



China Power International Development Limited
中國電力國際發展有限公司

(incorporated in Hong Kong with limited liability)

(Stock Code : 2380)



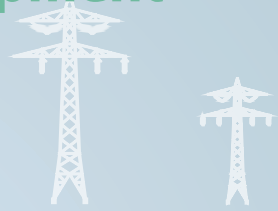
GREEN FUTURE

Sustainability Report 2020

Our Philosophy



Striving for **Clean Development**
Contributing to **Green Energy**



2018



2019



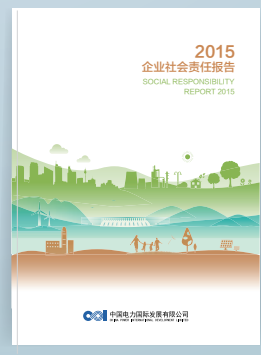
2020



2017



2016



2015

About This Report

Basis of Preparation

This report has been prepared in accordance with the relevant requirements of the Guiding Opinions on Fulfilling Social Responsibilities of Central Enterprises issued by the State-owned Assets Supervision and Administration Commission of the State Council of the PRC (“SASAC”), and the prevailing Environmental, Social and Governance Reporting Guide issued by The Stock Exchange of Hong Kong Limited (“Hong Kong Stock Exchange”), and with reference to the Sustainability Reporting Standards of the Global Reporting Initiative (“GRI Standards”).

Reporting Period

This report covers the period from 1 January 2020 to 31 December 2020, part of the content, as appropriate, has been traced back to the previous years. The date of this report is the same as the date of the Annual Report 2020 of China Power (i.e. 18 March 2021).

Reporting Scope

The Group as a whole.

Reporting Principles

Materiality, quantitative, consistency and balance.

Data Sources

The financial data cited in this report is derived from the audited Annual Report 2020 of China Power. Other data is derived from internal official documents of China Power and relevant statistics.

Reference

For the convenience of presentation, “China Power” or the “Company” refer to China Power International Development Limited, and the “Group” or “we” or “us” or “our” refer to China Power together with its subsidiaries in this report.

Notes on Currency

The currency used in this report is Renminbi (RMB), unless otherwise specified in related data.

Access to This Report

This report is available in Chinese and English electronic versions. You may access this report in the following ways:

🌐 Website: <http://www.chinapower.hk>

✉ Email: ir@chinapower.hk

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TIAN Jun

Chairman of the Board

Promotion of clean energy transition through green development

Adhering to the sustainable development concept of "Striving for Clean Development, Contributing to Green Energy", we focused on low-carbon development of clean energy and a more intensive energy revolution. We promoted transformation and development, continued to expand the scale of clean energy, and gave priority to grid parity and competitive bidding energy development. Liaoning Chaoyang 500MW Photovoltaic Grid Parity Project, the single largest project in terms of capacity among the first batch of photovoltaic grid parity projects in China, has commenced operation at full capacity. During the year, we completed the acquisition of three grid parity photovoltaic projects, including Shanxi Datong Zero-carbon Green Energy Base, with a total capacity of 350MW. As of the end of 2020, the Group's attributable installed capacity of clean energy was 9,393.6MW, accounting for 39.34% of the total attributable installed capacity.

In 2020, the Group deepened development in the sector of integrated intelligent energy, optimized the development planning and layout of the hydrogen energy industry. The Beijing Baozhigu "Zero-carbon" Project and Yanqingyuan Hydrogen Refueling Station Project, which was the first hydrogen refueling station granted the business license in Beijing, were completed and put into production. We have officially commenced the construction of the integrated photovoltaic charging comprehensive intelligent energy project of Tianjin Fushida Group (天津富士達集團) and the photovoltaic storage and charging project of TW Solar in Hefei, Anhui. By piloting the carbon emission rights in Dabieshan Power Plant, we planned for "Carbon Emission Peak" to promote carbon emission transactions and management. In 2020, the Group's clean energy power generation amounted to 33,903,032MWh, representing a reduction in carbon dioxide emission of 27,003,765 tonnes. A total of approximately RMB259 million was invested in environmental technological upgrade.

Message from the Chairman

Striving for Clean Development Contributing to Green Energy

The year 2020 was an extraordinary year. The sudden outbreak of COVID-19 pandemic has made an impact on the progress of the development of mankind and the order of the global economy. Nevertheless, with great achievement in containing the pandemic, China has become the only major economy maintaining positive economic growth. Meanwhile, it was the final year of the "13th Five-Year" plan of the Chinese government with accomplishment of the first Centenary Goal. Having been preparing for the commencement of the "14th Five-Year" plan, the Chinese government proposed "to accelerate the formation of a new development pattern, in which the domestic cycle plays a leading role and fosters a mutually beneficial relationship with the international cycle". The year 2020 was a challenging and yet a good harvest year to China Power. Furthermore, it was a year for the in-depth planning for the direction of the prospective transformation and growth and change in the mode of development. We will actively promote the "Three New Businesses" (i.e. development of new industries, new business formats and new operational models by using new technologies and applications). Adhering to our original goal, mission and standards, we put emphasis on promoting the ability in "counteracting any fragility". We forged ahead amidst all challenges, setting off a new journey for the high-quality development of China Power comprehensively.

Promotion of growth trend through innovative development

Insisting on innovation as the new engine and new driving force for our transformation and development, we pushed forward an all-round innovation in terms of technology, business model and management throughout the Group. For innovation of technology, we have been advancing the development of the "three-center and multi-platform" system of our subsidiary CP Huachuang, probing into the practical application of innovation results in the development of intelligent enterprises and intelligent energy, and have demonstrated the technological achievements and their application in the integrated energy project in the USTB Industrial Park (北科產業園). For innovation of business model, we, based on technology, have been promoting the integration of internal and external resources, strengthening the Group's capability of cooperative development, exploring the integration of the "Industry + Internet" philosophy, improving the professional platform, and further intensifying the cooperation in innovation with joint ventures. For innovation of management, we have been continuing to promote the establishment of the "Plan-Budget-Assessment-Incentives" governance system and the application of the DOAM tool, deepening the implementation of the "1+N" mechanism and further stimulating the vitality of innovation, thereby enhancing the quality and efficiency of the Group and strengthening the Group's capability of business management. In 2020, the Group invested a total of approximately RMB676 million in technological development.



Promotion of steady and sustained progress through coordinated development

We made every effort to promote corporate reform and enhance our value creation capability. In 2020, the Company successfully completed the comprehensive reform named the “Double Hundred Actions” and was rated as a “A-class Enterprise” in the Double-Hundred Reform by the Leading Group for State-owned Enterprises’ Reform of the State Council of the PRC. The Company received the Prize of Special Mention — Non-Hang Seng Index Constituent Stocks (Medium Market Capitalization) Category (非恒指成份股(中市值)評判嘉許獎) from the Judges’ Report for the 20th Best Corporate Governance Awards 2020 issued by the Hong Kong Institute of Certified Public Accountants (“HKICPA”). In 2020, the Group maintained steady operation and recorded a net profit of approximately RMB2,926 million, up by 32.91% year-on-year. Basic earnings per share was RMB0.17, and net assets per share (excluding non-controlling interests and other equity instruments) was approximately RMB3.10, while various taxes paid by the Group amounted to approximately RMB2,430 million.

The Company launched a three-year action plan for State-owned Enterprise Reform and an action to improve its management to a world-class level, which effectively motivated our employees to engage in work and pursue all-round development. We also forged ahead the standardization of the responsibilities of the Group and its business units and entrusted companies. By strengthening the enterprise through talent development, building talent teams, supporting employee development and encouraging them to create value, we have achieved mutual win between employees and the Company.

Promotion of reshaping of strengths through open development

Adhering to our mission of striving to become the world’s leading major clean energy enterprise, we promoted the Group’s high-quality development in all aspects and made new progress in multinational development. Pursuant to the Entrusted Management Agreement entered into between the Company, CPI Holding and SPICOL, we successfully took over the management of the overseas entrusted companies in eight countries such as Australia, Brazil, Chile and Mexico, with the project assets totalling 5,700MW, which further improved our global business management capability and supported the implementation of our multinational development strategy.

Promotion of an all-win situation with joint efforts through shared development

We insisted on the engagement in efficient interactions with all parties, and advantage complementation, aiming to consolidate our strengths to form synergy for shared development. Besides, we reinforced partnerships, enhanced cooperation with the government, universities and enterprises, achieving a win-win situation in energy development and technological innovation with joint efforts. We also supported regional economic development, served for the industry development and sales of agricultural products in poverty-stricken areas. Committed to poverty alleviation through consumption and increasing the income of impoverished residents, we have cumulatively spent RMB3,207,170 for poverty alleviation through consumption. Moreover, we provided reliable power supply to safeguard local development, strengthened early warning against disasters, made all efforts to cope with extreme weather conditions such as snowstorms and rainstorms, supported Wuhan City by ensuring power supply during the pandemic, and enhanced poverty alleviation through education. In the “Yingshanhong” project, we organized 287 voluntary services and donated RMB4,555,348 to support the education for under-privileged students.

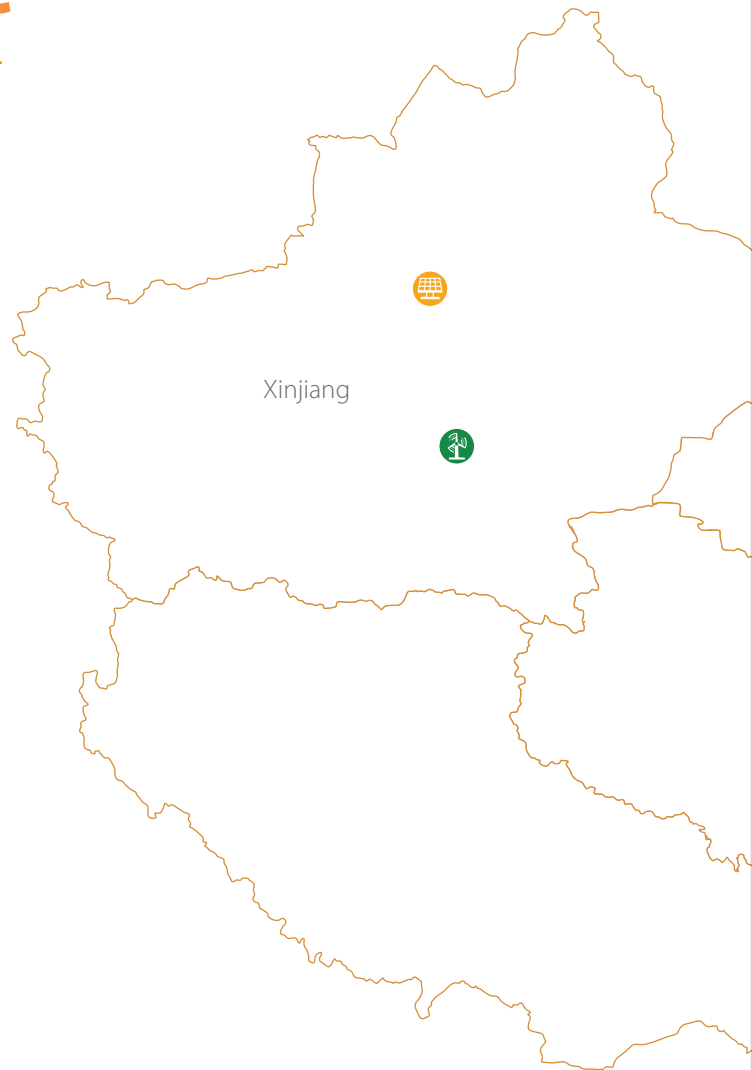
The year 2021 is the starting point of the State’s second Centenary Goal, marking the beginning of a new phase formation. The “14th Five-Year” plan has already commenced, and we have decided our development approach. We will further implement the new development concept, precisely identify the new development stage, promote the “Three New Businesses” (i.e. development of new industries, new business formats and new operational models by using new technologies and applications) and accelerate the formation of the new development pattern. Furthermore, we will keep our steadfast faith, meet the challenges and risks, seize opportunities, and continue to establish ourselves as the world’s leading major clean energy enterprise, create value for stakeholders and join hands to build a better future.

Company Profile

China Power was incorporated in Hong Kong with limited liability under the Hong Kong Companies Ordinance on 24 March 2004 and is a core subsidiary for conventional energy business of State Power Investment Corporation Limited ("SPIC"), the only integrated energy group which simultaneously owns coal-fired power, hydropower, nuclear power and renewable energy resources in the People's Republic of China ("PRC").






The shares of the Company were listed on the Main Board of the Hong Kong Stock Exchange on 15 October 2004 with the stock code 2380. From only engaging in coal-fired power business at its inception, the Company has expanded its business into the areas of, among others, hydropower, wind power, photovoltaic power, natural gas power, electricity sales and distribution and integrated energy through continuous development for more than 15 years. Various business segments are growing orderly along with the constant expansion of the Group.

As at 31 December 2020, the Group's total attributable installed capacity was 23,878.2MW, of which attributable installed capacity of clean energy was 9,393.6MW, accounting for 39.34% of all attributable installed capacity.

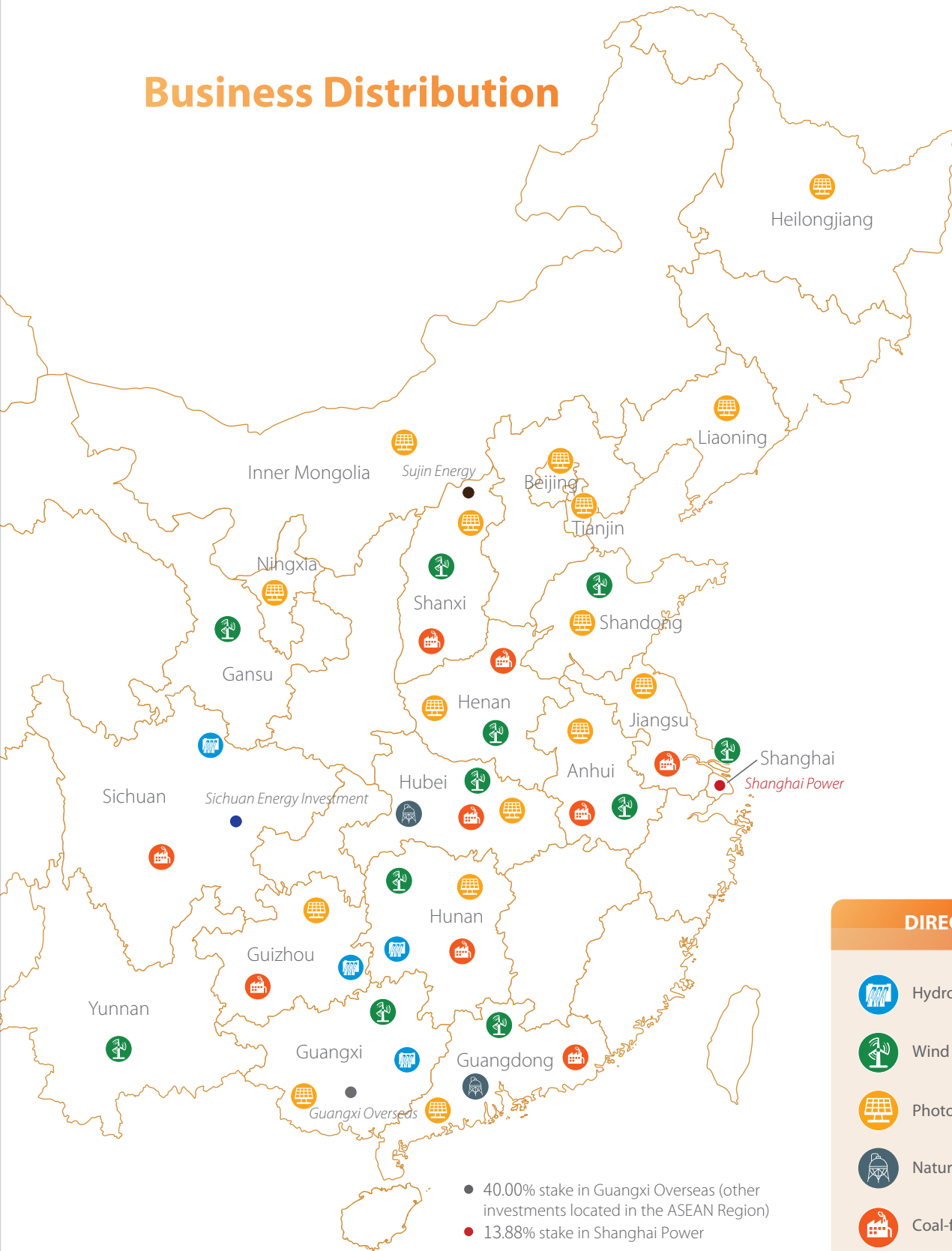


EXISTING POWER PLANTS

As at 31 December 2020, the Group's total attributable installed capacity presented by type of power plant is as follows:

Type of Power Plant	Installed Capacity (MW)	Interest (%)	Attributable Installed Capacity (MW)
 Hydropower	5,834.7	~9.13-64.93	3,507.8
 Wind Power	5,015.4	~13.88-98.73	1,990.5
 Photovoltaic Power	6,268.6	~13.88-100	3,389.1
 Natural Gas Power	2,802.2	~13.88-90	506.2
 Coal-fired Power	29,992.7	~9.50-100	14,484.6
Total	49,913.6		23,878.2

Business Distribution



- 40.00% stake in Guangxi Overseas (other investments located in the ASEAN Region)
- 13.88% stake in Shanghai Power
- 9.13% stake in Sichuan Energy Investment
- 9.50% stake in Sujin Energy

DIRECTIVE

-  Hydropower
-  Wind Power
-  Photovoltaic Power
-  Natural Gas Power
-  Coal-fired Power

As at 31 December 2020, the total attributable installed capacity of the Group's wholly-owned and controlled power plants presented by region is as follows:

Region	Installed Capacity (MW)	Interest (%)	Attributable Installed Capacity (MW)
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Hydropower Power Plant

Hunan	3,109.7	63	1,959.2
Guizhou	1,570	59.85	939.7
Sichuan	165.4	~44.1-63	98.7
Guangxi	630	64.93	409.1

Sub-total	5,475.1		3,406.7
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Wind Power Plant

Xinjiang	198	63	124.8
Hunan	470	~44.1-63	264.1
Gansu	100	44.1	44.1
Yunnan	147.4	~32.13-44.1	59.1
Shanxi	50	56.7	28.4
Guangxi	653.5	95	620.8
Shandong	506.1	~51-98.73	323.1
Henan	46.6	60	28

Sub-total	2,171.6		1,492.4
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Photovoltaic Power Station

Henan	206	~34.65-100	77.2
Anhui	361.6	~35.7-100	338.2
Shanxi	830	~70-100	785
Liaoning	525	100	525
Hubei	656.8	~34.65-100	481.4
Guangdong	34	~34.65-100	24.9
Xinjiang	20	63	12.6
Inner Mongolia	90	~44.1-63	52.9
Hunan	69	~32.13-63	37.3
Guizhou	100	100	100
Shandong	186.2	~44.1-100	157.6
Ningxia	640	~32.13-44.1	229.6
Heilongjiang	200	~70-100	152
Beijing	2.3	~51-100	1.4
Guangxi	70	~64.93-100	63
Jiangsu	4.5	100	4.5
Tianjin	9.7	35.7	3.4

Sub-total	4,005.1		3,046
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Natural Gas Power Station

Hubei	154	90	138.6
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Sub-total	154		138.6
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Region	Installed Capacity (MW)	Interest (%)	Attributable Installed Capacity (MW)
Coal-fired Power Plant			
Anhui	5,860	~60-100	4,044
Henan	2,860	100	2,860
Hubei	2,600	51	1,326
Sichuan	1,200	51	612
Shanxi	1,200	80	960
Guizhou	1,320	95	1,254
Sub-total	15,040		11,056

As at 31 December 2020, the total attributable installed capacity of the Group's main associates, joint ventures and investment holding companies' power plants are as follows:

Power Plant	Installed Capacity (MW)	Interest (%)	Attributable Installed Capacity (MW)
Changshu Power Plant	3,320	50	1,660
Xintang Power Plant	600	50	300
Liyujiang Power Plant	600	25.2	151.2
Shanghai Power	14,642.6	13.88	2,032.4
Sujin Energy	2,983.2	9.50	283.4
Guangxi Overseas	574.2	40	229.7
Sichuan Energy Investment	138.7	9.13	12.7
Jinzishan Wind Power	207.4	15.22	31.6
Fushan Power Station	75	50	37.5
Total	23,141.1		4,738.5

PROJECTS UNDER CONSTRUCTION

As at 31 December 2020, the Group's projects under construction presented by type of power plant are as follows:

Type of Power Plant	Installed Capacity (MW)	Interest (%)	Attributable Installed Capacity (MW)
 Hydropower	500	63	315
 Wind Power	1,882.4	~32.13-100	1,116
 Photovoltaic Power	978.9	~41-100	604.5
 Natural Gas Power	321.6	100	321.6
 Coal-fired Power	2,000	100	2,000
Total	5,682.9		4,357.1

NEW DEVELOPMENT PROJECTS

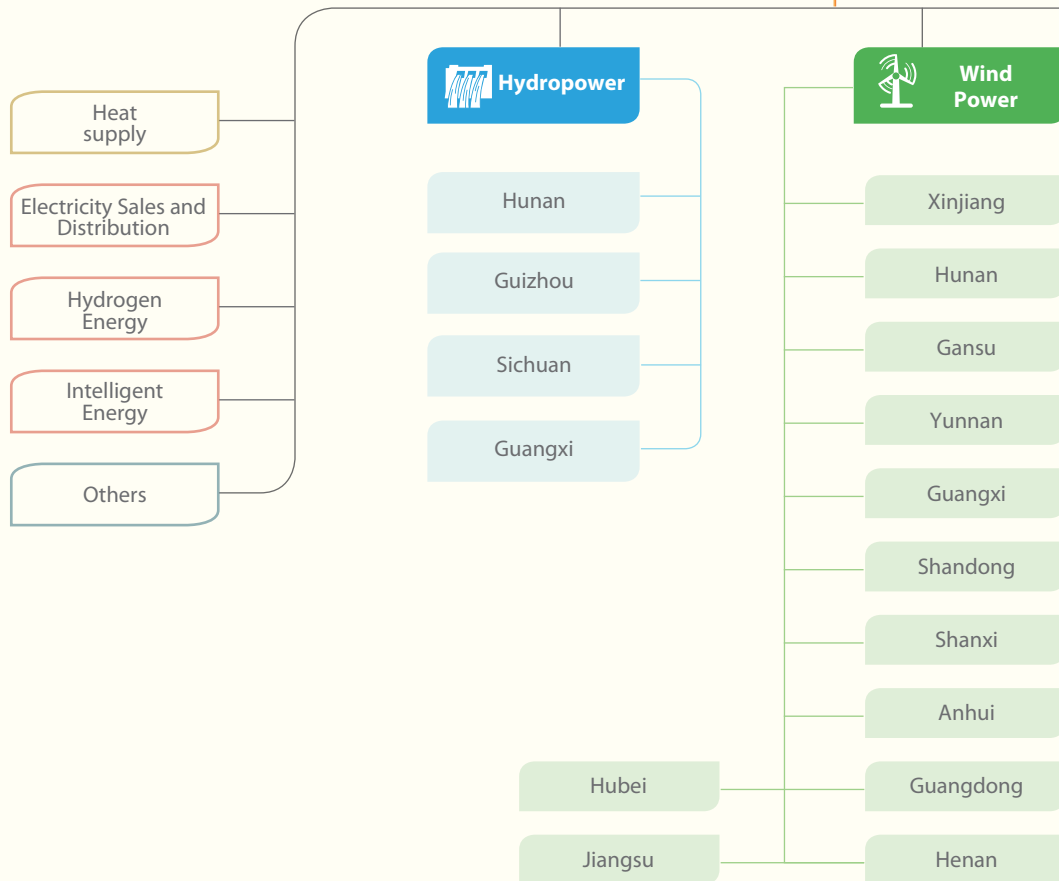
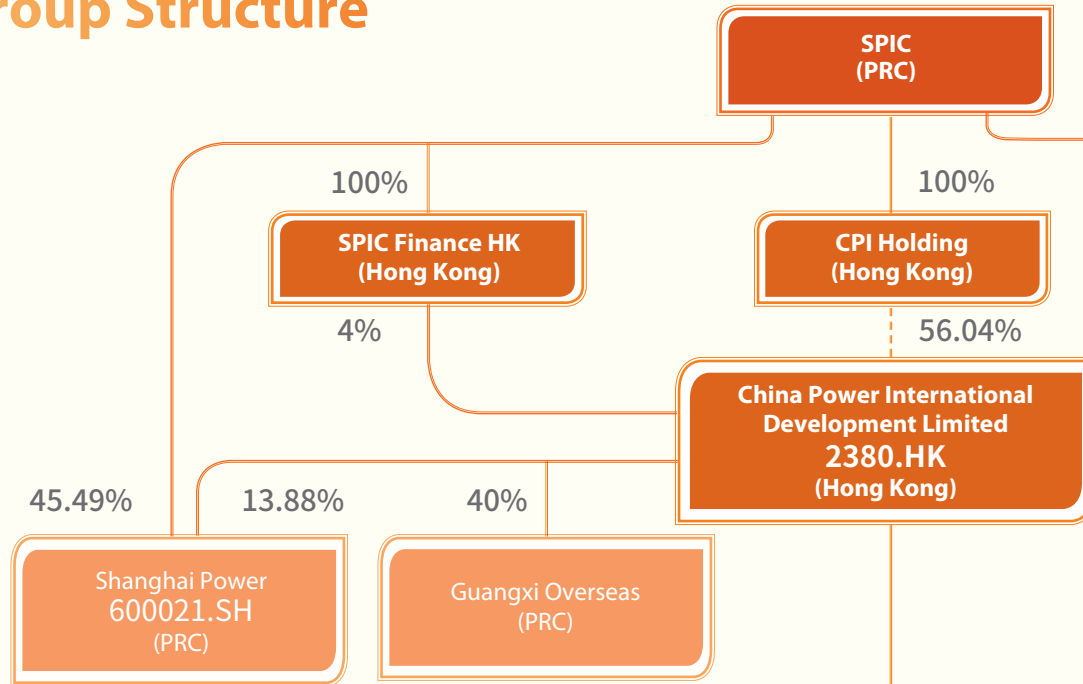
As at the date of this report, the total installed capacity of new projects in the preliminary development stage (including projects submitted for approval by the government of the PRC) is approximately 4,750MW. The categories are distributed as follows:

Type of Power Plant	Installed Capacity (MW)
Renewable energy (wind power and photovoltaic power)	4,715
Natural gas power	35
Total, approximately	4,750

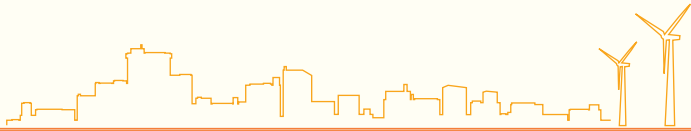
ULTIMATE HOLDING SHAREHOLDER — SPIC

The Company is ultimately owned by SPIC, a wholly State-owned enterprise established by the approval of the State Council of the PRC. The business of SPIC includes power, coal, aluminum, logistics, finance, environmental protection and high-tech industries, etc. with a total installed capacity of approximately 176GW, of which installed capacity of clean energy was approximately 99GW, accounting for 56.25% of total installed capacity.

Group Structure



Note: The above group structure is recorded up to the date of Annual Report 2020 of China Power (i.e. 18 March 2021)



Public

39.96%

Other assets

9.13%

Sichuan Energy Investment
1713.HK
(PRC)

9.50%

Sujin Energy
(PRC)

Photovoltaic Power

- Henan
- Anhui
- Shanxi
- Liaoning
- Hubei
- Guangdong
- Xinjiang
- Inner Mongolia
- Hunan
- Guizhou

Natural Gas Power

- Hubei
- Guangdong
- Shandong
- Ningxia
- Heilongjiang
- Beijing
- Guangxi
- Jiangsu
- Tianjin

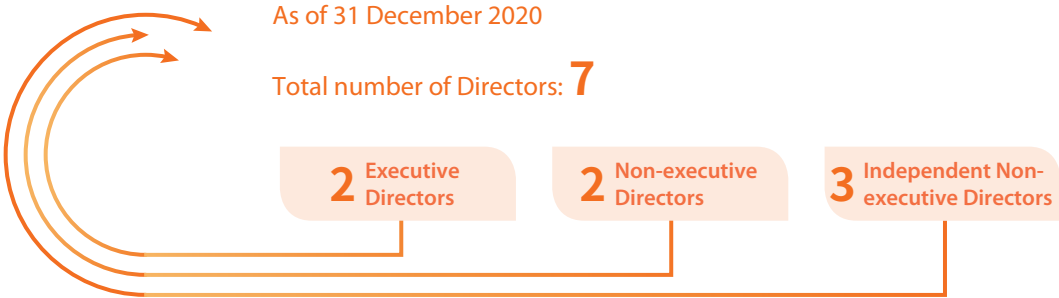
Coal-fired Power

- Anhui
- Henan
- Hubei
- Sichuan
- Shanxi
- Guizhou
- Jiangsu
- Guangdong
- Hunan

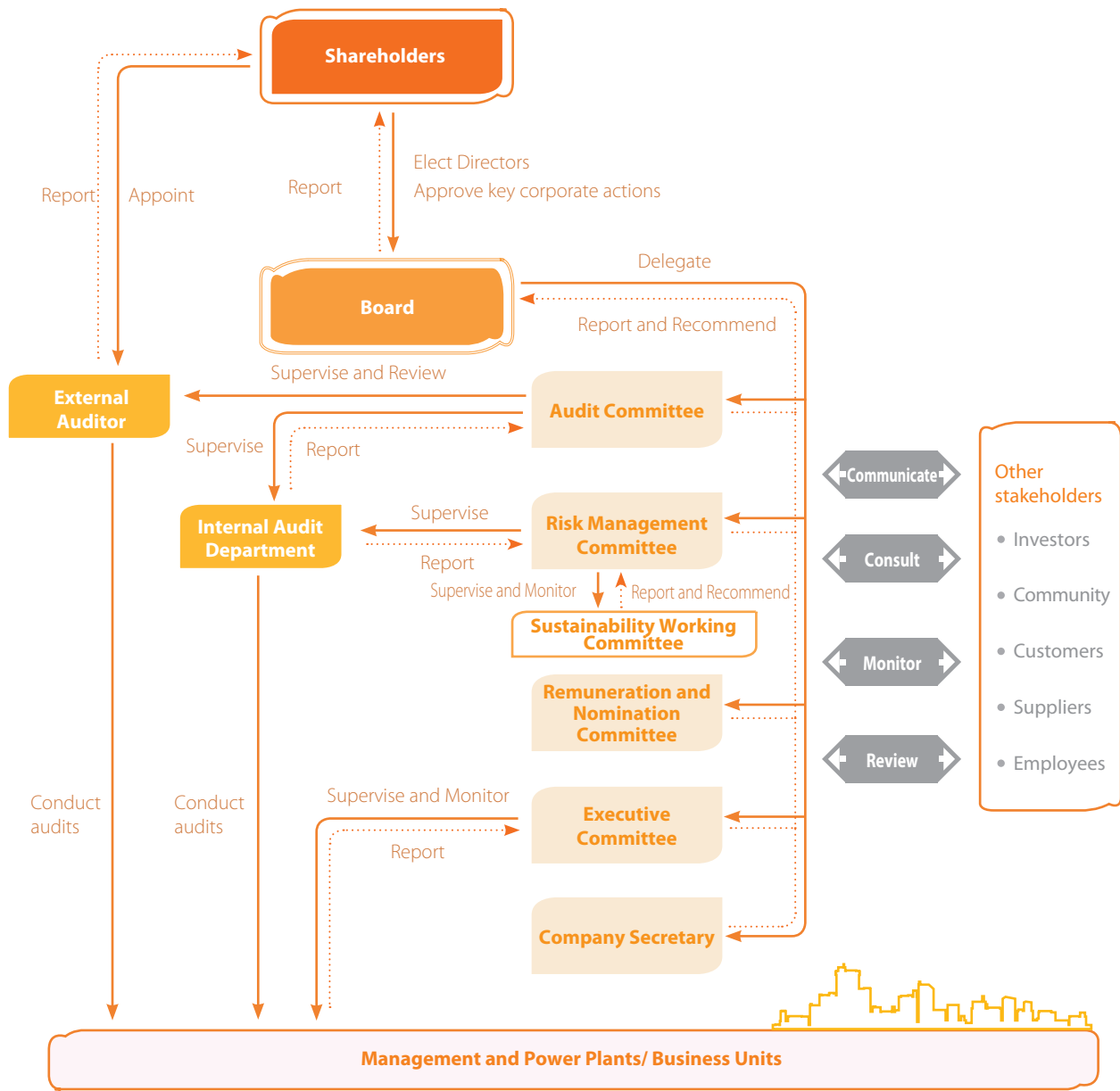


Governance Framework

The Company strictly abides by relevant laws, regulations and the rules of regulatory authorities, and constantly improves its corporate governance system. Its staffing structure is in line with laws, regulations and the mandatory requirements for listed companies, and its Directors are diversified in terms of capabilities, skills and professional experience. In addition, the Company has formed a corporate governance structure with effective checks and balances which the shareholders, the board of Directors (“Board”), four committees under the Board, and the management operate independently and in coordination.



Type of meeting	Number of meetings held in 2020
Annual General Meeting	1
Board Meeting	5
Executive Committee Meeting	15
Audit Committee Meeting	2
Risk Management Committee Meeting	2
Remuneration and Nomination Committee Meeting	2



Risk Management

Risk Management Philosophy

We have established a risk management framework with three lines of defence, namely “Business, Supervision and Support, Assurance”, under which we have integrated risk management with its strategic goals and required risk management to be “Comprehensive, Focused, Dynamic and Continuous”. We regularly study and clarify the comprehensive risk indicator system in relation to the Group’s operation through the Risk Management Committee. We also take a dynamic approach to set up key risk checkpoints based on the internal and external changes of the Group, and monitor the management’s performance in bearing their responsibilities in relation to dynamic monitoring and ongoing risk management and control during daily operating activities. We consistently work on building a “Prudent, Aggressive and Responsible” risk culture through proactive participation of risk management activities with a view to ensuring the high-quality and sustainable development of the Group.

Risk Management Committee

The Risk Management Committee is delegated by the Board with responsibilities to oversee the Group’s overall risk management framework and to advise the Board on the Group’s risk-related issues. The Risk Management Committee is also responsible for approving the Group’s risk management policies and assessing the effectiveness of the Group’s risk controls. The details of the terms of reference of the Risk Management Committee have been posted on the websites of the Company and the Hong Kong Stock Exchange.

Risk Management Framework and Procedures

Pursuant to the standards regarding the risk management framework of the Committee of Sponsoring Organizations of the Treadway Commission (the “COSO”) (including standards being updated on an ongoing basis), we have established a risk management framework with “three lines of defence”, as follows:

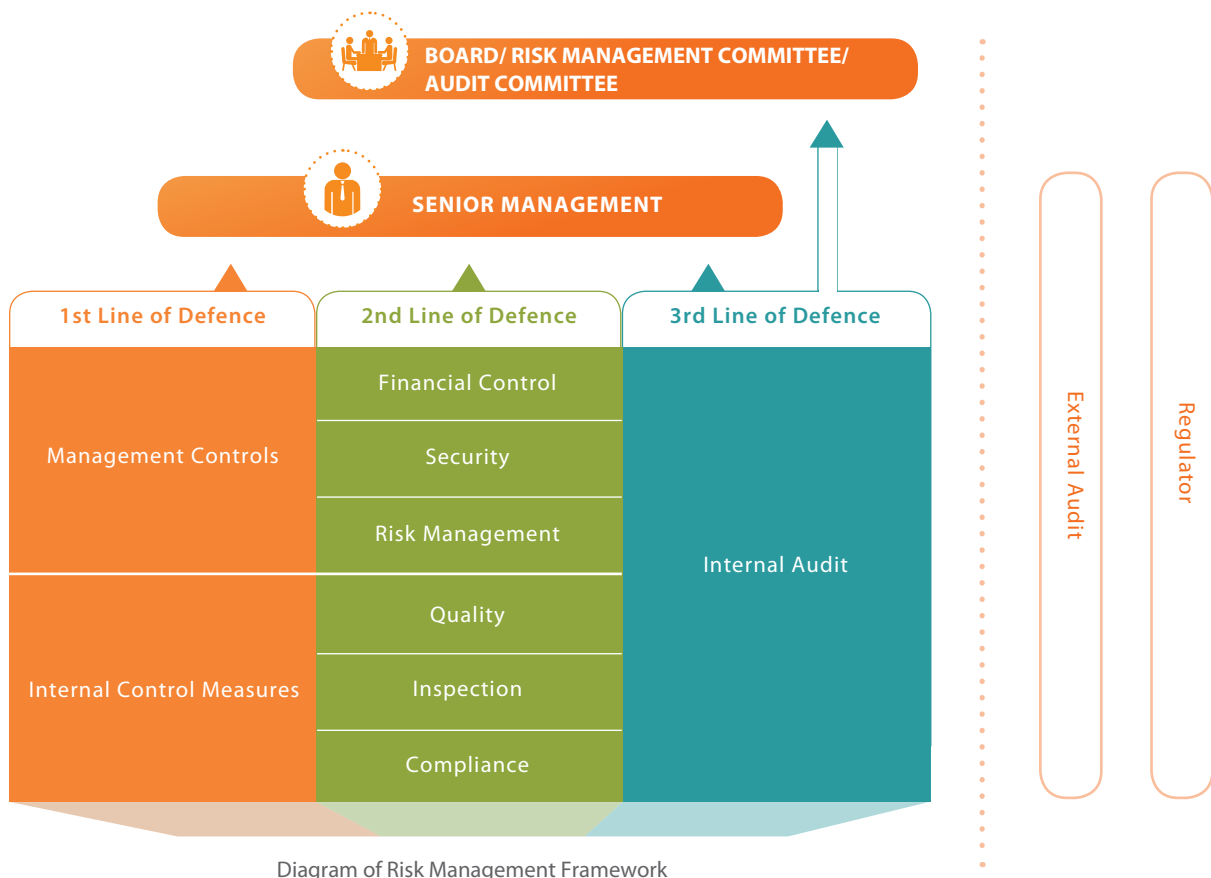


Diagram of Risk Management Framework

Our risk management mechanisms and procedures mainly include:

- ☑ Comprehensive risk management
- ☑ Risk management targeting major investment projects
- ☑ Specific risk management targeting key risk areas

Diagram of Risk Management Mechanisms and Procedures



The procedures for comprehensive risk management are as follows:

- ☑ Phase 1: Formulating risk management policies, strategies and risk assessment standards
- ☑ Phase 2: Comprehensively collecting first-hand information for risk management and risk identification
- ☑ Phase 3: Conducting risk assessment and establishing comprehensive risk management ledger
- ☑ Phase 4: Risk follow up treatment as well as tracking and update of risk management ledger on a quarterly basis
- ☑ Phase 5: Risk reporting and monitoring

Major risk checkpoint identification

Currently, the external political, economic, social and environmental conditions are continuously changing, and we are fully aware of the importance of timely and even earlier identification of potential and emerging risk checkpoints in various aspects for China Power's development. In 2020, with the spread of COVID-19 and the emergence of extreme weather changes, we identified new risk checkpoints in the following aspects on the basis of previous analysis on risk identification and in view of China Power's development strategy and changes in external policies and environment:

Changes in environmental policies

- General Secretary Xi Jinping has set green development goals of achieving "Carbon Emission Peak" by 2030 and "Carbon Neutrality" by 2060, imposing higher requirements for carbon emission and management. For power generation enterprises, technical upgrade on coal-fired power generating units, coal-fired power development, clean energy development, carbon emission management and other aspects are all undergoing transformation

COVID-19 pandemic

- The rapid spread of COVID-19 in 2020 caused enterprises to shut down and supply chains to take a hit, and the business operation of upstream suppliers affected the Company's fuel supply sources
- Home quarantine during the pandemic put higher demands on electricity due to insufficient manpower, threatening normal and stable supply of electricity

Extreme weather disasters

- In the winter of 2020, extreme snow and icy weather brought great difficulties to coal transportation, resulting in shortage of coal supply and meanwhile, residents' demand for electricity rose sharply, bringing challenges to stable operation of power generating units and reliable power supply

Major Events in

2020

Key Events

01

A Leading Team for Coronavirus Disease Prevention and Control was formed

In January 2020, China Power formed a Leading Team for Coronavirus Disease Prevention and Control and Mr. TIAN Jun, the Chairman of the Board, served as the team leader. The Leading Team assumed full command over various arrangements, measures and requirements for pandemic prevention and control to ensure the normal operation and sufficient power supply of every single business unit at home and abroad of the Company. In the meantime, the Company also timely distributed the "Emergency Handbook for Coronavirus Disease Prevention and Control" to its employees to enhance their awareness of pandemic prevention and ensure the physical and mental health of the employees.

02

Dabieshan Power Plant reactivated power generating units for emergency power supply to Wuhan City

On 25 January, facing the sudden outbreak of COVID-19, Dabieshan Power Plant overcame difficulties in a short time and reactivated its power generating units for emergency power supply to Wuhan City. On 31 January, leaders of SASAC visited SPIC to survey and guide pandemic prevention and control, and recognized the efficient and effective power supply of Dabieshan Power Plant during the pandemic. On 22 October, Dabieshan Power Plant was rated as an “Advanced Central Enterprise of Combating the Coronavirus Disease” by SASAC.

03

CP Zhihui was accredited as a national high-tech enterprise

On 27 February, CP Zhihui was accredited as a national high-tech enterprise for being an integrated platform for intelligent energy project investment and research and development of multi-flow energy management system under China Power. Since its establishment in 2017, CP Zhihui has developed multiple integrated intelligent energy projects, converted technological achievements into core independent intellectual property rights, and become a vanguard in the exploration of integrated intelligent energy development under China Power.



04

The first “Zero-carbon” Power Supply Project of China Power officially commenced operation

On 30 June, the energy storage tank of the Baozhigu project supplied cooling water to the park area, marking the official launch of the first “Zero-carbon” Power Supply Project of China Power — Baozhigu Integrated Intelligent Energy Demonstration Project. First, the project replaced the gas boiler with the electric boiler and the air source heat pump. Second, it created new electric equipment for storing energy, cooling water and heat. Third, rooftop photovoltaics and photovoltaic carports were built to replace energy supply of natural gas. Fourth, it raised the consumption ratio of clean energy in the park area, achieving “zero carbon” and “electrification”.

05

Chaoyang photovoltaic power project commenced operation at full capacity

On 31 July, Liaoning Chaoyang 500MW Photovoltaic Grid Parity Project, the single largest project in terms of capacity among the first batch of grid parity demonstration projects in China, was fully put into production. The project offered favorable practical experience that can be referred to and replicated, and set a good example for China Power to develop large-scale base projects in the future, in turn marking a new milestone in the Group’s strategy implementation.



06

The first sludge blending combustion project of China Power was put into operation

A truck fully loaded with sludge entered the coal yard of the Wuhu Power Plant on 17 August, dumping 22 tonnes of sludge, which marked the debut operation of the first sludge blending combustion project of China Power. According to the statistics, 300 tonnes of wet sludge are generated daily on average in Wuhu City. The project will relieve the pressure of the local government concerning the disposal, dumping, and landfilling of sludge. Sludge will be treated harmlessly and reduced, benefiting the regional ecological balance.

08

China Power completed full capacity grid connection of the first wind power project in Henan Province

On 29 September, China Power completed full capacity grid connection of the first wind power project in Henan Province successfully—Puyang 46.6MW Wind Power Project. At full capacity, it is expected that the project will generate 117,000MWh of electricity every year. Approximately 36,600 tonnes of standard coal and approximately 241,100 tonnes of water will be saved annually. Furthermore, the emissions of pollutants including flue gas and dusts, sulphur dioxides, and nitrogen oxides will be reduced by approximately 4.16 tonnes/year, 14.69 tonnes/year, and 21.15 tonnes/year, respectively.

10

China Power was granted the title of Excellent Enterprise for Building Corporate Culture of the PRC under the “13th Five-Year” plan

The 18th Corporate Culture Summit for Chinese and Foreign Enterprises was hosted by the China Corporate Culture Institute in Hangzhou from 14 to 16 November. China Power was honored with the title of Excellent Enterprise for Building Corporate Culture of the PRC under the “13th Five-Year” plan, as it has always attached great importance to building corporate culture and enhancing the cultural soft power.

12

China Power was rated as “A-class Enterprise” in the Double-Hundred Reform

In 2020, China Power, as a participant of the comprehensive reform named the “Double-Hundred Actions”, steadily implemented the key reform project and fully completed the reform tasks. It was rated as “A-class Enterprise” in Double Hundred Reform (i.e. one of the 100 subsidiaries of central enterprises and 100 key local state-owned enterprises which achieved breakthroughs in areas such as mixed-ownership, corporate governance structure, market-oriented operating mechanism, talent incentive mechanism and legacy problems during 2018 to 2020), recognizing its reform results.

07

The Sustainability Working Committee was established

On 27 August, China Power resolved to establish a Sustainability Working Committee under the Risk Management Committee to assist the Risk Management Committee in providing leadership, direction and oversight in formulating the policies and implementing the practices in relation to the sustainability of the Group.

09

China Power participated in the construction of the Lubei Integrated Intelligent Industrial Park

On 14 October, China Power signed a strategic cooperation agreement with the government of Wudi County, Binzhou, Shandong Province, the PRC, pursuant to which it joined hands with upstream and downstream enterprises along the relevant industrial chain to participate in the construction of Lubei Integrated Intelligent Industrial Park, aiming to jointly develop a circular economy ecosystem with a focus on integrated intelligent energy that merges multi-industry, multi-energy and multi-intelligence.

11

China Power was granted the Prize of Special Mention for Non-Hang Seng Index Constituent Stocks (Medium Market Capitalization) Category

HKICPA released the Judges’ Report of the 20th Best Corporate Governance Awards 2020 on 2 December. Recognized by the society and expert judges for its corporate governance results, China Power was shortlisted for the first time and received the Prize of Special Mention for Non-Hang Seng Index Constituent Stocks (Medium Market Capitalization) Category.

Key Performance Indicators ("KPI")



Environmental Performance

In 2020, China Power increased the investment in environmental protection technical upgrade and offered environmental protection-related training to enhance the environmental protection management capability of employees while adding impetus to the Group's clean energy transformation.

Investment in environmental protection technical upgrade

258,700

RMB'000

Compared with 2019

↑ **56.71%**

Sulphur dioxide emission density

0.087

g/kWh

Compared with 2019

↑ **14.47%**

Dust emission density

0.008

g/kWh

Compared with 2019

↑ **14.29%**

Nitrogen oxide emission density

0.155

g/kWh

Compared with 2019

↑ **16.54%**

Net coal consumption rate

303.31

g/kWh

Compared with 2019

↑ **0.49%**

Comprehensive utilization rate of fly ash

89.27%

Compared with 2019

↑ **5.17%**

Clean energy power generation

33,903,032 MWh

Compared with 2019

↑ **21.50%**

Equivalent to reduction of carbon dioxide emissions **27,003,765** tonnes



Economic Performance

In 2020, China Power recorded total assets of RMB155,948,671,000 and an attributable installed capacity of 23,878.2MW by seizing the growth opportunities brought by the new development pattern of international and domestic “dual circulation”. Besides, we adhered high-quality development, focusing on the governance of a loss suffering enterprises, and recorded a net profit of RMB2,925,551,000 amid the constant instability in the international environment, the domestic economic downturn as well as the global economic slowdown.

Total assets
155,948,671
RMB'000

Compared with 2019 **↑ 11.16%**

Attributable installed capacity
23,878.2
MW

Compared with 2019 **↑ 13.10%**

Total electricity sold
88,255,525
MWh

Compared with 2019 **↑ 5.62%**

Net profit
2,925,551
RMB'000

Compared with 2019 **↑ 32.91%**

Various taxes paid
2,429,509
RMB'000

Compared with 2019 **↑ 2.22%**

Total amount in technological R&D
676,051
RMB'000

Compared with 2019 **↑ 118.17%**

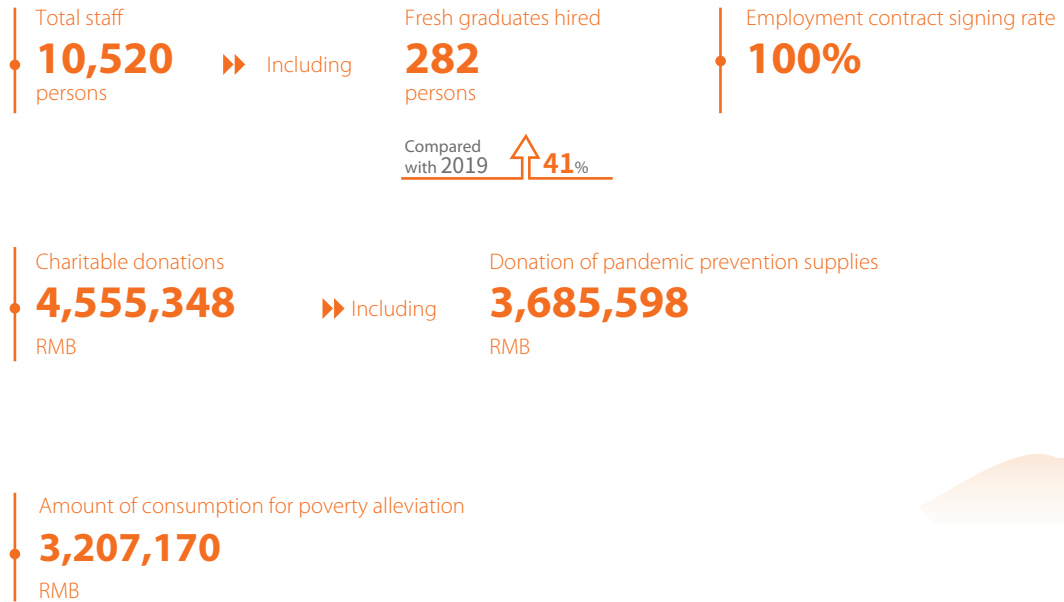
Indicator	2016	2017	2018	2019	2020
Revenue (RMB'000)	18,866,153	19,966,811	23,175,626	27,763,287	28,427,721
Corporate income tax paid (RMB'000)	1,094,790	466,947	528,533	629,883	551,315
Profit attributable to equity holders (RMB'000)	2,365,868	795,272	1,098,355	1,284,381	1,708,305
*Total electricity sold (MWh)	60,760,318	64,053,714	70,964,796	83,558,993	88,255,525

* Total electricity sold covered the wholly-owned and controlled power plants of the Group



Social Performance

The COVID-19 outbreak in 2020 held back the mobility of labor, resulting in a decreased demand for labor by enterprises. In response to the policy of “sparing no effort to stabilize and expand employment” of China, the Group created 501 job opportunities in its business locations and employed new personnel to enhance its talent pool for the purpose of stabilizing employment during the pandemic.



Special Topic

China Power's Anti-Pandemic Documentary

The sudden outbreak of COVID-19 in 2020 put China on high alert. A unified front was developed to jointly fight against the challenges. Upon the outbreak of the pandemic, we rapidly created an organizational system and a working mechanism for pandemic prevention and control, formulated and issued emergency measures for containing the pandemic, while putting efforts in ensuring power generation and reliable power supply and resumption of work and production. In the meantime, we developed a working mechanism to care for all employees and brought loving care to the front-line staff and their family members holding the offices of ensuring power generation and power supply, and fighting against the pandemic.

2020

Total donations of pandemic-prevention supplies during the fight against pandemic

RMB **3,685,598**



Keyword **Speed**

At the onset of the pandemic, we have allocated all possible resources in a timely manner to guarantee the power generation of Dabieshan Power Plant. As the only coal-fired power enterprise with two 600MW power generating units operating in parallel in Hubei Province during the Spring Festival, Dabieshan Power Plant generated 463,000MWh of electricity from 25 January to 10 March 2020, ensuring a stable power supply for emergency in relation to pandemic prevention and control in Hubei Province.

Case: Committed to the guarantee of power generation

On 25 January 2020, the Wuhan Pandemic Prevention and Control Headquarters held a dispatch meeting to determine the construction of the Leishenshan Hospital in half a month in addition to the Huoshenshan Hospital in Caidian District, Wuhan City. Staff on duty of Dabieshan Power Plant, as the only large coal-fired power plant of China Power in Hubei Province, took action immediately after receipt of the dispatching order at 19:58 on the day, kicking off a race against time. The next day at 9:47, the plant was successfully connected to the grid. Dabieshan Power Plant was the first coal-fired power enterprise in Hubei Province operating two power generating units in parallel during the Spring Festival. The power generated during the pandemic period was directly supplied to Wuhan City. Three days later, the Leishenshan and Huoshenshan Hospitals had access to electricity successively.

"Every degree of electricity we manage to generate brings a ray of hope to the front line of pandemic prevention and control."

—An operation duty officer of Dabieshan Power Plant



Dabieshan Power Plant commenced emergency power generation for pandemic prevention and control

Keyword **Support**

During the pandemic period, in consideration of the severe challenge in securing coal-fired power supply due to the postponed resumption of work and production of coal mines, we have created an effective organizational system in respect of securing fuel supply for pandemic prevention and control, and activated a daily reporting mechanism to guarantee the coal supply during the pandemic period, with a view to providing strong support for power supply.

Case: Striving for securing fuel supply

As affected by COVID-19 pandemic, many coal mines suspended operation and production. Road transportation control turned unprecedentedly strict. All power plants were under tremendous pressure of coal supply. The CP Guorui Central China Office thus initiated operation of two power generating units in parallel in a timely manner to ensure a stable power supply to the pandemic-stricken areas, right after the outbreak of the pandemic. The office monitored the production and operation of power plants all the time, spared no effort to obtain coal resources from the upstream mines, and strained every nerve to urge the loading and transportation of coals by maintaining close contact with shipping companies. From 26 January to 4 February 2020, the office has shipped 44,000 tonnes of coals in total, representing approximately 80% of the total coal input during the period of Dabieshan Power Plant operating two power generating units in parallel, which has greatly alleviated the coal shortage of power plants.

"We are now at the critical moment of fighting against the pandemic. Power supply is a crucial support. State-owned energy enterprises should shoulder huge responsibilities and see it as a glorious mission."

—Hao Peng, Party Secretary and Chairman of the SASAC



Fuel supply was ensured

Keyword **Defence line**

We gave top priority to pandemic prevention and control and the resumption of work and production. The Group created a sound organizational system and a working mechanism for containing the pandemic, formulated and issued pandemic-prevention emergency measures, and provided strong support for the resumption of work and production.

Case: Dedicated protection of employee safety and health

Pu'an Power Plant has actively conducted pandemic prevention and control in line with the working requirement of "preventing virus import and spread", such as holding special meetings on containing the pandemic and regularly performing joint patrols and inspections over the relevant posts and key venues. It has also held routine control and consolidated the prevention and control methods by making use of the pandemic-prevention information filing and submission system. In 2020, five special meetings on pandemic prevention and control were held. 11 circulations on joint patrols and inspections were published. 174 employees received the nucleic acid test.



Fuxi Power Plant distributed pandemic-prevention supplies

Keyword **Cohesion**

During the pandemic, we have developed a communication mechanism with various local government authorities to make concerted efforts against the virus. Additionally, we have also invited volunteers to participate in the joint pandemic prevention and control in communities and assisted sub-district offices to practically protect communities against the pandemic.

Case: Serving the communities with our best pandemic-prevention efforts

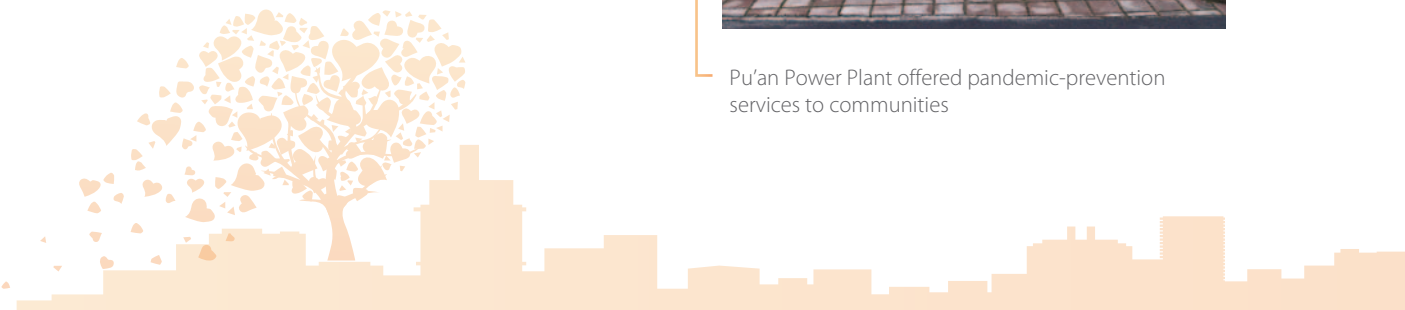
On 13 February 2020, in order to facilitate the management of pandemic prevention in the community, Yaomeng Power Plant invited volunteers to assist its offices in carrying out pandemic prevention works in five nearby communities. Specifically, entrances to the communities were guarded from 8:30 a.m. to 9:00 p.m. every day to strictly monitor the in-and-out of residents. To meet the demand for daily necessities and prevent the possibility of virus transmission caused by crowd mobility, volunteers took on the role of "deliverymen" and purchased products, ranging from turnips and Chinese cabbages to rice, flour and oil, on behalf of the residents and delivered those living necessities right at the doorstep of each household.

"Volunteers not only help us to buy flour and vegetables, but also guard the entrance to the community in cold winter. We should be considerate and stay indoors as long as possible!"

— A resident from the community of Zhanhe District



Pu'an Power Plant offered pandemic-prevention services to communities



Keyword **Donation Relief**

Since the outbreak of the pandemic, we have encouraged all our employees to donate to the affected areas. As the saying goes, many a little makes a mickle, China Power has converged small blessings of our employees for the people in need. On 5 February 2020, the first batch of donations of RMB1,176,469 was given to the Macheng Municipal People's Government.

Case: Advocating the idea of "Many little makes a mickle"

On 2 February 2020, China Power appealed to donate to the pandemic-stricken area. All subordinate organizations extensively mobilized their employees via intranets, office systems, and WeChat. Management officers at all levels took the lead in donation. Our employees and staff then enthusiastically took part in campaign and offered help. We supported people in the affected area to contain the pandemic as soon as possible. The Company demonstrated its corporate value and performance of its responsibilities at the critical moment.

"I have donated RMB666 which is a lucky number in China. I hope our country will come through. Spring will come!"

— An employee of China Power



All employees of China Power made donations for the fight against pandemic

Keyword **Warmth**

During the pandemic, we had created a working mechanism to show care to our employees and encourage them to help each other. Through letters of condolences, financial support, and video calls, we had timely extended our warm regards to our employees as well as their family members who were working at the pandemic-prevention front line.

Case: Solicitude to family members with pandemic-prevention contribution

Fan Baoli, a daughter of Fan Changping from the Unloading Team under the Fuel Department of Yaomeng Power Plant, boarded a train to Wuhan City on 10 February 2020. The Company immediately contacted Fan Changping for giving financial support and paying high respect to his whole family. As at the end of 2020, a total of 46 family members of employees of China Power worked at the pandemic-prevention front line, 37 of whom served in medical sector. China Power thus extended its solicitude to them in various ways, including offering financial support of RMB23,000 in total, allowing them to feel the warmth and care from the Company.

"Performing my own duties and responsibilities well is my largest contribution to the pandemic-prevention front line."

— Fan Changping from the Unloading Team under the Fuel Department of Yaomeng Power Plant



Pingwei Power Plant showed its care for staff on duty



Sustainability Governance

Development Strategy

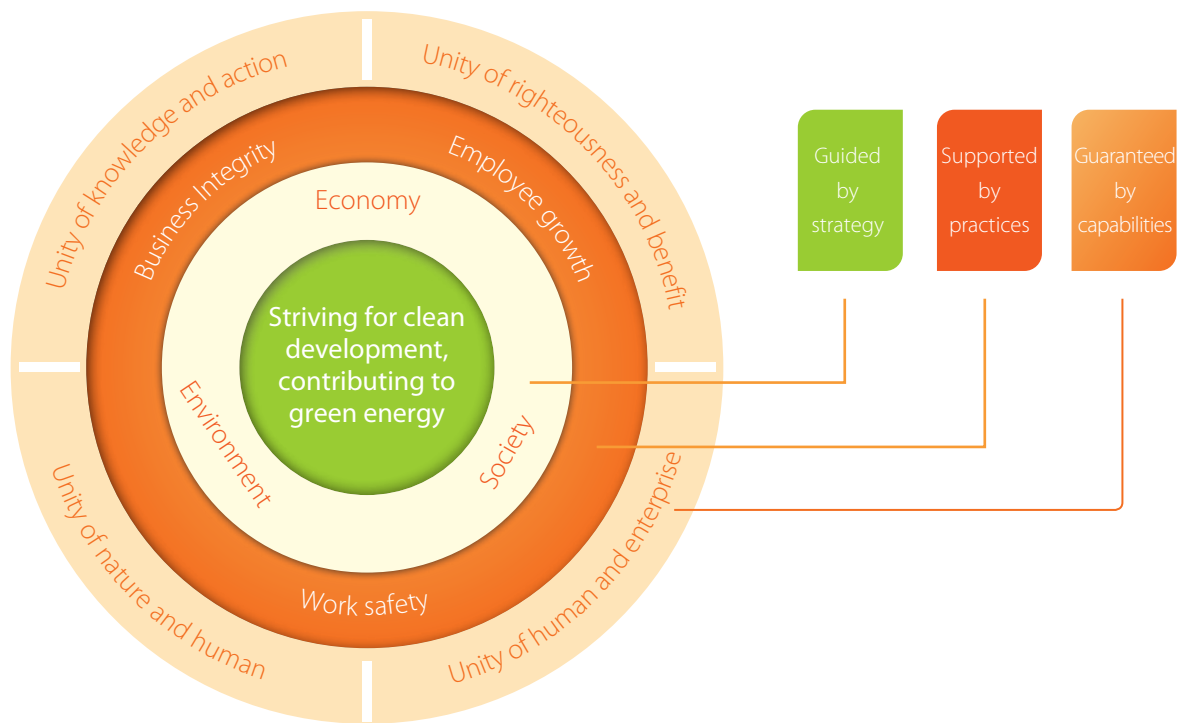
With a profound insight into the trend of the global energy revolution, we fully implemented the “World Class Strategy 2035”, and adhered to the promotion of innovation-driven development, green development, and value creation. Besides, we have made changes to our development modes, conducted industrial restructuring, and consolidated the way how we coordinate works within the region. In addition, we optimized the industrial layout, aiming to develop into a world-leading clean energy provider with our best efforts.



Conceptual Model

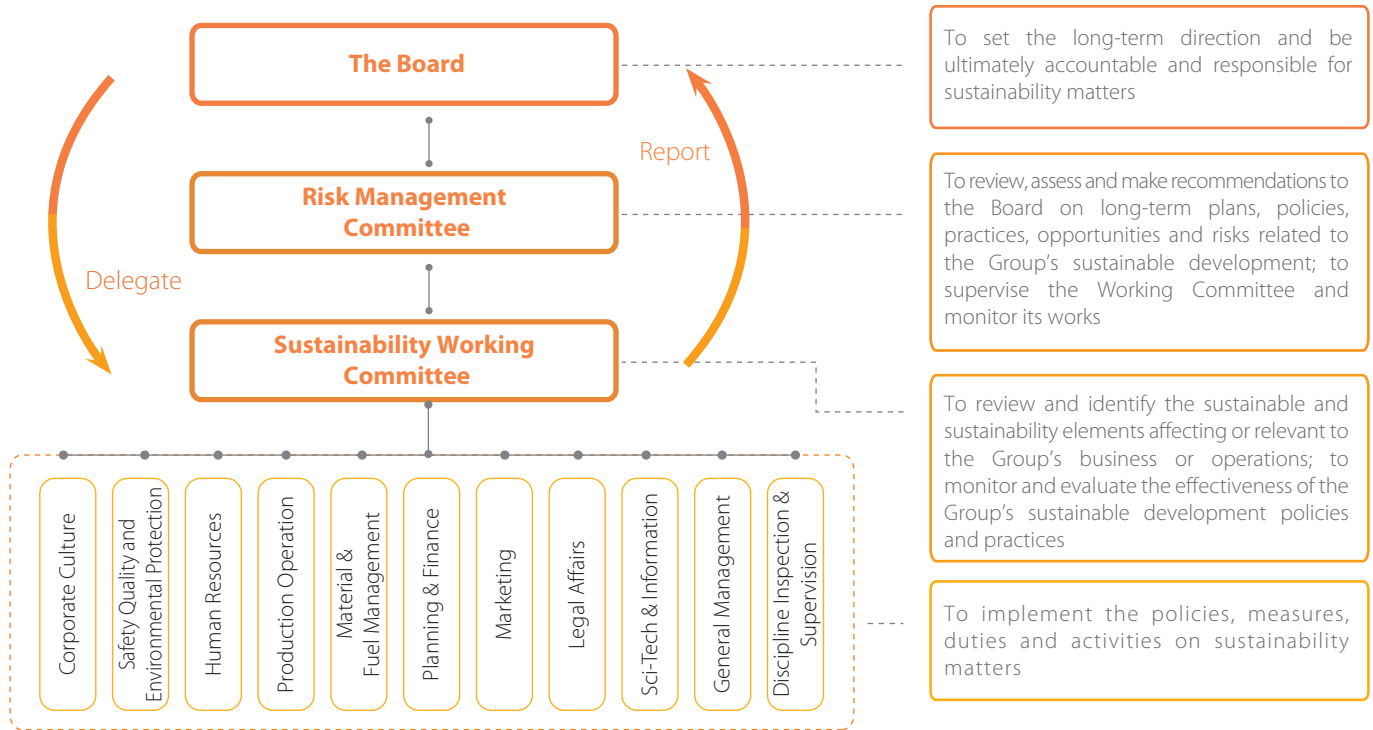
We are committed to the sustainable development philosophy of "Striving for Clean Development, Contributing to Green Energy". We pursue high-quality operation management and constantly improve our clean production approach by adhering to the policies of "People orientation, Proactive risk control, and Green operation". At the same time, we provide safe, stable, clean and efficient products and services for customers and society. Meanwhile, we actively take on social responsibilities, promote the coordinated and sustainable development of the economy, society, and environment, and strive to achieve the development concept of "Unity of nature and human, Unity of righteousness and benefit, Unity of human and enterprise, Unity of knowledge and action" so as to become a world-leading clean energy provider.

We put the sustainability philosophy of "Striving for Clean Development, Contributing to Green Energy" at the core of our approach, and vigorously promote sustainable practices in economy, environment and society. We take effective actions to ensure production safety, care about employee growth, carry out business with integrity, enhance our capability to create value, and promote the healthy and sustainable development of the Group.



Sustainability Governance Structure

In 2020, the Company established the Sustainability Working Committee, being a subcommittee of the Risk Management Committee under the Board, to assist the Risk Management Committee in leading, guiding, and supervising the formulation and implementation of policies related to the sustainable development matters of the Group, so as to strengthen the Group's systematic construction of sustainable development, improve the organizational structure, and advance the practices of sustainable development in depth.



Composition

- Members of the Working Committee are appointed by the Board, including but are not limited to general managers or head of all businesses and functional departments of the Company
- The Chairman of the Working Committee is a vice president of the Company, appointed by the Board

Working Mechanism

- The Working Committee reports at least once to the Risk Management Committee each year. The number of times of reports and meetings are determined by its Chairman

Specific responsibilities:

The specific responsibilities of the Sustainability Working Committee mainly include the following aspects. Details of its terms of reference have been published on the websites of the Company and the Hong Kong Stock Exchange.

- To assist the formulation of the Group's sustainable development strategies, objectives and standards;
- To review, identify, and manage the elements, risks, and opportunities related to the sustainable development of the Group;
- To supervise the progress of routine tasks of sustainable development;
- To coordinate relevant resources required for the tasks of sustainable development;
- To disclose information related to sustainable development.



Meeting of the Board

Board Statement

- Material matters related to environment, social, and governance (“ESG”) of the Group have been reviewed
- A top-down approach has been adopted to identify, evaluate, manage and supervise the ESG matters on a continuous basis
- ESG matters have been incorporated in formulating the strategies of the Group

Assessment of Important Topics

“ In 2020, we adopted new assessment procedures and methods to assess topics in order to highlight the important ones of the Company. In addition, through the participation of stakeholders, we fully understood their suggestions on topic disclosure of China Power. ”

Assessment Procedures

We further perfected the procedures for identifying and assessing topics to enhance the substantivity of disclosure of the report.

Compile a list of topics



We comprehensively considered topics related to the development of China Power and made a list of topics on such basis. The topics mainly covered the following aspects:

- From the perspective of the industry, we took into account the changes in the development trends of the power generation industry as well as the characteristics of power generation enterprises, and identified key topics that have brought external attention
- From the perspective of regulation, topics under the concern of regulatory authorities were identified by considering the regulatory requirements of the Hong Kong Stock Exchange for listed enterprises and ESG information disclosure requirements
- From the perspective of the Company, key internal topics were addressed based on the actual business and development objectives and development focuses of China Power

Conduct research on topics



A questionnaire was distributed to targeted groups and posted online to conduct research on topics, after the list of topics was compiled.

- **Compilation of questionnaires**
An online questionnaire was compiled based on the list of topics
- **Subjects identification**
In view of the different concerns of internal and external stakeholders, our internal subjects included shareholders, management personnel, and general staff, while the external ones included regulatory authorities, professional and investment institutions, parties in collaboration and association with the Company and the general public

Confirm topic results



Upon completion of the survey, we analyzed the results, carried out internal review, and made final decision on topic selection.

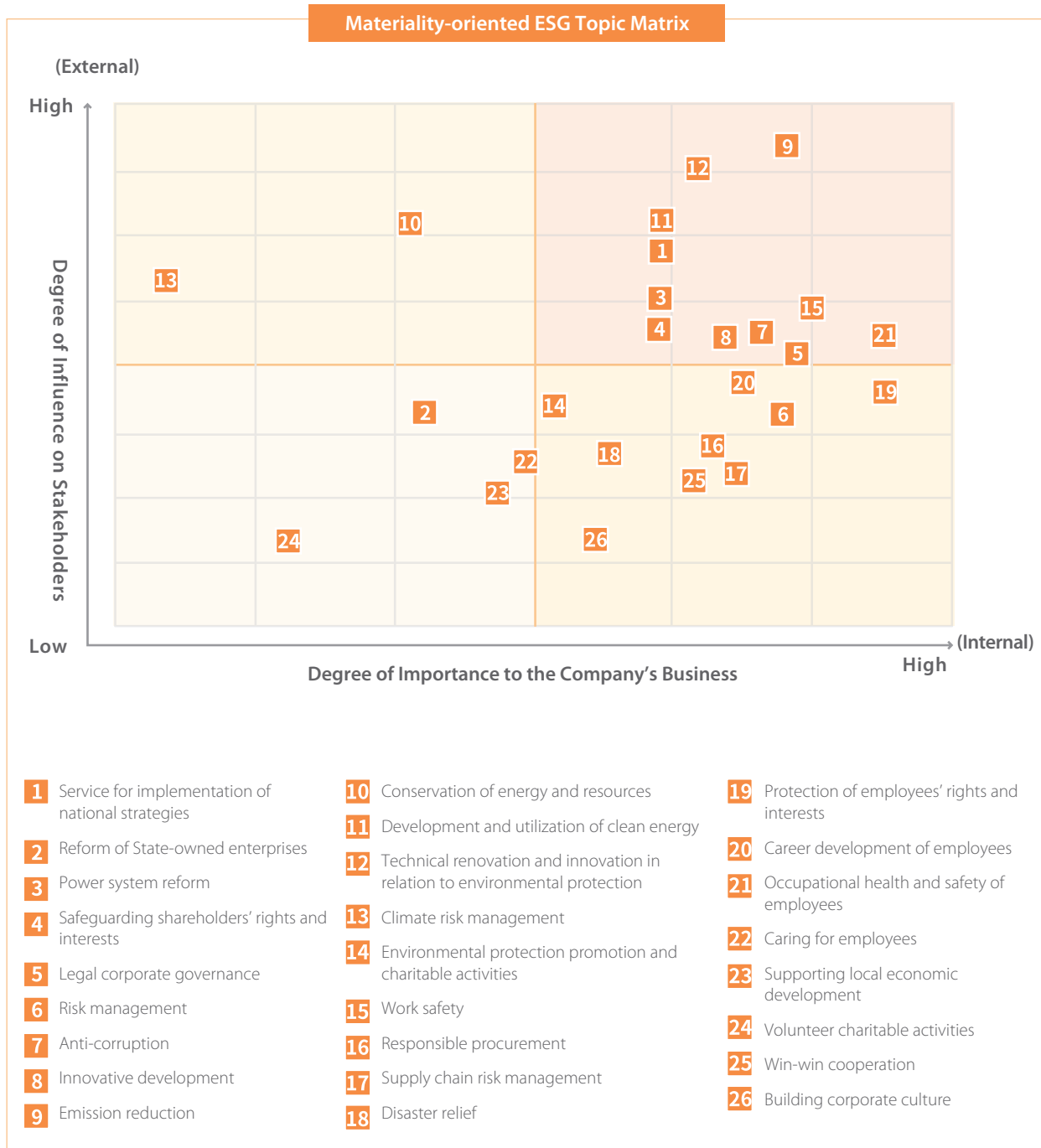
- **Topic results analysis**
Subjects were classified by internal and external factors after the questionnaires were collected. We then calculated the respective points of the topics using the weighted approach and ranked them accordingly
- **Internal discussion and review**
The Sustainability Working Committee discussed the survey results of the topics and confirmed the weighting of each party. Lastly, experts reviewed and reached a consensus on the results

Assessment Results

Our survey on topics in 2020 involved a total of 11 categories of stakeholders. A total of 1,524 copies of the questionnaire were collected. The survey results were analyzed from two dimensions, namely "Degree of Importance to the Company's Business" and "Degree of Influence on Stakeholders". A final materiality-oriented topic matrix was then created.



2020 Survey on ESG topics of China Power



Communication on Responsibilities

Stakeholders Management

Stakeholder	Expectations and Requirements	Manner of Communication and Participation	Our Response
 Regulatory authorities	<ul style="list-style-type: none"> Legal compliance Compliance in operations Paying taxes according to laws Energy conservation and emissions reduction Promoting employment 	<ul style="list-style-type: none"> Participating in relevant meetings Work report Information submission 	<ul style="list-style-type: none"> Accelerating the transformation of economic development Complying with laws and regulations Maintaining active communication with relevant regulatory authorities
 Investors	<ul style="list-style-type: none"> Increasing profitability Stable dividend distribution policy Increasing market value Reducing operating risks of the Group 	<ul style="list-style-type: none"> Press conference for result announcement Roadshow Reverse roadshow Investors conference General meeting Routine communication 	<ul style="list-style-type: none"> Communicating closely with investors and improving the timeliness of information disclosure Striving to enhance profitability of the Group Adopting market recommendations and improving management of the Group
 Employees	<ul style="list-style-type: none"> Protecting legitimate rights and interests of employees Ensuring occupational safety and health Providing reasonable remuneration and benefits Fostering fairness in the workplace Showing care for retired employees 	<ul style="list-style-type: none"> Staff congress meeting Staff forum Reasonable suggestion Openness of factory affairs Daily communication 	<ul style="list-style-type: none"> Signing and performing labor contracts and implementing democratic management Establishing occupational safety and health management system and strengthening prevention of occupational diseases Establishing sound remuneration and benefits policy Providing systematic career planning and employee development training Paying visits to and providing service for retired employees
 Customers	<ul style="list-style-type: none"> Contract performance Quality assurance Service guarantee Mutual benefit and win-win result 	<ul style="list-style-type: none"> Sales and order-placing meetings Customer satisfaction survey 	<ul style="list-style-type: none"> Providing quality, efficient, safe, and green energy products and services Keeping trade secret
 Suppliers	<ul style="list-style-type: none"> Long-term cooperation Meeting commitments Open, fair, and just procurement Joint development Mutual benefit and win-win result 	<ul style="list-style-type: none"> Supplier meeting Transparency of bidding information Strategic cooperation Cooperation agreement 	<ul style="list-style-type: none"> Implementing open and transparent business principles and processes Standardizing management and performing contracts and agreements Implementing responsible procurement policy
 Creditors	<ul style="list-style-type: none"> Strong debt-paying ability Repaying principal and interest on time Mutual trust and cooperation 	<ul style="list-style-type: none"> Cooperation agreement 	<ul style="list-style-type: none"> Repaying loans as scheduled Strengthening communication
 Partners	<ul style="list-style-type: none"> Building good and interactive relationship Achieving win-win result and common development 	<ul style="list-style-type: none"> Exchange visits among senior management Strategic cooperation 	<ul style="list-style-type: none"> Broadening channels of communication and cooperation Strengthening communication and cooperation with stakeholders
 Peers	<ul style="list-style-type: none"> Strict compliance with policies and industry regulations Creating a healthy environment for competition Promoting the development of electric power industry 	<ul style="list-style-type: none"> Industry associations Seminars 	<ul style="list-style-type: none"> Ensuring strict compliance with industry policies and regulations Deepening power system reform and improving core competitiveness of the Group Strengthening industry communication and promoting industry development
 Community	<ul style="list-style-type: none"> Supporting local economic development Protecting the living environment of the community Building harmonious relations with the community 	<ul style="list-style-type: none"> Collaboration Charitable activities Publicity activities 	<ul style="list-style-type: none"> Supporting economic development of the areas where we operate Organizing environmental protection charitable activities Organizing community volunteer service activities



Accolades

- 🏆 China Power was awarded the “Excellent Enterprise Award for Sustainability Information Disclosure” at the 2020 (8th) Global Corporate Sustainable Competitiveness Summit
- 🏆 China Power was awarded the “Excellent Corporate Award for Responsibility Communication Innovation” at the China Power Industry Enterprise Public Transparency Summit
- 🏆 China Power was granted the title of Excellent Enterprise for Building Corporate Culture of the PRC under the “13th Five-Year” plan, by China Corporate Culture Institute
- 🏆 China Power was shortlisted in the Judges’ Report of the 20th Best Corporate Governance Awards 2020 released by the HKICPA for the first time and received the Prize of Special Mention for Non-Hang Seng Index Constituent Stocks (Medium Market Capitalization) Category
- 🏆 The Company was granted the title of “Advanced Member Enterprise in 2020” by the China Electricity Council, commending its excellent performance and outstanding contribution in reliability management of electricity
- 🏆 The Company was granted the honorary title of “Advanced Enterprise for Resumption of Work and Production” by SPIC
- 🏆 China Power won the First Prizes in the team events in the UAV Tour Inspection Skill Contest and the Coal-fired Power Safety Skill Contest, the Second Prize in the team event in the Photovoltaic Power Generation Operation & Maintenance Skill Contest, the Third Prize in the team event in the Skill Contest for Hydropower Operation Duty Officers at SPIC’s second “World Class Construction” vocational skills competition
- 🏆 Dabieshan Power Plant, a subsidiary of the Company, was honoured with the title of “Advanced Central Enterprise of Combating Coronavirus Disease” by the SASAC
- 🏆 CP Zhihui, a subsidiary of the Company, was accredited as a national high-tech enterprise



The Prize of Special Mention for Non-Hang Seng Index Constituent Stocks (Medium Market Capitalization) Category



Excellent Enterprise Award for Sustainability Information Disclosure



Excellent Corporate Award for Responsibility Communication Innovation

Safeguarding Shareholders' Rights and Interests

We have always been protecting our shareholders' rights and interests and steadily promoting the Company's development through risk management and internal control. In addition, we have created smooth communication channels through information disclosure and developed a sound platform for interacting with investors. We aim to deepen investors' understanding of the Company and guide investors to reasonably recognize the Company's value.

Risk Control

We have put great emphasis on risk management, reinforced internal supervision and control of the Company in conformity with requirements of the Hong Kong Stock Exchange, and created a corporate culture for preventing and mitigating major risks in a comprehensive manner. Furthermore, we have developed an effective internal control system, kept assessing the adaptability of the internal monitoring system and management effectiveness, reviewed risk exposure identified, and ensured the effective operation of the control system.

Establishing a comprehensive risk system

- ☑ Improved the comprehensive risk management system that integrated hierarchical management and control with the "three lines of defence" and worked with various business departments to carry out annual major risks prevention and mitigation works as well as major decision-making for risk assessment, prevention and control regularly, so as to ensure the management of major risks through coordination of joint management and joint prevention
- ☑ Optimized the risk management network of the Company, promoted the standardized development of risk control procedures, and made full use of big data to realize risk alert and compliant operation

Enhancing comprehensive risk control

- ☑ Reinforced the closed-loop risk management of investment projects, conducted comprehensive risk assessment, and analyzed and tracked risk response
- ☑ Implemented full coverage of major risks prevention and timely tracked annual major risks prevention and mitigation works and ensured the Company's major risks are controllable and under control in general

Strengthening the internal control system

- ☑ Set up an Audit and Internal Control Department, ensured the independence of organization, staffing, and work, and reported to the Audit Committee, the Risk Management Committee, and the Board at least twice a year on internal control and relevant matters
- ☑ Optimized the governance structure and the control mechanism, promoted the top-level design of corporate governance and management, formulated and completed the Three-year Coverage Plan for Internal Control Assessment, and organized and implemented the annual internal control assessment, with an aim to improve the internal control environment

Investor Relation Management

We have not only maintained regular contact with investors through means such as general meetings and roadshows, but also attended and convened investors' meetings and forums to enhance the communication and exchange with investors.

Facilitating communication with investors

- ☑ Throughout the year, the Company communicated with investors and analysts at home and abroad online and contacted a total of over 100 investors
- ☑ Last year, the Company's annual general meeting was held in Hong Kong on 11 June 2020. Due to the spread of the COVID-19 pandemic, the Company simultaneously offered livestream of the annual general meeting and an online Q&A session to all registered shareholders. Directors and senior management as well as the external independent auditor attended the annual general meeting and answered enquires from the shareholders and investors attending the meeting both in person and online

Conducting roadshows for investors

- ☑ The Company's annual result roadshow for 2019 was held, featuring online exchanges with over 20 key shareholders and investors at home and abroad, such as Macquarie, Fidelity Investments and Taiping Asset Management
- ☑ The Company attended the investment summit and roadshow organized by Gelonghui, the largest financial platform in China, and communicated face-to-face with over 100 investors

Transparent operation

We have developed a mechanism for regular information disclosure and regularly organized communication activities to strengthen the contact with stakeholders and enhance transparency of our corporate operations.



Diversified Communication Methods

- The Company strengthened the participation of stakeholders and gained a deeper insight into the concerns of stakeholders through the survey on ESG topics
- We organized annual open day on a regular basis to invite outsiders to visit China Power and learn its business development
- Roadshows and reverse roadshows were held to increase all parties' understanding of the Company



Enhanced Information Disclosure

- Annual sustainability reports were regularly compiled and published, through which requirements and appeals of regulatory authorities and the public were replied
- Key information of the Company was timely published on its official website and WeChat subscription account so that stakeholders could timely learn the development progress of the Group

Public Open Day: Hand in Hand for a Green Future

In 2020, the Group continued to organize the Public Open Day for targeted employees and their family members. Family members were invited to visit China Power to experience the working environment. Besides, parent-child activities were conducted to promote the exchange between employees and their family members, thereby developing a good relationship between the Company and the families of our employees.



Case

Pingwei Power Plant — Focusing on Safe Production

Pingwei Power Plant invited more than 70 family members of its employees from production departments to visit the safe production site. The family members learned the building of teams, experienced safety training, and had an idea of the safe production environment of the power plant. In addition, a forum was held to exchange ideas among the family members and promote safety culture to them. Family members were guided to consciously act as a safety supervisor of employees, develop good family disciplines, and jointly build a favorable internal environment for the safe and sustainable development of the Company.

Case

CP Huachuang — Enhancing Exchange and Communication

In 2020, CP Huachuang hosted the first family open day on the theme of "Kids Companion", inviting 14 family members from 10 families of employees. The family members visited the remote diagnosis center and computer room of data center of China Power, listened to the presentation of PPT, Understanding Huachuang, observed simple chemical experiments, and learned laboratory equipment so as to gain a deeper understanding of the working environment of the employees. Furthermore, parent-child games were arranged to strengthen the emotional exchange with the family members and consolidate their support and confidence towards the Company's development.

Case

Yaomeng Power Plant — Strengthening the Sense of Corporate Identity

Yaomeng Power Plant invited nearly 70 family members in total for the family open day. The guests had a close look at the history of the power plant, listened to its entrepreneurial stories, and experienced its corporate culture. In addition, they visited the workplace and watched the promotional video so as to facilitate a deeper understanding of the workplace and corporate culture of the Company. The activities were designed to serve as a bridge between the enterprise and employees' families and enhance the sense of identity and belonging of employees and their family members towards the enterprise.

Green Future

Combating Climate Change

The issue of “combating climate change” is increasingly pronounced. As an enterprise in the power and energy industry, we are deeply aware of our immense responsibilities. China Power always insists in the strategic positioning of “clean development”, aims to become a main force in building a world-class clean energy enterprise, thoroughly contributes to green energy revolution and strives for the green future.

Sustainable Development Goals of the United Nations



Ensure availability and sustainable management of water and sanitation for all



Ensure access to affordable, reliable, sustainable and modern energy for all



Ensure sustainable consumption and production patterns



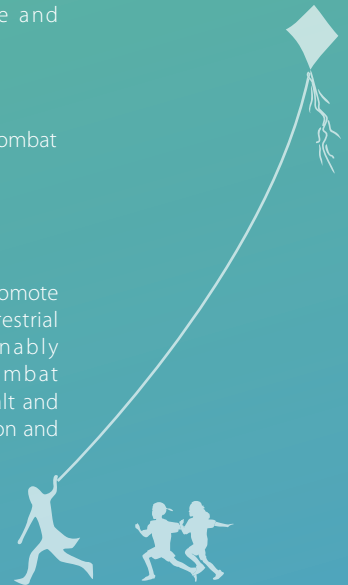
Take urgent action to combat climate change and its impacts



Conserve and sustainably use the oceans, seas and marine resources for sustainable development



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

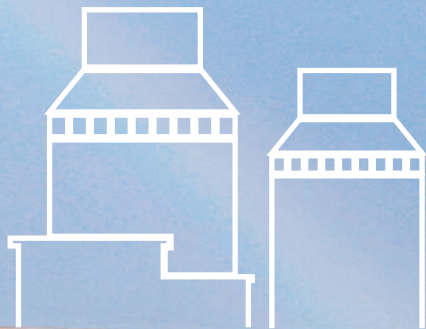


Key Topics

- ▶ Service for implementation of national strategies
- ▶ Climate risk management
- ▶ Emission reduction
- ▶ Conservation of energy and resources
- ▶ Development and utilization of clean energy
- ▶ Technical renovation and innovation in relation to environmental protection
- ▶ Environmental protection promotion and charitable activities

Management System

- Management Measures for Solid Waste
- Management Measures for Air Pollutants
- Management Measures for Water Pollutants
- Management Measures for Carbon Emission
- Management Regulations on Supervision of Environmental Protection
- Management Measures for Comprehensive Utilization of Resources
- Management Measures for Waste and obsolete Materials
- Management Measures for Environmental Protection Equipment
- Management Measures for Energy Conservation
- Management Regulations on Production and Operation of Coal-fired Power Enterprises
- Management Measures for Engineering Construction of Photovoltaic Power Projects
- Management Regulations on Production and Operation of New Energy
- Management Measures for Green Engineering Construction
- Management Measures for Clean Engineering Construction





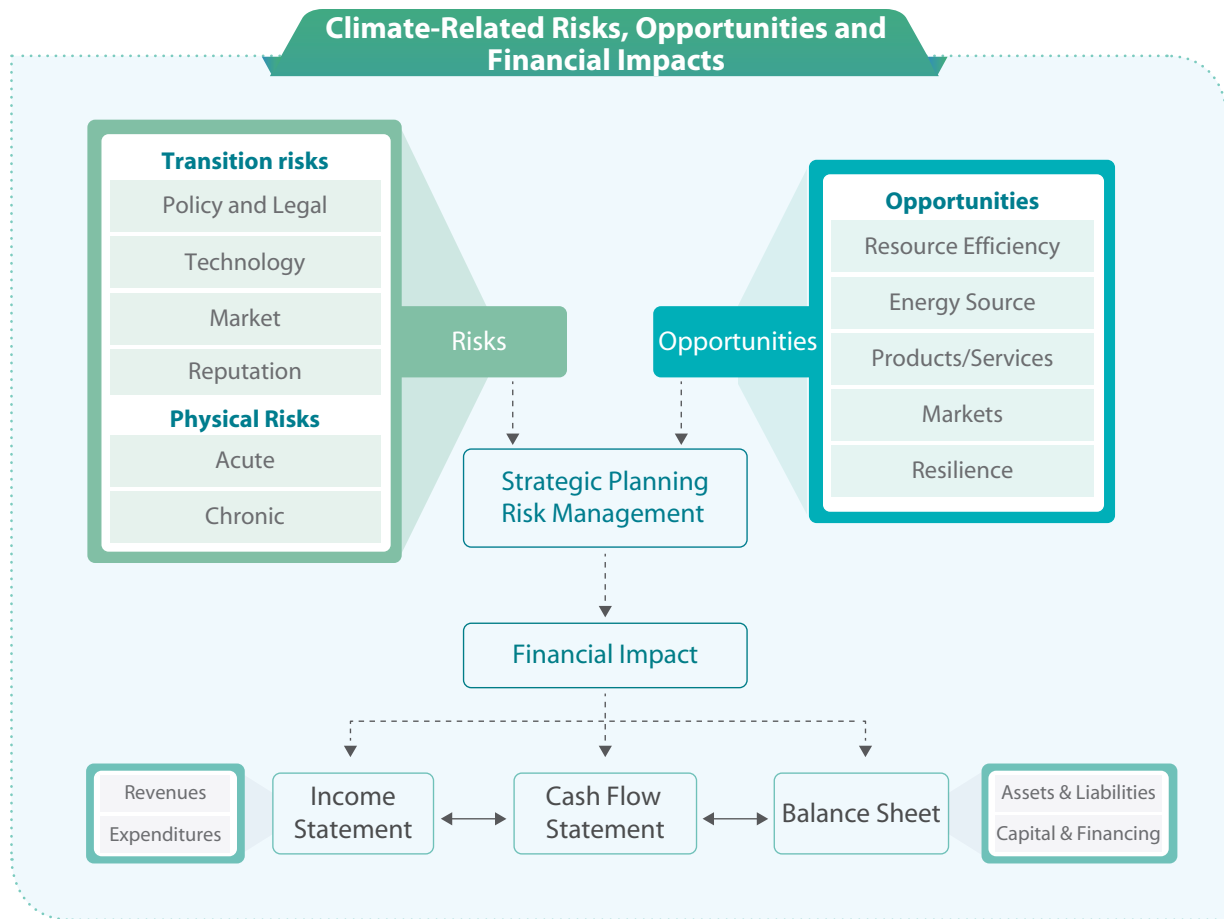
Focusing on Climate Risk

As shown in the Global Risks Report 2020 issued by the World Economic Forum (“WEF”), it has been the first time in the history of WEF’s survey that top five risks are all environmental issues. Among them, climate change was the greatest risk facing the world in 2020, and failure of climate change mitigation and adaptation will be the number one risk with its greatest impact in the future. As indicated by the Task Force on Climate-Related Financial Disclosures (“TCFD”), the risk climate change poses to businesses and financial markets is real and already present. It is more important than ever that businesses lead in understanding and responding to these risks — and seizing the opportunities — to build a stronger, more resilient and sustainable global economy. China will adhere to green development, embark on a persisted journey of civilized development featuring production and development, living in plenty and good ecological conditions, proactively respond to climate change and step up efforts in improving the ecological environment, according to the China’s National Plan on Implementation of the 2030 Agenda for Sustainable Development proposed by the Chinese government.



As an energy and power generation enterprise, China Power assumes the important missions of promoting the transformation of the power and energy industry and the development of clean energy. It is of great significance for the long-term development of enterprises to comprehensively streamline and understand climate risks and their impacts. In particular, major extreme climate events including the wildfire, typhoons and rainstorms in 2020 have caused severe damage to the economy, society and environment and impact on the development of enterprises, further indicating the necessity and importance of coping with climate change with more systematic measures.

To this end, we have identified and analyzed corporate climate risks in line with the framework of “Climate-Related Risks, Opportunities and Financial Impacts” put forward by the TCFD:



Transition risks

Transitioning to a low-carbon economy may entail extensive policy, legal, technology and market changes to address the requirements related to climate change. These changes may pose varying levels of financial and reputational risks to organizations.

Policy and legal risks

In 2020, General Secretary Xi Jinping has put forward a goal of “Carbon Emission Peak” by 2030 and “Carbon Neutrality” by 2060. The Ministry of Ecology and Environment of the PRC issued the Measures for the Administration of Carbon Emission Rights Trading (Trial), further defining the market regulations on carbon emissions trading and management.

The goals of carbon emission reduction and the proposal and promulgation of the policy concerned brought both opportunities and challenges to power generation enterprises. On one hand, with the increase in installed capacity and accelerated development of new energy, enterprise will further achieve the goal of transition to clean development. Yet enterprises have to meet stricter requirements for clean power generation and green production, and have been under greater pressure of restricted coal power and environmental renovation. On the other hand, with increasingly strict regulations based on environmental policies, enterprises are expected to face greater litigation risks.

Climate-related policy and legal risks have the following potential financial impacts on the Group:

Increase in the operating costs

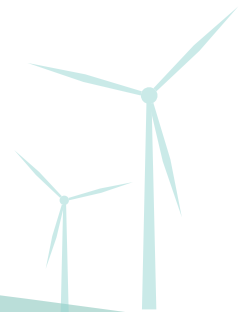
As shown in policies, there are stricter requirements for climate regulation, and gas emissions will result in higher prices, which will increase the compliance costs in terms of the relevant resource inputs of enterprises. Meanwhile, if the government imposes additional environmental taxes, enterprises will have a larger expenditure. In case of environmental litigation, enterprises will suffer from higher costs due to fines and judgment

Impact on the cash flow

To comply with the environmental protection requirements, enterprises shall make inputs and scrap non-compliant power generation assets ahead of schedule, resulting in greater demand for working capital. Besides, some subsidiaries have narrow financing channels, coupled with subsidies for renewable energy projects received late, and thus they will come under huge pressure of cash flows

Increase in production and management risk

Laws and regulations regarding environmental protection are increasingly strict. In case of violation, enterprises might close down and halt production, which might result in a higher production and management risk



Therefore, China Power has proposed the following responsive measures:

Expediting the elimination of obsolete production capacity

- ◆ Eliminating obsolete production capacity vigorously, and closing down expired power generating units on schedule
- ◆ Continuously promoting energy conservation and carbon emission reduction of coal-fired power generating units, speeding up the R&D, promotion and application of energy-saving and carbon emission reduction technologies, increasing the heat supply capability of coal-fired power generating units and reducing coal consumption
- ◆ Upgrading coal-fired power generating units in a more flexible way, and speeding up the increase in its peak sharing capacity
- ◆ Strengthening new energy management, reducing power generation loss and enhancing power generation capacity

Developing new energy in a large scale

- ◆ Pushing forward the development and construction of photovoltaic power projects and wind power projects in regions such as Chaoyang, Liaoning; Xinrong, Shanxi; and Wudi, Shandong
- ◆ Bolstering negotiation and cooperation with local governments to push forward the implementation and construction of more new energy projects

Fully implementing "Green Land Actions"

- ◆ Accelerating the general survey of wind, photovoltaic and site resources, comprehensively expanding the development method and business model, and striving to promote resource reserves and development and construction of distributed wind power projects, distributed photovoltaic power projects, medium and small-sized wind and photovoltaic power projects, as well as wind power, photovoltaic power generation and storage complementary projects

Gaining a presence in and developing the "Three New Businesses"

- ◆ Pushing forward the entering into of cooperation and commencement of construction of comprehensive energy projects such as the Lubei Integrated Intelligent Industrial Park, distributed natural gas project in Chengdu, and other projects in Sichuan
- ◆ Focusing on hydrogen production with green power and boosting development of the hydrogen power industry based on the Group's layout plan of the development of the hydrogen power industry
- ◆ Making research on and accumulating the experience in development and design of, and providing more support to the ancillary energy storage system and the comprehensive intelligent energy construction of subsequent new energy projects

Enhancing the level of transactions in carbon market

- ◆ Strengthening routine monitoring of data from various activities, emission factors and production data
- ◆ Making coordinated arrangements of carbon emissions trading when appropriate and performing contracts on schedule according to the requirements for contract performance in the national carbon market
- ◆ Controlling the costs of contract performance at the early stage, and maintaining and increasing the value of assets through carbon financing in the long run



Technology risk

As policies and the market environment raise increasingly strict requirements for environmental governance capabilities of enterprises, they have to invest more heavily in environmental technologies and put more efforts in the R&D and transformation of new technologies and processes to increase environmental benefits. This will impose risks on enterprises mainly arising from the failure in investing new technologies as well as the front-end transition costs of acquiring low-emission technologies. Meanwhile, there will be an adaptive phase when new technologies and processes are on trial, which might increase the technological maintenance costs and have an impact on the production of enterprises.

Therefore, the potential financial impact on enterprises is manifested in:

Greater pressure on technological investments

Capital investment will be increased to develop new technologies for improving the environmental protection capacity of the existing coal-fired power plants. For enterprises that are required to meet relevant requirements in investing large pool of funds in environmentally friendly power generation technologies, they may face disruption in their cash flows.

Higher technological costs

Investing in R&D or purchasing advanced technologies for reducing carbon emissions will result in higher expenditures of enterprises. To improve environmental protection capability, enterprises will enhance their R&D ability, thus seeing an increase in the front-end R&D expenditure on new and substitute technologies.

Therefore, China Power has proposed the following responsive measures:

Supporting technical development more vigorously

- ◆ Expanding funding channels for technological inputs, and making use of the Group's corporate technological innovation fund and R&D expenditure to reserve more R&D resources in the related field; meanwhile, actively participating in projects with financial support from the central and local governments
- ◆ Building a talent technological innovation team, and improving the technological R&D capabilities of enterprises to address the environmental issues in production effectively

Boosting the application of technological innovation

- ◆ Establishing innovation centers to coordinate resources for innovation and building an industry-academia-research innovation system and collaborative alliance, and strengthening exchanges of new technologies
- ◆ Vigorously promoting technological achievements, rapidly putting valuable new technologies and achievements into practice, and enhancing the capabilities of transforming technological achievements



Reputation risk

Some regions, including Henan and Jiangsu, have raised stricter requirements and regulations for environmental protection and emissions. Meanwhile, media and the public are involving and growing sensitive to pollution caused by enterprises, thereby community monitoring is enhanced.

Under the increasingly strict external regulation and monitoring, in case of poor performance in environmental protection, enterprises will be not only punished and asked for an explanation by regulatory authorities, but also condemned by the public. This will affect the corporate image and the product and service selection process among stakeholders such as business partners and customers, making enterprises in plight and suffer from higher costs of management on social expectations. If enterprises deliver a good environmental protection performance, they will be benefiting from a good brand image, and win the support from the general public and in turn, a better development perspective.

The financial impact on enterprises is as follows:

Impact on the performance in the capital market

Negative public opinions on environmental issues will damage the corporate image, and the industry might be stigmatized as well. This will affect the performance of enterprises in the capital market, as well as their financing abilities.

Higher management costs

The reputation risk arising from environmental problems will add to enterprises' costs of public relations and public opinion management.

To address this issue, China Power will control the relevant risk in the following aspects:

Solving environmental problems

- ◆ Continuously conduct research on the governance of problems deriving from ultra-low emissions, and ensuring normal and efficient operation of environmental protection equipment
- ◆ Completing the project of transforming denitration liquid ammonia to urea of CP Shentou with good quality and the construction of the hazardous waste warehouse in Fuxi Power Plant at a faster pace, and completing the ultra-low emission transformation of Pu'an Power Plant

Enhancing information disclosure

- ◆ Facilitating main emission departments in preparing annual reports on greenhouse gas emissions as stipulated
- ◆ Disclosing information on issues attracting public attention, and timely responding to topics heatedly discussed, and performing the corporate responsibilities by preparing annual reports, interim reports, sustainability reports and special reports on environmental protection

Physical Risks

Physical risks resulting from climate change can be event driven (acute) or longer-term shifts (chronic) in climate patterns. These two models will directly affect assets of enterprises or impact the supply chain to indirectly affect enterprises in varying degrees.

Extreme Weather Risk

As shown in the Blue Book on Climate Change in China 2020 issued by the Climate Change Center of China Meteorological Administration, China is in a region sensitive and subject to the significant impact of global climate change. Since the 1990s, China has seen obviously more extremely high temperature and more violent fluctuations in the average intensity of typhoons landing in China. In 2020, China's meteorology shows significant regional differences in precipitation variability and an increase in the number of heavy rainfall days.

On one hand, extreme weather will cause severe damage to power assets, and increase the costs of facility maintenance and infrastructure, while reducing asset value (in case of damage to properties caused by water logging). On the other hand, climatic disasters bring greater pressure on power supply security, and impose huge challenges on production safety of enterprises. From the perspective of employees, severe weather will add to difficulties in on-site operation and threaten the health and safety of employees.

Extreme weather events have the following financial impacts on enterprises:

Asset impairment

Extreme weather will damage power facilities and reduce the life cycle of assets.

Higher costs of operation and maintenance

Extreme weather events will damage power generation facilities, resulting in higher costs of repair and infrastructure.

To address this issue, China Power will take the following countermeasures:

Strengthening production safety

- ◆ Pushing ahead the establishment of Quality, Occupational Health and Safety, and Environment ("QHSE") QHSE system in an in-depth manner, carrying out assessment of the QHSE system and safety, and continuously improving the system
- ◆ Enhancing technical supervision and carrying out special inspection of hidden hazards

Protecting employees

- ◆ Identifying and inspecting hidden hazards, and timely adjusting, remedying, supplementing and improving the safety protection measures and construction plans
- ◆ Building an efficient team of production, operation and maintenance, strengthening technical training, and cultivating versatile talents

Chronic Climate Risk

The Intergovernmental Panel on Climate Change stated that the global temperature has increased by approximately 1.0°C caused by human activities since the Industrial Revolution. If the temperature keeps rising at the current rate, the global temperature will be likely to increase by 1.5°C between 2030 and 2052. Climate risk facing the global natural ecosystem and the human society has intensified, causing frequent extreme weather events such as rainstorms and high temperature and heatwave, as well as related problems including the sea level spike and melting of sea ice in the Polar regions.

In the long run, melting of glaciers and sea level spike due to global warming will impact the coastal assets and the construction and operation of energy projects of enterprises. Meanwhile, the greenhouse effect will make extreme weather events happen more frequently, intensifying the impact of the acute risk.

These have the following financial impacts on enterprises:

Increase in the operating costs

Damage to water resources might cause shortage of cooling water supply of hydropower stations and other power generation facilities, increasing the supply chain costs of enterprises.

Higher costs of infrastructure construction

Chronic risk such as high temperature and sea level spike might damage some power facilities of enterprises, resulting in additional inputs for infrastructure

To address this issue, China Power will take the following countermeasures:

Optimizing the corporate development mode

- Further focusing on clean, large-scale, integrated intelligent development, building and improving the general systematic development pattern of the Group

Promoting transition of the traditional industry

- Focused upgrading the flexibility of Yaomeng Power Plant, CP Shentou and Shangqiu Power Plant and following up on feasibility research on frequency modulation (FM) of auxiliary automatic generation control (AGC) for energy storage of coal-fired power units and the application of the biomass coupling technology in Dabieshan Power Plant Phase II

Strengthening production and management of new energy

- Improving policies, management (including equipment management) and innovation of the new energy business, striving to reduce curtailment of hydro, wind and photovoltaic power generation, and improving power generation efficiency

Developing Clean Energy

In 2020,
the Group's clean energy power
generation

33,903,032 MWh,
equivalent to a reduction of

27,003,765 tonnes
of carbon dioxide emissions

Embracing major opportunities for developing new energy, we will continue to optimize the energy mix with new energy input, and develop clean coal-fired power through transformation of and innovation in environmental protection technologies, so as to promote the Group's transformation of green power generation.

Optimizing Energy Mix

We vigorously promoted the development and utilization of new energy, adhered to the "Three New Businesses", kept exploring new technologies, promoted the optimization of the energy mix and transformation of energy consumption.

Key Events in 2020

1 April

Dabieshan Power Plant signed the BOO Contract for Biomass Gasification and Coal-fired Unit Coupling Power Project of Dabieshan Power Generation Company with Hubei Changneng Biomass Power Generation Co., Ltd., marking the kick-off of the first cooperative project of biomass gasification and coal-fired unit coupling power generation of China Power

30 June

Baozhigu Integrated and Intelligent Energy Demonstration Project, the first "Zero-carbon" power supply project of China Power, successfully commenced operation

31 July

China Power Chaoyang 500MW Photovoltaic Power Project, one of the first group of grid-parity pilot photovoltaic power projects with the largest installed capacity in China, achieved full capacity grid connection

29 October

China Power supported the innovation demonstration project of 2022 Beijing Winter Olympics — the entrusted hydrogen refueling station in Yanqingyuan, Zhongguancun Technology Park was granted the hydrogen operation license by the Commission of City Management of Yanqing District, Beijing, and came into service



As of 31 December 2020

The Group's attributable installed capacity

23,878.2 MW

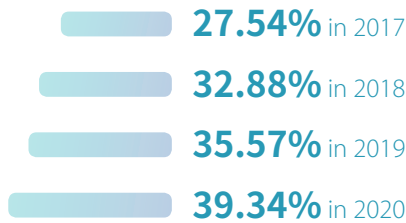
The Group's attributable installed capacity of clean energy **9,393.6** MW

The Group's proportion of the attributable installed capacity of clean energy

39.34%

Type of Power Plant	Attributable installed capacity
Hydropower	3,507.8 MW
Wind Power	1,990.5 MW
Photovoltaic Power	3,389.1 MW
Natural Gas Power	506.2 MW
Coal-fired Power	14,484.6 MW

Proportion of the Group's attributable installed clean energy capacity



Facilitating New Energy Development

- We strengthened resource reserves in high-quality regions, continuously communicated with local governments, constantly targeted project development rights, kept enhancing independent development, and strengthened reserves of high-quality wind power and photovoltaic resources
- We accelerated the pace of joint development, released resource bonus from high-quality partners, and continuously increased the proportion of new energy
- In 2020, the 50MW project in Xishui, Hubei was included in the list of grid-parity photovoltaic projects



Developing "Three New Industries"

- In order to develop integrated intelligent energy, we completed the revision of the feasibility study report of the distributed natural gas project in Chengdu, and obtained review opinions. Moreover, our projects, including the Lubei Industrial Park Project and the Wuhan Optics Valley Central City Project of Hubeilvdong New Energy, were included in the list of integrated intelligent energy demonstration projects of SPIC
- In respect of the development of hydrogen energy, the Entrusted Yanqingyuan Hydrogen Refueling Station Project was the first hydrogen refueling station to obtain a hydrogen operation license in Beijing. Besides, the Yanqingyuan Hydrogen Refueling Station Project (Phase II) was approved by the Ministry of Science and Technology as a sub-task under the key project of "Scientific Winter Olympics — Hydrogen-powered Transport" for 2020
- To enhance energy storage technologies, we completed comparison and selection of the technical scheme of the supporting 30MW energy storage system for the 600MW Grid-parity Photovoltaic Project (Phase II) in Xinrong

Case

China Power built the intelligent eco-energy base with green photovoltaic power

On 31 July 2020, China Power Chaoyang 500MW Photovoltaic Power Project, the single largest project in terms of capacity among the first batch of grid parity demonstration projects in China achieved full capacity grid connection. The photovoltaic power sites in Chaoyang were mainly barren mountains and slopes with bare rocks and droughts throughout the year, hence difficult for growing vegetation. Upon completion of the project, the photovoltaic modules can effectively offer a good living environment for the vegetation below by avoiding direct sunlight, keeping the soil moist, reducing evaporation from land surface, and helping vegetation to grow again.

Meanwhile, by rinsing the modules, the issue of vegetation irrigation can be addressed properly. Surface water is increased to provide a good living environment for vegetation in the region and effectively alleviate the problems of water and soil loss. In addition, the concept of intelligent operation and maintenance was applied. Through unmanned aerial vehicles ("UAV") patrol and intelligent operation and maintenance software, we achieved "air-ground integration" for intelligent operation maintenance, and turned the project into an "intelligent eco-energy base" that safeguards the invaluable assets of lucid waters and lush mountains.



Vertical-axis wind turbine (VAWT)



Low-temperature air source heat pump



Solar water heating system



Rooftop photovoltaic panels



Two-tank water storage system thermocline



Control room setup



Photovoltaic carport charging station

Case

China Power planned and constructed a leading zero-carbon green energy base in China

China Power planned to build a national leading zero-carbon green energy base mainly consisting of an adjustable and controllable wind and photovoltaic power base, a whole-chain green hydrogen application base, and a zero-carbon comprehensive energy supply base in Datong, Shanxi. Moreover, it will also build a demonstration base of renewable and adjustable "wind power + photovoltaic power + stored energy by making use of stored energy". To this end, it is planned that the investment will amount to approximately RMB13 billion. It aims to build a zero-carbon integrated intelligent energy supply area with wind power, photovoltaic power, stored energy, and hydrogen production with green power during the "14th Five-Year" plan period, in order to assist Datong in the reform of the energy consumption pattern and the transition of the energy consumption structure and method, and promote the shift from production method and lifestyle with high energy consumption and low efficiency to green and low-carbon method, thereby realizing the transformation from the city of coal to the city of hydrogen.

Case

The first "zero carbon" power supply project of China Power successfully commenced operation

The Baozhigu Integrated Intelligent Energy Demonstration Project is the first "zero-carbon" power supply project of China Power. Through alternative energy, we have increased the percentage of clean energy consumption in the park to achieve "zero carbon" and "electrification". We have also achieved "intelligent transformation" via digital transformation of the energy system in the park. Moreover, by extensively using technologies and products such as photovoltaic modules, energy storage tanks and IEMS independently developed by SPIC and China Power, we achieved a "autonomous integration".

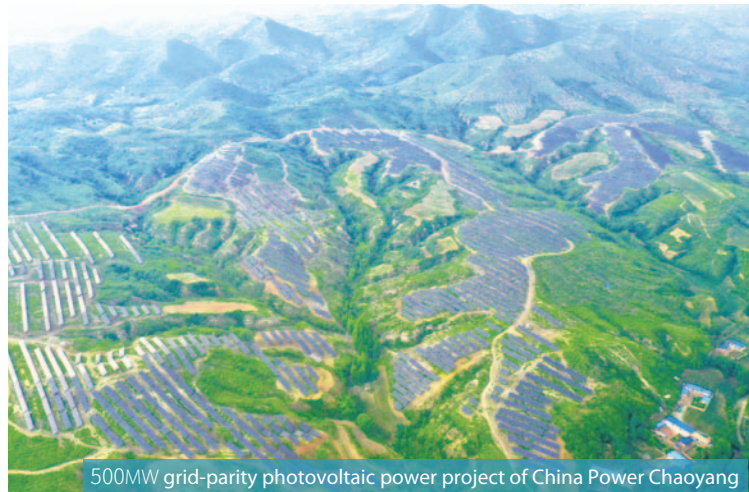
By "replacing gas with electricity and storing power during off-peak hours", the project has generated revenue from annual energy conservation of more than RMB2 million, and reduced natural gas combustion by 800,000 cubic meters, carbon dioxide emissions by 1,520 tonnes, and nitrogen oxides emissions by 400kg each year. Based on the comparison of the actual operating data, during the period from July to December 2020, the total energy consumption cost saw a decrease of 31.73% over the same period of 2019.

Case

China Power's first typical demonstration project of comprehensive intelligent energy for beautiful rural areas

The comprehensive intelligent energy project for beautiful rural areas in Xiaogang Village is a demonstration project of China Power's comprehensive intelligent energy undertakings for beautiful rural areas. Relying on the existing resources (such as solar energy, geothermal energy, sources of water, and straws) in the village, we took into account multiple energy elements based on local conditions to achieve integrated intelligent management, while upholding the planning philosophy of "environmental protection, low carbon, energy conservation, and ecology".

Meanwhile, we have integrated multiple intelligent elements such as big data, cloud computing, and Internet of Things into key areas of Xiaogang Village including its official affairs and people's livelihood, thereby empowering Xiaogang Village with intelligent technology to improve people's livelihood, and achieve industrial development and economic leap in the future. 100% of the power consumption in Xiaogang Village has been replaced with clean energy power.



500MW grid-parity photovoltaic power project of China Power Chaoyang



100MW wind farm in Shanghe

Developing Clean Coal-fired Power

We strengthened maintenance and operation management of environmental protection facilities, and inspected issues and threats in ecological protection to ensure pollutants are discharged after meeting standards. Besides, we have obtained a permit for pollutant discharge and carried out such works on the basis of the permit, ensuring that the Working Standards on Pollution Discharge Permit for Coal-fired Enterprises have been met. In 2020, the Group conducted 4 Class A overhauls, 13 Class B overhauls, 45 Class C overhauls, and 6 Class D overhauls on generating units. The operational ratio of desulphurization facilities for the coal-fired power generating units was 100%, and the efficiency ratio of desulphurization was 99.23%. The operational ratio of denitration facilities was 100%, and the efficiency ratio of denitration was 88.39%. The per-hour average emissions were all below the limit.

- The No. 2 unit of Dabieshan Power Plant was rated AAAA among 600MW supercritical wet cooling units in the national energy efficiency alignment competition for coal-fired power units
- Pu'an Power Plant was granted special incentive funds for industrial revitalization with efficient clean energy power generation of Guizhou Province

Standardizing production policies



- We completed revision of two tier-1 policies, including the Management Measures for Production and Operation of Coal-fire Power Enterprises, and 39 tier-2 management policies of China Power
- We standardized procedures and working standards for production management, in order to facilitate the development of systems, standards and procedures of production management

Strengthening technical research



- We have prepared the technical standards of China Power, including Operating Rules on Assessment of Exceedance of Environmental Protection Indicators, Guidelines on Operation and Maintenance of the System for Denitration and Urea-to-ammonia Conversion in Coal-fired Plants, and Guidelines on Fire Protection Management of Wet Desulphurization Tower in Coal-fired Plants
- Researches have been done on common technical issues in environmental protection. Research on resolving problems arising from ultra-low emissions has also been completed
- By continuously engaged in comprehensive environmental management and taking actions to improve environmental protection, we have pushed ahead the enclosed renovation of the coal mines in Yaomeng Power Plant and Changshu Power Plant, an associate of the Group, as scheduled. We have also completed the project of transforming liquid ammonia into urea for Wuhu Power Plant, Fuxi Power Plant and Changshu Power Plant (1,000MW generating units)

Enhancing environmental protection supervision



- We have strengthened the supervision and management of environmental protection to ensure a sound and stable operation for the related facilities. Specifically, we track and inspect online monitoring data of the desulphurization and denitration systems as well as data uploaded to the ecology and environment authorities
- For each quarter, we have carried out technical supervision analysis and convened meetings on the operation of environmental protection facilities, and formulated corresponding measures for solving problems identified during operation maintenance
- We have conducted on-site inspections of major technical transformation, including enclosed inspection of coal mines, and carried out environmental supervision of eight coal-fired enterprises



The Chemical Detection and Diagnostic Technology Research Center of SPIC and the Digital Power Plant Technology Sub-center of Clean and Efficient Coal-fired Power Industry Innovation Center opened at CP Huachuang on 17 September 2020. Upon establishment, the two centers will then work with CP Huachuang to engage in business and technical researches regarding chemical detection and diagnosis as well as digital development of coal-fired plants under SPIC.

Advocating Green Production



Based on our “13th Five-Year” plan and the medium- and long-term plan for ecological protection, we aim to build a resource-saving and environmentally friendly enterprise, and regard energy conservation, emission reduction, and comprehensive utilization of resources as our responsibilities and obligations. Through scientific management, we proactively promote energy conservation, emission reduction and pollution treatment, and make contributions to the Blue Sky Protection Campaign.

Deepening Energy Conservation and Consumption Reduction

With energy conservation and consumption reduction as our main tasks, we vigorously promoted the model of “One Plant, One Strategy”, carried on management and control over indicators such as coal consumption, fuel consumption, make-up water rate, environmentally friendly supplies, and environmentally friendly emissions indicators, and encouraged power plants to carry out technological renovation and upgrade, fully tap into the potential of units for energy conservation and consumption reduction, and practice the philosophy of clean development.

In 2020

Economic coal consumed for blending combustion **7,614,000** tonnes

The coal consumption rate of the Group **303.31** g/kWh

Cumulative incentive electricity for environmental protection **628,000** MWh

Indicator	Unit	2019	2020	(Decrease)/Increase	Changes
Coal consumption rate	g/kWh	301.82	303.31	1.49	+0.49%
Total water consumption	Million tonnes	87.17	91.09	3.92	+4.50%
Water consumption per unit	g/kWh	1,471	1,571	100	+6.80%



Dabieshan Power Plant

- Through technical renovation, the gravel coal emissions from the pulverizing systems of the two furnaces decreased significantly. In particular, #1 furnace saw a decrease of 47.59%, and #2 furnace of 72.95%
- By optimizing the heating method of the ash hopper, the steam pressure declined by half, greatly reducing the water consumption and gas consumption of units
- Experiments on the circulating cooling water of operating units were conducted, where heat taken away by the circulating water was tremendously decreased to reduce the coal consumption of units and the power consumption rate of the plant and improve economical efficiency of units. As shown in the experiment results, the coal consumption of units can be decreased by approximately 0.5g/kWh, and the reduction of current of the circulating water pump can save power consumption of the plant by 755.7MWh/year.

Shangqiu Power Plant

- By optimizing the water level control of the deaerator, the power consumption of the condensate pump decreased by 0.1%, leading to 2.86MWh of power saved per unit per day and RMB549,000 saved from two units each year
- Through overhauls and technical renovation, the plant fully tapped into the heat supply potential of units. For the flexible heat supply transformation project of #1 unit, zero output of the low pressure cylinder was achieved, and the heat supply capacity of the unit increased by 100 tonnes/hour
- Primary fans were transformed in terms of frequency conversion and energy conservation, leading to a decrease in the power consumption of the fans by about 0.4%. It is expected that electricity charges of RMB1.66 million can be saved each year
- The fuel system of unit boilers was transformed to consume less fuel and save oil consumption of unit start-up

Case Dabieshan Power Plant attained ultra-low load and oil-free operation for the first time

On 21 July 2020, the #3 unit in Dabieshan Power Plant operated with low load and without fuel for 6 hours consecutively attaining ultra-low load and oil-free operation for the first time. During the process, load was reduced to 260MW, with a load rate of 39%, and the unit was operated stably with parameter indicators under control. It is expected that the fuel cost can be saved by about RMB70,000.



Promoting GREEN Emission Reduction

By developing and applying new technologies, strengthening management, and improving capabilities, we proactively engaged in clean production and comprehensive utilization so as to effectively control material costs and waste emissions during production and operation of the Company, as well as minimizing the impact of its production activities on the environment.

In **2020**

Investment in environmental protection technical renovation

RMB **258,700,000**

Reducing Waste Gas Emissions

We strictly follow the Law of the PRC on the Prevention and Control of Atmospheric Pollution, Emission Standard of Air Pollutants for Coal-fired Power Plants (GB 13223-2011), Ambient Air Quality Standard (GB 3095-2012) and other laws and regulations. Moreover, we formulated the Management Measures for Air Pollutants, requiring to "actively adopt new processes and technologies, continuously renovate and upgrade equipment and systems, and improve equipment performance and reliability". In addition, we followed the management principles of "reducing air pollutant generation (input and process), effectively treating air pollutants (desulphurization, denitration, and dust removal), and meeting emission standards (effective monitoring and supervision, and meeting concentration and total emission requirements)" to promote air pollutant management.



Main Measures

- On the premise of meeting the combustion requirements of boilers, we endeavored to purchase coal with low sulphur, low ash, low nitrogen content and suitable volatiles whenever possible
- We selected low nitrogen combustion apparatus, and adopted technologies such as air classification and fuel classification
- Based on the operating conditions, we timely adjusted and optimized combustion, controlled oxygen content and temperature within the boilers, and improved the efficiency of combustion and the removal process of dust removal devices, desulphurization facilities, and denitration facilities
- We employed the gas re-circulation combustion method to control the conversion rate of nitrogen oxides



Annual Practice

- We have continuously reduced waste gas emissions, and kept improving the ultra-low emission projects for generating units newly commissioned
- We have conducted researches on issues arising from ultra-low emissions, aiming to solve difficulties such as blocking of air pre-heaters, increasing resistance from the exhaust gas system and wearing of denitration catalyst at the same time striving to improve the reliability of environmental protection facilities to the largest extent, and achieving up-to-standard emissions at all times to reduce pollution
- We have actively carried out researches on ultra-low emission technologies of W flame boilers in Pu'an Power Plant, and employed it whenever appropriate for the purpose of further reducing exhaust gas emissions
- We facilitated the participation of Dabieshan Power Plant in the pilot program for carbon emission rights trading, and completed transaction performance for 2019 on 15 December 2020

Emission Types and Categories		Unit	2019	2020	(Decrease)/Increase	Changes
Nitrogen oxide emission	Total	'000 tonnes	7.874	8.978	1.104	+14.02%
	Density	g/kWh	0.133	0.155	0.022	+16.54%
Sulphur dioxide emission	Total	'000 tonnes	4.478	5.063	0.585	+13.06%
	Density	g/kWh	0.076	0.087	0.011	+14.47%
Dust emission	Total	'000 tonnes	0.429	0.491	0.062	+14.45%
	Density	g/kWh	0.007	0.008	0.001	+14.29%

Note: Three environmental indicators increased over the prior year mainly due to the year-on-year increase in the power generation of two 660MW generating units, which did not meet the ultra low emission standards and thus increased the average value of the emission performance.

Indicator	Unit	Scope 1	Scope 2
Carbon dioxide emissions (Dabieshan Power Plant)	'000 tonnes	5,063	—

Note 1: On 5 January 2021, the Ministry of Ecology and Environment (MEE) announced the formal start of the first performance cycle at the Chinese carbon market. As the disclosure of the main emission data of carbon trading before completing carbon clearance will affect the trading strategy and implementation of emission control enterprises, we will not publish the overall emission data involving carbon trading temporarily before completing carbon clearance. We will only disclose data related to Dabieshan Power Plant which has participated in the pilot program for carbon trading. Our overall carbon emission data will be disclosed in detail in the next annual report after carbon trading is completed.

Note 2: We have not been involved in scope 2 currently.

Reducing Waste

We strictly abide by Standard for Pollution Control on the Storage and Disposal Site for General Industrial Solid Wastes (GB18599-2001). We also formulated the Management Measures for Solid Waste at the Group level to standardize the management of solid waste generated in production so as to prevent environmental pollution and emergencies.

In **2020**

The comprehensive utilization rate of fly ash **89.27%**, representing an increase of **4.39** percentage points as compared with 2019

Regulations and Procedures

Principles of solid waste management: Reducing the production of waste, making comprehensive use of waste, and carrying out decontamination of waste

Comprehensive utilization of solid waste: We encourage comprehensive utilization of solid waste. Fly ash, bottom ash, desulphurized gypsum, wrappers, waste boxes, waste papers, and waste metals (including waste steel balls and waste cables) shall first be sold to external parties at a reasonable price, and the rest of them shall be stored by type. The comprehensive utilization rate of fly ash shall not be lower than the average level of comparable enterprises in the region

Annual Practice

- A location was designated to store solid waste on the construction site, which shall be timely removed upon completion of construction. Solid waste was treated by two methods: The first was recycling by using waste concrete blocks to pave temporary roads. The second was to recalculate earthwork balance, and hence used the solid wastes to backfill and consolidate the land lots with lower elevation
- We have completed the enclosed renovation of the coal mine in Changshu and the enclosed renovation project of the #2 coal mine in Yaomeng power plant, completely solving the problem of flowing dust pollution in coal mines and achieving in-depth treatment of unorganized emissions in coal stock yards

Case

CP Guorui was granted the honorary title of "Excellent Chinese Enterprise of Comprehensive Utilization of Fly Ash"

On 23 October 2020, CP Guorui was once again granted the honorary title of "Excellent Chinese Enterprise of Comprehensive Utilization of Fly Ash for 2020" by Asian Coal Ash Association and Institute of Technical Information for Building Materials Industry of China for the third consecutive year since 2018. Throughout the operating process of comprehensive utilization of fly ash, CP Guorui has been using modern management tools and means to improve efficiency and service quality, striving to promote recycling and comprehensive utilization of by-products from power generation and intelligent remote operation, control and online sales of fly ash by building a platform.



Emission Types and Categories		Unit	2019	2020	(Decrease)/Increase	Changes
Discharge of hazardous solid wastes	Density	g/kWh	0	0	0	0
	Total	'000 tonnes	0	0	0	0
Discharge of non-hazardous solid wastes	Density	g/kWh	33.2	29.3	(3.9)	-11.75%
	Total	'000 tonnes	1,963	1,701	(262)	-13.35%



Optimizing Wastewater Treatment

We strictly abided by standards such as Integrated Wastewater Discharge Standard (GB8978-2002), Wastewater Quality Control Index for Limestone — Wet Gypsum Desulphurization of Coal-fired Power Plants (DL/T997-2006) and actively implemented the Action Plan on Prevention and Control of Water Pollution launched by the State Council of the PRC. We have formulated the Management Measures for Water Pollutants to standardize the management of water pollutants (wastewater) discharged during the production process, and reduced the amount of pollutants in wastewater through means such as technical upgrades to ensure the discharge of wastewater meets the national standards.

Type and Category of Discharge	Unit	2019	2020	(Decrease)/Increase	Change
Total discharge of industrial wastewater	'000 tonnes	110.4	0	(110.4)	-100%



Regulations and Procedures

Basic requirements:

Reducing water consumption, comprehensive utilization, and up-to-standard discharge. The drainage system of the plant shall be designed and constructed according to the principles of "clean water and sewage diversion, rainwater and sewage diversion". Advanced technologies with less or no water consumption shall be adopted for the production system to reduce industrial water consumption and wastewater discharge

Comprehensive utilization:

Industrial and domestic water systems shall be designed and constructed according to the principles of "water recycling, cascade utilization of water and water reuse" to reduce wastewater discharge

Up-to-standard discharge:

Design, construction and operation of water pollutants (wastewater) treatment facilities shall be supervised effectively to ensure effective treatment of water pollutants (wastewater). Post-treatment wastewater shall be first reused. If it cannot be reused or in case of imbalanced water quantity, a small amount of discharge is allowed, but it shall be in conformity with relevant standards and requirements



Annual Practice

- We have conducted researches and implemented zero discharge of wastewater. At present, all of the wastewater produced from the desulphurization system in Shangqiu Power Plant has been recycled and reused
- All of the eight units of the Group achieved full-load up-to-standard discharge, achieving zero discharge of industrial wastewater
- Pingwei Power Plant has conducted "integrated" technical upgrade of the desulphurization wastewater treatment system, and promoted refined control of water quality, meeting strict environmental requirements with effective wastewater treatment



Main Achievements

- Cinder and water system upgrade and desulphurization wastewater treatment system upgrade of Pingwei Power Plant
- Upgrade and comprehensive utilization of pipe networks of the wastewater system of Wuhu Power Plant
- Capacity expansion of the new coal-containing wastewater treatment system and the ground flushing water treatment system in the desulphurization area of Fuxi Power Plant
- Fuel-containing wastewater treatment of the steam engine and auxiliary engine of #2 unit in Dabieshan, independent recycling after sewage separation, and achievement in up-to-standard discharge of water resources
- Water system upgrade and optimization of domestic wastewater treatment in the living area of CP Shentou

Practicing Green Philosophy



We have been carrying out environmental management continuously to improve the management standard of ecological and environmental protection. Focusing on the national policies and specific requirements, we have upgraded the Course of Action of China Power for Improving Ecological and Environmental Protection, promoted the implementation of the action plan of improving ecological and environmental protection, strictly implemented and standardized the supervision and inspection system of ecological and environmental protection.

Green Construction

Adhering to the philosophy of green construction throughout the entire process of project construction, we have effectively controlled the impact on the environment from planning and assessment at the early stage to construction process control and site recovery upon completion, thereby building green projects.



Standardizing the use of materials

- We have arranged reasonable working procedures to increase the utilization rate and full-load rate of various machinery and reduce the energy consumption of various equipment
- We prioritized the use of energy-saving, efficient and environmentally friendly construction equipment and materials recommended by the PRC government and the industry



Conserving water and soil

- The bare ground at the construction site was covered by sowing grass seeds, planting trees, laying crushed stone and dense screens. Measures like arched berm were taken to avoid water and soil loss



Saving land

- We have enhanced the land utilization rate by optimizing construction plans and allocating land in a scientific manner. We have adopted the technology of "integration of five towers" in the expansion project of Shentou Power Plant II to save land
- We have made reasonable route planning at the construction site, and made full use of existing roads to reduce land occupation



Civilized construction

- We have strengthened the supervision of civilized construction, cleared the site upon completion of construction, disposed all kinds of garbage and waste in a timely manner and tried to recycle them or carry out centralized detoxification treatment for non-recyclable waste
- We have put domestic waste in bags at the construction site, piled them up in a designated place, cleared and transported them timely





Case **Developing clean energy and building green projects**

The 100MW photovoltaic power project of Datong CP is the first photovoltaic power project with large-scale vegetation greening featuring afforestation and landscape in China. To restore the environment in the construction area, the Company has taken a series of measures to improve the ecological environment of the sinkholes in coal mining areas, and passed the special assessment of the demonstration project of green construction.



- We have taken effective measures to contain construction dust and disposed solid waste produced from construction in a timely manner
- Upon expiration of the service period, we will clear all buildings, facilities and devices in the field area, and transport the scrapped photovoltaic modules and pipe fittings to the manufacturers for recycling or qualified companies for reuse



- Upon completion of project construction, we planted vegetation in the photovoltaic plant area for 1-2 years, and replanted suitable drought-enduring bushes between arrays. With a mixture of bushes and grass planting in the area, the greening area accounts for 95%

Ecological Protection

We have organized training on environmental protection to improve the environmental management capabilities of staff. In practice, we always pay attention to the impact of production and operation activities on the surrounding environment and creatures, and join hands with relevant institutions to conduct ecological activities for staff to practice green philosophy.

Case

Organized the 2020 training sessions of ecological and environmental protection management

During the period of 21-25 December 2020, China Power organized the 2020 training sessions of ecological and environmental protection management at the training center of Yaomeng Power Plant, in which a total of 45 trainees from 21 units attended.

China Power has invited experts to give lectures in these training sessions for personnel of environmental supervision and management and environmental equipment management. The lectures mainly cover topics such as environmental laws and regulations, technical routes and management optimization of environmental facilities, hazardous solid waste management, supervision of environmental technologies, national policies on carbon emissions, analysis of issues and suggestions during annual inspection of carbon emissions, aiming to improve trainees' business capabilities and skills regarding supervision of environmental technologies, environmental equipment management, and environmental laws and regulations, so as to consolidate their theoretical knowledge and improve their environmental management capabilities.



2020 training sessions of ecological and environmental protection management

Case

Wu Ling Power carried out all-round practice of ecological protection

In 2020, Wu Ling Power implemented abundant measures in water and biodiversity conservation for in-depth implementation of green development concept.

Water contamination clean-up

- Through salvage by manual and slag removal machine, Wu Ling Power has cleared the scum in front of the dam, and transported the scum to local refuse disposal stations for detoxification treatment
- It has built ecological units in the reducing segment of water so as to retain the flow volume of the stream

Aquatic organism protection

- In collaboration with fish hatcheries such as Sanbanxi and Tuokou, it has carried out research on and artificial breeding of unique species in Qingshui River (Yuan River), released fish, and built 20,000 artificial fish tanks to boost healthy development of fish resources
- Moreover, it has conducted low temperature water treatment in Sanbanxi, adopted technologies of waterproof curtain walls to increase the downstream water temperature and to restore the downstream environment for fish spawning and reproduction

Vegetation protection

- Wu Ling Power has carried out slope protection and vegetation restoration on the dam site, and assisted local governments of various power plants to develop their tourisms by building wetland parks within the river basins where the power plants are located
- Wu Ling Power has entrusted local competent departments of forestry administration to transplant and protect old and valuable trees and rare plants in inundated areas



Tuokou fish hatchery

Sanbanxi fish hatchery

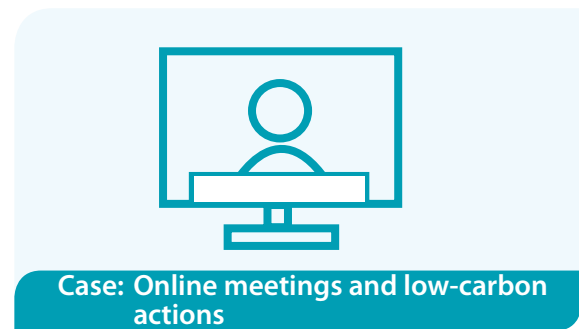
Green Operations

Upholding the philosophy of low carbon and environmental protection, we strengthened management of power, paper, and fuel consumed in office buildings, carried out energy-saving transformation of public facilities in office areas, and encouraged video conference in daily operation to improve employees' awareness of green office and the green operations of the Group.

Indicator	Unit	2019	2020	(Decrease)/Increase	Change
Total office paper used	Ton	30.37	37.31	6.94	+22.85%
Total power consumption of office building	MWh	13,038.59	11,956.17	(1,082.42)	-8.30%
Total fuel consumption of corporate vehicles	Liter	727,340	653,400	(73,940)	-10.17%
Total water consumption of office building	Ton	154,029	156,808	2,779	+1.80%
Video conference	Time	1,629	2,269	640	+39.29%



On 27 August 2020, Yaomeng Power Plant launched an event with the theme of "saying no to food waste", rolled out signing event for saving food, issued a Food Saving Initiative, set up signs on the dining tables in staff canteens and widely collected cultural works such as paintings and photography works from employees and their families for selection and promotion. Moreover, it held the "clear your plate" campaign in staff canteens, randomly selecting employees who performed best in the campaign, and presented them with souvenirs on site.



To enhance the philosophy of green office, the Group vigorously promoted online meetings to reduce resource consumption arising from offline meetings. In 2020, the Group further upgraded the video conference system to popularize and meet the needs for mobile office scenarios and improve the working efficiency and application experience.

As of the end of 2020, the Group's video conference system was used in all affiliated entities. 515 video conferences were organized and held by the headquarters of the Group within the system with a length of over 1,000 hours.

Publicity of Environmental Protection

In 2020, we organized a series of promotion regarding the advantages of power generation with clean energy, promoted clean energy among the public, enhanced the knowledge and understanding of enterprises by the general public, and carried out environmental protection activities to practice green philosophy.

Case

Joined hands with county-level environmental protection bureau to popularize knowledge on environmental protection with wind power

In 2020, the Gushi Wind Power Project Department of Anhui Company joined hands with the environmental protection bureau of Gushi County, Henan Province, with a total of 12 people visited villages under the jurisdictions of Lidian Town, Guantang Township and other townships and towns. They organized wind power and environmental protection publicity activities with the theme of "serving the public by contributing to green energy", visited village committees and farmers and distributed manuals on scientific knowledge of wind power to popularize wind power-related knowledge, with a view to calling for strong support to the development of wind power and other clean energy and calling on villagers to become initiators, practitioners, and volunteers of environmental protection so as to jointly make contribution to improve the environment of Gushi County.



Case

Carried out promotional campaigns of environmental protection with clean coal-fired power in collaboration with the local government

On 21 December 2020, Fuxi Power Plant carried out environmental protection promotional campaigns in Yuejiang Town, Gao County, in collaboration with the local government. Through showing promotional videos regarding environmental protection produced by the enterprise, hanging slogans and banners, distributing environmental protection leaflets, and on-site explanation with display board, the major milestones and achievements of Fuxi Power Plant in environmental protection development were introduced to over 180 residents, which eliminated the misunderstanding towards green power generation of some residents and enhanced their understanding of clean power generation.



Green Future

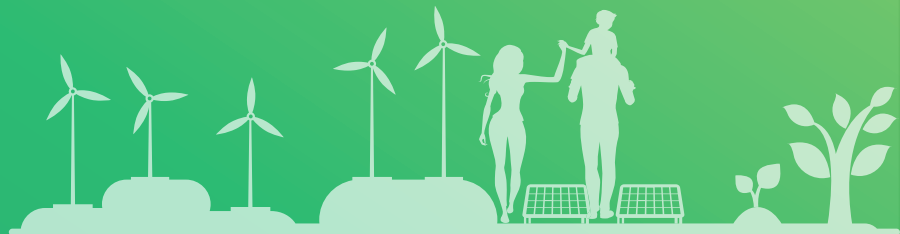
Promoting Innovative Development

Innovation serves as the primary momentum for development. We have been pursuing innovation-driven transformation and development of enterprises, constantly enhancing investment in technical R&D and resources, building technological innovation platforms, stimulating vitality of management innovation, building innovative talent teams, and propelling the reform of enterprises via innovation to achieve strategic transformation and high-quality development.

Sustainable Development Goals of the United Nations



Build resilient infrastructure, promote sustainable industrialization and foster innovation



Key Topics

- ▶ Service for implementation of national strategies
- ▶ Innovative development
- ▶ Reform of State-owned enterprises
- ▶ Power system reform

Management System

- Incentive Measures for Technological Achievements
- IPR Management System
- Management System for Technological Work
- Management Measures for Technological Work Assessment and Evaluation
- Management System for Technological Projects
- Management System for Technological Achievements
- Technology Incentive System
- Management Measures for Employee Innovation Studios
- Management Measures for Soft Science Research
- Regulations on Informatization Management
- Regulations on Information System Security Management
- Implementation Rules of Innovation Work Management (Trial)
- Management Regulations on JYKJ (Trial)
- Management Measures for Trading in Electricity Market



Promoting Technological Innovation

Persisting in improving the technological innovation system, we have strengthened the guarantee for innovation system, continuously improved the innovative development capacity of enterprises and vigorously promoted the informatization construction with a view to promoting the transformation and development of enterprises.

Strengthening Innovation System Development

We have been improving our innovation system, fostering awareness of innovation, and building consensus on innovation. Through institutional development, we have improved the initiative and enthusiasm for innovation of technological personnel, created an innovative atmosphere, and enhanced the innovation capabilities of enterprises.

In **2020**

Total technological investments of

RMB **676,051,000**

Launched **169** technological projects

Obtained **84** patents

including **77** utility model patents
and
7 invention patents

Registered **27** software copyrights
Chaired and participated in the formulation and

revision of **38** standards

including **2** national standards

In 2020, CP Zhihui was accredited as a national high-tech enterprise successfully



Improving the technological innovation system

- We have explored the establishment of innovation indicators system, strengthened the management of innovation models and innovation income and defined the specific manifestations of innovation in business, types of operation, technologies, income and benefits to form an indicator system and incentive mechanism
- We have formulated the “14th Five-Year” plan for Technological Innovation and Development, and explored and gradually built a mechanism for coordinating the R&D budget for scientific research projects of China Power
- We have improved the incentive mechanism for technological innovation, and implemented the Incentive Measures for Technological Achievements of China Power



Building a cooperation mechanism of production, education, research and application

- We have facilitated the synergy and coordination of internal and external scientific research resources for innovation-driven transformation and development
- We have continuously engaged in multi-layered and in-depth cooperation with social resources at home and abroad including higher education institutions, enterprises with leading technologies, and scientific research institutes
- We have accelerated the building of the innovation center of China Power, commenced project cooperation, carried out technological R&D, major projects for technological advancement, as well as transformation, promotion and application of our technological achievements



Enhancing management and application of technological projects

- We have conducted self-inspection of intellectual property management and review of distribution of intellectual property rights
- We have conducted technical exchanges to meet the needs of supporting and serving the production with technologies and facilitated the promotion and application of technological achievements



Inspiring employees' enthusiasm for technological innovation

- We have kicked off the first technological achievement incentive scheme to inspire enthusiasm for technological innovation among technical personnel in China Power
- We have formulated a plan for funding employees' independent innovation, and delivered support to employees for their innovation research on independently selected topics





Innovation achievement

Yaomeng Power Plant:

The Ash Dropping Pipe Sampling Device Project received the national invention patent for the first time and was also granted the utility model patent

CP Huachuang:

"Research and application of a new online accuracy evaluation model for chemical instruments of power plants" was awarded a Three-star Award for Outstanding Achievements in Water Treatment Technology in the Power Generation Industry in 2020; "denitration optimization of #1 unit of China Power Shentou Power Generating Company Limited" was granted the Second Prize of 2019 Employee Innovation Achievements by SPIC

Changshu Power Plant, an associate of the Company:

A new type of encoder installation structure for bucket wheel machine, an independent innovation achievement, was granted the national utility model patent

Case

Holding the 2020 Technology Forum

From 17 to 18 September 2020, China Power held the 2020 Technology Forum and conferences on the coordination plan for technological projects in Suzhou. At the meeting, domestic colleges and universities as well as scientific research institutes such as relevant technical, planning, and design institutes of SPIC were invited to exchange their views on the difficulties and struggles in coal-fired power generation, wind power generation, and photovoltaic power generation in China, discuss and collect opinions on the coordination plan for technological projects of power generation in China, and propose ideas and concepts regarding the next coordination plan. The meeting has gained fruitful results and responses.



Promoting Information-Based Management

Led by the Internet security and information-based teams, we offer support for the information-based development of the Group by platform building, system construction and talent cultivation, with a view to comprehensively enhancing the information-based construction of China Power and pushing ahead information-based development. In 2020, no information security incidents were reported within the Group.



Building a professional information platform

- We have enhanced the capabilities of CP Huachuang (information center) in terms of technical service and supervision, skill training, big data collection and processing as well as the application and development of big data platform and operation and maintenance management
- We have enhanced the capabilities of CP Huizhi in respect of infrastructure construction, development of application software for system operation and maintenance platform, as well as the commercialization of the application system
- We have strengthened China Power's financial sharing, taxation sharing, audit sharing and management capabilities of other shared businesses, and enhanced its capabilities in respect of industry-finance integration and decision-making support



Facilitating the construction of information system

- Based on the self-developed mobile application platform (Huizhi Work Assistant APP (滙智工作助手 APP)), the "pandemic information filling system" was launched in time to effectively support the Group's pandemic prevention and control
- We have promoted and optimized the construction of ERP infrastructure, financial sharing system and taxation sharing system, and facilitated the construction of fuel management and control information system, Health, Safety and Environment management information system and production management information system (Phase II)



Strengthening the information talent team

- We insist on the approach of combining independent training with talent referral to stabilise core technical personnel and increase the proportion of information-based talents
- We have improved the employment and appointment system and strengthened the introduction of high-calibre talents
- We have developed relationship with information-based strategic partners so that we can fully leverage the internal and external technological talents of the Group



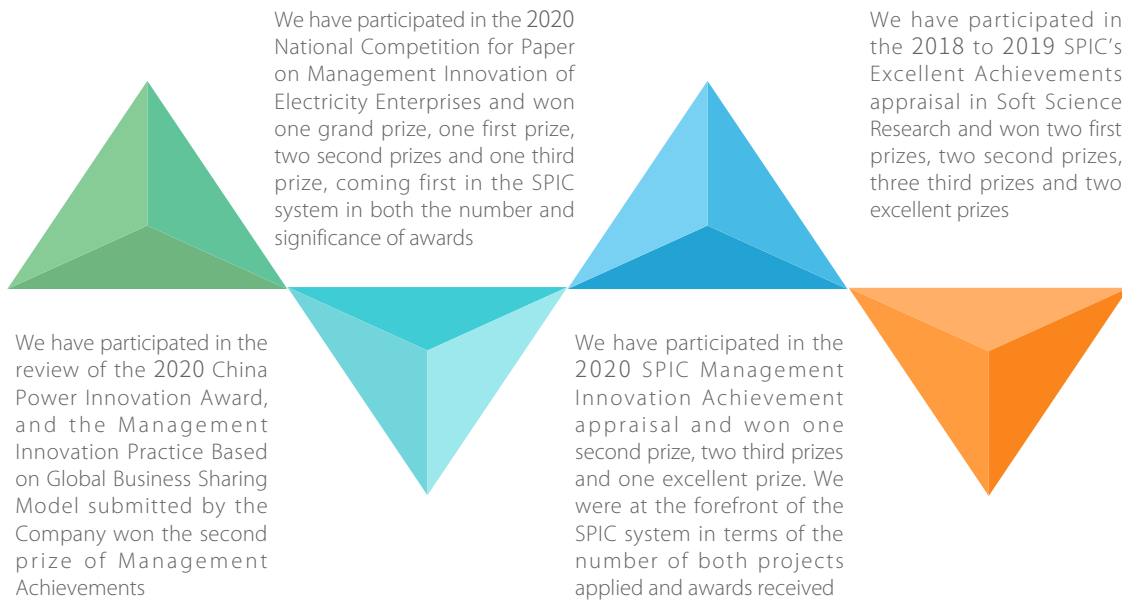
Implementing Management Innovation

We push forward the application of the JYKJ system (i.e. Planning – Budget – Assessment – Incentive), as well as accelerate the information-based construction of the JYKJ system and application of the DOAM tools. Giving full play to the role of “1+N” system enables us to actively explore management innovation path, stimulate management innovation vitality and improve both quality and efficiency of enterprises.



In **2020**,
the Group possessed
29 worker innovation
studios in total

Management Innovation Achievement



Case Pingwei Power Plant's management innovation made great achievements

Pingwei Power Plant has been building platform actively, holding extensive quality control groups (“QC groups”) activities and encouraging front-line workers from the production team to form QC groups on their own initiative based on their professions. In July 2020, we held a QC Group and “Five Small” achievements conference to release reviews of 40 QC groups and “Five Small” achievements, and commended the top 10 groups.

From 1 to 4 September 2020, at the 2020 Anhui Quality Management Team Results Exchange Meeting jointly organized by the Department of Economics and Information Technology of Anhui Province, Anhui Quality Management Association, Anhui Provincial Federation of Trade Unions, and Anhui Women's Federation, Pingwei Power Plant's project of Research and Implementation the New Structure of Public DCS for Large Coal-fired Power Generating Units won the third-class quality technological achievement of the quality management team.

Deepening Corporate Reforms

We have been continuously optimizing the corporate management through internal reform to promote its quality and efficiency improvement, and gradually increase the corporate development capacity. We have actively followed the requirements of the power system reform, participated in the construction of the modernized power market, enhanced the ability of electricity sales service and strengthened the ability to respond to future changes in the power market.

Promoting the Reform of State-owned Enterprises

2018

China Power was identified as a comprehensive reform enterprise under "Double Hundred Action" by SASAC. By means of enhancing the governance and control capabilities, fostering vitality and inherent impetus for growth, resolving the long-standing issues, namely "three main routes", to carry out comprehensive reform, we have formulated specific action plans and work ledgers with a total of 38 key tasks and measures. By the end of 2020, we have successfully completed the comprehensive reform work plan.

2020

We have launched the three-year action to benchmark world-class management improvement and State-owned enterprise reform in full swing with a focus on making breakthroughs in important areas and key aspects such as market-oriented operating mechanisms and reforms of the "three systems", industrial structure transformation and upgrade, innovation system and capacity building, governance and control system optimization etc. to facilitate further enhancement of the vitality and inherent impetus for growth, operational management efficiency, market competitiveness, and sustainable development capabilities.

In 2020, China Power was rated as "A-class Enterprise" in the Double-Hundred Reform by the Leading Group for State-owned Enterprises' Reform of the State Council of the PRC

Enhancing the governance and control ability

- We have specified the power and responsibility of management of each governing entity, continuously optimized the departmental establishment and division of powers and responsibilities of the headquarters and vigorously promoted the construction of a first-class headquarters
- We have classified, studied and formulated a corresponding list of powers and responsibilities, and established a management and control mechanism with equal powers and responsibilities and efficient coordination

Fostering vitality and inherent impetus for growth

- We have explored special incentives, "point incentives" and "dual benchmarking, dual incentives", and follow-on investment and other incentive methods combining various forms
- By promoting the "Photovoltaic Power Storage and Charging" project of Huitong Times Square, we have explored and implemented the Group's first "follow-on investment"

Resolving the long-standing issues

- We have steadily facilitated the transfer of water/power/gas supply and property management and the settlement of long-standing issues such as divestiture of factory-run medical and educational institutions
- We have completed the separation and transfer of social functions of four subsidiaries of China Power, involving a total of ten projects concerning water/power/gas supply and property management

Power System Reform

In 2020, we have revised the three existing systems and completed the preparation of the Administration Measures for the Electricity Transactions, established a marketing expert group to further improve the marketing organization structure and enhance overall management and control capabilities.

In 2020

Seven power sales companies under the Group were involved in power market transactions and signed agency contracts for electricity

consumption of **5,112,000** MWh, representing a year-on-year increase of

2,838,000 MWh. Among which,

CP Zhihui completed **64,000** MWh of electricity for cross-province and cross-region water-fire and wind-fire substitution transactions



Participation in the construction of the power spot market

- We have actively participated in the spot pilot area in the spot market, organized review meetings and idea exchange on the Shanxi spot market, and participated in other pilot areas of the SPIC
- We have organized for the entire system in Shanxi and carried out follow-up study of regional power spot market transactions on the State Grid, with an aim to enhance understanding of the spot market
- In 2020, CP Shentou has, by making full use of spot transaction rules and giving full play to the cost advantages, actively participated in the trial run and outperformed the 2020 power plan



Promoting the reform of the power sales side

- Taking Wuhu Power Plant as a pilot project, we have standardized the policies for companies that are selling power to individual users
- We have organized and carried out the third "Marketing Month" events of China Power with the theme of "developing standards, refining rules, attracting users, and enhancing awareness" and carried out all-round promotion of power sales business, and continued to carry out in-depth customer follow-ups
- By carrying out the "Power Sales+" service and through communication and interaction with users, we have had a comprehensive understanding of customers' needs for energy, and provided customers with value-added services such as production energy management, security monitoring, electrical maintenance, etc.

Enterprise Practice-Shandong Company

Case Power spot market construction

Shandong Province is one of the eight power spot pilots approved by the state. Shandong Company has been committed to achieving the goal of power reform in Shandong Province, seizing the opportunity of "importing power into Shandong", and promoting the construction of power markets and cross-region power transactions.

 **Market Construction**

We have comprehensively carried out the development of the spot – aided decision-making system, which was formally launched on 7 August 2020. We have provided decision-making basis and information support for spot transaction analysis, with an accuracy rate of 95% for load forecasting

 **Cross-regional Transaction**

We have leveraged abundant new energy resources of SPIC in the Northwest region. The new energy and electricity from region with abandoned equipment for wind power and hydroelectric power generation were transmitted to Shandong Province through cross-region transactions

 **Purchase of Electricity at Higher Price**

We have purchased "green power" at a price higher than that of the supply side trading, reducing the proportion of coal power in Shandong Province, and achieving mutual benefits for the government, power generation companies and power grid companies

 **Synergistic Development**

By taking advantage of our territorial resources, and the sales of power generation rights of closed power plants in Qihe County, Shandong Province, we have actively coordinated with local governments and power grids as well as facilitating cross-region transactions



Green Future

Adhering to Standardized Operations

We resolutely safeguard work safety aiming to lay a solid foundation for safety management, create a safety climate, continuously strengthen and improve the sustainability of the compliance management system, promote stable and long-term and quality development of enterprises. We also aim to continuously strengthen anti-corruption supervision and education system and promote efficiency in operating the enterprise with a clean and upright atmosphere.

Sustainable Development Goals of the United Nations



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation



Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels





Key Topics

- ▶ Work safety
- ▶ Legal corporate governance
- ▶ Anti-corruption
- ▶ Risk management
- ▶ Responsible procurement
- ▶ Supply chain risk management

Management System

- Regulations on Work Safety Management
- Regulations on the Management of Work Safety Accountability System
- Safety, Health and Environmental Risk Management Measures
- Regulations on Safety Production Supervision and Administration
- Management Measures for Safety Education and Training
- Management Measures for Occupational Disease and Work-related Injuries
- Management Measures for Legal Information Disclosure
- Regulations on Compliance Management
- Regulations on the Rule of Law
- Confidentiality Management System for Foreign Cooperation
- Measures for Fuel Supplier Management
- Measures for Material Supplier Management
- Measures for the Management of the Inspection and Rectification of the Objections and Questions of the Supplier
- Measures for the Management of Misconduct Records of the Supplier of China Power International Development Limited
- Measures for the Management of Material Procurement
- Rules of Procedure for the Joint Meeting of the Great Supervision
- Administrative Measures for the Clean Government Archives of Leading Cadres
- Measures for Corporate Supervision



Ensuring Work Safety

We have strictly complied with the Work Safety Law of the PRC and the Law of the PRC on the Prevention and Control of Occupational Diseases and other safety and health laws and regulations, starting from strengthening safety management and creating a safe atmosphere, with the goal of “zero minor injuries for staff and zero equipment failure”. Guided by “safety” and “culture”, we have continued to improve the level of work safety management, and steadily promoted the three-year action for specialized rectification for work safety, the safety rectification actions of contractors, and the “zero fatality” target actions to create a good environment for safe development. In 2020, the Group has seen no safety accidents involving employees, facilities or environmental protection.

Strengthening Safety Management

We are certified by the British Standards Institution (“BSI”) and Beijing Zhongan Zhihuan Certification Center to continuously improve our safety system, implement safety production responsibilities, strengthen risk tracking and prevent safety hazards; continue to improve emergency response capabilities and carry out self-assessment and emergency drills on emergency response; strengthen network information security as well as our ability of managing security issues on a best-effort basis.

In 2020,

we have released a total of **2,109** emergency plans,

including

43 comprehensive emergency plans

625 specialized emergency plans

1,441 on-site handling plans

organized **1,844** emergency drills

involving **19,704** participants



0 working days lost due to work-related injuries

0 work-related fatality was reported



Safety goals

- No general and serious accountable fatal accidents
- No general and serious equipment accidents
- No accidents related to dam leakage in reservoirs, ash reservoirs and tailings reservoirs
- No general category C and serious railway traffic accidents
- No general and serious power safety accidents
- No general and serious accountable cybersecurity incidents

Number of work-related fatalities occurred in each of the past three years	2018	2019	2020
 Number of people	0	0	0
 Proportion	0	0	0

Improving Safety System

- Relevant management policy, procedures and standards have been revised and improved in accordance with the certification and system upgrade of the QHSE management system
- Relevant research has been conducted to inspect the application of QHSE management information system. The system functionality has been continuously optimized to achieve online operations in all aspects of QHSE management
- The work safety accountability list has been revised to clarify work division so as to ensure that the onsite management mechanism has been in place

Preventing safety hazards

- A pattern combining experience feedback, reminder card learning and risk management has been adopted. High and medium risk operations have been listed out and categorized in a comprehensive manner for better prevention and control purpose
- The tracking and supervision of non-regular major risks on field operation has been carried out, aiming to timely adjust, remedy, supplement and improve safety protection measures and construction plans
- The "Internet Guardian 2020" offense and defence drill on Internet security has been carried out in collaboration with Ministry of Public Security to enhance Internet information security

Improving emergency response capability

- Self-assessment of emergency response plans has been carried out. The latest version of Comprehensive Emergency Response Plans has been released in which 21 special emergency response plans are included
- Various forms of onsite emergency drills together with events held during the work safety month have been organized to improve our capabilities of onsite emergency response and handling issues

Case Emergency drill on car accidents and injury

On 14 April 2020, a total of 25 employees from the professional departments of Pu'an Power Plant were assigned to carry out an emergency drill on car accidents, as a way to inspect and improve their emergency response capability. The drill simulated the situation where an onsite controller was hit and injured by a loader at work. The chief commander of the emergency command team, after receiving report of the accident and enquiring the onsite situation, quickly assembled the team for emergency rescue. Half an hour later, the injured was successfully transferred to the hospital for medical treatment. The emergency drill has proved the emergency response plan to be practical and has improved the capabilities of self rescue and mutual rescue among employees in case of emergency incidents.



Case Emergency drill on coal yard flood prevention and rescue

On 26 May 2020, Fuxi Power Plant organized a drill on flood prevention and rescue on No.2 coal yard. The drill simulated the situation where coal piles in No.2 coal yard collapsed due to heavy rainfalls, the roads of the coal yard and part of the tracks for No.1 bucket wheel machine were buried, and the coal-water slurry in the gutterways overflowed. Relevant personnel were assigned to carry out urgent repairs. After the emergency drill, corresponding remediations were put forward in respect of the weaknesses identified during the rescue process. More than 50 employees participated in it and their onsite response and rescue capabilities in case of emergency incidents have been enhanced.



Creating a Safety Culture

We have promoted the standardization of operation procedures and operation behaviors in a comprehensive manner and formulated safety behavior regulations for employees. We have carried out assessment on building a safety corporate culture for such a purpose. We have also strengthened employees' training on their safety awareness and their capabilities of building a sustainable safety environment, and multiple measures have been put in place to enable us to play a leading and demonstrative role for building a safety corporate culture.

In 2020

899 annual safety education

and training sessions were

provided for **50,925** personnel

Case

Organization of "Ankang Cup" Competition

On 15 May 2020, Wuhu Power Plant launched the competition under the theme of "strengthen awareness, inspect risks, promote development and ensure safety and health". The competition was held with an aim to promote the implementation of accountability system for work safety among all employees, vigorously carry out public work safety and occupational disease prevention and control activities, actively promote the establishment of safety culture, strengthen the building of labor protection supervision and inspection teams, etc. The safety corporate culture has been further enhanced through these activities and the foundation of work safety has thus been consolidated, laying a foundation for achieving the annual safety goal of "zero death, zero serious injury and zero mild injury".



Case

Safety experience through VR

In 2020, Anhui Company organized and carried out safety training in order to further increase employees' safety awareness and self-protection capabilities. It conducted 16 safety experiences through VR including helmet-to-helmet collision and pit falling, to provide employees with first hand experience when facing the consequences of improper construction practices. More than 20 personnel from Huainan Production and Infrastructure Center and Hefei Production and Infrastructure Center have participated in the event.



Case Lecture on the hazards and protection knowledge of occupational diseases

On 9 September 2020, Fuxi Power Plant invited health professionals from Health Commission of Sichuan Province to the Company to provide special professional health training, aiming to popularize the knowledge of health hazards and the prevention and control of occupational diseases as well as Law on the Prevention and Control of Occupational Diseases. The experts have also highlighted some occupational diseases and health hazards caused by dust and noise based on the actual operation condition of the Company. Through the lecture, the awareness for preventing occupational diseases among employees have been increased and their laborer rights and interests have also been safeguarded.

More than
80 people
in total have
participated in
this training



CP Shentou's Safety Knowledge Competition



Safety Culture Corridor of Changshu Power Plant, an associated company

Enhancing Compliance System

We strictly follow the principle of "senior management guiding the compliance; all staff playing an active role in compliance; and compliance to be promoted and enhanced comprehensively through various checkpoints". We have complied with the requirements of the Regulations on Compliance Management of the Group to improve and optimize the levels for compliance management and its organizational mechanism, regulation and system, and the work and establishment mechanism of our compliance culture, so as to facilitate a stable and long-term development for the Group.

Optimizing organizational mechanism for compliance management

- The compliance responsibilities of the Board, Audit Committee, Executive Committee, the management, compliance department and business departments have been specified
- The improvement of top-level management of compliance has been ensured so that relevant personnel can discharge their respective duties and supervise compliance

Improving compliance management system

- The key system of compliance management covering key areas, key aspects and key personnel has been improved
- The Regulations on Compliance Management has been released to strengthen the compliance control on operation and management of enterprise and its employees

Improving work mechanism of compliance management

- Online operation of compliance management in four areas including decision-making management and contract management has been fully launched
- Compliance risks in various business areas and units have been examined and rectified with a total of 182 compliance risks identified

Enhancing compliance culture building mechanism

- The Company has organized compliance promotion activities, disseminated compliance culture to enhance employees' awareness of compliance
- Compliance trainings have been organized where authoritative experts and consultants were invited to lecture on compliance knowledge through cases
- Themed lectures on compliance of listing regulations and statutory information disclosure, system interpretation, and ecological and environmental protection compliance have been held

Case

CP Huachuang organized the 2020 Constitution Publicity Week



4 December 2020 marks China's seventh Constitution Day, and also China's third Constitution Publicity Week. On that day, CP Huachuang launched the Constitution Publicity Week activities dedicated to put forward the essence of the Constitution.

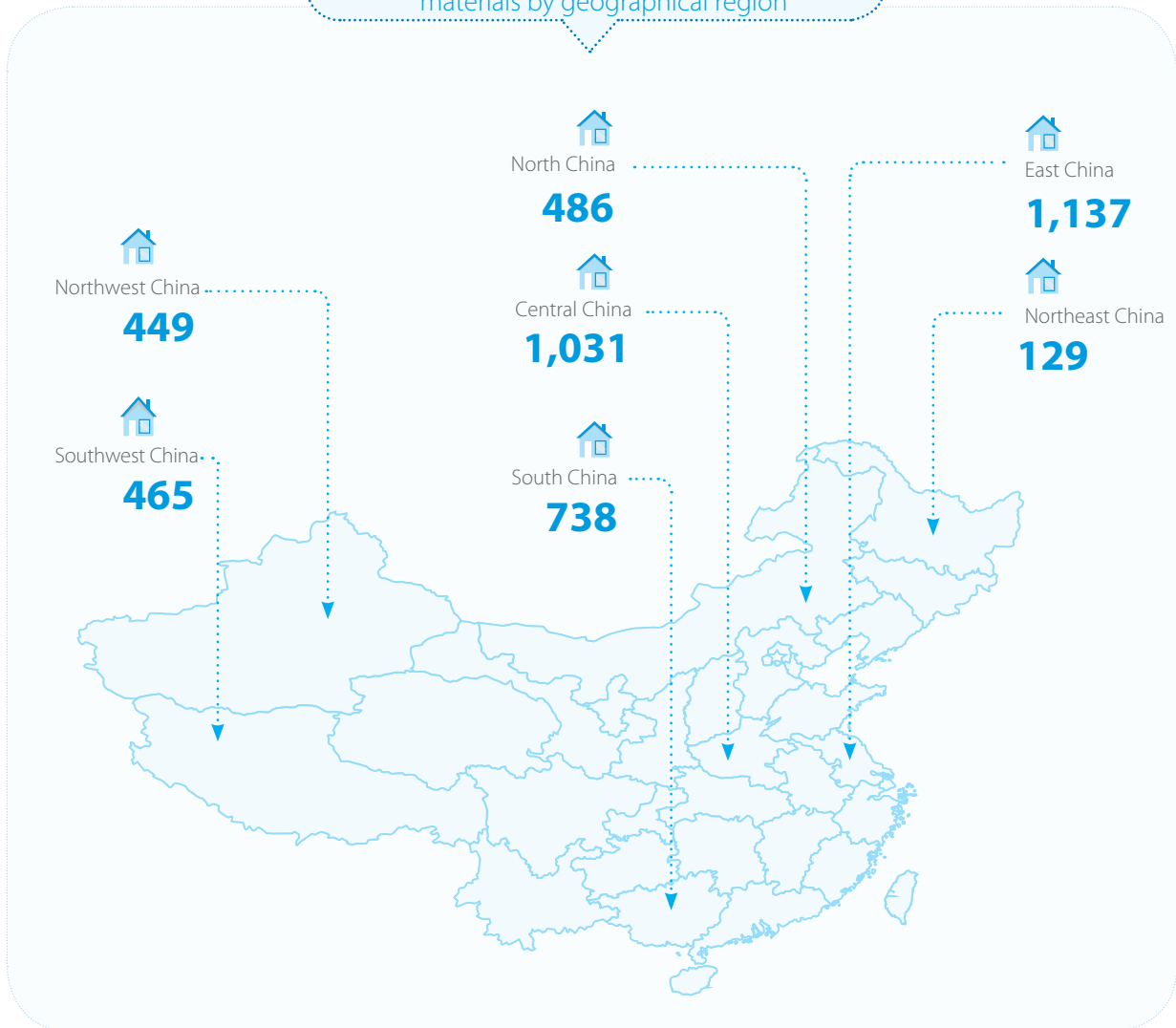
During the activities, the Company created a good atmosphere for learning and publicizing the Constitution through various publicity platforms, including the company's website, WeChat subscription account, electronic display screens, display racks, etc.. The Company also launched online quiz and competition related to the knowledge of Constitution and the Civil Code to improve the effectiveness of law popularization; it has incorporated the concept of rule of law and legal corporate governance in the leadership learning and training process, so as to popularized the knowledge and essence of the Constitution, and enhance the awareness of the rule of law among all employees.

Enhancing Supplier Management

We have formulated a series of group-level systems related to supply procurement and suppliers review, such as the Implementation Rules on Management and Evaluation of Fuel Suppliers, the Policies for Material Suppliers Management, and Measures for the Management of the Inspection and Rectification of the Objections and Questions of the Supplier, so as to comprehensively control the procurement activities and supplier selection, with a view to building a responsible supply chain.

In **2020**, according to Measures for the Management of Misconduct Records of the Supplier of China Power, we have carried out audit for **4,435** suppliers, among which, **319** were found defective, and **91** were incorporated in the supplier blacklist

Number of suppliers of equipment and materials by geographical region





Improving supplier management mechanism

- Management of material suppliers (contractors) has been enhanced and the mechanism of assessment and application for China Power's suppliers (contractors) has been established
- Management of suppliers by level has been implemented with a database of suppliers established. Qualified suppliers are incorporated in the database by level and are to be selected by units



Dynamic assessment of suppliers

- We perform peer reviews among fuel suppliers annually. For any identified fraudulent behavior related to quality and price or inferior quality of supply, the qualification of such suppliers shall be revoked by filling in the Supplier Qualification Cancellation Report
- Information technology is adopted in the assessment of material suppliers such as order-based assessment, real-time assessment and year-end grading

Case

Training of contractors enhanced through cloud platform of work safety

On 21 May 2020, Pingwei Power Plant invited external contractors to take part in an authorization examination for in-plant operation to guarantee the safety of equipment maintenance for all their employees. The "Cloud Training Platform for Work Safety" has been launched to prepare training course materials, videos, database for exams, pandemic prevention and control rules and other study materials. Contractors are strongly encouraged to take the online courses for self-study and participate in the mock exams. New accounts and study projects for contractors have been created on the APP "Power Mini Lectures" so as to enhance their ability of in self-study and operation as well as their knowledge base.

Increasing Anti-Corruption Efforts

We are in strict compliance with relevant laws and regulations including The Company Law of the PRC, the Anti-Money Laundering Law of the PRC, the Anti-Unfair Competition Law of the PRC, the Supervision Law of the PRC, and the Law of the PRC on Administrative Discipline for Public Officials. Moreover, we have deepened the implementation of relevant arrangements on the reform of national supervision system, enhanced the warning and education on anti-corruption, organized education and training for the board members and employees on integrity and self-discipline. We have strictly inspected the behaviors of corruption, rule- and law-violation, continuously rectified the problem of formalism and bureaucratism. We have been improving the anti-corruption supervision system, as well as the building of the “great supervision” system, and established joint efforts of supervision.

In **2020**
We have organized **279** trainings on anti-corruption for the board members and employees.
A total of **12,672** people participated in the education and training on anti-corruption and integrity.
There were **0** cases of rule- and law-violation during holidays. There were no litigation case on anti-corruption for the entire year



Improving supervision system

- The operating mechanism of discipline inspection has been improved and the 2020 Annual Assessment and Scoring Plan of China Power’s Discipline Inspection Organization and the 2020 Routine Assessment Form of China Power’s Discipline Inspection Organization were formulated
- The Letter of Responsibility for Clean Administration has been signed and the Supervision Responsibility List of China Power’s Discipline Committee has been gone through and revised. The fully-covered policy has been adopted to improve the supervision mechanism



Punishing rule-violation behaviors

- The clean administration mechanism for sending comments on cadres’ selection and appointment has been standardized and improved, and the opinions have been well handled. A total of 62 people have sent their comments
- To better engage the public in mass supervision, the channel for complaint and reporting has been kept available; the reporting telephone line has remained available for public use; and the content of complaint letters have been open to public
- Key problems of formalism and bureaucratism have been handled intensively with targeted remediation measures provided



Deepening warning and education

- SMS-based education. On days preceding major holidays such as the Spring Festival, Tomb-Sweeping Day, Dragon Boat Festival, Mid-autumn Festival and New Year’s Day, board members and employees receive reminder notification on keeping integrity in mind in the form of emails, SMS and WeChat messages, so that their awareness of integrity and self-discipline can be enhanced
- Conversation-based education. Kind and reminder-based conversations have been held among employees according to the job duties and risks exposed to integrity work, where various requirements of obeying rules and regulations have been set forth
- Publicity-based education. Activities such as work meetings on clean administration and anti-corruption, anti-corruption publicity and education month, cultural and art works on integrity and self-discipline have been held as a way to popularize relevant laws and regulations
- Case-based education. Typical cases of law- and rule-violation have been circulated for personnel to comprehend so that relevant rules and laws can be interpreted through real cases and personnel are enlightened

Case Publicity and education on integrity

Starting from March 2020, Fuxi Power Plant has organized various activities to publicize and educate on integrity with the theme of “compliance with regulations and rules, strict implementation of disciplines, and building role models”. The activities were held in multiple forms including centralized study, warning and education, warm-hearted conversations, collecting cultural works on integrity and quizzes with an aim to build an honest and upright work atmosphere. During the activities, three Douyin short videos and 12 comics on integrity have been collected and displayed on the official WeChat account of Fuxi Power Plant. Moreover, 10 typical cases of rule- and law-violation during the pandemic prevention period of SPIC have been circulated; 19 mid-level management personnel and 21 personnel of key positions have been given reminder-based conversations; and more than 100 personnel have been given kind reminders and conversations.



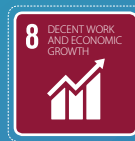
Green Future Cultivating New Talents

Adhering to the striver-oriented talent philosophy and the equal employment principle, we safeguarded employees' legitimate rights and provided them with more ways for career development and self-value realization. We organized diversified staff activities and staff caring activities to help employees to relieve their work pressure, and created a healthy and joyful working atmosphere in a cheerful and comfortable workplace.

Sustainable Development Goals of the United Nations



Achieve gender equality and empower all women and girls



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all



Key Topics

- ▶ Protection of employees' rights and interests
- ▶ Career development of employees
- ▶ Occupational health and safety of employees
- ▶ Caring for employees
- ▶ Building corporate culture

Management System

Management Measures for the Selection and Appointment of Leaders

Management Measures for Employees' Career Development

Management Measures for Training

Management Measures for Employee Recruitment

Management Measures for Recruitment of University Graduates

Implementation Rules for Temporary Position Training, Secondment and Learning

Regulations on Union Work Management

Implementation Measures of Staff Representative Congress

Regulations on Model Worker Selection and Management

Regulations on Advanced Team and Outstanding and Diligent Staff Selection and Recognition

Management Measures for Caring Employees by the Union of the Headquarters

Management Measures for Assistance to Employees in Difficulties of the Headquarters

Management Measures for Therapy and Recuperation of Employees

Management Measures for Assistance to Employees Suffering Serious Disease

Management Measures of Caring for Employees

Management Measures for the Work on Occupational Health

Protecting Employees' Rights and Interests

Adhering to the team philosophy of strengthening the enterprise by attracting talents and believing in the value of the team, we attached importance to protecting employees' vital interests in strict compliance with the national laws and regulations on safeguarding labors' human rights. We have optimized our remuneration incentive system and developed assessment and reward program to provide labor protection for employees, at the same time providing smooth channels for employees to express their appeals.



In 2020
Both the labor contract signing rate and social insurance coverage rate reached

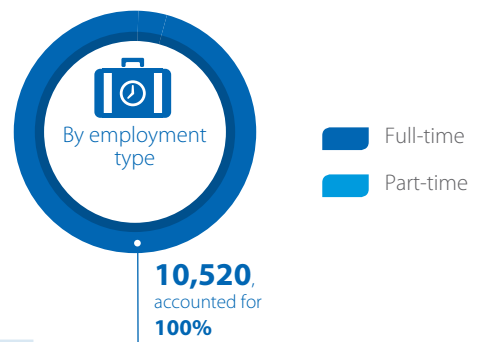
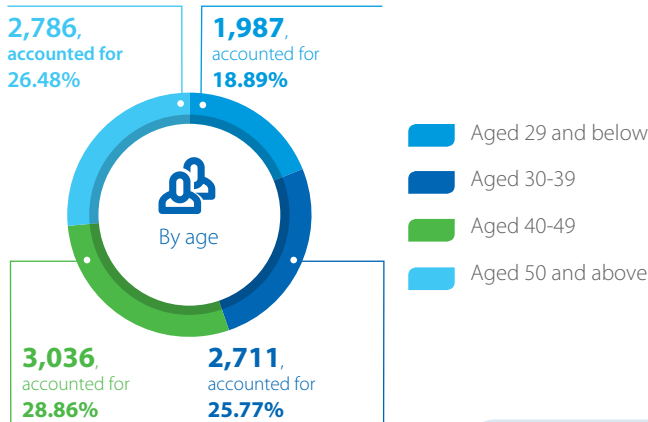
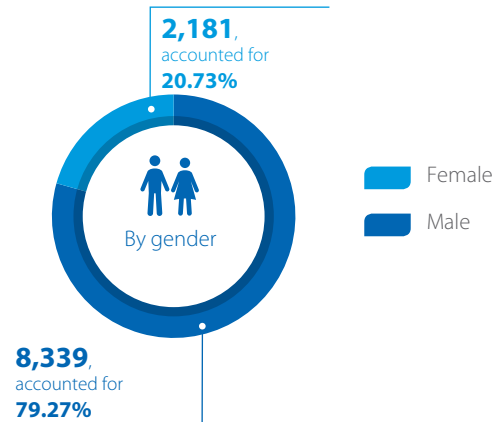
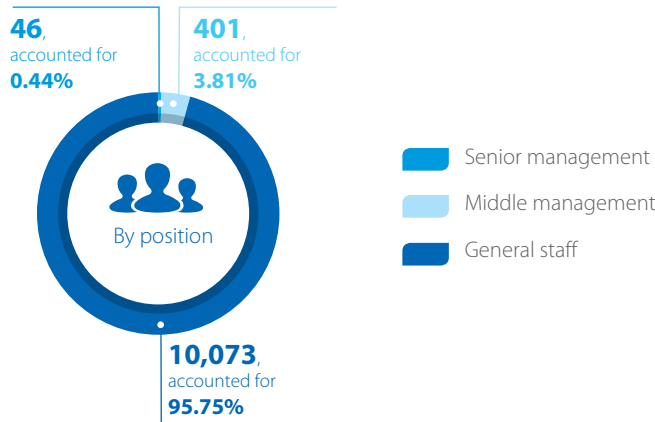
100%

The total number of employees in the Group

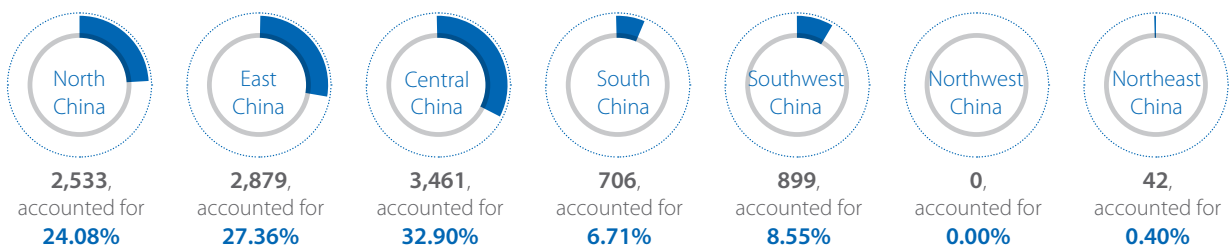
was **10,520**

282 fresh graduates joined our Company

Total Workforce in 2020



By geographical region



Employee Turnover Rate in 2020



Position	Number of resigned employees (person)	Turnover rate (%)
Senior management	1	2.17
Middle management	2	0.50
General staff	269	2.67



Gender	Number of resigned employees (person)	Turnover rate (%)
Male	189	2.27
Female	83	3.81

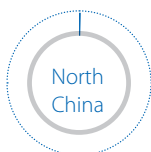


Age	Number of resigned employees (person)	Turnover rate (%)
Aged 29 and below	122	6.14
Aged 30-39	95	3.50
Aged 40-49	29	0.96
Aged 50 and above	26	0.93

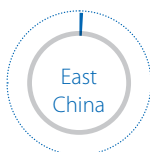


Employment type	Number of resigned employees (person)	Turnover rate (%)
Full-time	272	2.59
Part-time	0	0

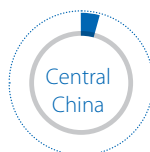
By geographical region



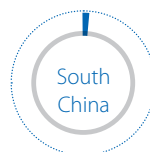
12,
accounted for
0.47%



23,
accounted for
0.80%



151,
accounted for
4.36%



11,
accounted for
1.56%



75,
accounted for
8.34%



0,
accounted for
0.00%



0,
accounted for
0.00%



Protection of human rights

- We strictly abided by the Labour Law of the People's Republic of China, Labour Contract Law of the People's Republic of China, Provisions on the Prohibition of Using Child Labour and other laws and regulations
- We prohibited all kinds of discrimination in recruitment. We opposed forced labor and prohibited the recruitment of child labor. We ensure equal pay for equal work without discrimination on religion, race, region, age and disability



Remuneration incentive

- We optimized our remuneration incentive system and timely revised rewarding measures on transformational development and marketing based on the national policies and market trend
- We formulated an assessment and reward program of "dual benchmark and dual incentive" and set up special rewards for KPI benchmarking and assessment based on the KPI, thereby promoting the transformation of the assessment and rewards by benchmarking to the industry, region and the Group



Democratic management

- We promoted democratic management by convening staff representative meetings and staff forums. We organized proposal collection activities and carefully adopted relevant suggestions, aiming to encourage open communication
- We convened democratic life meetings and organizational life meetings, aiming to democratically assess the quality of the Group's leaders and their appointment and employment

Supporting Employees' Development

Paying attention to the skills training and career development of employees, we improved the comprehensive capacity of employees and teams by organizing management and professional skills training, continued to explore talent cultivation systems, developed diversified career paths and implemented a talent promotion mechanism covering all positions.



In **2020**
The coverage rate of employees training reached **100%**
The total training hours for employees amounted to **611,946** hours
Total investments in employees training amounted to **RMB 30,797,400**
46 young employees received Team Awards and Individual Awards in various skill competitions



Awards received

- 🏆 The first team prize of SPIC's 2nd "World Class Construction" Skills Competition-UAV Inspection Skill Competition
- 🏆 The first team prize of SPIC's 2nd "World Class Construction" Skills Competition-Coal-fired Power Safety Skill Competition
- 🏆 The second team prize of SPIC's 2nd "World Class Construction" Skills Competition-Operation and Maintenance Skills of Photovoltaic Power Competition
- 🏆 The third team prize of SPIC's 2nd "World Class Construction" Skills Competition-Hydropower Operator Skill Competition



Employees Training by Position

Type	Number of Training Sessions	Hours Per Capita	Training Coverage Rate (%)
Senior management	69	63	100
Middle management	480	87	100
General staff	27,960	57	100



Strengthening skills training

- We carried out leadership training by implementing the "Training Plan for 161 Young Cadres", and selecting outstanding cadres to attend the Corporate Governance Program and High-Potential Program at leadership training camp on a regular basis
- We carried out technical skills training by holding vocational skills contests such as "To be the First-class" Labor Competition, which promoted training via competition and improved the whole team's technical skills level
- We carried out promotion activities for the "Challenger Program" and set up a new platform for the growth of youths, which accelerated the training of young talents and built the new channels for growth and accomplishment of the youth



Facilitating career development

- We widened the career development channel by formulating and releasing the Administrative Measures of Career Development for Employees for the first time, and establishing a career development path with concurrent use of multiple channels, namely operational management, technical expertise and operational skills
- We commenced the career planning for employees. We have established clearly defined structure for talent development and provided career management plan including arrangement of retirement for employees

Case

Improvement of the employees' professional skills

From 8 to 10 January 2020, Wuhu Power Plant held the production skills examination for the year 2019, which was the first time that both China Power-related profession test questions database and SABA test questions database being used in the test paper. A total of 286 people attended this test. The skill examination further fostered a good "Three Basic Skills" training atmosphere, which urged employees to deepen their learning and understanding of specialized knowledge.



Young employees received the title of "Technical Talents of Electricity Industry"



"Challenger Program" for growth and accomplishment of the youth was launched



Case

Building of a display platform for employees

From 15 to 16 June 2020, China Power hosted the Third SPIC “Good Story” online try-outs. This activity collected 60 good stories, which set up a platform for employees to share how they struggle to succeed and express themselves. Liu Yantai from Dabieshan Power Plant talked passionately about an unforgettable journey. At the critical times of epidemic prevention and control in Wuhan City, he and his colleagues, even though situated in the country’s sub-center districts of the pandemic, returned to work despite the virus and participated in the operation of emergency power generating units all along to ensure the power supply to Wuhan City. This demonstrated the sense of responsibility of the staff at our power plants at the frontline in the fight against the pandemic.



Liu Yantai, employee from Dabieshan Power Plant, talked about his own story of ensuring power supply during the pandemic at the power culture-related story-sharing activity held by China Electricity Council

Case

“Enjoy the cloud” brainstorming

In 2020, the Group planned and carried out four sessions of “Enjoy the cloud” activities, which focused on themes such as the development direction of the Group, transformation to clean energy and innovative development, etc., bringing together the intelligence of employees. “Enjoy the cloud” is an innovative measure to improve the anti-fragility of China Power during the normalized situation of pandemic prevention and control. It built an online communication and learning platform for all employees in a form of cloud-based live streaming. It aims to guide employees to bring together their intelligence and strengths during “two standards and two winning” activities and offer advice and suggestions, as well as to make contributions during the Group’s journey to achieve transformational development, establish a benchmark and strive to be the main force.



“Enjoy the cloud” sharing activity

Caring for the Employees

Striving to build a harmonic working environment for employees, we carried out caring activities to understand their actual needs, and offered caring support that aligns with their expectations. Also, we organized a variety of recreational and sports activities to enrich employees' spiritual and cultural lives, improved their cohesion and centripetal force as well as the sense of belonging, and strengthen their recognition of the Group's value and culture.

All-round care for employees

We are concerned about the employees' occupational safety, physical and mental health. At the same time, we took the actual needs of special groups into account by sending them and their families care through our all-round caring services.

Pingwei Power Plant Dianyangjiang Project Department has been named the "SPIC model employees' family"

In 2020

The Group organized **279** caring activities

Helped **581** employees in hardship

Granted special disease relief fund of RMB **511,000**

Helped **13** children of employees in poverty to continue their studies

Caring for the health of employees



- To ensure occupational health and safety, we established the occupational health and safety management system and consistently carried out the "three standards" system certification comprising QHSE
- Caring for the physical health of employees, we maintained sanitation and cleaning of the workplace during the pandemic to ensure the safety of employees in the workplace
- We care for the mental health of employees. Throughout the pandemic, we used online training to publicize safety knowledge and psychological knowledge, and provided psychological counseling for employees and their families

Caring for the lives of employees



- To reconcile work with rest, we renovated the recreational sites for employees so as to provide a place for exercise and relaxation for the retired workers
- Helping the children of employees to go back to school by distributing the pandemic prevention package, totaling more than 8,000 face masks, 80,000 rinse-free disinfecting pads and 1,000 pandemic prevention knowledge cards

Caring for special groups



- We established a caring mechanism for the model workers. We helped model workers to solve their difficulties and problems in real lives so that their management and services level can be improved continuously
- We carried out work in relation to the protection of female employees' rights. We revised the "Family planning and female employees' labor protection management system" and held lectures on females-related knowledge, to give female employees scientific guidance through food, mental and physical exercise, etc.

Case

Young employees become “barbers”

Due to the observation and control requirements during the pandemic, some employees had not had their haircut for two months. This was because those who live alone in the Dabieshan Power Plant Apartment may not go out easily, and there were no home haircut services nearby. To roll with the punches, the young employees in the Dabieshan Power Plant set up a haircut service team to provide haircut for employees in need after work on 8 March 2020. During the pandemic, the team provided haircuts to a total of 40 employees.



Case

Organization of physical and mental health training lecture

On 11 June 2020, Jiangmen Comprehensive Energy held a physical and mental health training lecture to further guide all employees to treat and release the pressures of work and life by scientific method. We invited the lecturer of Jiangmen Enterprise Development Association to help all employees understand the importance of physical and mental health, focusing on psychological health, psychological pressure adjustment and psychological reconstruction after the pandemic. Meanwhile, the lecturer also shared the methods of debugging self-psychology and games to relieve stress and promote a healthy mindset. In this way, employees' attention and awareness of mental health can be strengthened, thereby helping them to find solutions for self-regulation.



“The lecture is easy to understand and the content is comprehensive and practical. I think these methods can make me feel more relaxed at work!”

— Employee who participated in the training lecture of Jiangmen Comprehensive Energy



Picture 1: A seminar held by Wuhu Power Plant for the parents of the College Entrance Examination examinee

Picture 2: Shangqiu Power Plant conducted an annual occupational disease checkup for its employees

Picture 3: The Hong Kong Affairs Department held an anti-pandemic walking activity

Picture 4: Wuhu Power Plant held a health practice activity to show caring for frontline workers



Diversified leisure activities

We ensured employees enjoy a happy life while working hard by organizing dynamic leisure activities, which enriched their spare time and created a positive atmosphere within the Company.



Pu'an Power Plant formed a women dancing team and organized routine training sessions

Fuxi Power Plant held singing competition

CP Huayuan organized outdoor training

Dabieshan Power Plant held cultural activities for employees

Case

Fancy photography competition

In May 2020, Shangqiu Power Plant held the Fancy Photography Competition to enrich the spare time of employees under the normalized epidemic prevention and control and stimulate their vitality. There were more than 60 photography works submitted for the competition. Through anonymous selection, 10 Photography Excellence Awards and 12 Photography Participation Awards were selected. Meanwhile, these award-winning works were displayed on the official account of Shangqiu Power Plant and the publicity screen in the office building.

"The photography works of my colleagues showed the beautiful scenery of the garden-like Shangqiu Power Plant. This road is where I passed in a hurry when I went to the power plant. I will take a closer look at this place later today."

—Staff of Shangqiu Power Plant



Photo "Heart of the Heat", by Tang Dalong from Pingwei Power Plant



Photo "Round-shaped of Coal Yard", by Ye Junjie from Shangqiu Power Plant



Photo "Life with Electrical Engineering", by Wang Ling from Pingwei Power Plant



The Group's headquarters held a health practice day on the theme of "Walk Together With Mutual Support"



Dabieshan Power Plant held the "Ankang Cup" cultural and sports activities to welcome the new employees



Pingwei Power Plant held "Ankang Cup" poker game to celebrate the Chinese New Year



Pu'an Power Plant held the third "Harmony" Cup basketball match



Jiangmen Comprehensive Energy project held online fun guessing game on International Women's Day



Staff of the Group's headquarters participated in tug-of-war Competition



Anhui Company held flower arrangement activities for employees

Green Future

Sharing Development Achievements

Based on the characteristics of the power generation industry, we insist on integrating enterprise development into local development. We enhanced and shared achievements with all parties through partnerships and serving local construction, thereby contributing to the community with practical deeds and carrying out the sustainable development concept.

Sustainable Development Goals of the United Nations



End poverty in all its forms everywhere



End hunger, achieve food security and improve nutrition and promote sustainable agriculture



Ensure healthy lives and promote well-being for all at all ages



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



Reduce inequality within and among countries



Make cities and human settlements inclusive, safe, resilient and sustainable



Strengthen the means of implementation and revitalize the global partnership for sustainable development





Key Topics

- ▶ Supporting local economic development
- ▶ Disaster relief
- ▶ Win-win cooperation
- ▶ Volunteer charitable activities

Management System

Measures for the Management of Equipment Point Inspection and Regular Maintenance

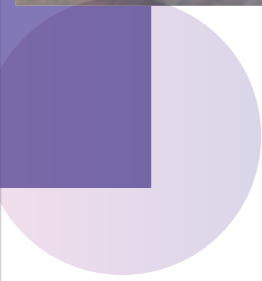
Measures for Equipment Reliability Management

Measures for the Management of Inspection and Maintenance Plans

Measures for the Management of Joining Social Groups

Measures for the Management of External Donation

Measures for the Management of "Yingshanhong" Youth Volunteer Service Activities



Serving Local Development

We have been actively responding to the local policy requirements of the places where we operate, giving full play to the energy advantages of the power generation industry, providing power support for local development and promoting local green development through clean energy development.

Promoting local economic development

By supporting the development of agriculture and other industries in poverty-stricken areas and purchasing agricultural by-products, we helped poor residents improve their living standards and revitalized rural areas.

Developing rural economy

- In 2020, a drainage canal of 2,200 meters was built in Guduo Village, Daying Town, Baofeng County, and the village monitoring system was installed. The village also realized a net income of RMB380,000 by means such as increasing wheat production so as to promote all the villagers in Guduo Village to be lifted out of poverty
- Yaomeng Power Plant helped poverty-stricken villages by sending the first secretary and working team to station in the village, giving full play to the guiding role of working team in these villages and properly carrying out work in relation to poverty alleviation

Increasing farmers' income

- Centralized procurement of RMB145,000 worth of Daliangshan black tartary buckwheat tea helped poverty-stricken areas to overcome the adverse impact on agricultural product sales caused by the COVID-19 pandemic
- Changshu Power Plant, an associate of the Company, has successively purchased agricultural products from two national-level poverty alleviation counties, namely Yangxin County and Qingshui County, with a consumption amount of RMB149,000. The "Order for Hubei" consumption-based poverty alleviation activity has been carried out, encouraging the purchase of Pueraria agricultural products from 1,200 households through online platforms in Xishui County, Huanggang City, Hubei Province, which was severely affected by the pandemic, with a total amount of RMB20,000

Case

Poverty alleviation through consumption to promote local development

In 2020, Anhui Company cooperated with the local governments and poverty alleviation counties in Anhui Province to carry out poverty alleviation through consumption. It also coordinated with its poverty-alleviation counterparts in Meigu County, Sichuan Province, and Yanchuan County, Shaanxi Province and purchased a total of RMB101,000 poverty alleviation products such as honey, tartary buckwheat tea, millet and apples. The company purchased RMB8,000 of jujube and walnut in Hetian County, Xinjiang, the poverty alleviation coordinating unit of Anhui Provincial Government. It also participated in the trade fair of poverty alleviation products with Anhui characteristics and the themed activity of "poverty alleviation through consumption and striving for a well-off life" carried out by the Work Committee of Anhui Provincial Government so as to promote the sales of products in poverty-stricken areas.

Supporting local green development

By promoting the replacement and development of clean energy, we supported the construction of beautiful cities, constantly optimized the local development mode, and realized the coordination between local economic development and green environment.



130MW centralized "Fishery and Photovoltaic Power Complementary" project in Yaohe, Huainan

Case

China Power Hefei TW photovoltaic engineering project successfully realizes grid-connected power generation

On 31 December 2020, the Hefei Tongwei 11.9MW photovoltaic project of China Power Hefei Energy Co., Ltd., which is integrally managed by Pingwei Power Plant, successfully achieved its first grid-connected power generation.

The project used the plant roof of Tongwei (Anhui) Solar Energy Co., Ltd., a well-known photovoltaic manufacturing enterprise in China, to lay photovoltaic panels, which can produce about 11,350MWh of clean electricity every year. The project adopted the mode of "self power generation for self-use, surplus electricity go on grid", which can create economic benefits of about RMB5,900,000 each year, reduce carbon dioxide emission by about 11,316 tonnes and promote local development to realize the coordination of economic benefits and environmental benefits.

Case

Active cooperation with local governments to promote the implementation of the "Green Yibin" program

On 12 October 2020, Fuxi Power Plant and the Military-Civil Integration Bureau held a seminar and exchange on the promotion of the overall plan of "Green Yibin". Emphasizing on the strategic positioning of the development of Yibin City, the "Green Yibin" plan is formulated by focusing on Yibin urban waste treatment, energy utilization upgrade, electric vehicle replacement and smart city construction, and taking the construction of "industrial thermal center" as the main content to help Yibin accelerate the construction of Chengdu-Chongqing economic sub-center, build the demonstration zone for transformation and application of science and technological innovation and formulate a green development plan for building the first Yangtze River ecological city.

Case

Promotion of boiler replacement and protection of the ecology of Yangtze River

Changshu Power Plant, an associate of the Company, relied on the Company's four 330MW and two 1,000MW upgraded units for heat supply as heat sources to build a centralized heat supply pipeline network with a length of more than 200 km, covering the surrounding "six towns and one district" and replacing more than 300 small high-polluting boilers in total. The centralized heat supply project is one of the two heat supply demonstration sites in Jiangsu Province, injecting green power into the local economic development and contributing to the ecological protection of the Yangtze River Economic Belt.

Providing Reliable Electricity

In 2020, we did a solid job of resuming work and production during the pandemic prevention and control. At the same time, in response to the different situations of flood, strong typhoon and cold wave, we formulated emergency plans for natural disasters that may be faced in each season in advance, strengthened the early warning response, guaranteed the reserve supply of emergency materials, and ensured the reliable supply of electricity in extreme weather.



Pandemic

Efforts were made in coordinating the Group's resumption of work and production, pandemic prevention and control, and production organization during the pandemic. Production personnel satisfied on-site production needs and no employee has been infected.



Flood

Pingwei Power Plant prepared flood control materials and heat protection supplies in advance, implemented regular inspection during peak summer and flood season, strengthened equipment ventilation, flood control inspection, test run drainage and ventilation equipment management.



Cold wave

CP Shentou took a number of measures to control cold wave and resolve the adverse impacts of snowfall and cold weather on safe production.



Typhoon

Wuhu Power Plant acquired terminal equipment to prevent wind and rain and arranged regular inspection to get fully prepared for defence against typhoon.

Case

Efforts to tackle with low temperature and snowfall

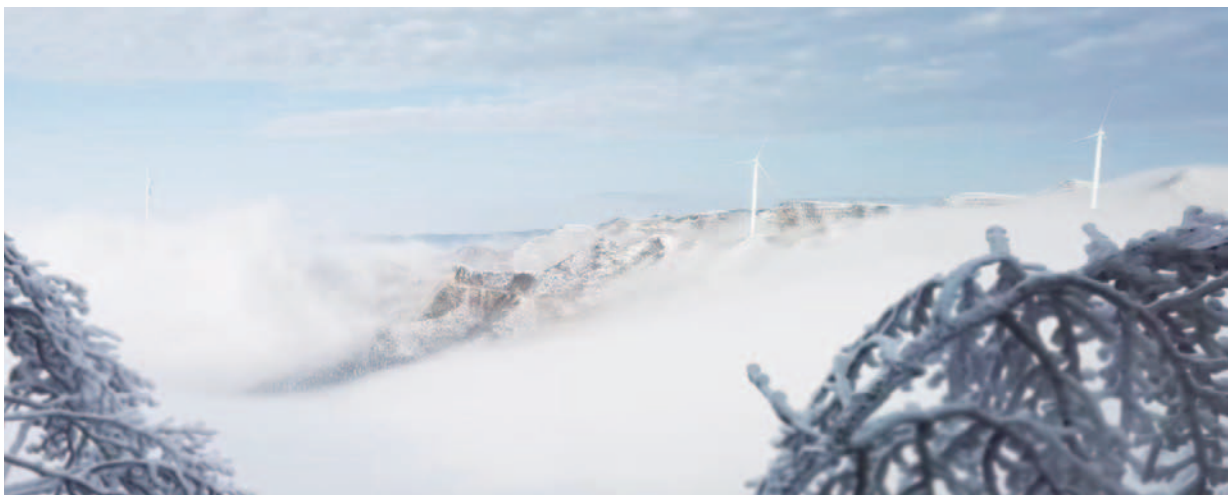
On 25 March 2020, snow fell in Shuozhou, Shanxi Province. CP Shentou initiated the emergency plan immediately, assigned personnel to carry out outdoor equipment inspection to prevent transformer and booster line failures that may be caused by melting snow, carried out grid management of equipment under its jurisdiction, and made all efforts to ensure defect-free, hazard-free, safe and healthy operation of equipment to guarantee reliable power supply under heavy snow.



Case

Concerted efforts to fight the flood

On 10 June 2020, heavy rainfall suddenly fell on the dam near the Wanmipo Power Plant of Wu Ling Power. From 1:00 am to 4:00 am, rainfall has accumulated up to 211.1 mm, triggering torrential floods and mudslides around the mountain. As an unmanned shutdown power plant, the Wanmipo Power Plant urgently arranged for dispatchers to report duty at the plant, promptly took measures such as dredging the drainage ditches, raising the main transformer access fences, and starting the plant's drainage system. After the disaster, the Wanmipo Power Plant actively carried out production and resumed operation of the generating units on the same day to ensure the supply of power load during the summer peak.



Deepening Win-win Cooperation

By establishing sound cooperation with the governments, universities and enterprises, we carried out in-depth cooperation in terms of energy, science and technology and talents to jointly promote the development of the industry.



Government-enterprise cooperation

- On 14 October 2020, China Power signed a strategic cooperation agreement with the government of Wudi County, pursuant to which it joined hands with upstream and downstream enterprises along the relevant industrial chain to participate in the construction of Lubei Integrated Intelligent Industrial Park in accordance with the proposal of “1+1+5” scheme, aiming to jointly develop a circular economy ecosystem with a focus on integrated intelligent energy that merges multi-industry, multi-energy and multi-intelligence

School-enterprise cooperation

- A school-enterprise cooperation base has been jointly established by Pingwei Power Plant and Shanghai Electric Power Industry School, providing a sound platform for training a batch of interdisciplinary technical talents
- CP Huachuang joined hands with universities including Southeast University, Zhejiang University, Huazhong University of Science and Technology, etc. to develop technological projects

Enterprise cooperation

- CP Huachuang has established good technical exchanges and cooperation with technology enterprises such as Envision, Huawei and K2Data, through which it has learnt advanced concepts of technology management and thus strengthening its skills in this regard
- Changshu Power Plant, an associate of the Company, conducted strategic negotiation with Changshu Urban Investment, discussing the cooperation in respect of local “14th Five-Year” plan energy projects, such as supporting facilities for big data projects in Changshu City and supporting energy facilities in areas around the railway

Case

Promoting formulation of industry standards to boost industrial development

On 23 December 2020, China Power lead the compilation of two corporate technological standards, namely the Management Guidelines for Fire Prevention of Wet Desulphurization Equipment in coal-fired Power Plants (Trial) and the Guidelines for Operation and Maintenance of Systems for Denitrification of Urea into Ammonia in coal-fired Power Plants (Trial), which were officially released and implemented upon approval by China Power Standards Committee.

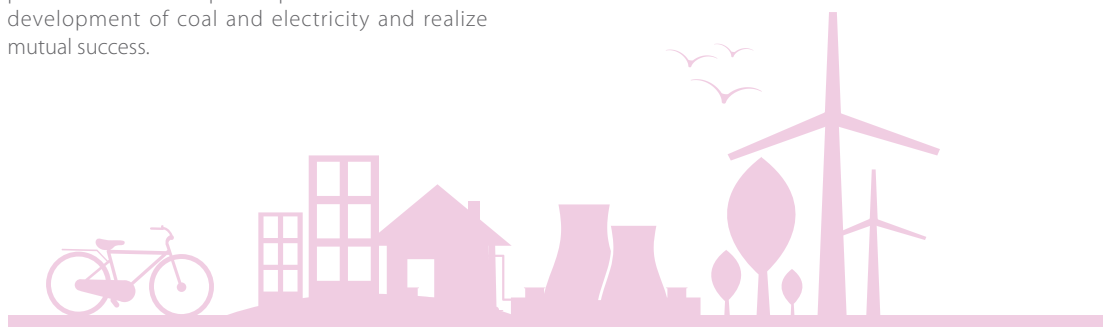
These two corporate technological standards filled the gap of technological standards in respect of fire prevention during the construction of desulphurization equipment and the operation and maintenance of systems for denitrification of urea into ammonia in coal-fired power plants in China, which will play a leading role in the industry. They can further standardize and guide the operation and maintenance of the Group's coal-fired power plants for desulphurization and denitrification and improve the safety and reliability of environmental protection equipment.



Case

Cooperation of power plants and coal mines to achieve joint operation of coal-fired power

On 10 October 2020, Pu'an Power Plant and Guizhou Qianyue Sanbao Coal Co., Ltd. (hereinafter referred to as "Sanbao Coal Company") have signed a strategic Cooperation agreement regarding their joint operation of coal-fired power. They have also established an office of Sanbao Coal Company in Pu'an Power Plant, marking the official commencement of the joint operation of coal-fired power between the two companies. This cooperation aims to eliminate disputes about coal-fired power through the joint operation, maximize the capacity of coal production, lower their production cost, improve their resource allocation, reduce possible market risks and maintain their long-term stable supply-demand relationship for coal-fired power. It can also help to improve the harmonious development of coal and electricity and realize mutual success.



Putting a Volunteer Spirit into Concrete Actions

Putting the volunteer spirit of “dedication, friendship, mutual support and progress” into concrete actions, we insisted on supporting education welfare, and organized education support and material donation activities such as “Yingshanhong - CP Act of Light” to help children with a better education with our corporate responsibility actions. We also devoted ourselves to volunteer services during the pandemic to popularize pandemic prevention knowledge on an ongoing basis so as to enhance the community’s understanding of the situation and risks of pandemic prevention and control, showing our love and care to the community.

In 2020

- ▶ China Power organized charitable donations totaling RMB **4,555,348**
- ▶ China Power has **3,238** registered volunteers
- ▶ **287** volunteer service activities took place with **6,137** volunteers involved
- ▶ China Power completed **69,062** hours of volunteer service
- ▶ China Power provided one-on-one educational assistance for **336** excellent students with financial difficulties, totaling RMB **668,800**
- ▶ China Power carried out pro-consumption campaigns for poverty alleviation, totaling RMB **3,207,170**

Persistence in education support

- The subsidiaries implemented education support activities with the theme of “Yingshanhong - CP Act of Light”
- The headquarters of the Group organized the “Yingshanhong - CP Act of Light” education support and material donation for pandemic prevention, donating school supplies and sports gears to students, such as notebooks, skipping ropes and so on to bring care and warmth to the left-behind children in the cold weather
- Relying on the Chaoyang photovoltaic power project, China Power continued to carry out the “Chaoyang Education Support” project, donating RMB228,000 of scholarships and more than 1,000 books and assisting 93 students with financial difficulties under the mode of “poverty alleviation + education support”

Devotion to volunteer activities

- China Power carried out an epidemic prevention publicity campaign and sent its volunteers to promote epidemic prevention and control knowledge in the communities, with a total of 500 copies of pandemic prevention brochures distributed
- China Power carried out the “Double Hundred Charitable Action of PowerChina - Donation” activity, showing care for and serving the disadvantaged groups

Case

Extend volunteer service into the community and launch heart-warming pandemic prevention publicity campaign

On 17 March 2020, to achieve better joint pandemic prevention and control and enhance the awareness of vast community members on the situation and risks of pandemic prevention, Yaomeng Power Plant organized a group of more than 10 pandemic prevention volunteers to carry out a pandemic prevention publicity campaign in the community by combining the "Learning from Lei Feng and Fighting against COVID-19 Pandemic" voluntary service activity. During the campaign, a total of 500 copies of pandemic prevention knowledge brochures were distributed in 5 community-level pandemic prevention stations.



"Yingshanhong - CP Act of Light" activity of Shangqiu Power Plant



"Yingshanhong - CP act of light" donation activity of China Power



Workers from Fuxi Power Plant visited the nursing home to express sympathy



Volunteers from Changshu Power Plant, an associate of the Company, provided volunteer service for people returning to work from quarantine for the pandemic



Water preservation campaign of Pingwei Power Plant



Non-remunerated blood donation campaign in Yaomeng Power Plant

Outlook for 2021

The year 2021 marks the beginning of the State's "14th Five-Year Plan" and sets off on a new journey to build a modern socialist country in all respects. The Group will profoundly identify and seize the significant strategic opportunities arising from the "China 3060" carbon target, focus on the medium- and long-term development plans to accelerate its establishment as the world's leading major clean energy enterprise, comprehensively enhance the sustainability of the Group's development, thereby setting off on a new journey of making new progress and fostering new development.



Focus on clean and green development

By seizing the strategic opportunities arising from the “China 3060” carbon target, we will push forward the transformation and development, make every effort to shape our brand image of green and intelligent energy, vigorously promote clean energy development, further push forward the implementation of the Shanxi Datong Zero-carbon Green Energy Base project, actively expand the “Three New Businesses”, and further promote the development of integrated intelligent energy and the application of hydrogen power. Besides, we will comprehensively promote the development, construction and resource storage of distributed, small-to-medium-sized wind power and photovoltaic power generation as well as wind power and photovoltaic power storage complementary projects, establish special research teams on carbon assets and carbon trading to organize carbon capture and storage plans in advance, and create new growth points through technological upgrade and application of new technology.

Consolidate the foundation for safe and healthy development

We will focus on the objective of intrinsic safety, adhere to ensure the compliance with safe production requirements, push ahead the upgrade of the safety-health-environment management system, enhance safe operation of power generating units, ensure smooth transition of production and development in the post-pandemic period, and increase the Group’s resistance to major safety risks. We will also make full use of JYKJ management tools to practically promote the implementation of the three-year special rectification program on production safety, implement the quality-safety-health-environment management system, thereby facilitating the Group to maintain safe and healthy development.

Advance the innovation-driven development strategy

We will speed up clean, intelligent and digital transformation, focus on the renovation and upgrade of traditional industries and integrated application of new technologies, and strive to increase the effectiveness and efficiency of technological innovation. Moreover, by actively pursuing the “Go global” strategy for integration of innovation resources, we will further intensify the cooperation in innovation with joint ventures, advance the development of significant, forward-looking and strategic projects of technological innovation, strengthen the cultivation and support for innovation results and new business formats, consolidate the Group’s capabilities of technological innovation. Through improving capability in business model design and application, and incorporating the “Industry + Internet” philosophy into business model innovation, we will facilitate the Group’s sustainable development through innovation in the post-pandemic period.

Build a harmonious and all-win development setting

We will strengthen our talent team building, continue to improve the talent intake, training and management system, establish an internal talent exchange centre to provide more opportunities for the development of employees, and carry out employee-caring activities to make them feel being cared for. Meanwhile, we will continue to optimize our management of public welfare activities, continue to promote the “Yingshanhong” as our brand for public welfare program to support local education and promote local development. In the meantime, we will continue to strengthen pandemic prevention and control, and spare no efforts to fight the pandemic and guarantee power supply.


We will pull together as a team and strive our best for development and new progress. In the midst of unprecedented centenary challenges, we will work together with stakeholders to create an all-win future of sustainable development.



Index of KPIs



Subject Areas	Content	Page
A1 Emissions	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	P37, P53–P56
	A1.1 The types of emissions and respective emissions data.	P54–P56
	A1.2 Direct (Scope 1) and energy-indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Disclosure will be made after the completion of the carbon trading verification
	A1.3 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	P55
	A1.4 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	P55
	A1.5 Description of emission target(s) set and steps taken to achieve them.	P53-P56
	A1.6 Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	P54-P55
A2 Use of Resources	General disclosure Policies on the efficient use of resources, including energy, water and other raw materials.	P37
	A2.1 Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	P60
	A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility).	P51, P60
	A2.3 Description of energy use efficiency target(s) set and steps taken to achieve them.	P51-P52
	A2.4 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	P51-P52
	A2.5 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	N/A
A3 The Environment and Natural Resources	General disclosure Policies on minimizing the issuer's significant impacts on the environment and natural resources.	P37
	A3.1 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	P57-P61
A4 Climate Change	General disclosure Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	P38-P45
	A4.1 Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	P38-P45



B Social
**Employment and Labour Practices,
Operating Practices and Community**

Subject areas	Content	Page
B1 Employment	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	P83, P86, P88, P90
	B1.1 Total workforce by gender, employment type (for example, full-or part-time), age group and geographical region.	P84
	B1.2 Employee turnover rate by gender, age group and geographical region.	P85
B2 Health and Safety	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	P73-P74
	B2.1 Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	P74
	B2.2 Lost days due to work injury.	P74
	B2.3 Description of occupational health and safety measures adopted, and how they are implemented and monitored.	P74-P77
B3 Development and Training	General disclosure Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	P87-P89
	B3.1 The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	P87
	B3.2 The average training hours completed per employee by gender and employee category.	P87
B4 Labor Standards	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	P86
	B4.1 Description of measures to review employment practices to avoid child labor and forced labor.	P86
	B4.2 Description of steps taken to eliminate such practices when discovered.	N/A

Subject areas	Content	Page
B5 Supply Chain Management	General Disclosure Policies on managing environmental and social risks of the supply chain.	P79
	B5.1 Number of suppliers by geographical region.	P79
	B5.2 Description of practices relating to engaging suppliers, number of suppliers where practices are being implemented, and how they are implemented and monitored.	P79-P80
	B5.3 Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	P79-P80
	B5.4 Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	P79-P80
B6 Product Responsibility	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	N/A
	B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons.	N/A
	B6.2 Number of products and services related complaints received and how they are dealt with.	N/A
	B6.3 Description of practices relating to observing and protecting intellectual property rights.	P65
	B6.4 Description of quality assurance process and recall procedures.	N/A. Power products do not have such functions
	B6.5 Description of consumer data protection and privacy policies, and how they are implemented and monitored.	The customers of China Power's products are power grid companies. There is a business relationship between power grid companies and their consumers. However, there is no direct business relationship between China Power, as a power production company, and consumers
B7 Anti- Corruption	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	P73, P81
	B7.1 Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	P81
	B7.2 Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	P81
	B7.3 Description of anti-corruption training provided to directors and staff.	P81
B8 Community Investment	General Disclosure Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its business activities take into consideration the communities' interests.	P95
	B8.1 Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	P90-P91, P96-P103
	B8.2 Resources contributed (e.g. money or time) to the focus area.	P90, P96, P102

Feedback Form

Dear readers,

Thank you for reading this report. We would like to listen to and adopt your opinions and suggestions on this report so that we can continue to improve in compiling the report in the future. Please answer the following questions and fax the form to: 852-28023922;

Or send an E-mail to us at:
ir@chinapower.hk



Please mark ✓ in the appropriate box

	Yes	General	No
Are the economic, social, and environmental work of and significant impacts on the Company highlighted in this report?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the information and indicators disclosed in this report clear, accurate and complete?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the content layout and style design of this report reader-friendly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Open-ended questions:

Which part of this report interests you the most?

In your opinion, what information needs to be disclosed but is not reflected in this report?

Are there any suggestions on issuing sustainability report in the future?



Hong Kong Office:

Suite 6301, 63/F, Central Plaza,
18 Harbour Road,
Wanchai, Hong Kong
Tel.: (852) 2802 3861
Fax: (852) 2802 3922

Beijing Office:

East Building, Hui Huang Shi Dai Plaza,
56 North West Fourth Ring Road, Haidian District,
Beijing, China
Tel.: (86-10) 6260 1888
Fax: (86-10) 6260 1777