members' Group, Executive Vice President

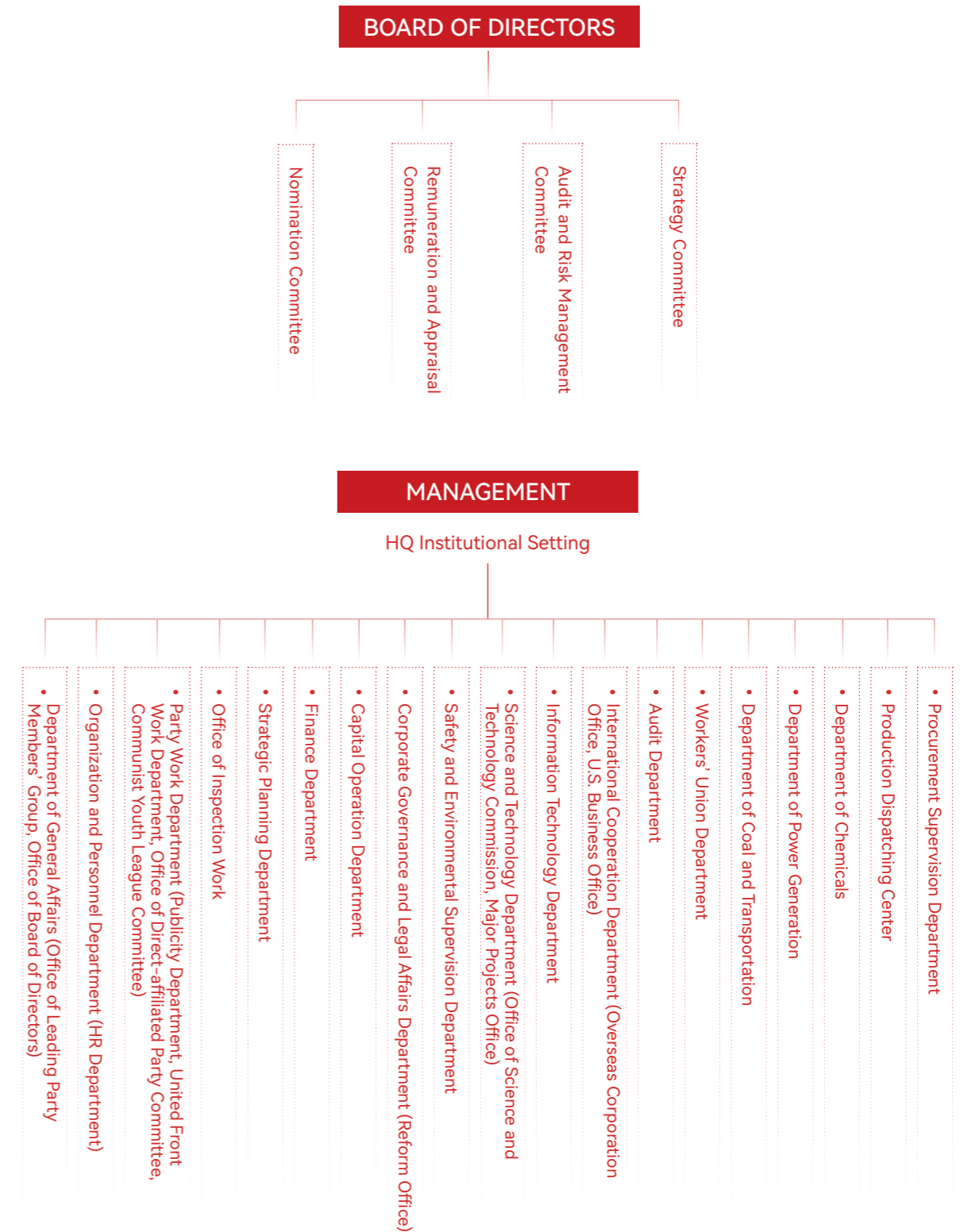
FENG Shuchen



Member of Leading Party Members' Group, Executive Vice President

YANG Jiping

ORGANIZATIONAL STRUCTURE



FOSTER SYNERGY · DEDICATED TO ENERGY SUPPLY GUARANTEE



The supply of power and heat is vital to overall economic development, social stability, and people's livelihood.

-- Xi Jinping

Construction site of the Baihetan-Jiangsu project of China's west-to-east power transmission program

China Energy resolutely implemented the guidelines of President Xi Jinping's important speech during his inspection tour to Yulin Chemical Company, and the decisions and deployments of the CPC Central Committee and the State Council. We were dedicated to ensuring stability on six key fronts and maintaining security in six key areas. By shouldering political and social responsibilities of energy supply, we leveraged our operational advantage of integrated industrial chain of coal, electricity, chemical and transportation to guarantee energy supply to serve as the "stabilizer" and "ballast" of energy supply. We ensured quality and stable growth, making greater contributions to China's macro-economy and social stability.

COMPREHENSIVE PLAN FOR HIGH-LEVEL AND HIGH-STANDARD IMPLEMENTATION

In 2021, we experienced difficulties such as shortage of internal and external resources and excessive power generation and loss. By vigorously carrying forward our purpose of "Powering Social & Economic Development" and unwaveringly practicing our mission of "Stabilizer of Energy Supply and Pioneer in Energy Revolution", we prioritized and promoted the security of energy supply at a high level. Through intensified top-level and overall planning, unified scheduling, lean organization and efficient coordination, we maintained high-level and stable operation of coal and electricity production. Our completion of energy supply task with high standards and quality was fully affirmed by the State Council as well as ministries and commissions at higher levels.



Win the tough battle for energy supply guarantee under the leadership of Party building



100 CPC members of Jiangsu Suqian Branch solemnly declared under the Party flag their determination to guarantee power supply during the centenary of the founding of the CPC



Qinghai Golmud Branch conducting a routine inspection on supply guarantee



Laoshidan Coal Mine of Wuhai Energy making all-out efforts to guarantee coal supply

China Energy set up a steering group for energy supply guarantee led by its key staff officers, and established five working teams and four working mechanisms. Entities at all levels set up dedicated working groups headed by principal leaders to consolidate responsibilities level by level and foster synergy for energy supply guarantee. The Leading Party Members' Group held special meetings on energy supply guarantee. We developed dedicated plans and issued the *Notice on the Implementation of the Decision and Deployment of the CPC Central Committee and the State Council to Make All-out Efforts to Guarantee the Supply of Coal, Power and Heating*. We also included daily scheduling, weekly review and monthly summary into regular meetings of energy supply to resolutely implement various work requirements.

FULL SWING FOR HIGHER PRODUCTION, SUPPLY TO BOOST CONFIDENCE

Faced with the complex and daunting challenges of energy supply, the Company pursued problem-oriented and bottom-line thinking to prioritize the increase of production and the stabilization of pricing and market. We optimized operational management, effectively adjusted business strategies, and explored potential for efficiency improvement to the fullest for high-quality energy supply guarantee with all-out efforts and multiple measures.

STABLE AND HIGH PRODUCTION OF COAL

With a focus on increasing the production and supply of coal, the Company boosted the effective upstream and downstream linkage of production, transportation and sales. We seized the opportunity to achieve a major breakthrough in production increase after review. We made every effort to expand external source of coal, and improve the efficiency of railway, port and shipping. Integrated outbound transportation volume also hit new highs. In 2021, the Company's coal production exceeded 50 Mt for three consecutive months, cumulatively at 570 Mt. Throughout the year, coal sales increased by 8.8% YoY and coal production and sales accounted for 18% of China's total, both hitting a record high. The volume of integrated outbound transportation reached a new high of 1.06 Mt per day, and that of shipping exceeded 200 Mt for the first time. All these made a significant contribution to the tough battle for energy supply guarantee.

Self-produced coal accumulated to **570** Mt

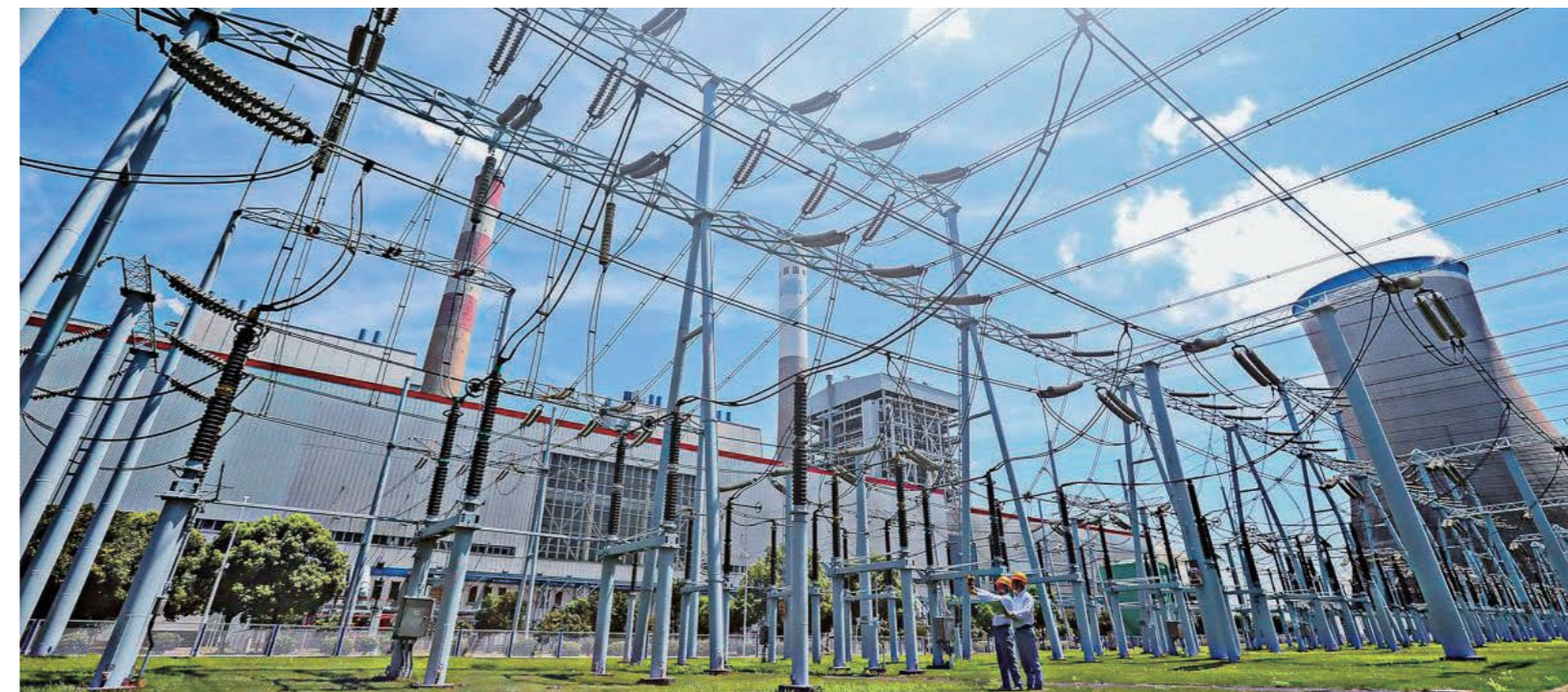


Coal sales throughout the year increased by **8.8%** YoY



STEADY AND FULL POWER GENERATION

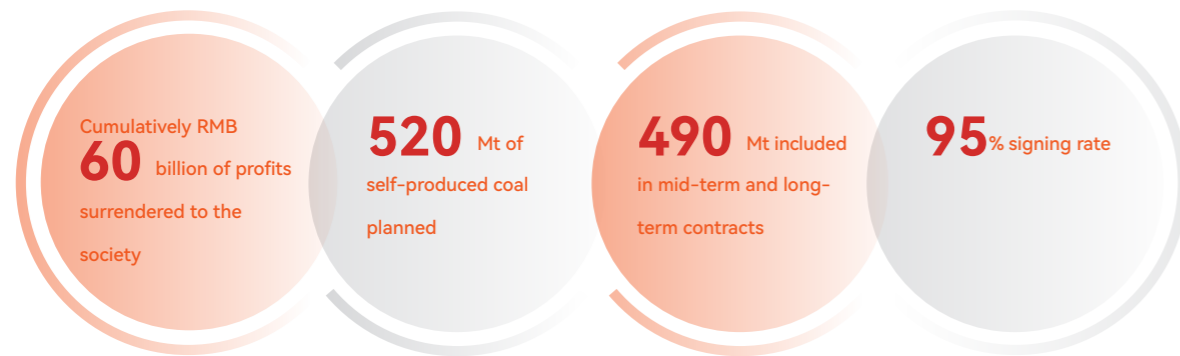
As the largest power producer with installed capacity representing 11.3% of China's total, China Energy enhanced its power generation capacity to secure stable and reliable power supply against the recurrent pandemic around the work requirement of "Six New Stages", providing maximum support for economic development and people's livelihood. In 2021, our power generation exceeded 1000 TWh for the first time, accounting for 13.6% of China's total and up 12.2% YoY, much higher than the national average, fully demonstrating the execution of a key central energy SOE in power supply. We made positive contributions to China's phased results in energy supply guarantee.



Employees of Guodian Jiangxi Jiujiang Power Generation conducting a routine inspection at the 220 kV booster station under the scorching sun to ensure safe and efficient power transmission

LEADER IN STABILIZING PRICE AND MARKET

With a high sense of responsibility for the Party and the people, China Energy resolutely implemented various national measures to ensure supply and stabilize prices, performing the function of "taking the lead in supply guarantee and price stabilization as a SOE". We offered advice to the country, and took part in the work related to government coordination mechanism. We also strictly adopted the mid- and long-term contract price for coal supply, long-term contracts, and re-signing for fulfillment, surrendering profits of more than RMB 60 billion to the society. We strengthened the organization of coal production plans and the management of procurement and sales to ensure stable supply and prices of coal to meet people's living needs, such as power generation and heating, making all-out efforts to stabilize both prices and the market. We planned to produce 520 Mt of coal, 490 Mt of which was under mid- and long-term contracts, achieving a signing rate of 95%. Throughout the year, we priced both self-produced and purchased coal in strict accordance with the price limit and control requirement of the National Development and Reform Commission (NDRC). The average prices of self-produced coal shipped from our main producing areas and purchased coal were RMB 392/ton and RMB 72/ton lower than the market average. In October, we signed the proposal to limit the price of coal sales within the shortest time and quickly adjusted the prices of purchased coal and its port sales, giving full play to our role of "stabilizer" in terms of energy pricing.



COMPREHENSIVE GUARANTEE OF POWER AND HEATING FOR PEOPLE'S LIVELIHOOD

Keeping in mind the "Top Priorities of the Country", China Energy gave full play to the role of a central SOE as the main force and "pillar" of energy supply guarantee. We strengthened our responsibility to guarantee energy supply for people's livelihood and made solid progress in energy supply guarantee during COVID-19 to better satisfy people's needs. We generated 1103.2 TWh of power and supplied 464 million GJ of heat, bolstering stable economic and social operation.

1103.2 TWh of power generated



464 million GJ of heat supplied

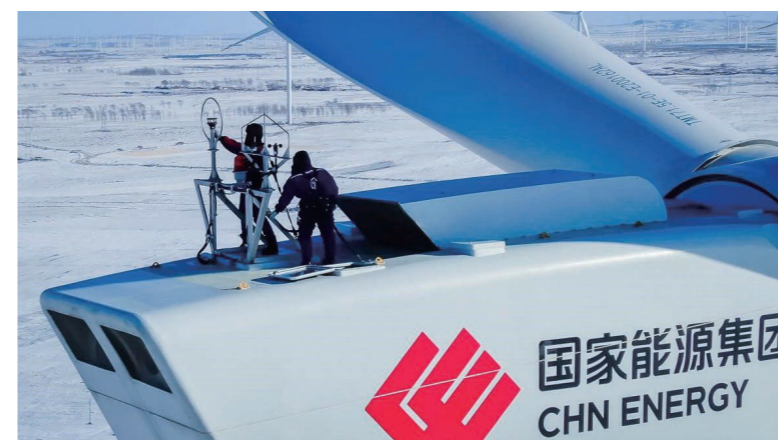


In 2021, we made concerted and sustained efforts to implement the requirements of the NDRC and local governments in a responsive and effective manner. Sticking to the bottom line of social emergency supply and energy consumed for people's livelihood, we accomplished the task of energy supply at crucial moments, such as the cold wave at the beginning of the year, the "Two Sessions", the centenary of the founding of the CPC, the Olympic Winter Games Beijing 2022, and energy consumption peaks in summer and winter. Through overall planning and balancing, we ensured coal supply in key areas such as Northeastern China, the Beijing-Tianjin-Hebei Region, and Sichuan and Chongqing. We supported Henan during flood emergency and Sichuan in the cold season of the Spring Festival. We also increased coal allocated and replenished to Northern China in winter for avoidance of serious incidents such as shutdown due to coal shortage. Throughout the year, around 135 Mt of coal was supplied to Northeastern China, up 7% YoY. Adhering to the bottom line of energy supply for people's livelihood, we operated all 31 heating units in Northeastern China to bring warmth to people during winter.



An acknowledgment letter from the People's Government of Sichuan Province to China Energy for its significant contribution to energy supply

Workers engaged in energy supply in winter



(Scan the QR code for more information)

CCTV News Broadcast recognizing China Energy staff for ensuring coal supply

FULFILL DUE RESPONSIBILITY · BOOST TO CARBON PEAKING AND CARBON NEUTRALITY GOALS AT FULL SWING

To peak carbon emissions and achieve carbon neutrality is not only an extensive and profound reform, but also a long-term task to be advanced in a scientific and orderly manner.

-- XI Jinping




Dumping site of Yanbao Energy's Baorixile Open-cut Coal Mine

Taking "carbon peaking" and "carbon neutrality" as its intrinsic requirements for implementing new development philosophy, building a new development paradigm, and promoting quality development, China Energy established a complete industrial system for green, low-carbon and circular development and an energy system that is clean, low-carbon, safe and efficient. We fostered core green and low-carbon competitiveness to speed up green and low-carbon transformation and development, paving the way for China to achieve carbon peaking and carbon neutrality goals.


OVERALL COORDINATION AND STRONGER TOP-LEVEL DESIGN

Giving full play to the role as one of China's key central SOEs, China Energy proactively optimized its 14th Five-Year Plan and industrial development strategies in line with the carbon peaking and carbon neutrality goals. With specific objectives, principles, paths and guarantee measures proposed, we incorporated the carbon peaking and carbon neutrality goals into our overall layout of environmental protection and development to propel green and low-carbon development at full swing.




Planning for the Carbon Peaking and Carbon Neutrality Goals

We developed our action plan for carbon peaking and target for carbon neutrality, and put forward timetable for both goals as well as roadmap and working plan for carbon peaking.




Improvement of management structure

We set up a low-carbon development steering group headed by the Chairman and an office for the group responsively, under which a carbon emission verification and trading group was set up to coordinate and promote our low-carbon efforts.




Promotion for low-carbon transformation

We organized the implementation of new energy doubling plan, set up special task force, optimized the management process, and reviewed the progress regularly, which led to record high acquisition of new energy resources.




Power Segment

We facilitated the development of new energy and carried out more than 50 boiler adaptations, capacity expansion, and energy conservation projects, with 82 thermal power units selected as winners in the national energy efficiency indicator benchmarking.



Chemical Segment

We accelerated the introduction of new processes, new technology development and technological transformation, with Xinjiang Chemical, and Bayannaor Methanol Plant awarded as "Energy Efficiency Front-runners".



Transport Segment

We carried out 126 energy-saving renovations of boilers and ship fuel units according to the principle of "individual choice for individual project, be it gas or power".



A work deployment meeting held for implementing the carbon peaking action proposed by the CPC Central Committee and the State Council

STRUCTURAL OPTIMIZATION TO TAP POTENTIAL FOR ENERGY SAVING

In active response to China's "comprehensive conservation strategy", China Energy optimized its structure, sped up the low-carbon transformation of coal-fired power units, and earnestly completed their simultaneous renovation in energy saving, heating supply and flexibility. We integrated energy saving and carbon emission reduction into the whole process of business management and engineering construction to effectively improve the utilization efficiency of energy and resources, thereby keep reducing unit energy consumption and carbon emissions.

Heating with Clean Energy for Warmth in Winter

With the goal of building safe, efficient, eco-friendly, low-carbon, flexible and smart green coal-fired power stations, GD Power actively applied new technologies, processes and equipment to the upgrade and transformation of existing thermal power units from multiple dimensions such as comprehensive efficiency improvement, energy saving and environmental protection, flexibility and intelligence. Its Datong Branch, responsible for more than 60% of the city's heating coverage, invested a total of RMB 260 million in the renovation of central heating technology with waste heat and low-level energy heating of units. As a result, the heating coverage expanded to 38 million m², which saved 270 Kt of standard coal and reduced 700 Kt of carbon dioxide emissions and 1,746 t of sulfur dioxide emissions annually, contributing to the realization of low-carbon green heating.



INNOVATIVE EMPOWERMENT TO MAKE TECHNOLOGICAL BREAKTHROUGH

Focused on core technologies of carbon reduction and carbon sequestration, oriented by application, and starting from addressing real problems, China Energy made technological breakthroughs in areas such as low-carbon and efficient power generation, CCUS, hydrogen energy, ammonia energy, and energy storage. We also vigorously implemented ecological protection and transformation projects, striving to realize green power generation and eco-friendly heating through technological upgrade. Longyuan Carbon Company's proprietary "CO₂ Emission Continuous Monitoring System" gained computer software copyright, filling the gap of CO₂ online monitoring technology. Jinjie Power Plant completed China's largest pilot project for coal-fire CO₂ capture of 150 Kt/year. Taizhou Power Plant pressed ahead with its 500 Kt CCUS R&D pilot project. Eight businesses, including Ledong Power Plant and Shangwan Coal Mine, carried out carbon monitoring and assessment pilot projects. Datong Branch also launched its CO₂ chemical chain mineralization and utilization project.

Carbon Capture Leads the Way to “Green Power” Transformation

On June 25, Jinjie Power Plant’s 150 Kt/year CCS pilot project passed a 168-hour trial operation, which is currently China’s largest post-combustion CCS pilot project. During the trial operation, industrial-grade qualified liquid CO₂ with a concentration of 99.5% was continuously generated, marking the success of large-scale CO₂ captured from flue gas discharged by coal-fired power plants. The project recycles and utilizes CO₂ in flue gas discharged by power plants up to standards for oil field exploitation, providing technical support for coal-fired power plants to achieve real near-zero emission and accumulating practical experience for domestic peers to carry out large-scale CO₂ capture projects of millions of tons.



CEIC Jinjie Company’s CCS Project at China Beijing International High-tech Expo

INTEGRATION OF INDUSTRY AND FINANCE TO STIMULATE THE VITALITY OF CARBON REDUCTION

The development of green finance is an important part of achieving the “carbon peak” and “carbon neutrality” goals. China Energy actively engaged in green financial innovation and initiated two funds each worth of RMB 10 billion, namely the CEIC Green and Low-carbon Development Investment Fund and the CEIC New Energy Industrial Investment Fund. Targeting new technologies, industries and business models, we served the Group’s strategic layout of green development. By the end of 2021, the CEIC Green and Low-carbon Development Investment Fund under the CEIC Fund Company had funded the first batch of 337 MW of photovoltaic projects with an investment of RMB 270 million, of which 204 MW in Yicheng (Hubei) and Linzhou (Henan) had successfully completed grid-connected power generation for the first time, marking its smooth investment in the first batch of new energy projects.

In addition, China Energy kept improving the carbon emission and carbon trading work system, participated in market building, and strengthened carbon asset management, making Qingshan Thermal Power the first company to open an account in the national carbon market registration and settlement system and complete the first transaction. On November 21, as the world’s largest thermal power company, we completed the first compliance cycle of the national carbon market ahead of schedule, with 149 thermal power companies and chemical captive power plants achieving 100% compliance and a total trading volume of 11.29 Mt.



Signing of CEIC New Energy Industrial Investment Fund partnership agreement jointly initiated by China Energy and China Reform Holdings in Beijing

ECO-FRIENDLY EFFORTS TO BUILD A GREEN BRAND

China Energy actively practiced XI Jinping Thought on Ecological Civilization, fully promoted the construction of green mines and plants, and consolidated and enhanced the carbon sink capacity of the ecosystem. At the same time, we increased publicity efforts, delivered continuing coverage on low-carbon development, and created a strong atmosphere of energy saving, carbon emission reduction and green development, thereby promoting green and low-carbon production and lifestyle.

In 2020, the Company launched the “China Energy Ecological Forest” and started afforestation engagement via ecological forests, charity forests, and public forests. By the end of 2021, we had planted 5.75 million trees of various species including poplar, scotch pine and sea buckthorn, with an area of about 200,000 mu (approx. 13,333 hectares), yielding positive impact on both the ecology and the society.

5.75 million trees of various species including poplar, scotch pine and sea buckthorn planted by the end of 2021



An area of about 200,000 mu (approx. 13,333 hectares)



About 10,000 mu (approx. 666 hectares) of fertile land from the subsidence area of Sandaogou Coal Mine after treatment



300 hectares of grassland from the subsidence area of Mindong I Mine of China Shenhua Company after restoration and treatment

“ECOLOGICAL FOREST” CAMPAIGN IN LINE WITH “LUCID WATERS AND LUSH MOUNTAINS”

In August, 2021 the “China Energy Ecological Forest” of 10,000 mu (approx. 666 hectares), Batuta Salix Mongolica Demonstration Base was completed.

Batuta, a sandy area known as one of the five wind gaps of Ulan Moron and Maosugou, is located in Buertaige Township, Ejin Horo Banner, with Gongnie’ergai Valley in the north, Kaokaolai Valley in the east, Shendong Mine in the south and Ulan Moron River in the west. For a long time, the sparse vegetation and raging sandstorms there have seriously affected the local life in mining areas.

Shendong Coal Mine of China Energy has planted a large number of plants such as salix mongolica, sea buckthorn, scotch pine, poplar, caragana, and artemisia through innovating ecological restoration and construction technology in subsidence areas, continuously experimenting and popularizing afforestation methods such as water-bottle method, belt barrier method, and direct tree planting method. Nowadays, the once sandy area of Batuta is covered by grass and trees, with increasing rainfall year by year. The number of sandstorm days in the mining area has decreased from more than 30 to three days. Changes in the ecological environment have attracted many birds for inhabitation and reproduction as well.

COUNTRY ENERGY · ENERGIZE THE COUNTRY FOR VALUE CREATION

Throughout a century, energy is always the economic lifeline and the supporting strength of promoting China's rapid economic growth and long-term social stability. The carbon peaking and carbon neutrality goals have rolled out a new round of extensive and profound changes, so that energy enterprises can and should make great contributions. Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, China Energy implemented the guidelines of General Secretary Xi Jinping's important remarks during his inspection tours to Ningxia Coal Coal-to-liquids Company and Yulin Chemical Company, the new energy security strategy of "Four Revolutions and One Cooperation", the statement that "socialism is achieved with hard work", the development paradigm of "one goal, three characteristics, five-pronged development and first-class performance in seven domains", and the new plan for energy security, as well as the decisions and arrangements of ensuring stability on six key fronts and maintaining security in six key areas, striving to set an example of building into a world-class brand and contribute to a clean, beautiful, prosperous and livable world!

Phase IV offshore wind power project in Dongtai, Jiangsu



BUILD UP MOMENTUM BY PARTY BUILDING

The year 2021 marked the centenary of the Founding of the CPC. Looking back on the extraordinary century, generations of CPC members struggled to roll out a grand and long scroll of a nation moving towards rejuvenation from yesterday to today and from history to the future. As a central SOE, we carried forward the revolutionary spirit and passed down revolutionary traditions. Bearing in mind the "Top Priorities of the Country and an Enterprise", we leveraged the Party's political and organizational advantages to improve the leadership of the Party Committee, the effectiveness of the system and the execution of leaders. Guided by XI Jinping Thought on Socialism with Chinese Characteristics for a New Era, all leaders and employees gained insight into the decisive significance of "two establishments", enhanced "four consciousness", strengthened "confidence in system, road, theory and culture", and achieved "two upholds", leading the construction of a world-class enterprise by the first-rate Party building. We were also awarded Level A by the State-owned Assets Supervision and Administration Commission (SASAC) in the assessment on Party building for two consecutive years.

ARM OURSELVES WITH THEORY

The Party's history over a century contains infinite cultural and spiritual wealth. China Energy thoroughly studied and appreciated the major achievements and historical experience of the Party over the past century, implemented the guidelines of General Secretary XI Jinping's important speeches on July 1 and during his inspection tour to Yulin Chemical Company as well as the spirit of the Sixth Plenary Session of the 19th CPC Central Committee. We advanced the study and education of the Party's history at high standards and high quality. Party organizations at all levels coordinated for full coverage of the Theoretical Learning Center Team, the Three Meetings and One Lecture system, study class, smart Party building, intelligence integration learning, and revolutionary education. A total of RMB 1.55 billion was invested in completing 16,000 "Bringing Tangible Benefits to People" projects. We insisted on "two establishments" and achieved "two upholds" as common beliefs and conscious actions for all employees during work and entrepreneurship. In the democratic evaluation, 99.58% of employees rated the Leading Party Members' Group as "Good" and 98.96% rated Party committees of subsidiaries and branches as "Good".

Build on Past Achievements for New Advances

4,556

study meetings on special topics

2,940

sessions of study class

5,407

times of revolutionary education

2,881

sessions of special training

15,000

publicity sessions

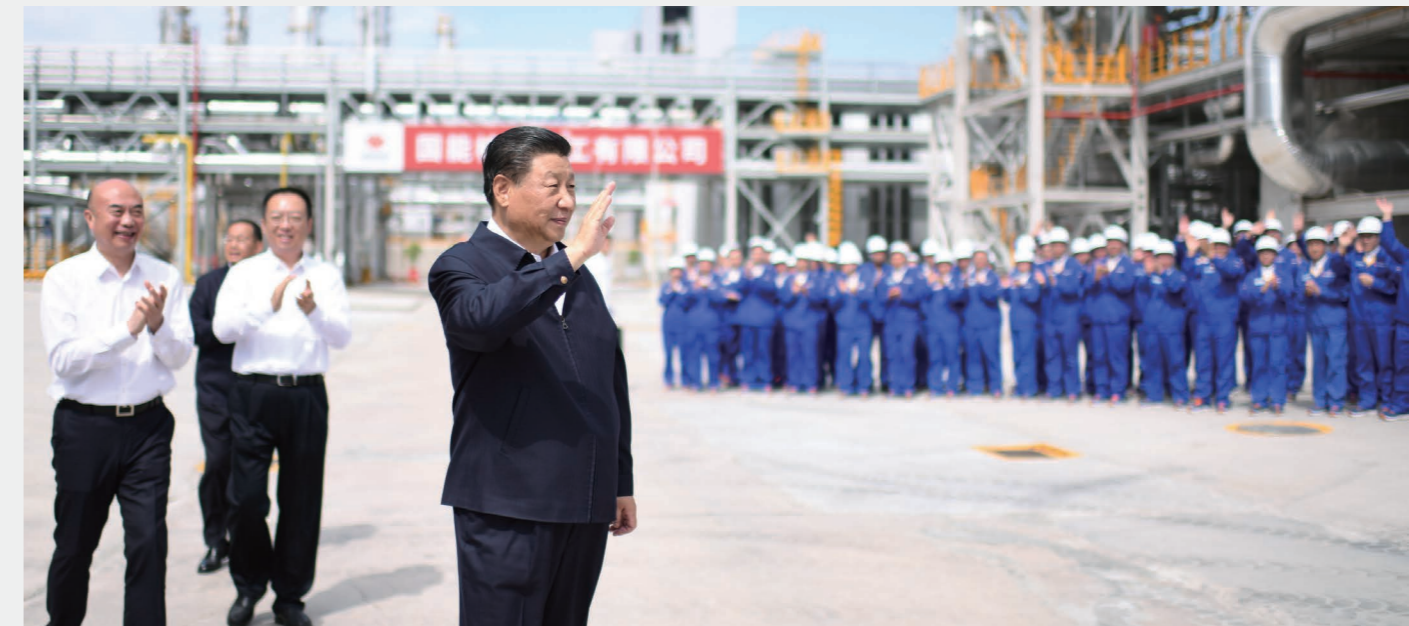
12,000

special Party lectures

General Secretary's Ardent Entrustment Constitutes the Driving Force for Our Constant Progress

On September 13, 2021, General Secretary XI Jinping inspected Yulin Chemical Company and delivered an important speech. Greatly encouraged and motivated, we were determined to convert the General Secretary's care into an incentive to spur ourselves on.

Mr. WANG Xiangxi, Secretary of Leading Party Members' Group and Chairman of China Energy, visited Yulin Chemical Company immediately to learn the guidelines of General Secretary XI Jinping's important speech on site. We rapidly held a meeting of Leading Party Members' Group, a study meeting of Leading Party Members' Group's Theoretical Learning Center Team, a special study session headed by President to convey, study and implement the guidelines of General Secretary XI Jinping's important speech during his inspection tour to Yulin Chemical Company and discuss concrete implementing measures. The *Decision of China Energy's Leading Party Members' Group on Thoroughly Studying and Implementing the Guidelines of General Secretary XI Jinping's Important Speech During His Inspection Tour to Yulin Chemical Company and Striving to Build a World-class Energy Corporation* was issued. The document required the whole Group to conscientiously study and implement the guidelines of General Secretary XI Jinping's important speech during his inspection tour to Yulin Chemical Company, relentlessly coordinate the overall situation with high-quality development, and strive to build a world-class energy corporation with global competitiveness.



We organized a wide range of celebrations such as the "Always with the Party" mass thematic publicity and education campaign and the Tour for Development History of a Hundred Enterprises, further arousing the great enthusiasm of all leaders and employees for the Party and the country.



Review of century-old oath -- Party admission oath led by Mr. WANG Xiangxi

Learn the Spirit of the Plenary Session to Foster Synergy Forward



Revolutionary Tradition Contributes to a World-class Brand

The new era calls for and creates better and stronger Chinese brands, and central SOEs should shoulder great responsibility and mission in building China into a strong brand country. On February 25, 2022, China Energy held a brand strategy launch themed on "Create and Share a Better Life with Common Prosperity" in Beijing, during which our RISE brand concept system and values were demonstrated in an all-round way.

Since reorganization, the Company has earnestly implemented the guidelines of General Secretary Xi Jinping's important instructions on branding and important speeches during his inspection tours to China Energy. Incorporating "first-class performance in branding" into our development strategy as an important part, we adhered to innovation, quality and integrity first, striving to create a world-class brand with responsibility of a central SOE, devotion to family and country, and international influence. According to the 2021 China Brand Value Evaluation Rankings, China Energy was rated with a brand value of RMB 188.265 billion and brand intensity of 915, ranking top three among energy and chemical participants. China Energy has grown into a strong boost leading Chinese brands to go global and enjoy worldwide reputation.



STRENGTHEN ORGANIZATIONAL BUILDING

We implemented the spirit of the symposium on Party building work in central SOEs and practiced the work plan for the "Year of Innovation and Expansion of Party Building in Central SOEs", aiming to build a big Party building work pattern that is deeply integrated and resonates with production and management and under which the Party building departments foster synergy for management and Party organizations at all levels communicate with each other for powerful execution.

In 2021, the Company solidly "looked back" on the implementation of the spirit of the national symposium on Party building in central SOEs. We developed 15 consolidation and improvement measures. By summarizing and publicizing the experience and effectiveness of our Party building work, we were listed as a key publicity unit by the Information Office of the Organization Department of the CPC Central Committee and the Bureau of Publicity of the SASAC. We released our corporate culture and core values, and our education base on "socialism is achieved with hard work" was selected into the first batch of patriotism education bases of central SOEs. In addition, our Longyuan Mulilo De Aar Wind Power Project Team in South Africa was awarded the title of "Model of Central SOEs" in 2021. We implemented the three-year action plan for primary-level Party building and innovation projects and set 100 "demonstration Party branches". We rolled out the post-based meritorious service campaign of "socialism is achieved with hard work" for five consecutive years, promoted the creation of demonstration posts taken by Party members for "Marching Towards the 14th Five-year Plan", and boosted the "Youth in Action" program. As a result, the quality and effectiveness of our high-quality development through Party building have been constantly improved.

100 "demonstration Party branches" selected



Post-based meritorious service campaign of "socialism is achieved with hard work" rolled out for five consecutive years



TIGHTEN DISCIPLINE AND IMPROVE PARTY CONDUCT IN AN ALL-ROUND MANNER

By implementing the strategy of exercising full and rigorous governance over the Party, we ensured that officials do not have the courage, capability and intention to be corrupt in an integrated way. We coordinated full and rigorous governance over the Party with deepening the reform, improving systems and promoting governance. We deepened the special rectification action of "exploiting the power in the enterprise for personal gains", and unswervingly corrected pointless formalities, bureaucratism, hedonism and extravagance and foster clean tendencies. We further consolidated the CPC Central Committee's inspection and rectification results, strengthened inspection and rectification together with the application of their results, conducted high-quality inspection, and achieved full coverage of Party committees of all subsidiaries and branches, thereby making new remarkable progress in improving Party conduct, promoting integrity and combating corruption.



2021 Discipline Inspection and Supervision Meeting was held

STIMULATE VITALITY BY SOE REFORM



Gold always shines after sands are washed out. The 43-year reform has recorded the evolution of a nation towards rejuvenation. Since its reorganization in 2017, the largest kind among central SOEs after the founding of new China, China Energy has developed amid endeavors and secured qualitative change through reform. Reform is our deepest endowment. In 2021, we continued efforts to promote the reform and pursue lean management solidly and diligently, striving to become a pioneer in comprehensively deepening SOE reform and a model for building a world-class brand.

DEEPEN REFORM IN ALL RESPECTS

China Energy made all-out efforts to promote reforms around main areas and key links, accomplishing 81% of the three-year action plan for SOE reform, and was awarded Level A in the assessment of key tasks in the three-year action plan for SOE reform by the SASAC. The Company deepened the pilot reform of state-owned capital investment companies and fully completed the reform of the regional electric power system. Provincial companies saw a significant improvement in "five competences", providing strong support for the Group's management model of "strategy + operation". Through further specialized integration, we efficiently reorganized technology-based eco-friendly and energy saving companies, effectively functioned the support of finance and accounting, bidding materials and engineering equipment, and reinforced the financing platform for listed companies. The reform of three systems was advanced in all respects, with full coverage of tenure system and contractual management of managerial personnel in subsidiaries. The underground coal mine employment complied with the laws and regulations in a steady and orderly way. Progress was made in dedicated reforms such as Double-hundred Action, Scientific Reform Demonstration Action, Pilot Reform of Mixed Ownership, equity incentives for science and technology enterprises, disposal of inefficient and ineffective assets, and peel-off of non-principal and non-dominant businesses, unveiling a new landscape for building a world-class energy corporation.

1+4+N

- 1 Implement the "Three-year Action of State-owned Enterprise Reform"
- 2 Coordinate a pilot of strategic reorganization, a pilot of state-owned capital investment company reform, a pilot world-class model enterprise, and a pilot SOEs corporate governance model enterprise
- 3 Push forward the implementation of various reform tasks

Efficient Promotion

153 sessions of reform training organized

706 subsidiaries covered

72,236 employees trained

Publicity and Promotion

Three experience exchanges at the SASAC Conference on Reform, Appraisal and Distribution

Ten articles published on the *Work Exchanges of the SASAC* and the *Three-year Operation Briefing on State-Owned Enterprise Reform*

Performance Evaluation

More than 70% completion of reform tasks in all the 76 subsidiaries and branches

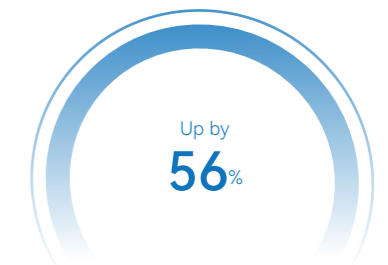
BOOST LEAN MANAGEMENT

China Energy conscientiously carried out the national actions of accelerating to build world-class enterprises, continuously deepening the benchmarking to first-level management improvement, and creating model enterprises, and kept improving the modern enterprise system with Chinese characteristics.

The Company streamlined and revised the work rules and rules of procedure of Leading Party Members' Group, and the list of deciding powers and responsibilities, and the measures for implementing the decision-making system of important matters, appointment and removal of employee on key positions, arrangement of important projects and use of large funds. We standardized the management of the Articles of Association of subsidiaries, and issued the guidelines and administrative measures for the Articles of Association of subsidiaries, thus constantly improving the corporate governance system based on the Articles of Association. We continued to standardize the operation of the Board of Directors, with 508 important subsidiaries setting up boards of directors as much as possible in which external directors are in the majority, and we were awarded Level A in the 2020 assessment on the Board of Directors. We disclosed corporate information to shareholders via on-site communication, phone and the Internet in a timely and accurate manner, and enhanced interaction and exchanges with investors. We engaged relevant agencies to manage some of shareholder rights in 58 investing companies, and delegated the right of the General Meeting of Shareholders, the Board of Directors and the Board of Supervisors in 53 wholly-owned companies, further enhancing the operating efficiency and professionalism of corporate governance. We intensified the responsibility of "turnaround in six aspects" and took various measures to accurately control losses, achieving a year-on-year decline of 2.83 percentage points in losses. We deeply integrated prime assets, and successfully finished the capital operations of "Red Leave" project, "Golden Autumn" project, Changyuan Electric Power, United Power, among others, with the total market value of listed companies reaching RMB 643.5 billion, up 56%.

The building of "China Energy under the Rule of Law" was promoted at high standards. We organized activities such as all-employee legal awareness training and behavioral compliance training, and implemented special institutional campaign of "legislation, reform and abolishment", concluding 69 major cases under supervision. We strengthened management in compliance with laws and regulations, and intensified efforts in COVID-19 prevention and control, confidentiality, petition system and cyber security, buttressing the bottom line of no occurrence of major risks. The Company and China Shenhua were on the list of model SOEs by corporate governance issued by the SASAC of the State Council. Leveraging the opportunity of building model enterprises, we promoted the modern enterprise system with Chinese characteristics to be mature and better-established, thereby further improving the efficiency of corporate governance.

- ▶ Shendong Coal, Zhunneng Group, Longyuan Power and the Group's integrated production and operation dispatching system were selected as SOE management models
- ▶ The Company and China Shenhua were selected by the SASAC as model SOEs in corporate governance



Boost to Carbon Peaking and Carbon Neutrality goals: China's Largest New Energy Share Longyuan Power Listed on the A Share Market

On January 24, 2022, Longyuan Power, China Energy's core new energy enterprise and the world's largest wind power operator, was officially listed on the A share market. It became the first H-share central SOE in the field of new energy power generation back to the A share market, the first new energy subsidiary among five major power generation groups listed on the A share capital market, and the first project synchronously implementing absorption and merger of stock exchange, asset sale and asset purchase in China.

implementing the national "carbon peaking and carbon neutrality" strategy and promoting its green and low-carbon transformation and development. It is also a new major milestone for Longyuan Power to stand firm in reform and development and to build a world-class energy company with global competitiveness.



By running through the "A+H" capital channel, Longyuan Power will further smooth the overseas and domestic financing channels, release the scale effect of assets, and expand the influence of Longyuan brand. This is a significant move of China Energy in

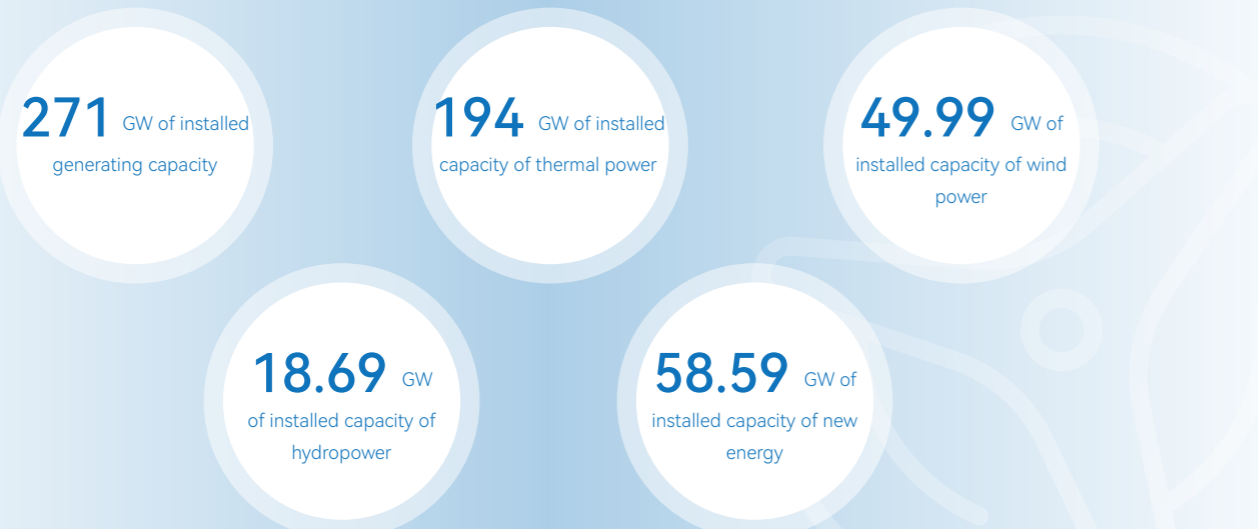
HIGHLIGHT THE EFFECTIVENESS BY INDUSTRIAL SYNERGY



GUARANTEE POWER SUPPLY

Determined to live up to the corporate purpose of "Powering Social & Economic Development", China Energy focused on main responsibilities and businesses, leveraged the operational advantage of integrated whole industrial chain of coal, power, chemical engineering and transportation, unswervingly cemented the primary role of coal in energy, and fully played the supportive, adjustable and basic role of thermal power. We also vigorously developed clean energy such as wind power and hydropower, and tapped into photovoltaic power generation, contributing to socio-economic development and a better life for people.

Figures in 2021

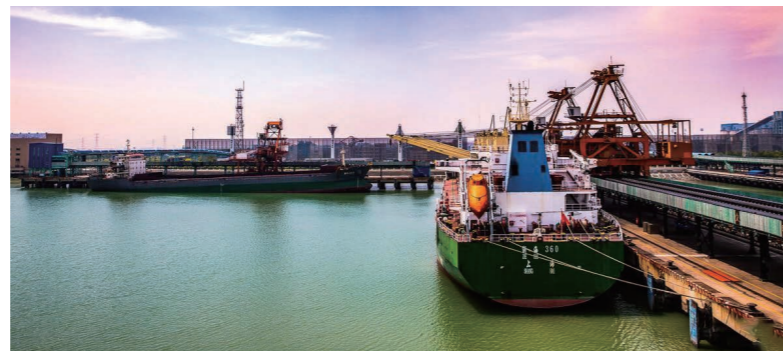


Coal Supply

In 2021, we achieved a YoY increase of 8.8% in coal sales and coal production of 620 Mt/year, with 72 coal mines, including 25 ten-million-ton ones and more than 10 coal mines with production increase after review (including proposed production increase after review) of over 40 Mt. Bulianta, Shangwan and other main coal mines were listed as emergency coal mines for supply guarantee.



Unmanned coal stockpiling



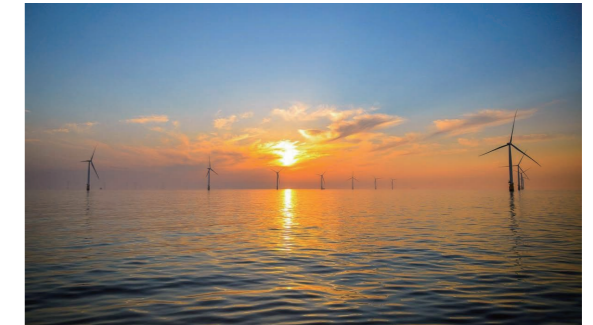
Coal shipment site of Huanghua Harbor Administration

Power Supply

In response to the national carbon peaking and carbon neutrality goals, China Energy concentrated on developing such clean energies as wind power, hydropower and PV to better support the development of new energy. In 2021, the Company achieved a wind power generating capacity of 106.6 TWh, a hydropower generating capacity of 70.5 TWh, and a new energy generating capacity of 109.4 TWh; the Houziyan Hydropower Station of China Energy in Dadu River and the Phase IV Project of Guohua Investment in Dongtai, Jiangsu won the National Quality Project Golden Award, ensuring the clean power supply for promoting the economic and social development.



Luopoba Hydropower Station



Phase II offshore wind power of Longyuan Power in Dafeng, Jiangsu

INTENSIFY INDUSTRIAL SYNERGY

As an energy central SOE with full-chain businesses including coal, power, transportation and chemical engineering, we actively brought our integration superiority into full play, deepened industrial cooperation, and released the potential for creating benefits. All business sectors advanced side by side with mutual complementation, writing a splendid chapter of high-quality development.

Transportation: We enhanced the collecting and distributing capability of roads, ports and shipping in an all-round way, improved the regional and network layout, and increased the security basis and integration capability of the equipment. The efficiency of shipment was significantly improved through measures such as starting the long routing trains, increasing the number of 10,000-ton trains, and optimizing the departure mode of heavy-duty vehicles at Shenchu South Station. Baoshen Railway vigorously enhanced the loading capacity of key stations such as Yin-Huo Line, Ulan Mulun Station and Daliuta Station. The traffic volume of Huangda Railway exceeded 10 million tons in the first year of operation. The number of broken vehicles of Railway Equipment Company decreased by 74% YoY. The transportation cycle of self-owned railways reduced by 0.2 days, and the unloading and shipping efficiency at Huanghua Port increased by 1.8 and 5.3 percentage points, respectively. The annual railway transportation volume was about 480 Mt, up by 5.1% YoY; the quantity shipped of the two ports was 260 Mt, up by 4.9% YoY; the shipping volume was 210 Mt, up by 25.4% YoY, and the volume of ship transportation exceeded 0.2 billion tons for the first time, hitting another new record high.



The 3+0 unit 10,000-ton train is driving on the Yelugou Bridge of the Shenmu-Shuozhou Line



Environmental Protection Through Science and Technology

In active response to the carbon peaking and carbon neutrality goals, we pursued efficient and clean utilization of energy to foster a cluster of hi-tech eco-friendly enterprises. We mastered multiple core technologies such as energy saving and emission reduction, comprehensive pollution control, and intelligent system, and took the lead in undertaking 18 projects under the national key R&D program during the 13th Five-Year Plan. We organized our scientific and technological projects represented by the annual top 10 scientific and technological breakthrough projects, and achieved a group of major scientific and technological achievements. Specifically, we won three first prizes of National Science and Technology Progress Award and two China Patent Gold Awards, led the release of two international standards, and made two projects selected into the Exhibition of Scientific and Technological Innovation Achievements during the "13th Five-Year Plan", providing scientific support for the high-quality development, transformation and upgrade of our integrated industrial chain.



Coal Chemical Industry

China Energy thoroughly implemented the guiding principles of the Fifth and Sixth Plenary Sessions of the 19th CPC Central Committee and of General Secretary Xi Jinping's important speech during his inspection tour to Yulin Chemical Company. We produced 27.91 Mt and sold 16.695 Mt of petrochemicals, completing 105.8% and 103.5% of our annual plan, respectively. Throughout the year, we achieved a profit of RMB 6.71 billion, a year-on-year increase of RMB 9.64 billion, hitting an all-time high. Ningxia Coal's innovative development and industrial project for indirect coal liquefaction packaged technology with an annual capacity of 4 Mt won the first prize of National Science and Technology Progress Award. Yulin Chemical Company's ethylene glycol project with an annual capacity of 0.4 Mt was put into production and won the High-quality Project Award in Chemical Industry, and the High-quality Project Gold Award in Petroleum.



Finance

The Company promoted the deepening of financial reform and built a comprehensive and diversified financial platform, with a total of more than RMB 150 billion offered by Finance Company, Financial Leasing Company, Commercial Factoring Company and Asset Management Company, rendering effective financial services for our development



Guodian Power issued China's first international certified climate bonds on April 4

EXPAND OVERSEAS MARKET

In active response to the "go global" strategy and the "Belt and Road" Initiative, China Energy leveraged two markets at home and abroad, thereby contributing to a better world with high-quality energy. Our presence can be found in more than ten countries and regions such as the United States and Canada.

In 2021, a number of overseas projects were constructed and put into production at high standards against the COVID-19. Longyuan Power's wind power project in Yuzhnyy, Ukraine went into operation, and its wind power project in southern Ukraine started construction. Guoneng Indonesia South Sumatra Company was awarded the "2021 Innovative Power Generation Enterprise (Indonesia)" and the "2021 Independent Power Generation Enterprise (Indonesia)". Guoneng Indonesia Jawa Power Generation Company was awarded the "2021 Gold Award of Coal Power Project" and the "2021 Gold Award of Fast-track Power Plant". The NICE was awarded the 2021 Ram Charan Management Practice Award issued by the Harvard Business Review. The Company joined the China-Germany Economic Advisory Committee and signed a strategic cooperation agreement with Siemens Energy, setting an example for the cooperation between advanced energy enterprises in China and Germany.



Yulin Chemical Company's 0.4 Mt/year ethylene glycol project was successfully put into production



Guoneng Indonesia Jawa Power Generation Company was listed in the national key projects of Indonesia

CLIMATE ENERGY · ENERGIZE THE CLIMATE FOR SUSTAINABLE DEVELOPMENT

Dedicated to an example contributor to building China into a powerful energy country, around the carbon peaking and carbon neutrality goals, China Energy adhered to a balance between energy transformation and green development, actively built a new industrial pattern of clearer fossil energy, scaled clean energy and smart energy supply, and facilitated the development of high-end, diversified and low-carbon coal chemical industry. We vigorously developed clean energy, deepened synergy of reduction in pollution and carbon emissions, increase in green coverage and growth, aiming to build a clean, low-carbon, safe and efficient modern energy system, and contribute to better landscaping and the building of a well-off society in all aspects.



Yanbao Energy's coal mine along the Zhani River in harmony with grassland



ENHANCE COMPETITIVENESS BY GREEN TRANSFORMATION



As a key central energy corporation operating the full industrial chain including coal, power, new energy, chemical engineering and transportation, China Energy thoroughly implemented the new energy security strategy of “Four Revolutions and One Cooperation”, leveraged the primary position of coal while accelerating the development of clean energy, and promoted clearer fossil energy and scaled clean energy, striving to be a pioneer in building a clean, low-carbon, safe and efficient energy system and contribute to the fulfillment of the carbon peaking and carbon neutrality goals. In 2021, our non-fossil energy accounted for 28.6%, up by 2.7 percentage points YoY, and the generating capacity of new energy increased by 19.8% YoY.

CLEANER FOSSIL ENERGY

China Energy thoroughly implemented the guidelines of General Secretary Xi Jinping’s important speeches during his inspection tours to Ningxia Coal-to-liquids Company and Yulin Chemical Company. We improved the Company’s coal chemical development plan during the 14th Five-Year Plan and Yulin Chemical Company’s development plan during the 14th Five-Year Plan. We also vigorously promoted the clean development in the entire industry and intensified the development and utilization of integrated energy, striving to deliver cleaner fossil energy. We stepped up the clean and efficient development, utilization and transformation of coal, spared no effort to build green mines, and actively integrated into the building of a national coal market. Energy consumption indicators were improved constantly, contributing to fulfilling the carbon peaking and carbon neutrality goals.

China Energy completed the world’s first 200 Mt mining area and the world’s first 8.8 m ultra-large intelligent mining surface. We also completed the world’s only 1 Mt coal direct liquefaction demonstration project in Inner Mongolia, realizing the in-situ, clean and efficient transformation of coal resources.

In 2021, the Company built an integrated energy supply system with “power generation+” at its core and a “Power Plant in the Park”, and formulated the guiding opinions for supporting the industrial development of integrated energy. Four integrated energy projects of Jiangsu Company were listed among the pilots of the Bureau of Energy of Jiangsu Province. Two coal chemical technologies with proprietary intellectual property rights, namely Coal-to-Liquids (CTL) lubricant base oil production technology and Fischer-Tropsch oil hydrocracking catalyst technology, were recognized as scientific achievements at “international advanced level” by China Petroleum and Chemical Industry Federation. Eight large units including Tianming, Shengli, Yongzhou, Shanghaiimiao and Luoyuanwan were put into production with high quality, and China’s largest 0.15 Mt CCS demonstration project among coal-fired power plants was also completed. (Ultra) supercritical coal power units accounted for 61%, and common coal power units achieved 100% ultra-low emissions, marking a new level of cleaner fossil energy.



Guoneng Shengli Power Plant made a breakthrough in the cooling tower technology of “cooling water in place of chimney combining tower + integration of indirect dry cooling tower, chimney, first and second absorption towers, and wet electricity”, and the emission standards reached the “112” ultra-super-low emission target

Figures in 2021



Scan the QR code to read the *China Energy’s 12 Mines Newly Included in the National Green Mine Directory*

China’s First Coal-fired Power Generation Project won the Tien-yow Jeme Civil Engineering Prize

Jiangsu Suqian Company’s two Phase II 660 MW double-reheat coal-fired power generation units won the 19th Tien-yow Jeme Civil Engineering Prize, the first of its kind since the Prize was established.

Jiangsu Suqian Company’s two Phase II 660 MW double-reheat coal-fired power generation units were the first 600 MW level unit adopting ultra-supercritical double-reheat technology in Jiangsu Province, which was dubbed as a scientific and technological project of “efficient and flexible double-reheat power generation model unit in development and engineering”. The project pioneered in adopting multiple key and core technologies, such as units of the same grade with flue gas recirculation temperature control, joint valve integrating the main steam valve, regulating valve and supplementary steam valve, “steam- and power-driven” efficient heat supply, intelligent power generation operation and control system, and intelligent power generation public service system, filling in the gap in the industry. After it was put into operation, the project hit records among 660 MW units in terms of energy consumption, generating efficiency and environmental protection. The coal consumption under rated working conditions was 255.31 g/kWh, and the generating efficiency reached 48.11%. The unit was designed according to the ultra-super-low standard, achieving near-zero emission of air pollutants and adopted the dry steam technology of low energy consumption and high-salt wastewater to achieve zero discharge of wastewater in the whole plant. Therefore, the comprehensive capacity of clean and efficient development and utilization of coals was further enhanced.

SCALED CLEAN ENERGY

The carbon peaking and carbon neutrality goals have presented new and higher requirements for the energy industry to adapt to the new development pattern and expedite quality development. China Energy pursued a balance between centralized and distributed development, traditional and emerging industries, as well as technological innovation and management improvement. We kept improving the development mechanism of clean energy focusing on clean energy power generation, smart power plants, integrated energy, and clean heating. We developed based on actual conditions and resources, actively expanded our investment in renewable energy, increased the proportion of clean energy, and thereby improved the quality and efficiency of clean energy development.

Guided by the "Two 15 GW+" goals, the Company vigorously developed the new energy industry. Maerdang Hydropower Station's 10 GW hydro-photovoltaic-storage energy base started construction, and the first Sino-foreign joint venture offshore wind power project was put into operation, marking the scale of new energy projects started and under construction both at a record high. We actively promoted large-scale wind power and PV base projects focusing on desert, gobi and wilderness areas, accelerated

the construction of all-in-one integrated energy base projects of "wind-photovoltaic-thermal energy storage" in Northwest China, "wind-photovoltaic-hydro energy storage" in Southwest China, "wind-photovoltaic-gas-hydrogen energy storage" in Eastern and Mid-China, as well as the large-scale offshore wind power project in China's southeast coast area. Through the orderly layout of emerging industries such as hydrogen energy and energy storage, a new energy industrial system with a complete range of energy covering wind, solar, biomass, tidal, and geothermy has been formed.



Zhejiang Company's photovoltaic project in Ninghai Power Plant

Clean Energy for a Better World



40%+ installed capacity of non-fossil energy in total by 2025

Wind Power Contributes to the Green Winter Olympics

Wanquan oil-hydrogen-electricity integrated energy station, located in Zhangjiakou City, is an important part of the "Research and Demonstration of the Large-scale Wind-Photovoltaic Hybrid Hydrogen Production Key Technology" project in the national key R&D plan. On January 24, the first hydrogen fuel cell bus was refueled here, marking the official launch of an integrated energy station providing refueling, hydrogen fueling and charging, which is a new scenario for the application of clean energy.

Bringing together the modular and prefabricated concepts, the station shortened the construction period by 50%. It was equipped with a self-developed 35 MPa intelligent rapid hydrogen dispenser, and a 70 MPa integrated mobile hydrogen fueling station up to the international standard and certified with integral explosion-proof was put into use. Having made several records in China, the project showed the efforts of a central energy SOE to ensure power supply and contribute to the Green Winter Olympics.

Guohua Investment Manjing Wind Farm, a key new energy operator located at the Zhangjiakou Bashang Grassland Wind

Farm, fulfilled its due responsibility to ensure the stable supply of "green power" during the Olympic Winter Games Beijing 2022. On February 6, 2022, the TV program *The Wind in Bashang Lights up the Winter Olympics* aired on the special column of *To the Grassroots during the Spring Festival* on CCTV News channel: more than 300 front-line employees of Guohua Investment Hebei Company worked during the Spring Festival and the Winter Olympics at shifts, transmitting a total of more than 400 million kWh of green power to power grids. They completed the task of "green power" supply guarantee.



SHOW THE GLAMOUR OF LUCID WATERS AND LUSH MOUNTAINS



China Energy deeply practiced the concept of green development. We stuck to the bottom line of ecological and environmental protection, made solid advances in the battle against pollution, and boosted efforts on ecological civilization, aiming to satisfy the people's ever-growing needs for a beautiful ecological environment and take concrete actions to help build a beautiful China. In 2021, the Company invested a total of RMB 10.242 billion in environmental protection.

IMPROVE ENVIRONMENTAL MANAGEMENT

China Energy thoroughly studied the guidelines of General Secretary XI Jinping's important speech during his inspection tour to Yulin Chemical Company. We made overall planning for and boosted ecological and environmental protection, strengthened pollution prevention and control as well as ecological and environmental governance, carried out training, and publicity and education activities on environmental protection in order to raise the environmental awareness of all employees. In 2021, the Company smoothly advanced ecological and environmental protection, without any major or serious ecological and environmental incident.

Strengthen Top-level Design

China Energy compiled its *Special Plan for Energy Saving and Ecological and Environmental Protection During the 14th Five-year Plan* (submitted for approval), and planned to implement the "1234" program. We also prepared and revised more than 40 rules and regulations, including the *Regulations on Internal Investigation and Treatment of Ecological and Environmental Emergencies*, and the *Rating and Reward Measures for the Annual Assessment on Safety and Environmental Protection*.

Prevent Ecological Risks

The Company effectively prevented and controlled ecological and environmental risks by carrying out special supervision on ecological and environmental protection, making comprehensive diagnosis of ecological and environmental protection, strengthening ecological monitoring in key river basins, following up the implementation of Central Inspections on Environmental Protection. In 2021, we launched the ecological and environmental supervision system that integrates the full coverage of online monitoring over key pollutant sources, the full coverage of remote sensing monitoring over ecological management in key industries, the full coverage of statistical monitoring of data on energy saving and environmental protection, and carbon asset management. We also made solid progress in addressing potential ecological and environmental problems, completed the comprehensive environmental diagnosis of 20 subsidiaries, and rectified 307 major hazards in a closed loop.

Sichuan Dazhou Company Promptly Resolved the Spillover Risk of Coal-bearing Wastewater

On September 6, due to the sudden rainstorm in eastern Sichuan, the coal sinking tanks of the coal conveying system and the dry coal shed were both at high liquid levels, together with seriously waterlogged coal transportation road and Wei-Fu Highway, posing a risk of spillover. After receiving an early warning of the said emergency, Sichuan Dazhou Company immediately initiated the flood control emergency plan in accordance with the procedures, and quickly organized the Party Members' Team for Flood Control and Disaster Relief to completely block the coal transportation road with sandbags prepared in advance. Meanwhile, it started the emergency drainage pump to improve the transfer capacity and transfer the accumulated water to the chemical wastewater center for treatment through temporary pipelines. Finally, the spillover risk of coal-bearing wastewater was resolved in time.

SAFEGUARD ECOLOGICAL CIVILIZATION

Ecological Restoration and Management

The Company actively explored new ideas of ecological management, and integrated coal development and utilization, ecological management, and enterprise development. We set up the grand philosophy of "eco-friendly mining areas, green mines, and clean coal", developed the overarching plan for coordinating the overall ecological management of water, soil, vegetation and other resources in the subsidence areas, and took the big move for scientific measures, unremitting efforts, and long-term development. In 2021, the Company carried out ecological restoration monitoring and evaluation for 70 subsidiaries located in the Yellow River Basin. Coal subsidiaries vigorously improved the environment of coal mining subsidence areas. Specifically, Shendong Coal actively explored the model of industrial ecologicalization and ecological industrialization featuring "forestry-photovoltaic hybrid generation" and "agriculture-photovoltaic hybrid generation". Its ecological and environmental management projects of "mining in five aspects and treatment in five aspects" and "three circles and three phases" won the Mother River Award.

Figures in 2021



Work site of waste dump reclamation



Outdoor scene of Jinjiaqu Mine after treatment

Turn the Mining Area from "Black" to "Green" Through Ecological Restoration

Aiming at green development, Wuhai Energy's Pinggou Mine fully advanced slag heap solidification, greening and land reclamation, and restored the ecology and environment of slag heap through a range of procedures such as chipping-crushing and earth covering. The project selected 12 kinds of grass seeds suitable for local conditions, such as ryegrass, lyme grass and calliopsis, and arranged irrigation facilities with designated personnel for management and protection, so as to ensure the subsequent green coverage above 90%. The greening area of No. 4, 5 and 9 slag heaps combined after treatment exceeded 240,000m², effectively improving the ecology and environment of the mining area.

Conserve Biological Diversity

Fully practicing the guideline of General Secretary XI Jinping's important speech on strengthening biodiversity conservation, China Energy worked hard to conserve regional biodiversity, and maintain the balance of ecological environment, contributing to building a shared future for all lives on earth.

- On July 21, the Dadu River Pubugou Power Plant completed the rare fish proliferation and release activity of 2021, releasing 555,200 rare fish fry into the Dadu River.
- On August 12, Yunnan Pu'er Company organized a release activity of Neolissochilus benasi fish fry back to home in the reservoir area of Puxiqiao Hydropower Station of the Amu River Basin.
- On October 15, Longyuan Power Fujian Company carried out a proliferation and release activity in the waters near the Phase I project of Putian Nanri Offshore Wind Farm, releasing a total of 45.172 million fish fry, including black sea bream, real sea bream and Perinereis aibuhitensis Grube.
- On November 14, Xinjiang Jilintai Company launched a proliferation and release activity of rare fish to the Kashgar River of Ili, releasing 170,000 rare fish fry as a move to conserve the biodiversity of the Kashgar River of Ili.
- On November 16, volunteers from Longyuan Power Yunnan Company carried out an activity of "Care for Black-headed Gull and Protect the Biodiversity" at Dian Lake Haigeng Dam in Kunming.



Scan the QR code to read the article *Green "Elves" in Shengli Mine*

The West Lake and scape of Shengli Mine



A flock of sparrows were drinking water and playing by the lake of the mining area after environmental treatment

Organize Public Welfare Activities for Environmental Protection

China Energy took an active part in public welfare practices for ecological and environmental protection. In addition to more efforts in improving the environment of the plant area, we carried out innovative public welfare activities for environmental protection, striving to become a pioneer, advocate and leader of ecological protection. Furthermore, we introduced the concept of digital forest, built an "online afforestation" platform, and planted public welfare forests, thus contributing to protecting our green home.



A greening corner of the waste dump site of Baorixile Open Pit Coal Mine



Employees actively engaged in a public welfare activity for afforestation and environmental protection



PRACTICE GREEN OPERATION

Save Energy Resources

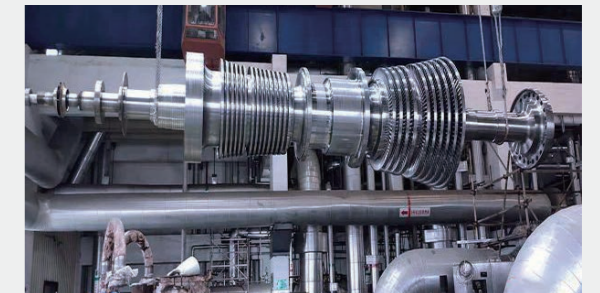
China Energy solidly advanced safe, clean, intelligent and efficient mining, built clean and efficient generating units with high standards, strengthened the heat supply, energy saving and flexibility transformation, and boosted the transformation and upgrade of coal chemical technology. We adjusted the product structure and the transportation structure from highway to railway, aiming to realize the comprehensive economical, intensive and recycling utilization of energy. In 2021, the Group's coal consumption for thermal power supply was 299.9 g/kWh, down 3.4 g/kWh YoY. Baotou Chemical Company, Yulin Chemical Company and Coal-to-Liquids Company won the title of "Advanced Entity for Energy Conservation" in the national petroleum and chemical industry, and Xinjiang Chemical Company won the titles of national "Energy Efficiency Leading Benchmark Enterprise" and "Water Efficiency Leading Benchmark Enterprise".

China's First Steam Turbine with Large-flow Intermittent Pumping for Industrial Steam Supply Was Put into Operation

In January 2021, the comprehensive efficiency improvement and transformation project of Longyuan Power Sulong Thermal Power No. 5 Unit achieved a complete success. The unit became the first 330 MW subcritical unit with large-flow intermittent pumping for industrial steam supply in China.

emissions by about 331.08 t and nitrogen oxide emissions by about 421.25 t. It is a useful attempt for the heating demand of large-flow industrial users.

To make the unit more economical under heat supply satisfy the heating demand of large-flow industrial users, and maintain flexible heat supply, Longyuan Power launched the comprehensive efficiency improvement and transformation project of No. 5 Unit. After the operation test, all the indicators performed better than the designed values. The comprehensive income is expected to exceed RMB 15 million per year, saving about 20.7 Kt of standard coal and reducing CO² emissions by about 43.4 Kt, sulfur dioxide



Junggar Mining Area, also known as the National Green Mine and Junggar National Mine Park

Intensify Pollution Prevention and Control

China Energy persisted in controlling pollution in a legitimate, science-based and precise manner, deepened the prevention and control and ecological treatment of pollution in waste water, gas and residue, strengthened supervision throughout the process, and consolidated the achievements achieved in pollution prevention and control. In 2021, the Company achieved a 0.25% YoY in comprehensive up-to-standard emission of major pollutants

Campaign against Fluoride Removal from Mine Water

As coal mining is intensified year by year, excessive fluoride in mine water has become increasingly prominent as one of the major challenges in the efficient protection and utilization of mine water. With a focus on critical demands for fluoride removal from mine water and efficient utilization of bulk coal-based solid waste in coal producing areas, the scientific research team of China Energy made breakthroughs in the fluoride removal technology by fly ash adsorption. The strategy of specific modification was proposed for fly ash with significant differences in nature in many places, which could ensure fluoride removal in the mine water of Shendong Buertai, Bulianta and other mining areas above 80%, thus greatly reducing the carbon footprint of mine water treatment technology. Furthermore, compared with the prior technology, this technology could reduce cost by over 60%, bringing significant economic and social effects, which may provide strong support for the green and sustainable development of mining areas.

Based on the original technology of the underground reservoirs of coal mines and in accordance with the acceptance and assessment

requirements of the Ministry of Science and Technology of China for key laboratories, our scientific research team independently developed four platforms for the underground reservoirs of coal mines, covering water quantity prediction, dam body construction, safety prevention and control, and water quality guarantee, which was the first attempt both at home and abroad.



Air Pollution Prevention and Control

We advanced the ultra-low emission transformation of unconventional coal-fired generating units, successively treating the fugitive emissions of 70 enclosed coal yards and coal unloading chutes as well as 33 volatile organic compounds. We intensified efforts to control air pollution at ports, and more than 85% of the self-owned ports had access to shore power.



Water Pollution Prevention and Control

We improved the utilization efficiency of water resources, coordinated the utilization of mine water, the cascade use of waste water and the recycling of ballast water, and advanced the integrated waste water treatment and zero-discharge transformation of all thermal power and coal chemical plants. In particular, Huanghua Port won the honorary title of "2021 Asia-Pacific Green Port".



Solid Waste Pollution Prevention and Control

Under the principle of reduction, resource utilization and pollution-free treatment for industrial solid wastes, we actively expanded the comprehensively utilized markets of fly ash, slag and desulphurized gypsum, and adopted continuous mining and filling of coal mines to reduce waste rock discharge. In particular, Dagang Power Plant won the honorary title of "China's Outstanding Enterprise for Comprehensive Utilization of Fly Ash" in 2021.

Huanghua Port --China's First AAA-level Industrial Scenic Area among National Coal Ports

Located on the shore of the Bohai Sea, Huanghua Port, from Phase I to Phase IV, has grown into a large modern comprehensive port with an annual throughput of 220 Mt. Focusing on green development, Huanghua Harbor Administration Company invested heavily in tackling coal ash pollution, aiming to build a green hub and an ecological port. It effectively solved the challenges posed by coal dust and coal sewage treatment produced in the transportation process of the coal port and removed the shackles for the coal port for decades through multiple measures such as introducing the coal storage technology in closed silos, improving the spraying facilities in the coal yard, and constructing the dust and wind proof nets. The quality of the port environment was

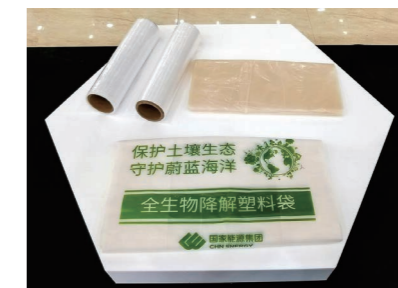
improved. The port became the first AAA-level industrial scenic area among national coal ports, and won the honorary title of 2021 Asia-Pacific Green Port".



The scenery on the wind turbine

Practice the Green Office Philosophy

The Company encouraged employees to practice frugality and green office philosophy. By standardizing the use of office supplies, and taking green actions such as "Use Double-sided Paper", "Turn off the Lights before Leaving the Office", and "Empty Plate Campaign", we promoted paperless and digital to avoid "long-time running water", "leakage and venting" and other ways of waste, thereby fostering a sound trend that everyone contributes to environmental protection.



The picture shows a product of the biodegradable material demonstration project under progress. It can be used for unconventional oil and gas extraction, as well as a medical degradable material, such as absorbable suture and bone support. As a biodegradable disposable product, it can substitute for the items to be banned in the *List of Non-degradable Disposable Plastic Products Prohibited from Production, Sales and Use*.

CONSUMER ENERGY · ENERGIZE THE CONSUMERS FOR EVERLASTING TRUST

In order to follow the concept of "people and life first" and thoroughly implement the guiding principles of General Secretary Xi Jinping's important expositions and instructions on production safety, we unwaveringly coordinated development and safety and assumed responsibility for production safety, in order to create a sound and safe environment for high-quality development. Meanwhile, we have introduced the concept of social responsibility into procurement and supplier management, practiced responsible procurement, and selected and fostered high-quality suppliers, striving to create a "responsibility ecosystem".

A member of Laoshidan Coal Mine's fully mechanized mining team was installing an intelligent work surface by hoisting the equipment via leading chain



ENSURE STABILITY WITH PRODUCTION SAFETY



China Energy always adheres to the idea that safety is of paramount importance. We launched the building of a management system for standardized production safety, rolled out special rectification actions to improve workplace safety, ascertained the accountability system for accidents, strengthened the publicity and education on workplace safety, and enhanced the capacity building for emergency response. Throughout the year, we remained stable production safety, creating a safe and stable environment for the smooth start of the 14th Five-Year Plan.

TIGHTEN SAFETY MANAGEMENT

In 2021, the Company tightened management and control in an all-round way. We strengthened the publicity of the new Safe Production Law, and improved the accountability system for production safety among leaders, and intensified the responsibility performance and process assessment on subsidiaries and branches, aiming to build a responsibility system of grid management and linear transmission. Furthermore, we tackled the challenges in the special rectification of production safety in a centralized way, conducted a thorough investigation of overall production safety, dynamically managed the “two lists”, and rectified and supervised the treatment of major hazards. Headway was being made in withdrawing labor dispatch in underground coal mines, eliminating major hazard sources in power plants, optimizing chemical control systems, and the dust control project in railway tunnels. A group of prominent problems were effectively rectified. No major or serious safety accident occurred throughout the year.

Improve Safety Management Competence



Strengthen the Publicity of Safety Awareness

We thoroughly studied General Secretary Xi Jinping’s important instructions on production safety and disaster prevention and mitigation, organized all staff to watch the feature film “Life is of Paramount Importance”, and held special lectures on the *Amendment to the Criminal Law of the Safety Production Law*.



Improve Institutional Building

We prepared the special plan for production safety and occupational disease prevention and control during the 14th Five-Year Plan, and issued standard documents such as the guidelines on the building of a management system for safety standardization and on the pre-control of safety risks in power generation enterprises. The Leading Party Members’ Group listened to regular special reports on production safety. An accountability system for safety guarantee among the leading bodies in subsidiaries and branches was established.



Intensify Supervision and Assessment Efforts

We set up an electric power technology supervision center and strengthened the hierarchical supervision and inspection system. We revised the detailed rules of the assessment on safety and environmental protection and increased efforts in implementing the responsibilities and examining the safety and environmental protection management process. We also stepped up efforts of accountability for persons directly responsible for the accident and the business security personnel.

Safety is of Paramount Importance; Prevention is of Great Urgency

On August 19, 2021, a first-level nonfatal accident occurred at 110207 conveyor roadway of Ningxia Coal’s Qingshuiying Coal Mine. Four people were trapped by a roof fall accident at the production and tunneling site, with no casualty reported. Soon after the incident, Ningxia Coal and Qingshuiying Coal Mine initiated an emergency plan, set up an emergency rescue command center, and finalized a rescue plan, successfully rescuing the four trapped miners. After this workplace safety accident was concluded, the investigation team investigated the cause, held the responsible persons accountable, and deeply reflected on the production safety problem exposed. We also screened and disposed of potential safety hazards in an all-round way, strengthened the management of production technologies and construction quality, and enhanced publicity and training to raise employee awareness about safety, bearing in mind the safety issue!

Increase Production Safety Guarantee



Standardize Production Safety

We formulated guidelines on standardization, issued 19 standardized management norms and detailed rules for appraisal in the power industry, and ranked 50 coal mines as safe and efficient mines. In particular, Huanghua Port Co., Ltd. and Zhuhai Port Co., Ltd. maintained Level A by standardization in the industry.



Raise the Level of Science and Technology Support

In order to promote the building of a smart enterprise, we built 65 intelligent coal work surfaces, 45 tunneling surfaces and 18 coal preparation plants. Breakthroughs were made in several key technologies including mine water disaster prevention and control, curtain for cutting of water in open-pit mines, bridge structure state assessment for heavy haul railways, and intelligent control system of coal-fired power plants.



Continuously Improve the Quality of Personnel

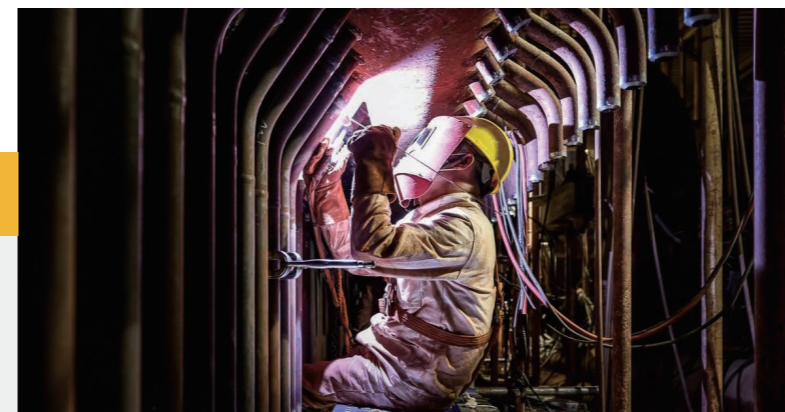
We held nine sessions of collective training for heads of subsidiaries and branches, mine managers, safety mine managers, production mine managers, technical mine managers, and mechanical and electrical mine managers in coal mines, with more than 1,000 managerial personnel participated. We carried out activities such as accident warning education, technical competitions, high-risk operations, and fire safety knowledge quiz on a regular basis.



Workers of Guodian Power Ningxia New Energy were adjusting and maintaining the cell panel servo system



Production workers of Zhejiang Company’s Beilun Power Plant were carrying out turbine blade overhaul



A primary-level Party member of Jiangsu Jianbi Power Plant was welding the boiler flushing pipelines



An electrician from the electrical repair workshop of Shendong Coal was engaged in motor wiring operations

CARRY OUT SAFETY EDUCATION

China Energy steadily carried out safety training and boosted cultural progress in safety. Through a variety of activities around production safety, such as "Safety Production Month" and "Safety and Health Cup" competition, we publicized safety culture among employees to enhance their safety awareness, improve their safety capacity, and standardize their safety behavior. In 2021, the Labor Union of Dagang Power Plant won the title of "Excellent Organizer" in the national "Safety and Health Cup", a knowledge and skill competition on safety & emergency for employees.

Figures in 2021



65,865 employees involved in safety training



"Black Launch" emergency drill carried out by Hubei Enshi Hydropower Company



Publicity campaign on operation-related risk points carried out by Longyuan Power Hebei Company for transport inspection personnel

Strengthen Emergency Drills

China Energy attaches great importance to emergency management. We established a sound emergency response system, and perfected the preparation, implementation and exercise of emergency plans. We also expanded our professional emergency rescue capabilities, safeguarded the reserve and supply of emergency materials, and continued to modernize the emergency management system and capabilities. In 2021, the Group carried out a total of 8,620 emergency drills.

Improve the Emergency Management Mechanism

We revised the comprehensive emergency plans and emergency plans for different industries and entities, and formulated a total of 17,000 emergency plans. We built a group-wide emergency organization system based on our professional coal, electric power and chemical emergency teams.

Promote the Construction of the Emergency Response Platform

In compliance with the unified deployment of the "cornerstone" program, we completed the construction of the emergency command platform, achieving the three-tier emergency duty and interconnection, rapid response to emergencies, integration and consultation of multiple parties via audio and video, thus forming coordinated management of emergency resources with industrial characteristics.

Build Emergency Rescue Teams

Under the principle of locality management, we strengthened the building of our emergency rescue teams in line with the requirements of skills in multiple fields, rapid response, disciplined conducts, and outstanding capabilities. The Company currently owns five national emergency rescue teams. In particular, Ningxia Coal has built a comprehensive emergency rescue base that combines mine rescue, hazardous chemicals fire-fighting, and disaster rescue into one, and five rescue brigades including Pingzhuang Coal Industry were rated as "standardized special-grade team" by the government.

Effectively Organize Emergency Rescue and Disaster Relief

We successfully handled the roof fall accident in Qingshuiying Coal Mine and partial collapse of the spillway of Eping Hydropower Station. In particular, Xinjiang Energy and Shendong Coal participated in the rescue of local roof fall accident; and Ningxia Coal finished the flood drainage and rescue task in Henan, which was highly recognized by the government departments and all sectors of society.



From September 8 to 10, the "China Energy Cup" Intelligent Construction Skills Competition & the Second Hazardous Chemicals Fire Emergency Rescue Skills Competition were successfully held in Ningxia Coal



A fire drill carried out by Xinshuo Railway Comprehensive Service Branch



An emergency drill carried out by Wuhai Energy in response to safety accidents

STRENGTHEN RESILIENCE BY RESPONSIBILITY CHAIN

China Energy highly values procurement and supplier management, and prioritizes local suppliers during operation to improve procurement efficiency. We established a long-term mechanism for procurement management, strengthened supervision on procurement, and improved procurement efficiency. We also worked hard to improve the management mechanism on supplier rating and tighten supervision over the contract fulfillment status of suppliers and subcontractors.

In addition, we are always committed to providing high-quality products and services for stakeholders. We kept improving the mechanism for managing customer information and properly protected such information. We stepped up efforts to market our products and spread knowledge while prohibiting false advertising, in order to constantly improve customer trust and security. We strengthened proactive after-sales services, constantly collected feedback on product quality, smoothed complaint channels, and responded to complaints promptly, striving to improve customer satisfaction and their sense of gain.



EXPAND GREEN PROCUREMENT

In 2021, China Energy embarked on a new journey to green transformation. In terms of supplies procurement, with a focus on accelerating the construction of new energy projects and guaranteeing the supply of centralized procurement of materials, we formed a long-term regulatory mechanism for new energy procurement, and implemented the new energy procurement mechanism for licensing and delegating. We set up a special team for new energy supply guarantee and strengthened the coordination of internal supply and demand. We studied to optimize the procurement mechanism for wind turbines, and implemented the Group's requirement on industrial synergy and mutual guarantee. We actively carried out risk identification during new energy procurement, and pursued dedicated supervision over key entities and crucial processes. We made plans in a scientific and coordinated way, conducted PV centralized procurement, and applied the model of "centralized procurement of the Group + stock distribution of shopping malls". We completed the centralized procurement of 5.5 GWp photovoltaic modules and inverters, ensuring both quality and supply, reducing the cost and increasing the efficiency of the new energy industry. The Company completed a total of RMB 52.503 billion of new energy procurement throughout the year, providing important support to march towards high-quality and green transformation.

TIGHTEN UP REGULATION ON PROCUREMENT



Optimize Top-level Regulatory Design

In strict accordance with the requirements of the Procurement Regulation and Administration Committee, we advanced overall planning management from the "1+5" annual procurement plan. We granted purchasing power and responsibility to purchasing personnel to further strengthen their primary responsibility. We convened a special symposium on the annual procurement plan. The Group's Procurement Regulation and Administration Committee held ten meetings, reviewed 49 issues, and gave unified guidance to and conducted supervision over the material and procurement work of the entire Group. We also implemented the regulatory requirements on state-owned assets at high standards. In 2021, according to the new regulatory requirements on state-owned assets, we improved our function as a state-owned asset regulatory platform to automatically submit our procurement data online on a monthly basis. The procurement process, contract signing, contract performance and payment, and other information of 4,994 procurement projects were submitted, and five problems were rectified in a closed-loop manner. In this way, we successfully completed the benchmarking and evaluation work of the annual procurement of the SASAC, and our reporting was highly praised by the experts of the evaluation group.



Improve the Emergency Management Mechanism

We optimized the *Catalogue of Important Procurement Projects*, covering 75 categories in four industrial sectors. The Materials Company took the lead in developing two standards, namely the *Model Text of the Procurement Documents of State-owned Enterprises*, and *Operation Specification for Procurement and the Transactions of State-owned Enterprise on Online Shopping Malls*. We also revised and issued the business standard for the material and procurement management modules in the ERP system. We built and improved the material and procurement systems as well as 17 rules and regulations. In 2021, we released the *Measures for the Administration of the Disposal of Waste Materials* was issued, and set up a platform for the disposal of waste materials, with a total annual cumulative transaction value of RMB 40.0981 million and an average premium above 50%. We prepared 107 new bidding document templates, forming 463 bidding document templates (about 32.5 million Chinese characters) and 375 non-bidding document templates (about 3 million Chinese characters).



Improve the Smart Supervision System

We built a cloud supervision platform for intelligent supervision over construction. We managed and controlled suppliers online throughout the process and managed procurement and contract signing online in a closed-loop manner. We improved the monitoring indicators of the smart platform, optimized the supervision display interface, increased efforts in application training, and enhanced in-process early warning for key procurement projects. We fully implemented the Group's requirements of "One Platform, Two-tier Supervision" to continuously improved the digital indicator analysis ability and raise the level of intelligent supervision and decision-making. We set up 47 KPI indicators and pursued full-cycle, whole-process and multi-dimensional supervision to promote quality and efficiency improvement of entities at all levels.



Intensify Efforts in Special Supervision

We organized special inspection and carried out on-site supervision on emergency procurement and single-source procurement. The Group conducted a total of five special inspections for important procurement projects, emergency procurement, and contract signing. We established supervision ledgers, complaint ledgers and monthly report mechanism for important procurement projects, and focused on the review and evaluation before issuing orders on the purchase website. We issued the *Circular on Issues Concerning the Signing of Procurement Contracts of Subsidiaries and Branches*, and conducted random inspections on a total of 35,413 contracts.



China Energy participated in the 4th China International Import Expo and held a procurement signing ceremony

OPTIMIZE THE BUSINESS ENVIRONMENT

In line with the concept of full life cycle management of suppliers, the Company managed suppliers in a hierarchical manner, improved the credit supervision mechanism for suppliers, and intensified efforts in the evaluation and dishonesty punishment on suppliers. We strengthened the supervision function of each link based on the information system and carried out special supervision in time. We enhanced the supervision of subcontractors and the contract performance supervision of suppliers, and issued the Notice on Strengthening the Supervision of Subcontractors, and regularly issued the Circular on Issues Concerning the Contract Performance of Suppliers. We seriously punished dishonest conducts, strengthened dynamic supervision, optimized the business environment, and actively carried out training on suppliers to urge them to fulfill their responsibilities.

The Company urged secondary entities to carry out responsible supply according to their actual conditions. Specifically, Chemical Company intensified supervision over subcontractors to reduce "subcontracting in replacement of management" of general contractors; Chemical Company and Fujian Company set up a price adjustment mechanism for liquid ammonia, urea, power cables and other materials, enhanced the ability to perform contracts and resist risks, and improved the business environment; United Power organized and completed the addition and supplement of the short list of fan (parts) hoisting suppliers, increased the average quotation times of single bids in the procurement auction from 5-13 times to 55-112 times, significantly improving its competitiveness.

COMPANION ENERGY · ENERGIZE THE COMPANIONS FOR MUTUAL BENEFITS AND WIN-WIN RESULTS

Taking scientific and technological innovation as the primary driving force, China Energy unswervingly pursues self-reliance in science and technology. We improved the scientific and technological innovation system, fostered a new ecology of scientific and technological innovation, and promoted accurate matchmaking of innovative chain and industrial chain, striving to become a source of original technology and a leader of modern industrial chain. We leverage our advantages in the primary business of energy, deepened cooperation with global partners for mutual benefits, and endeavored to expand the space for cooperation, improve the level of cooperation, and enrich the content of cooperation, thereby unveiling a new stage of win-win cooperation under the "new development paradigm".

Ningxia Coal's innovative development and industrial project for indirect coal liquefaction packaged technology with an annual capacity of 4 Mt



TAP INTO THE POTENTIAL OF SCIENTIFIC AND TECHNOLOGICAL INNOVATION



Sci-tech innovation is the most pressing task and efforts must be made to accelerate breakthroughs in key and core technologies.

-- Stressed by General Secretary Xi Jinping during his inspection tour to Yulin Chemical Company

STRENGTHEN INNOVATION MANAGEMENT

China Energy continuously strengthened the top-level design and planning of scientific and technological innovation to increase the efficiency of scientific and technological innovation in driving development. The Company issued the *Decision of the Leading Party Members' Group of China Energy on Comprehensively Strengthening the Scientific and Technological Innovation in the New Period*, and convened the Third Science and Technology Conference to deploy and systematically advance scientific and technological innovation. We deepened the reform of the "1+2+3+N" scientific research system. Positioned as an excellent think tank, a strong cutting-edge research institute, a practical industrial research institute, a superior R&D platform, and a specialized industrial service provider, we improved the scientific and technological innovation system. We issued the *Working Rules of the Science and Technology Committee of the China Energy*, set up special committees of the Science and Technology Committee and technical committees for standardization in six fields, and enhanced the ability of providing science and technology consultation and decision-making support. We respected and protected intellectual property rights, established a sound scientific research management system. All these efforts provided a guarantee system for efficient and orderly scientific research.

CREATE INNOVATION STRENGTH

China Energy has been increasing investment and efforts in scientific and technological innovation. In 2021, the Company invested RMB 12.78 billion in science and technology, up by 40.8% YoY, with the investment intensity at 1.85%, achieving the appraisal target set by the SASAC. We carried out research on scientific and technological projects of "China Energy's Transformation and Commercialization Path of the Scientific and Technological Achievements" and "Guidelines on the Evaluation of the Industrialization of Scientific and Technological Achievements in Electric Power", and set up the China Energy Fund for the Transformation of Scientific and Technological Achievements up to RMB 500 million to ensure initial funding.

In addition, we built cooperative platforms for innovation to maximally pool innovation resources and unleash the innovation vitality. The Company's "National Engineering Research Center for Direct Coal Liquefaction" was officially included in the list of new sequenced management of the NDRC, and recognized three and built six R&D platforms in the first batch at the Company level. We established two collaborative innovation centers, namely "Coal Chemicals and New Materials" and "Deep High-temperature Geotherm". We also signed strategic cooperation agreements with universities and scientific research institutions such as Huazhong University of Science and Technology and China Geological Survey.



FOSTER INNOVATION ACHIEVEMENTS

China Energy has fostered a batch of major scientific and technological achievements supporting its quality development around national key needs. In 2021, 1,025 dedicated targets and tasks assigned by the SASAC were finished. China's first domestically mastered control system for the 3 MW fan was connected to the grid and put into operation. Domestic giant tires for heavy trucks used in open-pit mines were developed and put on trial in coal mines. Breakthroughs were made in a range of key technologies such as indirect liquefaction 4 Mt coal, 8.8-meter mining surface, secondary reheating of coal power, low-speed high-efficiency fan, and capture, storage and utilization of CO₂. In particular, four national key R&D projects passed the national acceptance, including "Ecological Restoration of Large Coal Power Bases in the Eastern Grassland Area" and "Efficient and Flexible Secondary Reheating"; Ningxia Coal's innovative development and industrial project for indirect coal liquefaction packaged technology with an annual capacity of 4 Mt won the first prize of National Science and Technology Progress Award.

Phased achievements were made in the Company's top ten scientific and technological breakthrough projects. In particular, Zhunneng Group's unmanned transportation system in open pit coal mines completed the R&D of the unmanned driving system for 11930 E trucks; Shuohuang Railway successfully started the world's first heavy-duty railway movable block train, and its self-developed 70 MPa hydrogen dispenser was officially certified by a world-renowned certification body for the first time in China. Throughout the year, we authorized 670 invention patents, led the preparation of two international standards and 28 national standards, and won 85 industrial and provincial (ministerial) science and technology awards.

Explore the "No Man's Land" of Energy Technology

For a long time, China Energy has been earnestly implementing Xi Jinping's Thought on Ecological Civilization, with a focus on promoting cleaner fossil energy, scaling up clean energy, advancing smarter energy supply, and strengthening the synergy of coal-electricity integration.

On December 19, 2021, China Energy Ningxia Coal's innovative development and industrial project for indirect coal liquefaction packaged technology with an annual capacity of 4 Mt produced 4.05 Mt of oil chemicals in the year, marking that the world's largest coal-to-liquids project was completed and put into operation, and reached the design capacity. Bearing General Secretary Xi Jinping's entrustment, the project made a breakthrough in the key and core technology of large-scale indirect coal liquefaction, whose overall technical level topped the world, winning the first prize of 2020 National Science and Technology Progress Award.



CULTIVATE INNOVATIVE TALENTS

We explored a model to train whole-chain collaborative talents, boosted the "Seven Talent Projects", gave full play to the role of training bases, and introduced and trained a batch of urgently needed talents in new energy, coal chemical industry, legal, internationalization and other fields. We created an array of leading scientific and technological talents, outstanding engineers and high-level innovation teams. In 2021, the Company's five employees were awarded the title of "Craftsmen of a Great Country" by the National Energy, Chemical and Geological Union, and 37 were awarded the title of "National Technical Expert", hitting the best record in history.

PROMOTE INTELLIGENT TRANSFORMATION

China Energy worked constantly to drive the upgrade and development of data governance capability towards asset-focused management of data resources, service-based management of data application, and value-oriented management of data service, thus providing data resource sharing services and value applications throughout the whole value chain. In 2021, the Group's data resource service project won the 2021 DAMA China "Best Practice Award of Data Governance".

Furthermore, China Energy vigorously implemented the digital transformation action plan and built a smart management system with ERP system as its core. The financial and purchasing information could be used at all levels of the Group with a single system. The ERP project won the "Grand Prize for the Outstanding Achievements of Chinese Enterprises' Reform and Development". We implemented safe and intelligent production in all respects, with 100% coverage of intelligent coal mining technology and construction, setting an example for the construction of national smart mines. In 2021, Zhunneng Group's unmanned transportation system of the trucks in open pit coal mines was put into operation. Guoneng Zhishen's first domestic iDCS system was successfully applied in Bulian and Shanghaimiao Power Stations. Nine coal mines including Daliuta were selected into the first batch of national intelligent demonstration coal mines. Mines fully covered by 5G were built in the Laoshidan Coal Mine. Shendong Coal jointly launched the "Mine Harmony" system with Huawei. Taizhou Power Plant and Dongsheng Thermal Power Plant built the "5G+ Industrial Internet" demonstration power plant. The multi-functional smart combined transport project of Railway Equipment Company was approved to be the National Demonstration Project. The first coal direct shipping process in China went live at Tianjin Port.



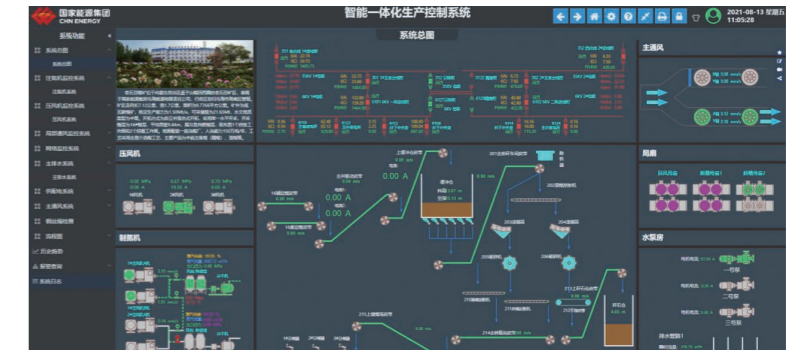
The Group's Production and Operation Coordinated Dispatch & Command Center was officially launched, marking a new stage of data-driven high-quality development

A Smart Power Plant on the "Pearl of Jiangbei"

China Energy Jiangsu Taizhou Company applied new technologies such as cloud computing, big data, Internet of Things, mobile Internet and AI to the construction of a "smart power generation enterprise", and create a model project for "smart enterprise" on the "Pearl of Jiangbei", namely Taizhou Power Plant. Taizhou Power Plant deployed 13 5G macro stations and 96 base stations indoors, realizing full coverage of 5G network in the whole power plant area. By adopting the digital twin technology, it realized the equipment-level modeling of the four units in the plant, built a "digital twin power plant", and created a new model of thermal power operation. Furthermore, the power plant adopted intelligent centralized control, which could realize unattended operation and "cm-level" personnel positioning, providing strong technical support for the safety management. Taizhou Company's construction of "5G+ Industrial Internet" demonstration power plant offered an important example and reference for restructuring the traditional energy industry and promoting the digital transformation and quality development of the energy industry.



Scan the QR code to read the article *A Smart Power Plant on the "Pearl of Jiangbei"*



Wuhai Energy Laoshidan Coal Mine's integrated production control system

Build IoE-based Smart Mines with Mine Harmony

As China's first energy magnate with an annual output of over 200 Mt of raw coal, Shendong Coal has been leading an intelligent revolution of intelligent production and management of domestic coal mines in the era of intelligence.

On September 14, China Energy jointly released the Mine Harmony OS with Huawei, embarking on a new journey of smart mines in China. The Mine Harmony OS effectively solved the problem of "industrial safety" by creating an Internet of coal mine industry and building future coal mines. We promoted adaptation in the industry through the preparation of interface and protocol standards in the coal industry. We created a better IIoT operating system in the coal mine industry to make the industrial control system home-made, safe and reliable. We also built the Internet ecosystem of coal mine industry, boosted the integration of digital economy and energy economy, and achieved the high-quality development of the coal industry, blazing a trail for the whole industry to realize the Internet of Everything (IoE).



Scan the QR code to read the article *Mine Harmony OS is Coming*



CREATE SYNERGY WITH OPENNESS AND SHARING



China Energy has been pursuing integrity management around its primary business. We built an open and transparent competition mechanism, communicated and cooperated with all partners for mutual benefits, and worked together to achieve win-win development by drawing on each other's advantages. Meanwhile, we took an active part in exhibitions, forums and other industrial exchange activities, deepened industrial interaction, showcased our brand image, and enhanced the discourse power and influence of the energy industry.

DEEPEN COOPERATION FOR MUTUAL BENEFITS

Under the principle of fair trade, cooperation, sharing and win-win results, China Energy leveraged the advantage of energy as its primary business, expanded cooperative "circle of friends" at home and abroad around cutting technologies, enhanced cooperation with governments, enterprises, research institutes and universities, and consolidated partnerships, working together to create a new landscape of mutual benefits and win-win cooperation.

Cooperation with Governments

China Energy signed strategic cooperation agreements with the people's governments of Yunnan Province, Tibet Autonomous Region, Xinjiang Uygur Autonomous Region, Gansu Province and other regions to contribute to local social and economic development.



China Energy signed the "Cooperation Framework Agreement on the Construction of Zero Carbon Industrial Demonstration Zone of Qinghai Province" with Qinghai Province.

Cooperation with Enterprises

China Energy signed strategic cooperation framework agreements with a number of excellent enterprises, including COSCO Shipping Group, China Telecom Group, State Grid Corporation, China South-to-North Water Diversion Group, China Energy Engineering Corporation, China Aerospace Science and Industry Corporation, CNOOC Group, CATL, Huayi Group. Leveraging each other's respective advantages, they could achieve mutual benefits and win-win results and promote their quality development.



China Energy and China Telecom Group signed a strategic cooperation agreement.

Cooperation with Universities

China Energy actively strengthened communication with Wuhan University, Huazhong University of Science and Technology, China University of Geosciences, Wuhan and other universities, and signed strategic cooperation agreements with Beijing Jiaotong University, Hainan University, International Cooperation & China Urban Planning Institute and China Electric Power Research Institute to foster strong joint forces and make contributions to national development.

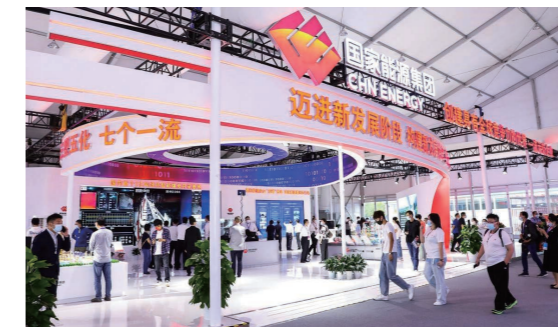


China Energy held a signing ceremony of the strategic cooperation agreement with Wuhan University via video.

ENHANCE INDUSTRY COMMUNICATION

China Energy has been deepening cooperation and exchanges at home and abroad and within and beyond the industry. We strengthened communication with multiple parties, explored the channels for multilateral cooperation, and reached consensus on cooperation, thereby continuously enhancing our international influence and discourse power. We aligned ourselves to world-class standards, made headway in mutual complementarity, and all-round, multi-field and in-depth mutual learning and cooperation, worked together to expand the third-party markets, and assisted the industry in securing quality development.

In 2021, the Company participated in Belt and Road Clean Energy Development Forum, National Coal Industry Science and Technology Conference, China International Coal Chemical Industry Development Conference & Expo, Taiyuan Energy Low Carbon Development Forum and other main exchange activities. Many of our technological achievements and products were displayed at National Scientific and Technological Innovation Achievements Exhibition, Beijing International High-tech Expo, Clean Energy Expo China, Intertraffic China, and other major exchange platforms, aiming to pursue quality development in synch with all parties.



China Energy's innovative technologies and achievements were displayed at Beijing International High-tech Expo



Mr. LIU Guoyue, Deputy Secretary of Leading Party Members' Group, President and Director, attended 2021 International Dialogue on Energy Transitions

China Energy Participated in the 9th National Coal Industry Science and Technology Conference

On June 4, the 9th National Coal Industry Science and Technology Conference was held in Beijing under the theme of "Innovation Leading, Intelligent Upgrading, Green and Low Carbon, Integrated Circulation". Mr. WANG Xiangxi, Secretary of Leading Party Members' Group and Chairman of China Energy, Vice President of China National Coal Association, attended and addressed at the conference on behalf of coal enterprises. China Energy enhanced exchanges and cooperation with cooperative enterprises, scientific research institutions, institutions of higher education, experts and scholars. By carrying forward the spirits of science and craftsmanship, we pursued self-reliance in high-level science and technology towards

quality development through green transformation, intelligence, high efficiency, safety and supply guarantee, aiming to jointly build a clean, low-carbon, safe and efficient energy system, and boost scientific and technological progress in the coal industry.



CITIZEN ENERGY · ENERGIZE THE CITIZENS FOR A BETTER LIFE

China Energy strives to be an example contributor to the "Top Priorities of the Country". Bearing in mind corporate social responsibility, with a focus on economic and social development, we organically integrated people's well-being with corporate reform and development, and practiced the concept of building a community with a shared future for mankind with a down-to-earth attitude. By implementing the social responsibility concept of "CHN Energy CSR Energy", we made solid steps in pursuing common prosperity and bring tangible benefits to people, so that employees and people could secure more substantial, secure and sustainable sense of gain, happiness and security.



Students were dancing at the opening ceremony of Shenhua Primary School in Nyainrong County



GATHER THE WISDOM CENTERED ON PEOPLE



SUPPORT EMPLOYEE GROWTH

Talent is the foundation of an ambitious cause. China Energy always prioritizes talent work. We fully implemented the strategy of reinvigorating the enterprise with talent and deepened the reform of talent development systems and mechanisms. We promoted the “Seven Major Talent Projects”, leveraged the role of training bases, and ran through all channels for talent development, thus providing solid talent guarantee for a stronger, better and bigger SOE.

The Company issued the *Measures for the Administration of Position and Rank during the 14th Five-Year Plan (for Trial Implementation)* to smooth the development path for talents. Throughout the year, the Company systematically held 541 labor and skills competitions, involving 782 projects (types of work) and 300,200 participants. We carried out the “China Energy Cup” green development labor competition and intelligent construction skills competition at full swing, and cultivated a large number of highly skilled personnel. We stepped up efforts in training on capacity building and held several training sessions for employees’ growth such as chemical industry training, smart transport training, and electric power spot trading training, training 3.144 million employees throughout the year.

“Seven Major Talent Projects” Lead the Building of a World-class Enterprise with First-rate Talent Teams



“Craftsman Training Camp” of Longyuan Inner Mongolia Company

- ▶ Training Project for Excellent Entrepreneurs
- ▶ Training Project for Innovative Leading Talents in Science and Technology
- ▶ Training Project for Energy Craftsmen
- ▶ Selection and Training Project for Outstanding Young Cadres
- ▶ Introduction and Training Project for Clean Energy Talents
- ▶ Introduction and Training Project for “Professional Talents”
- ▶ Training Project for Interdisciplinary Party Building Personnel

SAFEGUARD EMPLOYEE RIGHTS AND INTERESTS

Keeping strictly to the Labor Law of the People’s Republic of China, the *Labor Contract Law of the People’s Republic of China*, the *Trade Union Law of the People’s Republic of China*, and other legal requirements, China Energy attaches great importance to respecting and protecting human rights in operation and management. We provide equal job opportunities for ethnic minorities and persons with impairment, ensure the diversification of employees, prohibit discrimination and child labor, and resolutely resist any form of discrimination in employment. We sign labor contracts with employees according to law, paid social insurance in full, and fully safeguarded the basic rights and interests of employees. We establish a labor protection system to ensure employee rights and interests in all aspects such as rest, vacation and reasonable remuneration. We strengthen democratic management, earnestly implement the functions and powers of the Workers’ Congress, and solicit and deal with the proposals submitted to the Workers’ Congress. We respect the privacy of employees, and provide regular medical examinations for them, and effectively implement the COVID-19 prevention and control, complaint and confidential system, logistics services, among others. As a result, employee satisfaction was constantly improved.

Figures in 2021



The Company Held the First Special Training Session on Power Infrastructure Project Management in 2021

On July 9, the Company held the first training session on Power Infrastructure Project Management in 2021, and a total of 38 backbone employees from infrastructure entities participated in the training.

The three-day training set five business modules, namely guidelines on the rectification against high energy consuming, high pollutant and inefficient enterprises and the infrastructure management and control system, fine debugging, compliance and excellence, project settlement, and risk and audit in the electric power industry. Experts from the Company and the industry were invited to deliver special lectures. During the training, trainees put forward problems, exchanged ideas and raised suggestions in light of their actual infrastructure project management work. Through business learning and exchange, they effectively improved their theoretical level and practical ability, securing satisfactory training results.



China Energy held the Member Representative Meeting



The 1st Skills Competition for Staff and “China Energy Cup” Intelligent Construction Skills Competition Qualification Trials of Xinshuo Railway

PROMOTE EMPLOYEE WELL-BEING

Under the people-oriented principle, the Company has created a comfortable work environment, cared for employees, implemented the employee caring program, paid attention to employees' physical and psychological health, helped employees in need, and carried out sports and cultural activities regularly. Guided by the list of China Energy's practical items, we implemented four major inclusive projects for employees and eight care projects for special employee groups, striving to bring tangible benefits in caring for employees and help them strike a balance between work and life, thus constantly improving their sense of belonging and happiness.



Employee Health

We earnestly implemented the "Healthy China Energy" project, provided regular medical examinations and mental health assistance, improved social security system, with the coverage of critical illness insurance for in-service employees above 80%, took strict measures to prevent and control the COVID-19, and promptly distributed pandemic prevention supplies.



Assistance and Condolences

We raised and distributed RMB 82.1738 million for employees via multiple channels. We assisted workers suffering from serious diseases, and allocated assistant fund of RMB 18.406 million. We carried out activities to help the children of workers in difficulties pursue higher education, and granted them with academic subsidies of RMB 1.728 million. We also paid visits to officials taking a temporary post in assisted regions, and granted a condolence fund of RMB 50,000.



Recreational Activities

We built platforms for various staff cultural activities. We carried out cultural and sports events to celebrate the centenary of the founding of the CPC, calligraphy, painting and photography competitions for employees, and literary creation competitions. We also held the "Most Beautiful Family" selection campaign, a series of featured activities for female employees on Women's Day, the World Book Day, etc.



RENDER ASSISTANCE FOR COMMON PROSPERITY



BOOST RURAL REVITALIZATION

During the campaign of poverty alleviation, all the nine counties receiving dedicated poverty alleviation and paired assistance from China Energy were successfully lifted out of poverty. The Company received the highest grade of "Good" in the performance evaluation of dedicated poverty alleviation of central SOEs for four consecutive years. At the National Poverty Alleviation Summary and Commendation Conference held on February 25, 2021, three companies, namely the Company's Poverty Alleviation Office, Daduhe Company and Tibet Company won the honorary title of "National Advanced Group for Poverty Alleviation", and Hu Xiaoming from Sichuan Company was awarded "National Advanced Individual for Poverty Alleviation".

The year of 2021 marked the start of effective linkage between consolidating and expanding the achievements made in poverty alleviation and rural revitalization. The Company studied and implemented the guiding principles of General Secretary XI Jinping's important speeches and instructions on consolidating and expanding achievements in poverty elimination and continuing to strive for rural revitalization. China Energy fully implemented the slogan of "not removing responsibility, policy, help and supervision", and invested a total of RMB 336 million. The Company continued dedicated poverty alleviation and paired assistance in these nine counties to comprehensively boost rural revitalization and prosperity, completing all the tasks set by the SASAC of the State Council with high quality.

Funds raised and distributed to employees via multiple channels RMB **82.1738** million



Funds allocated to workers suffering from serious diseases RMB **18.406** million



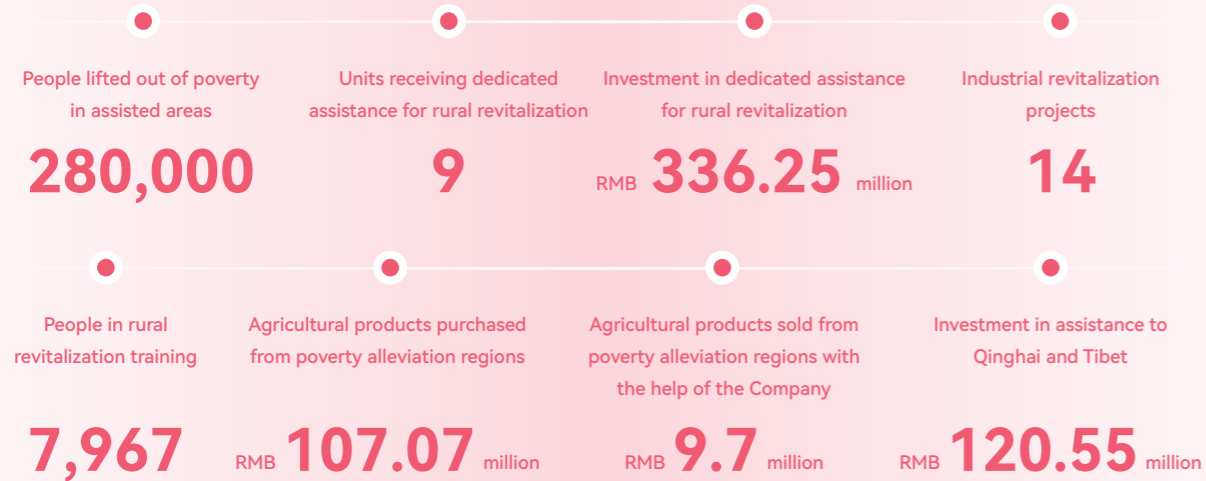
Express Concern with Cotton-padded Clothes

In November 2021, China Energy Guoshen Company organized the activity of "Express Concern with Cotton-padded Clothes" to present 12 workers working in southern Xinjiang with cotton clothes, cotton shoes and laundry detergents, and other winter clothes and daily necessities. The Group's Party members asked them about their work progress and life conditions, and instructed them to keep warm and pay attention to electrical and fire safety in winter. This activity brought these workers with warmth and care, further improving their sense of happiness and belonging.



Zhejiang Company organized a volunteer publicity event on new energy themed "Bring Wind Power Knowledge into Campus"

Figures in 2021



The Company invested nearly RMB 200 million in helping a third of households receiving paired assistance in Nyainrong County in Nakchu, Tibet improve their housing conditions

Scientific Plan for Top-level Design of Rural Revitalization

The Company set up a special work office for rural revitalization in the headquarters, promptly changed the Leading Group of Poverty Alleviation of China Energy to the Leading Group of Rural Revitalization, and revised the *Measures for the Administration of Rural Revitalization*. We carried out in-depth analysis of the development status and assistance needs of each county, studied and formulated the 2021 Work Plan for Rural Revitalization, clarified the overall thinking, working principles, planned targets, key tasks and guarantee measures of the assistance work. We also released the assistance projects and fund plans in batches, and invested an assistance fund of RMB 336 million in the nine counties throughout the year, without any decrease as required. We held the Arrangement and Deployment Meeting on Rural Revitalization, intensified efforts to policy promotion and implementation, and arranged and deployed the assistance work in an all-round way; strengthened the supervision and inspection on the assistance work. WANG Xiangxi, Secretary of Leading Party Member's Group and Chairman of China Energy, led the team to conduct research and supervision in Nyainrong County for deeper and more solid headway in rural revitalization.

国家能源集团脱贫攻坚总结表彰暨乡村振兴安排部署会



China Energy convened the Poverty Alleviation Summary and Commendation Conference & Arrangement and Deployment Meeting on Rural Revitalization

Realize Rural Revitalization by an Array of Measures

China Energy continued to proactively assume social responsibility. We ensured continued efforts in assistance, deepened and refined dedicated assistance, and continued to provide dedicated and paired assistance in nine counties including Butuo County. We invested time and energy in industry fostering, employment guidance, ecological protection, and consumption promotion to effectively solve the challenge of rural development needs. In this way, industrial construction could become more people-oriented and further secure people's livelihood, thereby steadily boosting rural revitalization.

- ▶ **Organization revitalization:** We actively provided assistance in Party building, issued the *Notice on Promoting Rural Revitalization by Strengthening Party Building*, and made joint efforts in Party building through pairing between Party branches at all levels and local primary-level Party organizations. A total of 18 Party branches of the headquarters and all leading units worked in pairs with 16 poverty-stricken villages and two local units to jointly carry out activities such as Thematic Party Day, helping poor students go to school, visiting the needy people and representatives of Party members, among others, in order to help build primary-level Party organizations and the team of Party members.
- ▶ **Industry revitalization:** In line with the assistance method of "investing capital, taking the advantage, cultivating talents, developing industries and building bases", we encouraged the transition from support to self-reliance. We leveraged our strategic advantage in low-carbon transformation, and promoted the integrative development of new energy industry and rural revitalization according to local conditions. We launched clean energy projects in Qumarleb, Nyainrong and Gangca. In addition, Guodian Power, Longyuan Power, Qinghai Company and Tibet Company signed intention agreements on developing new energy projects in nine counties, exceeding 10 GW, with 1.44 GW approved or put on record, and 500 MW under construction.
- ▶ **Talent revitalization:** We organized training to improve the political accomplishment of officials and their ability to lead people to get rid of poverty. We also trained multi-faceted professionals, and enhanced the self-development ability of assisted areas. A total of 7,967 people completed the training for rural revitalization throughout the year.
- ▶ **Consumption assistance:** We leveraged the "Smart Purchase Shopping Mall" platform to help sell products and expand sales channels for products from assisted counties. More than RMB 100 million of agricultural products were purchased from assisted regions and RMB 9.7 million sold with the help of the Company, addressing the commercialization of agricultural and sideline products and thus laying a foundation for shaping their brands.
- ▶ **Rural governance:** In accordance with the requirement of strengthening assistance to rural areas at the primary level, we pursued dedicated policy to improve rural infrastructure, and carry out assistance projects in a number of fields including education, medical treatment, drinking water safety and housing security to improve rural living conditions. We also continued to take measures for cultural revitalization such as transforming outmoded habit and custom, cultivated social etiquette and civility, aiming to create a peaceful and harmonious livelihood.



The "Journey of Love" activities carried out by China Energy Foundation



The Hope Primary School aided by China Energy

SUPPORT CAMPAIGN AGAINST COVID-19 AND DISASTER RELIEF

Fight Against COVID-19 Together

In the face of the recurrent and serious COVID-19, China Energy boldly shouldered its social responsibility. Leaders and employees donated supplies and fought against COVID-19 at front line. Entities at all levels organized volunteer service teams to assist communities in COVID-19 prevention and control while setting strict requirements for their own prevention and control work. They participated in and supported volunteer activities such as nucleic acid testing, order maintenance and convenience services in communities, contributing to the victory in the fight against COVID-19.



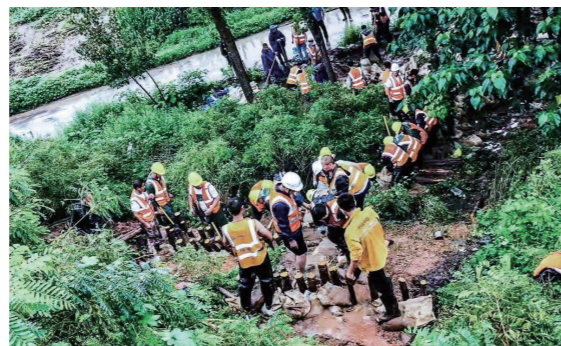
Chifeng Homeland Caring Volunteer Association assisted in community-based COVID-19 prevention and control



More than 20 employees of Dagang Power Plant participated in COVID-19 prevention volunteer service

Emergency Rescue and Disaster Relief

China Energy took the initiative to fulfill the social responsibility of a SOE. "When disaster struck, help came from all sides." We immediately donated supplies for disaster relief and organized rescue forces for rescue and relief at the front line. Our national emergency rescue team participated in a number of social rescue and disaster relief actions, such as Henan storms, Shanxi storms, Zhejiang typhoon and earthquakes in Yunnan and Qinghai. In 2021, the Company donated RMB 20 million to Henan and RMB 5.9 million to Sui County, Hubei Province to fight against flood and provide disaster relief.



Rescue operation against slope collapse caused by water damage



Rescue operation to make transport unhindered under the rainstorm



Safety patrol operation after the earthquake

The Emergency Rescue Center of Ningxia Coal Rushed to Back up Henan

In July 2021, Henan Province was hit by a rare extraordinary rainstorm, posing a huge challenge to flood relief. As the second echelon to reinforce the flood control and drainage forces in Henan, after receiving the command from the National Emergency Operations Center, China Energy Ningxia Coal's Emergency Rescue Center followed the instructions that "national rescue teams around Henan should rush to Henan for rescue". It rapidly gathered two personnel carriers, one fire engine, one rescue vehicle, one life support vehicle, one emergency power-generating vehicle and 30 professional rescue personnel, gathered and equipped with emergency rescue vehicles, high-power pumps, two-way different directional cutting machines, emergency lights and other 32 emergency supplies, sparing no effort to rush to Henan for rescue and disaster relief and ensure the safety of people's lives and property.

Ningxia Coal's Emergency Rescue Center boasts the largest and most well-equipped corporate full-time rescue team in Ningxia, which is also the first professional rescue team integrating hazardous chemicals fire-fighting and mine rescue in SOEs, i.e. Shenhua Ningdong Team of National Emergency Rescue of Hazardous Chemicals and Shenhua Ningmei Team of National Emergency Rescue of Mines, both approved by the Ministry of Emergency Management of China.



BUILD A HARMONIOUS SOCIETY

Public Charity

Enterprises should serve the society. China Energy always keeps in mind its role of the "Top Priorities of the Country". Adhering to the concept of "CHN Energy CSR Energy", we leverage the function of the foundation platform to build a better and stronger charitable brand in core public welfare and charity fields such as medical care, culture and education, living standard guarantee, and ecological and environmental protection. At the same time, we have built the youth volunteer service brand, and encouraged all CYL members to register as volunteers, becoming fresh strength to spread love and kindness. In 2021, the Company donated a total of RMB 500 million, completed 51 public welfare and charity projects, and won the China Charity Award for the fifth time. The case of "Caring for Children with Autism" was selected into the "Innovative Cases of Ideological and Moral Education for Minors", which effectively demonstrated the company's accountability and the public welfare image of its brand.



Employees volunteered to be on duty during the Winter Olympics to sweep away the thick snow on the ice beside the wind farm and use it as a competition venue, ensuring that the ice sports skills competition could be carried out smoothly

Medical Care

- ▶ We helped more than 30,000 children with leukemia and congenital heart disease and screened nearly 110,000 newborns
- ▶ We carried out training programs for rural doctors in three dedicated assistance counties, namely Nyainrong, Butuo and Puge, with a total of 276 doctors being trained
- ▶ We donated RMB 3.7 million to the AIDS prevention and treatment project in Butuo County, helping reduce the mother-to-child infection rate of AIDS to 2.13%
- ▶ We donated RMB 1 million every year for the rescue, prevention and occupational health protection for coal miners for five consecutive years

Culture and Education

- ▶ We aided in building 22 charity schools across the country
- ▶ We continued to carry out the "Helping Poor Students Go to School" activity in southern Xinjiang, Zhouqu of Gansu Province, and nine dedicated assistance counties, with a total donation of RMB 24.035 million, rewarding and subsidizing a total of 6,625 teachers and students
- ▶ We organized 100 teachers and students from Nyainrong County to participate in teacher training and teacher-and-student research study in first-tier cities to raise the level and quality of education in poverty-stricken areas

Living Standard Guarantee

- ▶ We donated RMB 3 million to build 54 "Children's Homes" in Shaoyang City, Hunan Province, building a harbor of love for more than 20,000 children
- ▶ We donated RMB 1.35 million to help Pingxiang City, Jiangxi Province build a "Comprehensive Service Center for the Aged" to improve the living quality of the elderly
- ▶ We inherited the revolutionary spirit, regularly granted living allowances to the veterans in the Anti-Japanese War and the children of the martyrs, and paid visits to them to show respect to heroes

Ecological and Environmental Protection

- ▶ We donated RMB 11 million to build the public welfare forest in Huaian County, Zhangjiakou City, with a total green area of about 675 mu (approx. 45 hectares)
- ▶ We carried out "online tree planting" campaign, with 23,214 employees participating in online tree planting, and donated 48,633 tree species and RMB 3.9353 million in total
- ▶ We donated another RMB 5 million to Yellow River source area ecosystem project in Qumarleb County for ecosystem protection

Spread Love around the World



We provided assistance to children with leukemia and congenital heart disease



We rolled out the teacher-and-student research study activity in Nyainrong County, Tibet



We held the "Hand in Hand" summer camp activity to let the impoverished children go out of the countryside



We cared for veterans in the Anti-Japanese War



We launched the "Spring Grass Student Assistance" project



Employee volunteers provided volunteer services during the college entrance examination

Overseas Co-building

In positive response to the "Belt and Road Initiative", China Energy, based on the construction of overseas projects, actively fulfilled overseas social responsibility, and practiced localized employment and procurement, greatly facilitating local economic and social development and benefiting local communities and people with concrete moves. The Company invested a public welfare fund of over RMB 36 million in Indonesian enterprises to improve the lives of surrounding communities, including more than 10 kilometers of paved roads and more than 23 excavated wells. When the COVID-19 was rampant, the Company quickly donated scarce anti-epidemic medical equipment and supplies valuing USD 267,000 such as ventilators and protective clothing to Indonesia. In particular, Guodian Power Indonesia South Sumatra Power Plant provided more than 3,000 local jobs, and 70% of its employees were Indonesian. The Wind Power project of Longyuan Power in Devlin, Canada provided green energy to 30,000 households, and the De Aar project in South Africa provided more than 1,000 local jobs, which was widely recognized by the local government and society. Our image of responsibility at abroad has been continuously improved.



Longyuan South Africa Company aided to build the De Aar Stadium

RESPONSIBILITY MANAGEMENT

In 2021, the CSR Development Index of China Energy ranked

among Chinese
enterprises
the **14th**

among SOEs
the **12th**

RESPONSIBILITY MANAGEMENT

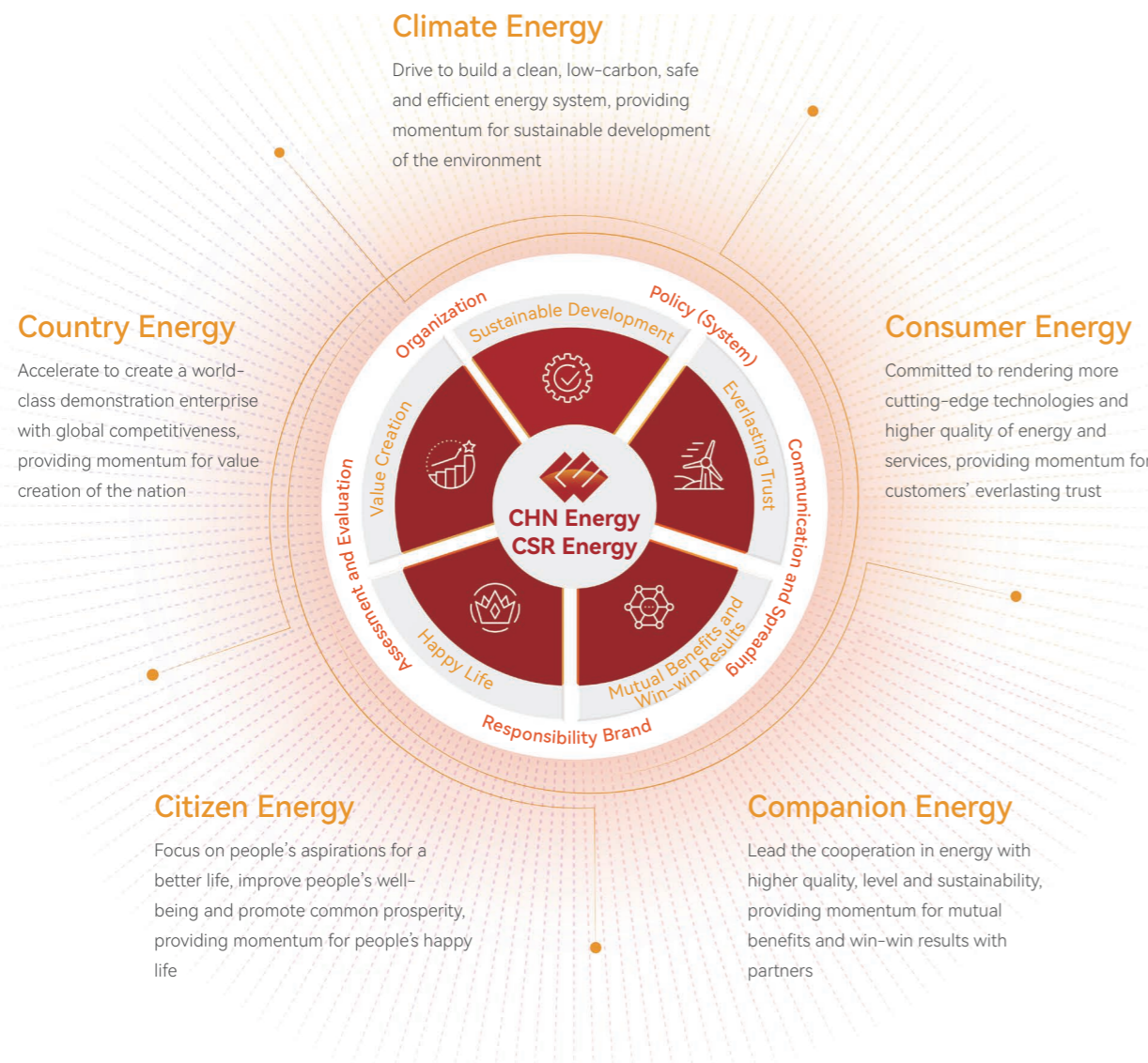
Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and around the relevant work guidelines of the SASAC of the State Council, China Energy, focuses on the overall development strategy of "one goal, three characteristics, five-pronged development and first-class performance in seven domains" and corporate high-quality development according to actual conditions, striving to play an exemplary role of improving the responsibility system, serving the "Top Priorities of the Country", assisting to build

China into a powerful energy nation, and becoming a world-class corporation. Under the overarching responsibility concept of "CHN Energy CSR Energy (CE·CE)", we take the building of CSR indicator system as the starting point to build a "major responsibility" management system, thereby boosting the deep integration of responsibility mindset, management, practices and explorations with the building of a world-class energy corporation, and achieving high-quality and sustainable development.

RESPONSIBILITY PHILOSOPHY

CE·CE is composed by the initials of the four words in the Group's social responsibility concept (CHN Energy CSR Energy), representing China Energy and Corporate Social Responsibility Energy, respectively, which contains driving force for continuous economic and social progress.

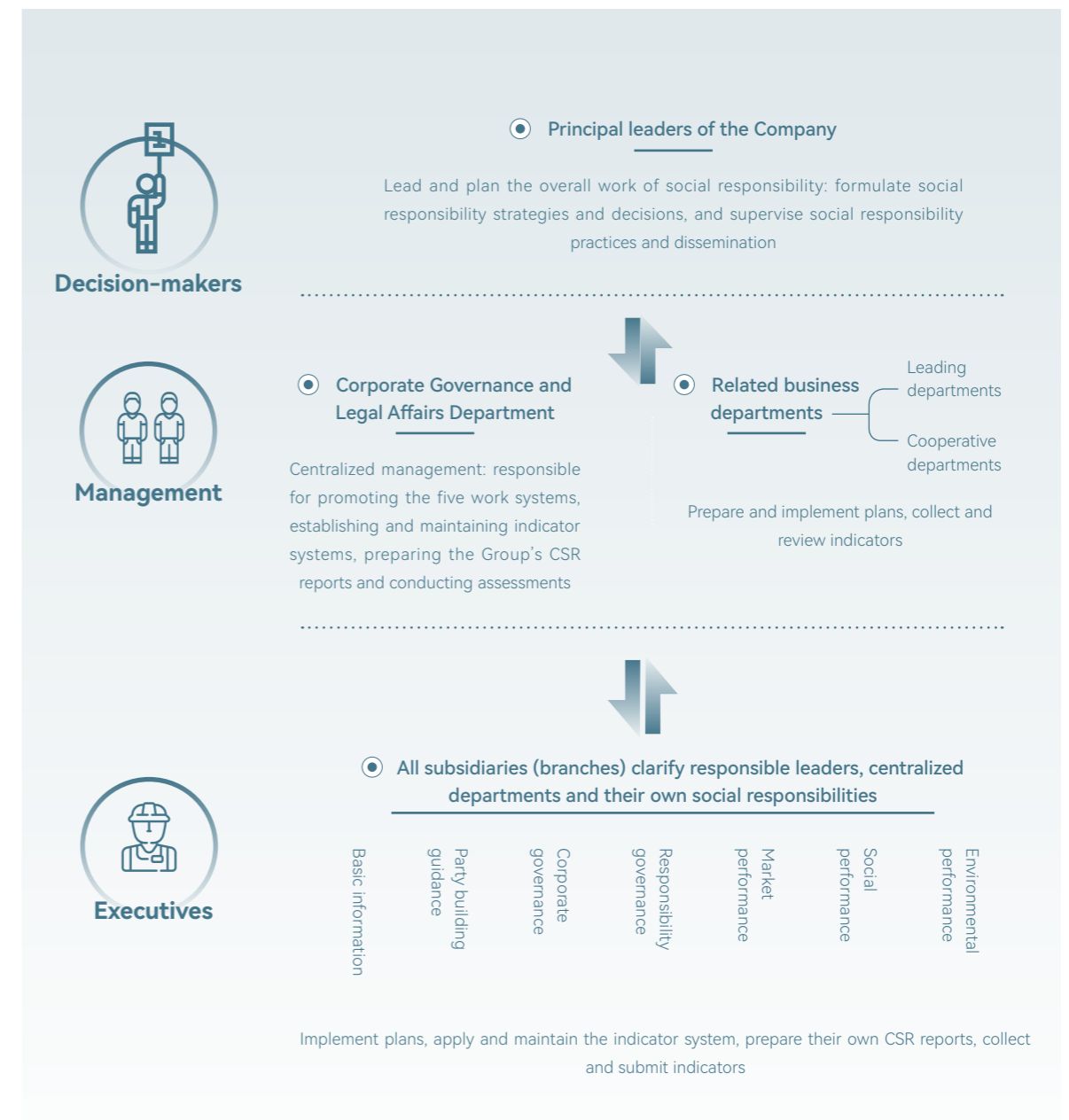
China Energy's social responsibility model is based on a sundial, which integrates corporate development and social responsibility management and builds a social responsibility system in modules. The model takes "CHN Energy CSR Energy (CE·CE)" as the origin and "Five Momentums" and "Five Systems" as the main body. Taking the responsibility performance of the modules of the five momentums as feedback information to form a closed loop and the five systems as an anchor point, both of them work together to promote the management and practices of corporate social responsibility, lead central SOEs in performing social responsibility, and better boost sustainable development.



RESPONSIBILITY GOVERNANCE

China Energy keeps in step with the requirements and expectations of the country, society and people on responsibility performance of central SOEs. Guided by our development strategy and according to our actual conditions, we continued to establish and improve systems and mechanisms for social responsibility management, and built a governance framework for social responsibility with the linkage of three tiers covering principal leaders, all functional departments, and subsidiaries (branches). We penetrated social responsibility into daily operation and development and promoted the high-quality development of social responsibility with a sound management system, building up an impressive responsibility brand of a central SOE.

The Company's Governance Framework for Social Responsibility



Decision-makers

China Energy keeps establishing and improving the social responsibility management and governance framework with the linkage of three tiers "from decision-making to management then to execution". Senior leaders of the Company support and promote the integration of social responsibility into corporate management. The principal leaders of the Group are responsible for leading and planning the overall work of the Company's social responsibility, formulating social responsibility strategies and decisions, and supervising social responsibility practices and dissemination.

Management

The Corporate Governance and Legal Affairs Department of the Company is responsible for the centralized management of the Group's social responsibility, and its main responsibilities include:

- ▶ Responsible for advancing the research system, institutional system, work system (including indicator system), evaluation system and release system of the Company's social responsibility on the whole.
- ▶ Responsible for preparing the Company's social responsibility plan.
- ▶ Responsible for establishing the Company's social responsibility indicator system, conducting evaluations on social responsibility performance, and organizing the excellence selection activity for social responsibility performance practices.
- ▶ Responsible for compiling the annual CSR reports of the Company. Start with the preparation of the Group's CSR report, promote management through preparation, promote work in all areas by drawing upon the experience gained on key points, and comprehensively improve the Group's social responsibility management and practice level.
- ▶ Responsible for the training, publicity, communication and spreading of the social responsibility management work of China Energy.
- ▶ Responsible for urging the functional departments/business sectors to carry out and improve the collection and submission of indicators.
- ▶ Responsible for conducting evaluation on the performance of the social responsibility work of each subsidiary and branch.

The functional departments (related business departments) of the Company are responsible for preparing plans, implementing indicator plans, coordinating and communicating, and are composed of leading departments and cooperative departments.

Main Responsibilities of Leading Departments

Responsible for dividing indicators into relevant positions of the department and relevant connecting departments of the secondary company; organizing and supervising the collection and submission of indicators of the departments; reviewing the performance information of social responsibility indicators.

Main Responsibilities of Cooperative Departments

Responsible for assisting leading departments to complete the collection and submission of the characteristic indicators of relevant business sectors.

Executives

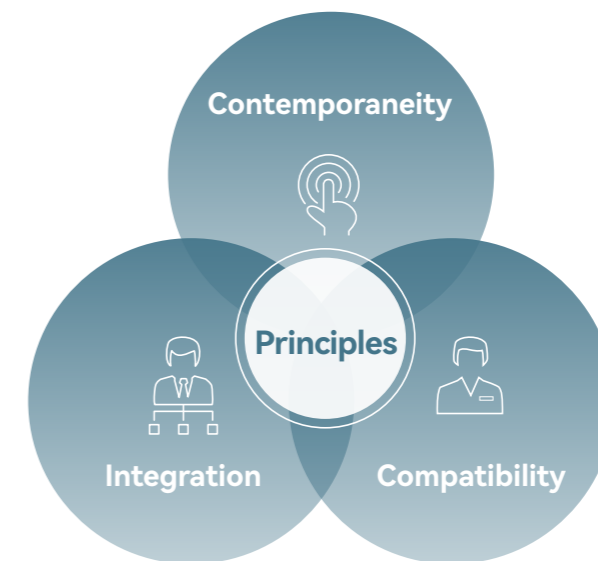
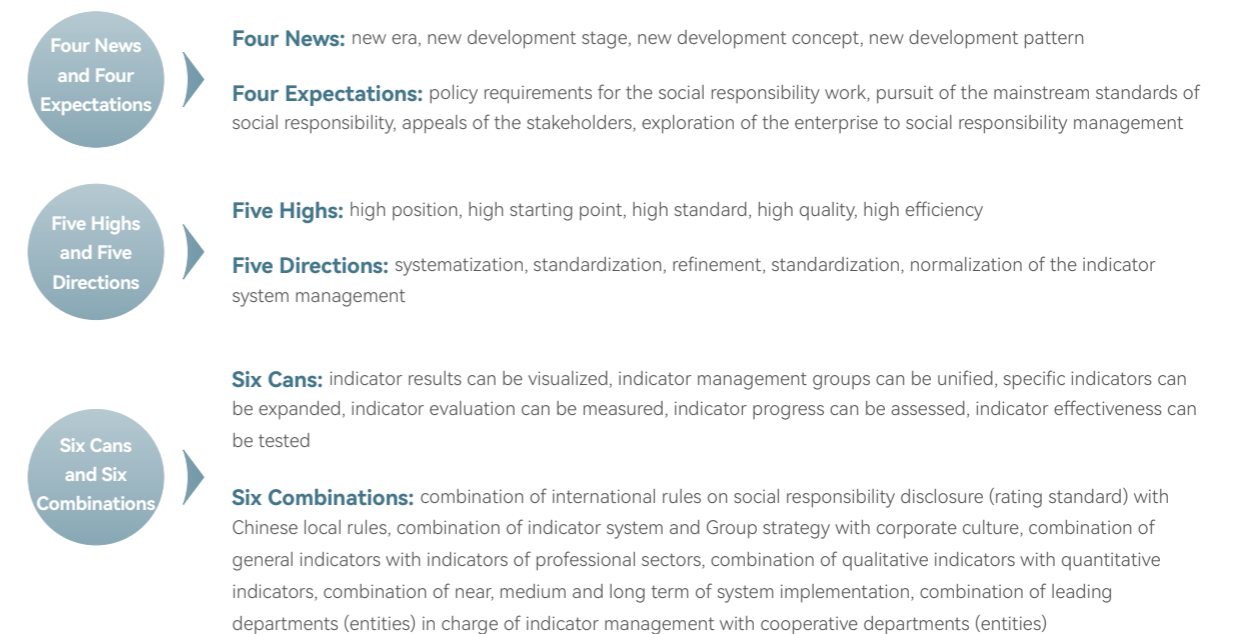
The secondary companies and production units are responsible for implementing indicator plans, collecting data and submitting information.



- Responsible for implementing the Company's decisions and arrangements on social responsibility work, and promoting the construction of the entity's social responsibility management system.
- Responsible for preparing and improving the social responsibility management system of the unit; selecting the applicable indicator system according to the sector of the entity, and distributing indicators to the relevant positions of the company (unit) and the relevant connecting department of the subordinate third-level unit.
- Organize to prepare and release the unit's annual CSR report.
- Organize and launch social responsibility practice activities, provide relevant training, and carry out communication and cooperation with stakeholders.

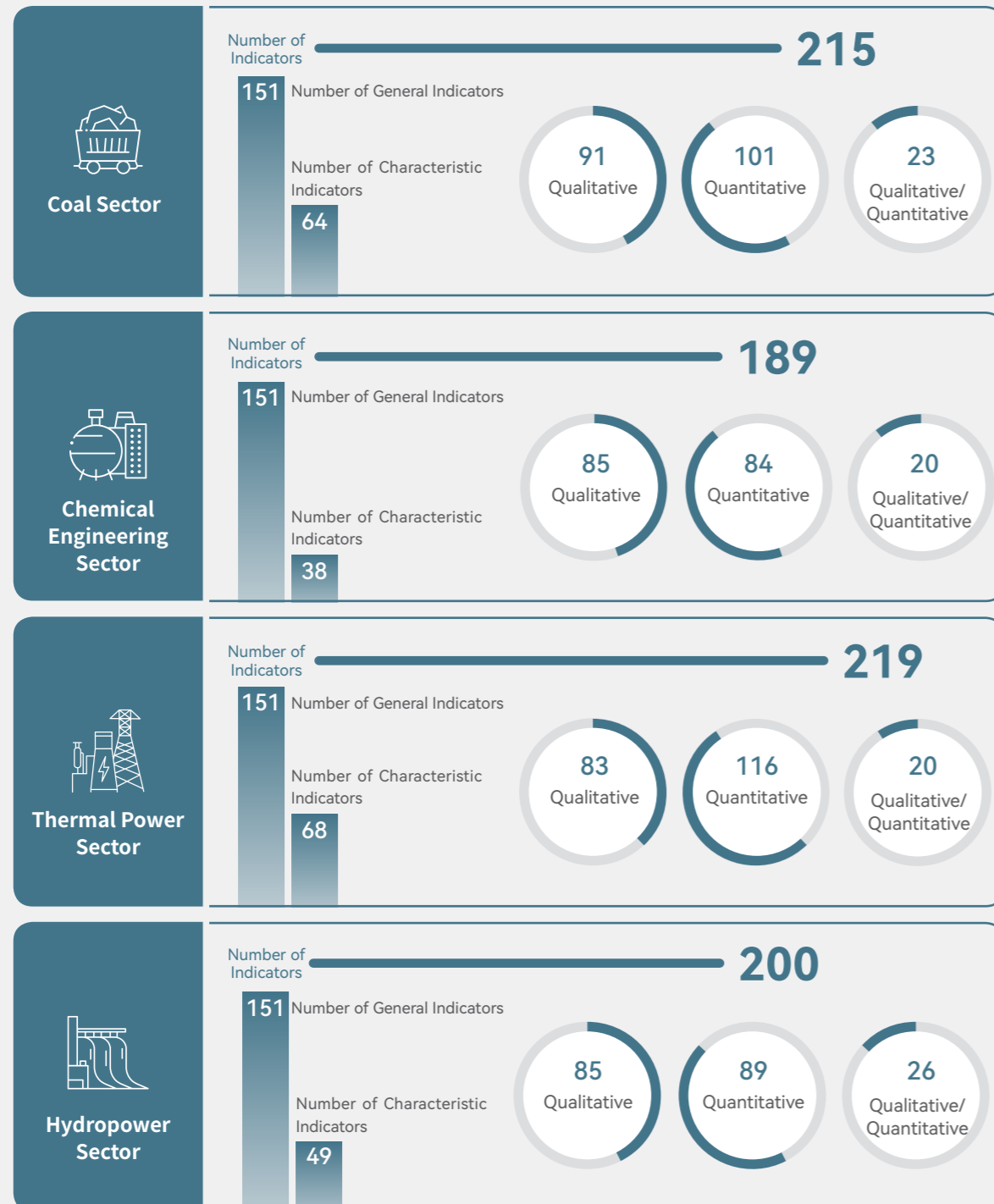
Social Responsibility Indicator System

China Energy's social responsibility system is designed to highlight the principle of contemporaneity, integration and compatibility, grasp the experiences and practices from six aspects, obtain a unified responsibility system, and foster three-tier indicator management. It combines general and specialized indicators to form fully covered characteristic indicators. It deepens the application of innovative achievements, and raises the level of modernization of the corporate governance system and capacity. The design of the system reflects "Four News and Four Expectations", the design of indicators adheres to "Five Highs and Five Directions", and the functions of the indicators aim to achieve "Six Cans and Six Combinations", thus forming "a set of instructive and directive documents", building "a smart information system", creating "a batch of demonstration enterprises", and devoting to setting an example of social responsibility management among central SOEs.



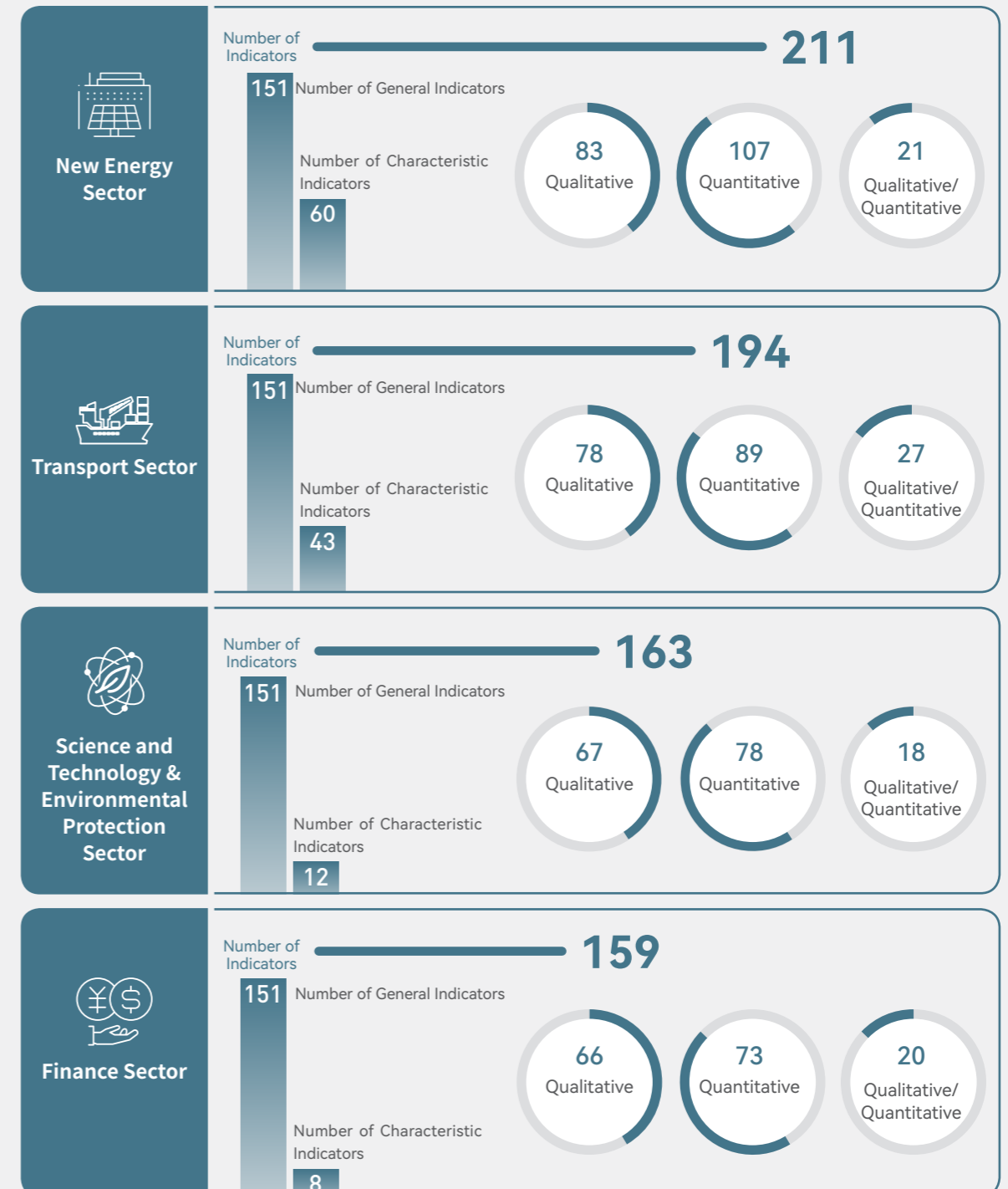
Unify the Group's System to Form Three-tier Indicator Management

Based on the mainstream international standards and the connotation and governance logic of social responsibility, we have formed characteristic indicators that are suitable for the social responsibility reality of central SOEs. The social responsibility system has seven first-tier indicators, including basic information, Party building guidance, corporate governance, responsibility governance, market performance, social performance, environmental performance, under which 35 second-tier indicators and 325 third-tier indicators have been set.



Combine General and Specialized Indicators to Form Characteristic Indicators Covering the Whole Industry

We have formed indicators with the characteristics of enterprises in the energy industry. Based on the whole industrial chain and integration characteristics of China Energy, indicator system divides 35 second-tier indicators into 325 third-tier indicators. From the perspective of sector applicability, indicators are further divided into general indicators and characteristic indicators in 8 business sectors, making the indicators more industry-dedicated and applicable.



Implementation Approaches to Social Responsibility Work

Promote Standardization by System

We built an information system of the social responsibility indicator system. We prepared the *Database of Social Responsibility Indicators of China Energy*, developed 325 indicators including general indicators and characteristic indicators in specific business sectors, and carried out social responsibility management work in the whole Group through coordination at different levels; promoted the construction of social responsibility management smart system, and greatly improved the efficiency and level of social responsibility work through information management.

Enhance Management by Report

We issued the *Sustainable-driven Social Responsibility Management of China Energy*. We issued the measures for social responsibility management, which explicitly required that, in principle, secondary enterprises under the Company shall prepare and release a social responsibility report every year, except for some enterprises with small scale, undergoing restructuring, or suffering from serious losses, for the first time. Overseas subsidiaries shall prepare and release reports on overseas development, project construction and country report as required.

Boost Building by Rating

We enhanced the research level and engagement of the social responsibility theories. The Group was selected into the excellent cases in the "Scientific and Technological Innovation" Chapter in the *Blue Book of Social Responsibility of Central Enterprises (2021)*. Excellent cases including "ESG Management Information System" of China Shenhua and "Dedicated Poverty Alleviation Project of Youyu County, Shuozhou City, Shanxi Province" were included into the *ESG Blue Book of Central-Controlled Listed Companies (2021)*. The Group's "Wind Power Project of Longyuan South Africa in De Aar" was selected into the *Blue Book of Overseas Social Responsibility of Central Enterprises (2021)* as an excellent case.



Improve Performance by Assessment

We guided enterprises in establishing the mechanisms of social responsibility supervision and inspection, responsibility assessment, information reporting, and evaluation and commendation. We organized training sessions for the preparation of CSR report, and participated in the 13th public welfare lecture of responsibility officers. The Group became the first station of the investigation conducted by the ESG Research Group of Central SOEs under the SASAC, fully improving the performance awareness and implementation ability at all levels of the system.

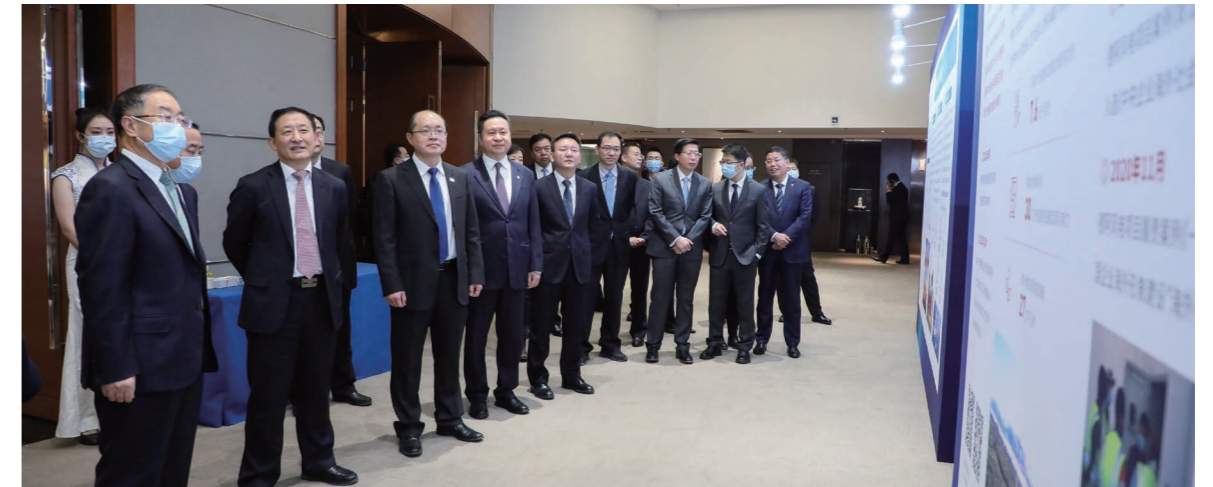


China Energy was the first station of the investigation conducted by the ESG Research Group of Central SOEs.

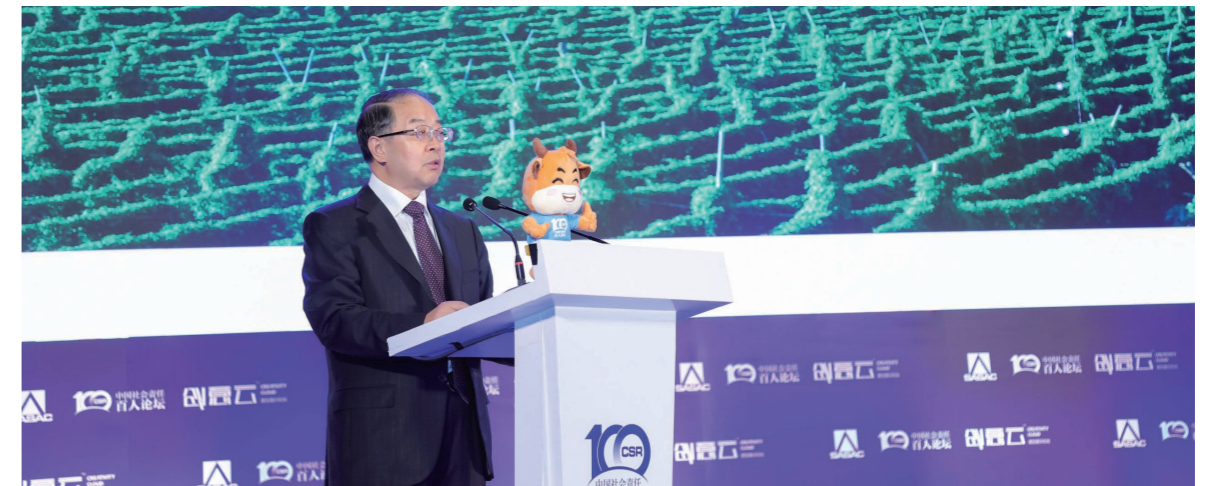
RESPONSIBILITY COMMUNICATION

China Energy continued to explore effective ways of information disclosure and social communication, and focused on improving the quality and efficiency of responsibility communication. We displayed the Group's responsibility performance information via annual CSR report, official WeChat account, the "CSR column" of the official website, promptly responded to public concerns, and organized public open days and other activities, facilitating the stakeholders in enhancing mutual understanding and trust.

- ▶ Attended the launch conference of the 2021 Corporate Social Responsibility Reports in the Coal Industry
- ▶ Attended the centralized launch conference of the Corporate Social Responsibility Reports of Central SOEs
- ▶ Attended the 4th Beijing Responsibility Exhibition and the release conference of the *Blue Book of Corporate Social Responsibility (2021)*
- ▶ Attended the Overseas Social Responsibility Forum of Central Enterprises (2021) and the release conference of the *Blue Book of Overseas Social Responsibility of Central Enterprises (2021)*
- ▶ Attended the 2021 Summit of ESG China Forum



PENG Huagang, Member of the Party Committee and Secretary-general of the SASAC of the State Council, visited the responsibility performance exhibition boards of China Energy, "China Energy in South Africa", together with leaders from the Ministry of Foreign Affairs and the Ministry of Commerce.



WANG Min, Director and Deputy Secretary of the Leading Party Members' Group of China Energy was delivering a keynote speech at the centralized launch conference of the Social Responsibility Reports of Central SOEs.

RESPONSIBILITY HONORS

China Energy won the 11th China Charity Award



The 2020 Social Responsibility Report of China Energy was rated as a five-star report



China Energy and China Shenhua were selected into the first batch of Chinese ESG demonstration enterprises, which are the only two central SOEs that have been selected



China Energy became one of the first batch of pilot enterprises of the ESG Opinions on Overseas Projects of Central Enterprises



China Energy was selected into the excellent cases of the Blue Book of Social Responsibility of Central Enterprises (2021)



China Energy won the 2021 Responsible Golden Bull Awards — Overseas Responsibility Performance Award



China Energy was selected into "TOP 15 of China's Top 300 Enterprises in Social Responsibility Development Indicators"



China Energy won the National Excellent Enterprise Issuing the Social Responsibility Report in Coal



China Shenhua and Longyuan Power were selected into "ESG of Central Enterprises · Pioneering 50 Indicators"



China Energy was selected into the excellent cases of the Blue Book of Overseas Social Responsibility of Central Enterprises (2021)



FUTURE PROSPECTS

The year of 2022 marked the fifth year after the reorganization of China Energy. Five years of tortuous adventures and struggles add luster to us. Looking back, we have made all-out efforts to fuel the energy revolution by diligently rolling up our sleeves to work harder; looking forward to the future, we will continue to persistently march forward regardless of wind or rain to a boarder new world.

Deeply rooted in the main business, as a pioneer in energy supply guarantee. We will actively implement the decisions and arrangements of ensuring stability on six key fronts and maintaining security in six key areas of the CPC Central Committee, take the lead in ensuring stable supplies and prices, and provide firm energy and safety guarantee for China's economic and social development.

Tapping into our potential and creating benefits, as a main force in value creation. We will firmly develop the value-based and benefit-oriented thinking, in accordance with the latest requirements of the SASAC on "two profits and four rates", remain committed to gathering efforts to pursue integration and refinement, and ensure the stable operation and a sound momentum of growth.

Focusing on the carbon peaking and carbon neutrality goals, as a forerunner of low-carbon transition. We will incorporate the endeavors to peak carbon dioxide emissions and achieve carbon neutrality into the overall development framework, unswervingly promote green transformation and safe carbon reduction, and step up efforts to build a clean, low-carbon, safe and efficient energy system.

Through reform and innovation, as a bellwether in deepening the reform. We will focus on the ending battle of the three-year action plan for SOE reform, benchmark the action plans, coordinate work, progress and results to ensure the quality and effectiveness of the reform.

With self-reliance, as a vanguard in scientific and technological innovation. We will persist in "Four Orientations", focus on our primary business, aim to be advanced and professional in the business. We will vigorously implement the innovation-driven development strategy, and help the nation continuedly advance in science and technology.

Remaining true to the original aspiration, as an inheritor of the revolutionary traditions. We will deeply advance the great new project of Party building, implement the spirit of the national Party building meeting of SOEs, insist on the strategy for full and strict Party self-governance, consolidate and deepen the achievements of study and education of the Party's history, further promote "Four Reinforcements and Six Improvements", build a large work pattern for Party building with planning and layout at a high position, integration and promotion at a high level, and guidance and guarantee in high quality, and constantly improve the leadership of the Party committee, the fighting capacity of the Party branch and the executive force of the cadres.

In the face of the strong wind and rough waters, we should set sail and brave the waves; shouldering the arduous tasks, we should beef up our actions. Keeping in mind the missions and responsibilities, we will rally and lead more than 300,000 employees to continue to embark on a new journey toward our goals with firm belief and spirited attitude, make a positive contribution to the stability of macro economy and overall society, and set the stage for the 20th National Congress of the CPC with splendid achievements!

APPENDIX

SPECIFICATIONS OF THE REPORT

This Report is the fifth social responsibility report prepared by China Energy Investment Corporation Limited (hereafter referred to as China Energy).

Report Provider

China Energy and its subsidiaries and branches. For ease of presentation and reading, "China Energy", "Company" and "We" in the Report all refer to China Energy Investment Corporation Limited, except as otherwise stated in the Report.

Quality Assurance

The 2021 Social Responsibility Report of China Energy emphasizes the process management, focuses on the completeness, comparability, balance, readability and innovation of the Report, and fully introduces the annual responsibility fulfillment concept, behavior, performance and commitment. We ensure that the information in the Report is true, objective and prompt. We hope to enhance communication with stakeholders by issuing the Report and join hands with them to promote the sustainable development of economy, society and environment.

Reporting Period

From January 1 to December 31, 2021, with some contents falling outside the said time range.

Report Compilation Principles

Guideline on Fulfilling Social Responsibility by State-Owned Enterprises issued by SASAC of the State Council

Guidance on Social Responsibility Reporting (GB/T36001-2015) issued by Standardization Administration

Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises(CASS-CSR4.0) issued by Chinese Academy of Social Sciences

Sustainability Reporting Guidelines (GRI 4.0, GRI Standards) issued by Global Reporting Initiative (GRI)

ISO 26000:2010 Guidance on Social Responsibility issued by International Organization for Standardization

UN's 2030 Sustainable Development Goals (SDGs)

Data Description

The data of 2021 quoted in this Report are derived from the official documents and statistical reports of the Company, and have been reviewed by the relevant departments of the Company. If there is any discrepancy with the annual report of the Company, the latter shall prevail.

Language and Availability of the Report

This report is available in both simplified Chinese and English, and is available to stakeholders and the public mainly in a PDF document, which can be downloaded from the official website of China Energy (<http://www.ceic.com/>).

Please send an e-mail to cece@chnenergy.com.cn to request for a printed copy of the Report.

In preparing the Report, we have considered the reading interest and requirements of different stakeholders as much as possible and have striven to make it concise, clear and easy to read. In order to expand the amount of information reported, some of the contents in the Report are presented in QR code. For further information, please scan the QR code.

KEY PERFORMANCE

Indicator	Unit	2019	2020	2021
Economic performance				
Total assets	RMB 100 million	17503	17881	18976
Owners' equity	RMB 100 million	7181	7361	7793
Operating income	RMB 100 million	5561	5569	6908
Total profit	RMB 100 million	781	838	888
Net profit	RMB 100 million	556	577	618
Economic value added	RMB 100 million	153	174	228
Total profit and tax	RMB 100 million	1711	1742	1861
Tax paid	RMB 100 million	930	898	973
Return on equity	%	7.88	7.88	8.15
Return on total assets	%	6.47	6.54	6.36
Asset-liability ratio	%	58.97	58.32	58.93
State-owned capital preservation and appreciation rate	%	107.96	105.33	109.29
Power generation	100 GWh	9690	9828	11032
Heat supply	100 million GJ	4.11	4.47	4.64
Installed generating capacity	100 GW	2.46	2.57	2.71
Installed capacity of thermal power	100 GW	1.85	1.91	1.94
Proportion of coal-fired power units with an installed capacity of 600MW and above	%	61.9	63.3	67.9
Installed capacity of wind power	10 MW	4116	4604	4999
Installed capacity of hydropower	10 MW	1863	1861	1869
Installed capacity of new energy	10 MW	4261	4771	5859
Proportion of capacity desulfurization and denitrification units in total capacity of coal-fired units	%	100	100	100
Generating capacity from winter power	100 GWh	—	892	1066
Generating capacity from hydropower	100 GWh	—	745	705

Indicator	Unit	2019	2020	2021
Generating capacity from new energy	100 GWh	—	913.3	1094
Proportion of generating capacity from new energy in the national total	%	—	12.3	10.8
New installed capacity of new energy	10 MW	—	521.4	1089
Proportion of installed capacity of non-fossil energy	%	24.9	25.8	28.6
Production of self-produced commercial coal	100 Mt	5.1	5.3	5.7
Resource of self-produced commercial coal	100 Mt	5.15	5.34	5.71
Coal mine production capacity	100 Mt/year	5.2	5.5	6.2
Coal sales volume	100 Mt	6.7	7	7.7
Underwater coal sales volume	100 Mt	2.67	2.68	2.75
Production of chemicals ^①	10 Kt	1593	1656	2791
Market share of underwater coal in North Ports ^②	%	38.3	39.1	38.6
Operating mileage of self-operating railways	km	2155	2408	2408
Transportation volume of self-operating railways	100 Mt	4.6	4.6	4.83
Port and coal terminal throughput	100 Mt	2.64	2.7	2.7
Number of self-owned ships	Ship	61	61	61
Loading volume in two self-owned ports	100 Mt	2.5	2.5	2.61
Shipping freight	10 Kt	16514	16697	20899
Integrated outbound loading capacity	10 Kt	33248.25	33114.92	35057.44
Scientific and technological investment	RMB 100 million	80.1	91.5	127.8
Number of national R&D platforms	Platform	12	12	12
Number of provincial and ministerial R&D platforms	Platform	—	—	26
Number of cumulative patent authorizations	Authorization	10988	13393	16010
Number of cumulative invention patents	Patent	2592	3096	3766
Number of State Science and Technology Awards received this year	Award	3	0	2
Number of State Science and Technology Awards and provincial (ministerial) science and technology projects ^③	Award/Project	—	—	87
All-personnel labor productivity	RMB 10,000/person/year	94.2	90	101.60
Economic contract performance rate	%	100	100	100

Indicator	Unit	2019	2020	2021
Environmental Performance				
Total investment in environmental protection	RMB 100 million	84.62	97.37	102.42
Year-on-year growth of integrated energy consumption	%	-2.6	-0.5	9.2
Proportion of capacity of desulfurization and denitrification units in total capacity of coal-fired units	%	100	100	100
Net coal consumption	g/kWh	304.8	303.3	299.9
Thermal power plant power consumption rate	%	6.58	6.52	6.38
Smoke and dust emissions from thermal power business	10 Kt	0.89	0.8	0.89
Sulfur dioxide emissions from thermal power business	10 Kt	6.66	5.87	6.16
NOx emissions from thermal power business	10 Kt	11.88	11.19	12.66
Performance of smoke and dust emissions from thermal power business	g/kWh	0.011	0.01	0.01
Station service power consumption rate	%	—	4.69	4.67
Number of generating equipment availability hours	Hour	—	4007	4370
Number of decommissioned small thermal power units	10 MW	—	133.5	2.4
Industrial greening rate in mining area	%	77.11	83.16	84.05
Fly ash comprehensive utilization rate	%	70	65.5	68.04
Additional mine land reclaimed	km ²	31.41	32.17	41.94
Hazardous waste disposal rate	%	100	100	100
Mine water utilization rate	%	54.04	54.47	55.26
Number of green mines	Mine	21	28	42
Social Performance				
Number of total employees	Person	331373	326641	317168
Number of female employees	Person	59237	55896	52039
Number of minority employees	Person	28146	27783	28817
Number of new employees during the reporting period	Person	5323	6349	6509
Labor contract coverage	%	100	100	100
Social insurance coverage	%	100	100	100
Economic contract legal review coverage	%	100	100	100

Indicator	Unit	2019	2020	2021
Employee training coverage	%	93.24	80.17	86.9
Investment in employee training	RMB 100 million	7.7	6.21	7.83
Number of trainees	10,000 Persons	285	136.8	314.4
Employees' health records coverage	%	100	100	100
Number of employees participating in occupational health training	Person	238463	241712	261723
Investment in occupational health fund	RMB 100 million	16.79	16.88	15.92
Training rate of occupational health management personnel	%	100	100	100
Employee turnover rate	%	0.9	0.5	0.93
Number of major casualties	Time	0	0	0
Number of major equipment accidents	Time	0	0	0
Number of professional rescue teams	Team	122	119	96
Number of professional rescue personnel	Person	3660	3790	3122
Number of national emergency rescue teams for mines and hazardous chemicals	Team	5	5	5
Number of emergency drills	Time	16814	9462	8620
Number of employees attending safety training	Person	45042	57152	65865
Number of subordinate units with zero accidents	Unit	446	450	458
Investment in occupational disease prevention and control	RMB 100 million	—	—	15.9241
Number of units receiving designated assistance for rural revitalization	Unit	9	9	9
Investment in designated assistance for rural revitalization	RMB 10,000	27330	33610	33625
Number of projects for industrial revitalization	Project	10	11	14
Number of persons attending rural revitalization training	Person	3179	7849	7967
Total amount of agricultural products purchased from poverty alleviation regions	RMB 10,000	7002	17384	10707
Total amount of agricultural products sold from poverty alleviation regions with the help of the Company	RMB 10,000	686	1567	970
Investment in assistance to Qinghai and Tibet	RMB 10,000	10359	12054	12055
Number of officials who are taking a temporary post (incumbent)	Person	25	25	25
Total amount of donations	RMB 100 million	5.6	5.26	5
Number of Party organizations	Organization	6541	5653	6591

Indicator	Unit	2019	2020	2021
Number of CPC members	Person	125277	106621	106628
Number of new CPC members this year	Person	2668	3019	4708
Cumulative number of CYL organizations	Organization	2125	2009	2624
Cumulative number of CYL members	Person	18955	21651	23516



Note: ① Production of chemicals: the production of chemicals was adjusted to include major intermediates in 2021

② Market share of underwater coal in North Ports: including coal for trade

③ Number of State Science and Technology Awards and provincial (ministerial) science and technology projects: including 85 provincial and ministerial science and technology awards and two national awards

INDICATOR INDEXING

Report Directory	United Nations Sustainable Development Goals	GRI Standard	CASS-CSR4.0
Messages from Leadership	—	102-14、102-15	P2.1-P2.2
About Us	—	102-1、102-2、102-4、102-5~7、102-16~18、102-22、201-1	P4.1-P4.4、G1.1、G1.2
Foster Synergy · Dedicated to Energy Supply Guarantee		—	M2.3
Fulfill Due Responsibility · Boost to Carbon Peaking and Carbon Neutrality Goals at Full Swing		302-4、302-5	E1.3、E1.7、E1.9-1.10、E2.3-2.4、E2.18、E2.24-2.25、E3.3
Build Up Momentum by Party Building	—	—	M1.3
Country Energy · Energize the Country for Value Creation		102-10	M1.1、S1.4
Highlight the Effectiveness by Industrial Synergy		203-1、203-2	M2.1、M2.7
Enhance Competitiveness by Green Transformation		203-1、203-2、302-4、302-5	E1.3、E1.7、E2.1、E2.3-2.4
Show the Glamour of Lucid Waters and Lush Mountains		302-4、302-5、304-1-3、305-7、306-3	E1.1-E1.2、E1.8-E1.10、E2.1、E2.3、E2.12、E2.14、E2.16、E2.18、E2.22、E3.1、E3.3-E3.4、E3.6
Ensure Stability with Production Safety		102-11	S3.1-S3.4、S3.6
Strengthen Resilience by Responsibility Chain		102-9	—

Report Directory	United Nations Sustainable Development Goals	GRI Standard	CASS-CSR4.0
Companion Energy · Energize the Companions for Mutual Benefits and Win-win Results	 	—	M2.4-M2.7、S2.14 M3.4、M3.6
Tap into the Potential of Scientific and Technological Innovation	—	—	—
Gather the Wisdom Centered on People		102-8、401-2、404-2	S2.1-S2.4、S2.6、S2.10-S2.11、S2.13-S2.18
Render Assistance for Common Prosperity		203-1-2	S1.5、S2.11、S4.1、S4.3、S4.5-S4.13
Responsibility Management	—	102-12、102-21	A3、G1.2、G3.1-G3.3、G4.1-G4.3、G5.1、G6.1-6.2
Future Prospects	—	—	A1
Specifications of the Report	—	—	P1
Key Performance	—	—	A2
Indicator Indexing	—	102-55	A5
Report Compilation	—	—	—
Report Rating	—	102-56	A4
Definitions of Abbreviations	—	—	—
Feedback	—	102-53	A6

REPORT COMPILATION

Organization establishment

Establish a report working group; form a team and divide labor; determine the target.

Report diagnosis

Analyze stakeholders' feedback; listen to experts' diagnosis; form a framework outline.

Environment scanning

Identify corporate stakeholders; identify key stakeholders; identify social responsibility topics stakeholders are concerned about; stakeholder meetings.

Topic selection

Determine the social responsibility topics that need to be disclosed according to the interests of stakeholders; increase the constraints in line with the Company's strategies and form material social responsibility topics.

Information collection

Form a list of information; identify target institutions; collect information.

Report writing

Write a report; supplement the information; form a first draft.

Revision and finalization

Seek advice from departments; seek advice from experts; revise the first draft; submit to the leadership for approval; finalize the report.

Design and publication

Track the style design; track the text layout; typesetting and text proofreading.

Report release

Participate in the press conference; collect feedback from stakeholders.

REPORT RATING



中国企业社会责任报告
评级专家委员会
Chinese Expert Committee on CSR Report Rating

Rating Report for the 2021 Social Responsibility Report of China Energy

Entrusted by China Energy Investment Corporation Limited, the Chinese Expert Committee on CSR Report Rating set up a rating team comprised of selected experts to rate the 2021 Social Responsibility Report of China Energy (hereafter referred to as "the Report").

I. Rating Basis

Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR4.0) issued by Chinese Academy of Social Sciences and Rating Standards on Chinese Corporate Social Responsibility Reports (2020) issued by the Chinese Expert Committee on CSR Report Rating.

II. Rating Process

1. The rating team reviewed and confirmed the Confirmation of Process Data of Corporate Social Responsibility Report and relevant evidentiary materials submitted by the Report preparation team;
2. The rating team drafted the rating report based on the evaluations of the preparation process and contents of the Report;
3. The Vice Chairman of the Chinese Expert Committee on CSR Report Rating, the leader of the rating team and the expert of the rating team jointly reviewed and signed the rating report.

III. Rating Conclusion

Process (★★★★★)

The Corporate Governance and Legal Affairs Department of the Group took the lead in setting up the report compilation team; Director of the Department controlled the overall direction; Deputy Director controlled the key processes of report preparation, and the Chairman and the President were responsible for final review and approval. The Report was designed as an important tool to disclose the social responsibility information, improve the social responsibility management level, and enhance communication with stakeholders with well-positioned functions and values; it identified material topics according to national macro policies, standards for social responsibility in China and in the world, the Company's development strategies and survey on stakeholders; it launched the innovation achievement of "China Energy CE-CE social responsibility system", which improved the top-level structure of the social responsibility work; it planned to be released on the special launch conference and included into the industry conference for the second release, and it would be presented in Chinese and English in electronic, printed and long-picture versions; thus, it has excellent process performance.

Materiality (★★★★★)

The Report systematically disclosed critical topics in the industry, such as implementation of macro policies, guarantee of energy supply, scientific and technological innovation, occupational health management, production safety, clean energy development, energy resources conservation, green transformation as well as ecological restoration and governance; thus, it has excellent materiality performance.

Completeness (★★★★★)

The main body of the Report systematically disclosed 94.23% of the core indicators of its industry from the perspectives of "Country Energy · Energize the Country for Value Creation", "Climate Energy · Energize the Climate for Sustainable Development", "Consumer Energy · Energize the Consumers for Everlasting Trust", "Companion Energy · Energize the Companions for Mutual Benefits and Win-win Results" and "Citizen Energy · Energize the Citizens for a Better Life"; thus, it has excellent completeness performance.

Balance (★★★★★)

The Report disclosed such negative data as "number of major or above ecological and environmental events", "number of major or above production safety accidents", "employee turnover rate", "number of major casualties" and "number of major equipment accidents" and briefly described the rectification measures for the roof fall accident of the subordinate company; thus, it has excellent balance performance.

Comparability (★★★★★)

The Report disclosed the comparative data of 98 key indicators such as "total assets", "installed generating capacity", "number of new employees during the reporting period", "total amount of donations", "year-on-year growth of integrated energy consumption" and "net coal consumption" for three consecutive years, and conducted a horizontal comparison with the indicator "world first in installed capacity of wind power"; thus, it has excellent comparability performance.

Readability (★★★★★)

With "Energize" as the main clue, the Report fully demonstrated the enterprise's responsibility performance concept, practice and achievements for relevant parties including the country, climate, consumer, companion, employees and society, responded to the expectation of the stakeholders, and interpreted the in-depth understanding of the enterprise on the performance of social responsibility; the cross-page chapters displayed the enterprise's responsibility performance scenes with live-action pictures to highlight the enterprise's characteristics, and the design of inside pages selected rich and colorful pictures, highlighting the enterprise's responsible actions and making the Report more relatable; the column of "Figures in 2021" presented the enterprise's achievements in responsibility performance, and multiple QR codes in the Report extended the Report's content, increasing the Report's communication and spreading value; thus, it has excellent readability performance.

Innovation (★★★★★)

The Report set its framework based on the connotation of "China Energy CE-CE social responsibility system" and systematically responded to five responsibility performance priorities and hot topics of the stakeholders' concern, i.e. Country, Climate, Consumer, Companion and Citizen; it started with two responsibility topics of "Foster Synergy · Dedicated to Energy Supply" and "Fulfill Due Responsibility · Boost to Carbon Peaking and Carbon Neutrality Goals at Full Swing", and focused on the responsible actions of the enterprise in two key national domains of ensuring the power supply and boosting the carbon peaking and carbon neutrality goals to manifest the responsibility of a central SOE; it established and improved the social responsibility management and governance framework with the linkage of three tiers "from decision-making to management then to execution", which promoted the vertical integration of the social responsibility work; it required all the eligible secondary units to prepare and issue the corporate social responsibility report for the first time, drew up the Design Code for the Corporate Social Responsibility Report of China Energy, standardized and prepared the principles and requirements of design, and created the Report matrix, which was beneficial to enhance brand recognition; thus, it is excellent in innovation performance.

Overall Rating (★★★★★+)

Upon the evaluation of the rating team, the process, materiality, completeness, balance, comparability, readability and innovation of the 2021 Social Responsibility Report of China Energy reached the five-star level; thus, it is rated as five-star+ on the whole, and is a model for corporate social responsibility reports.



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IV. Improvement Suggestion

Add the disclosure of industrial core indicators to improve the completeness of the Report.

Vice Chairman of the Chinese Expert
Committee on CSR Report Rating

Leader of the
rating team

Expert of the
rating team

Date of issuance: July 20, 2022



Scan the QR code for
more information on the
Company's rating

DEFINITIONS OF ABBREVIATIONS

Abbreviation	Full Name	Abbreviation	Full Name
China Shenhua	China Shenhua Energy Company Limited	Hubei Company	CHN Energy Changyuan Electric Power Co., Ltd. (China Energy Hubei Energy Co., Ltd.)
Guodian Power	GD Power Development Co., Ltd. (Beijing Guodian Power Co., Ltd., China Shenhua Energy Company Limited Guohua Power Branch, China Energy Guohua Power Co., Ltd.)	Jiangxi Company	China Energy Jiangxi Power Co., Ltd. (China Shenhua Energy Company Limited Jiangxi Branch)
Longyuan Power	China Longyuan Power Group Corporation Limited	Shuohuang Railway	Guoneng Shuohuang Railway Development Limited Liability Company
Chemical Company	China Shenhua Coal to Liquids and Chemicals Co., Ltd.	Baoshen Railway	Guoneng Baoshen Railway Group Co., Ltd.
Technology & Environment Group	Guodian Technology & Environment Group Corporation Limited (China Energy-saving Emission Reduction Co., Ltd.)	Coal Operating Company	China Energy Investment Corporation Limited Coal Operating Branch (Guoneng Trading Group Limited, Shenhua Coal Trading Company Limited)
Capital Holdings	China Energy Capital Holdings Co., Ltd.	Materials Company	China Energy Materials Co., Ltd. (Guoneng Supply Chain Management Group Corporation Limited)
Energy Party School	CPC China Energy Party School (Training Center, Party Building Institute)	Electric Power Research Institute	China Energy Science and Technology Research Institute Co., Ltd.
Shendong Coal	Guoneng Shendong Coal Group Corporation Limited (China Shenhua Energy Company Limited Shendong Coal Branch)	NICE	National Institute of Clean-and-Low-Carbon Energy
Ningxia Coal	China Energy Ningxia Coal Co., Ltd.	New Energy Research Institute	China Energy New Energy Technology Research Institute Co., Ltd.
Guoshen Company	China Energy Guoyuan Power Co., Ltd. (Shenhua Shendong Power Co., Ltd.)	Technological and Economic Research Institute	China Energy Technological and Economic Research Institute (Guoneng Economic and Technological Research Institute Co., Ltd.)
Liaoning Company	China Energy Liaoning Power Co., Ltd. (GD Power Development Co., Ltd. Liaoning Branch)	Baotou Energy	Guoneng Baotou Energy Co., Ltd. (China Energy Baotou Mining Co., Ltd.)
Dadu River Company	Guoneng Dadu River Drainage Area Hydroelectricity Development Co., Ltd.	Shengli Energy	Guoneng Shengli Energy Co., Ltd. (China Shenhua Energy Company Limited Shengli Energy Branch)
Zhuneng Group	Guoneng Zhuneng Group Co., Ltd.	Guizhou Company	China Energy Guizhou Power Co., Ltd.
Pingzhuang Coal Industry	Inner Mongolia Pingzhuang Coal Industry (Group) Co., Ltd.	Fujian Company	China Energy Fujian Energy Co., Ltd. (Shenhua (Fujian) Energy Co., Ltd.)
Wuhai Energy	China Energy Wuhai Energy Co., Ltd.	Henan Company	China Energy Henan Power Co., Ltd. (China Shenhua Energy Company Limited Henan Branch)
Xinjiang Company	China Energy Xinjiang Energy Co., Ltd. (Guoneng Xinjiang Power Co., Ltd.)	Sichuan Company	China Energy Sichuan Power Generation Co., Ltd. (Guoneng Sichuan Energy Co., Ltd.)
Yanbao Energy	Inner Mongolia Dayan Mining Group Co., Ltd. (Guoneng Baorixile Energy Co., Ltd.)	Yunnan Company	China Energy Yunnan Power Co., Ltd.
Jiangsu Company	China Energy Jiangsu Power Co., Ltd.	Guangxi Company	China Energy Guangxi Power Co., Ltd. (China Shenhua Energy Company Limited Guangxi Branch)
Guohua Investment	Guohua Energy Investment Co., Ltd. (China Energy New Energy Co., Ltd., China Energy Hydrogen Energy Technology Co., Ltd.)	Inner Mongolia Company	China Energy Inner Mongolia Power Co., Ltd. (Beijing Guodian Electric Power Co., Ltd. Inner Mongolia Branch)
Shandong Company	China Energy Shandong Power Co., Ltd. (China Shenhua Energy Company Limited Shandong Branch)	Gansu Company	China Energy Gansu Power Co., Ltd.
Anhui Company	Guoneng Shenwan Energy Co., Ltd. (China Energy Anhui Energy Co., Ltd.)	Shaanxi Company	China Energy Shaanxi Power Co., Ltd.

Abbreviation	Full Name	Abbreviation	Full Name
Hunan Company	China Energy Hunan Power Co., Ltd. (China Shenhua Energy Company Limited Hunan Branch)	Real Estate Company	China Energy Real Estate Co., Ltd.
Hainan Company	China Energy Hainan Power Co., Ltd.	International Engineering	China Shenhua International Engineering Co., Ltd.
Chongqing Company	China Energy Chongqing Power Co., Ltd. (Shenhua Shendong Power Co., Ltd. Chongqing Branch)	Information Technology Company	Guoneng Information Technology Co., Ltd. (Guoneng Wangxin Technology (Beijing) Co., Ltd.)
Qinghai Company	China Energy Qinghai Power Co., Ltd.	Xinjie Energy	Shenhua Xinjie Energy Co., Ltd.
Tibet Company	China Energy Tibet Power Co., Ltd.	Zhuhai Port	Guoneng Zhuhai Port Co., Ltd.
Shanghai Company	China Energy Shanghai Power Co., Ltd.	Yulin Energy	Guoneng Yulin Energy Co., Ltd.
Ningxia Power	China Energy Ningxia Power Co., Ltd. (Beijing Guodian Electric Power Co., Ltd. Ningxia Branch, Guodian Younglight Energy Chemical Group Co., Ltd.)	Shenyan Coal	China Energy Shaanxi Shenyang Coal Co., Ltd.
Zhejiang Company	China Energy Zhejiang Power Co., Ltd. (Beijing Guodian Electric Power Co., Ltd. Zhejiang Branch)	Shared Service Company	China Energy Group Shared Service Center Co., Ltd.
Hebei Company	China Energy Hebei Power Co., Ltd. (China Shenhua Energy Company Limited Hebei Branch, GD Power Development Co., Ltd. Hebei Branch)	Media Company	China Energy Group Media Center Co., Ltd.
Shanxi Company	China Energy Shanxi Power Co., Ltd. (Beijing Guodian Electric Power Co., Ltd. Shanxi Branch)	Power Marketing Company	China Energy Power Marketing Center Co., Ltd.
Jilin Company	China Energy Jilin Power Co., Ltd.	Xiongan Company	China Energy Xiongan Energy Co., Ltd.
Heilongjiang Company	China Energy Heilongjiang Power Co., Ltd.	United Power	China Energy United Power Technology Co., Ltd.
Jinsha River Company	Guodian Jinsha River Xulong Hydropower Development Co., Ltd. (China Energy Jinsha River Benzilan Hydropower Co., Ltd.)	Guangdong Company	China Energy Guangdong Power Co., Ltd. (China Shenhua Energy Company Limited Guangdong Branch)
Railway Equipment Company	Guoneng Railway Equipment Co., Ltd.		
Huanghua Harbor Administration	Guoneng Huanghua Harbor Administration Corp. (Ltd)		
Xinshuo Railway	Guoneng Xinshuo Railway Co., Ltd.		
Tianjin Port	Guoneng (Tianjin) Port Co., Ltd.		
Shipping Company	Guoneng Yuanhai Shipping Co., Ltd.		
Coking Company	China Energy Coal Coking Co., Ltd.		
Finance Company	China Energy Finance Co., Ltd.		
International Company	CHN Energy International Development Co., Limited (China Shenhua Overseas Development & Investment Co., Limited)		

FEEDBACK

Dear readers,

Thank you very much for reading this Report. It is the fifth social responsibility report released after the incorporation of China Energy. In order to improve this Report, we look forward to your valuable comments and suggestions. We will take your comments and suggestions seriously and protect your privacy from any third party.

Multiple choices:

1. What is your overall assessment of this Report:

Very good Good Acceptable Poor Very poor

2. Do you think this Report reflects the significant impact of the Company on economy, society and environment:

Yes No

3. What do you think of the clarity, accuracy and completeness of the information, data and indicators disclosed in this Report:

Very good Good Acceptable Poor Very poor

4. What do you think of the structure of this Report:

Very reasonable Reasonable Acceptable Poor Very poor

5. What do you think of the layout and visual design of this Report:

Very good Good Acceptable Poor Very poor

Open questions:

1. Which aspects of this Report do you think are most satisfying?

2. What further information do you think should also be disclosed in this Report?

3. What comments and suggestions do you have for China Energy's social responsibility work?

If possible, please leave your information below:

Name: _____ Job: _____ Institution: _____ Address: _____

Postal code: _____ E-mail: _____ Tel: _____ Fax: _____

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