

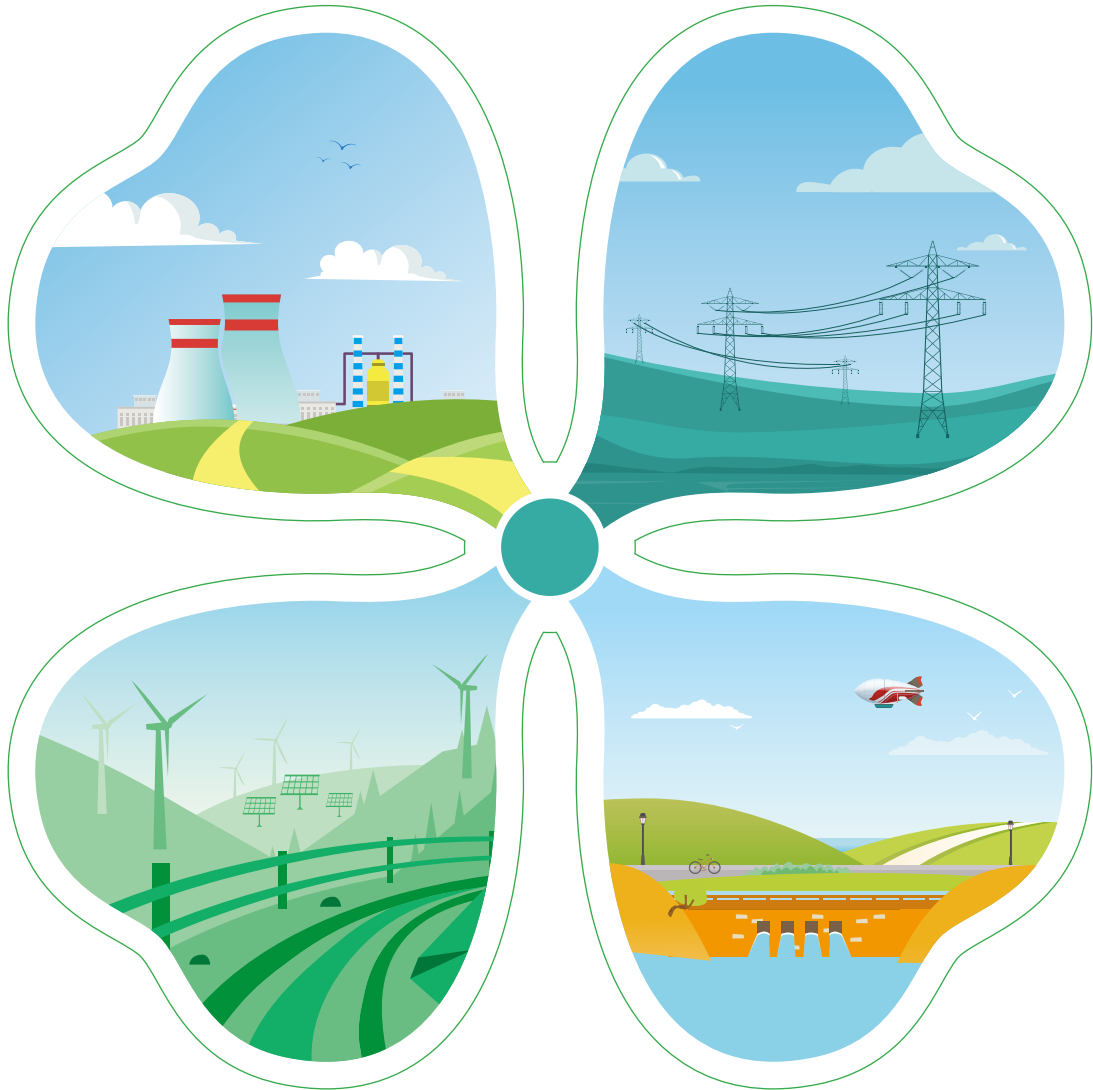


CHINA POWER INTERNATIONAL DEVELOPMENT LIMITED

中國電力國際發展有限公司

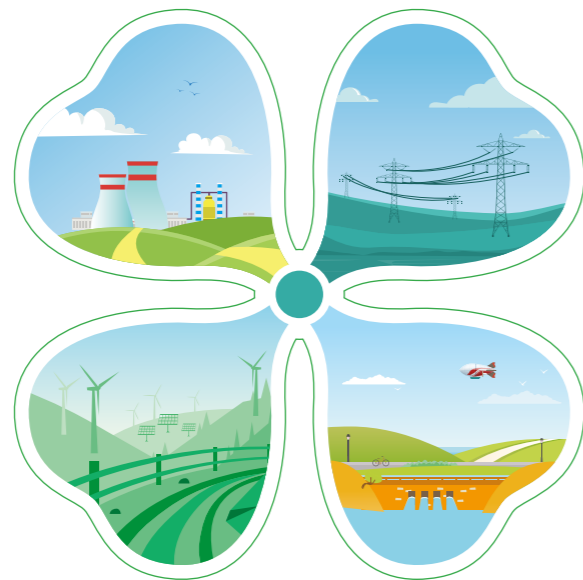
(incorporated in Hong Kong with limited liability)

(Stock Code: 2380)



Green Future

Sustainability Report 2019



Green Future

Sustainability Report 2019

About This Report

Basis of Reporting

We report in line with the relevant requirements of the Guidance on Implementation of Corporate Social Responsibility of the Central Enterprises issued by the State-owned Assets Supervision and Administration Commission of the State Council, and the Environmental, Social and Governance Reporting Guide issued by The Stock Exchange of Hong Kong Limited ("Hong Kong Stock Exchange"), and also refer to the GRI Sustainability Reporting Standards ("GRI Standards").

Reporting Period

This report covers the period of 1 January 2019 to 31 December 2019, part of the content, as appropriate, traces back to the previous years.

Reporting Cycle

This report is an annual report.

Reference

For ease of presentation, "China Power" or the "Company" refers to China Power International Development Limited, and the "Group" or "We" refers to China Power together with its subsidiaries in this report.

Reporting Scope

The Group as a whole.

Data Sources

The financial data cited in this report comes from the audited Annual Report 2019 of China Power. Other data comes from internal official documents and related statistics of China Power.



Notes on Currency

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



Access to This Report

This report is available in Chinese and English, both in soft copies. You may access this report in the following ways:

-  Website: <http://www.chinapower.hk>
-  Email: ir@chinapower.hk

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Message from the Chairman

The year 2019 marks the 70th anniversary of the founding of the People's Republic of China, and is a crucial year for the country as it endeavors to achieve the first Centenary Goal of building a moderately prosperous society in all respects. It is also the 15th listing anniversary of China Power and an extraordinary year for us. During the year, we continued to pursue high-quality development and forged ahead with the enterprise transformation to a more clean, integrated, intelligent and multinational development embarking into a new journey to a main force world-class clean energy enterprise.



TIAN Jun
Chairman of the Board

High-quality development with more scientific operations.

In 2019, we forged ahead with the implementation of policies reform the reform policies for central state-owned enterprises (SOEs), and made some progress in resolving longstanding issues, innovating incentives, and diversifying shareholding structure. Besides, we actively promoted the "Plan-Budget-Assessment-Incentives" system and the application of DOAM tools, and developed "1+N" system to improve the Company's internal assessment system. We took incentives to discover, identify, mitigate and avoid operating risks, governed the Company in accordance with laws and regulations, and strengthened internal control and management. We always put safety as a top priority. In particular, we strengthened work safety management and achieved zero safety and environmental incident. In 2019, we maintained stable operation by adjusting structure, improving efficiency, strengthening management, preventing risks and protecting safety. The net profit was RMB2,201,150,000, a year-on-year increase of 34.45%, the basic earnings per share was RMB0.13, the net asset value per share (excluding non-controlling interests) was RMB3.09, and the taxes paid was RMB2,376,759,391.

Clean development to better protect the environment.

In 2019, we put great efforts in developing grid-parity and competitive-bidding renewable energy projects and providing high-quality clean energy, and strived to build a number of clean energy projects with high efficiency and good cash flow in some favorable regions. In 2019, we forged ahead with the transition to a cleaner company. Specifically, our attributable installed clean energy capacity reached 7,510.1MW, accounting for 35.57% of the total, a year-on-year increase of 2.69 percentage points. We also completed the transfer of part of the equity interests of Pingwei Power Plant I and Pingwei Power Plant II to reduce the proportion of shareholding of coal-fired power business. By the end of 2019, the proportion of attributable installed coal-fired power capacity fell from 100% at the time of listing to less than 65%. Besides, we achieved positive progress on a number of demonstration projects. We commenced the Chaoyang photovoltaic power project in Liaoning Province, which is the largest of China's first batch of grid-parity photovoltaic power projects; achieved full capacity grid connection of Hunyuan and Yaerya projects

of Datong "Top-Runner" photovoltaic power Phase II; and achieved the grid connection of Ruicheng Phase II competitive-bidding photovoltaic power project in Shanxi Province. In addition, we commenced the innovation demonstration project—Yanqing Park hydrogen refueling station in Beijing, and began the siting of the supporting hydrogen projects for 2022 Winter Olympics. Hubei Company signed cooperation development agreements on hydrogen energy, incremental distribution network and comprehensive smart energy with Wuhan City and Xiangyang City. Wuling Power was awarded the incremental distribution network pilot project in Changsha High-tech Zone, and obtained the planning and priority development right of the comprehensive smart energy project in Xiangjiang New Area. In 2019, more than 90% of our commissioned coal-fired power units met the ultra-low emission standards, and the wind power and photovoltaic power generation saw a significant increase of 66.59% and 100.20%, respectively.

Harmonious development to help build a better society. In 2019, we safeguarded the legitimate rights and interests of our employees, and provided care and opportunities for growth. In

terms of public welfare, we continued to give full play to our advantages and strived to do more for the society by actively participating in social charity activities and poverty alleviation, and assisted the local in combating natural disasters. During the year, we organized 285 employee care activities, provided 361 jobs for the local people, organized voluntary donations totaling RMB146,718, and completed 35,537 hours of volunteer service by 2,795 registered volunteers.

The fruitful results in 2019 have laid a solid foundation for the next year. In 2020, we will have a foothold in a fresh start, embark on a new journey, continue to forge ahead with innovation, strive for clean development, contribute green energy, and work with stakeholders to create an even brighter and sustainable future.

About China Power

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 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 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. The Company has expanded its business into the areas of coal-fired power, hydropower, wind power, photovoltaic power, electricity sales and distribution and integrated energy through continuous development over the past 15 years. Various business segments are growing orderly along with the constant expansion of the Group.

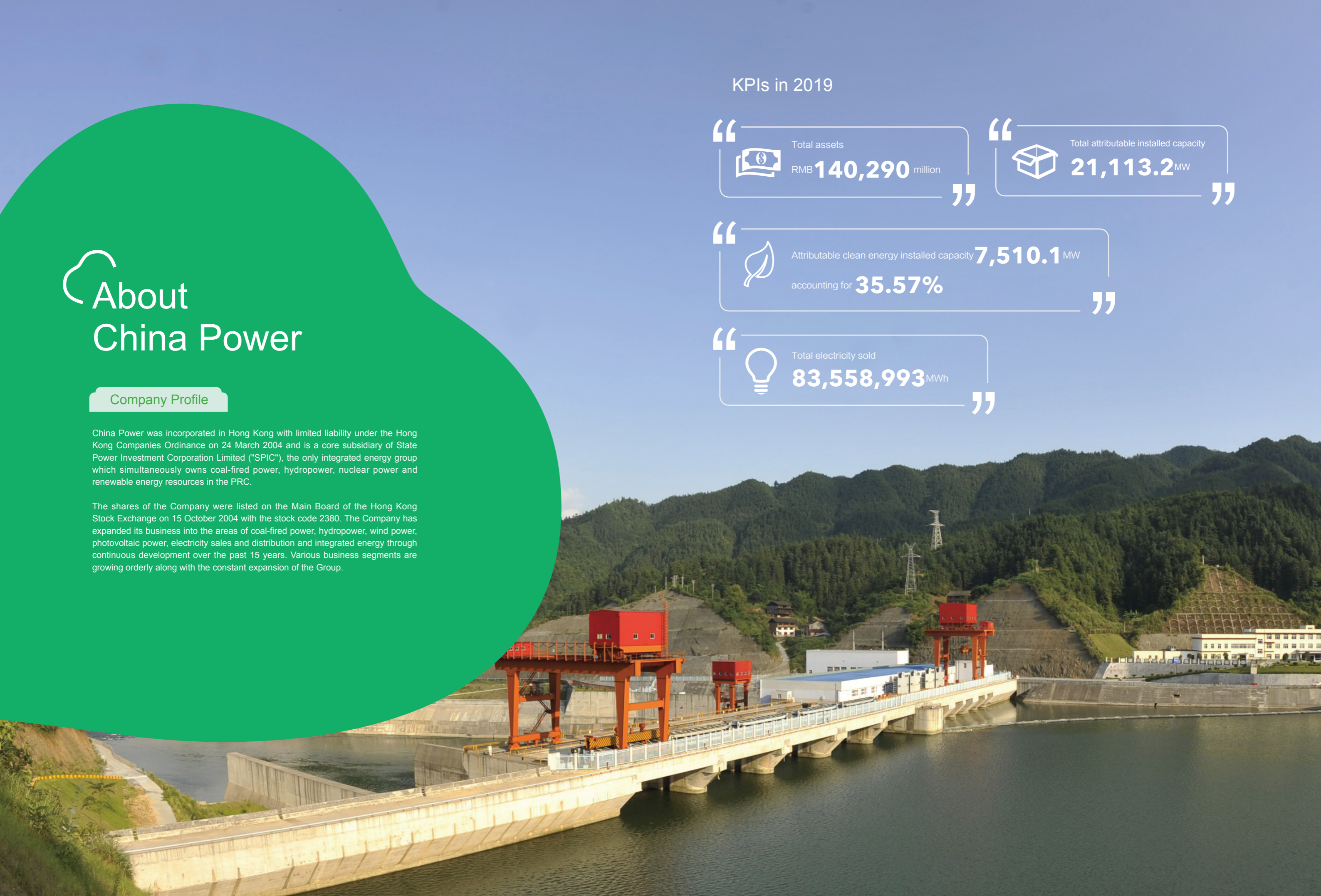
KPIs in 2019

“
Total assets
RMB **140,290** million
”

“
Total attributable installed capacity
21,113.2 MW
”

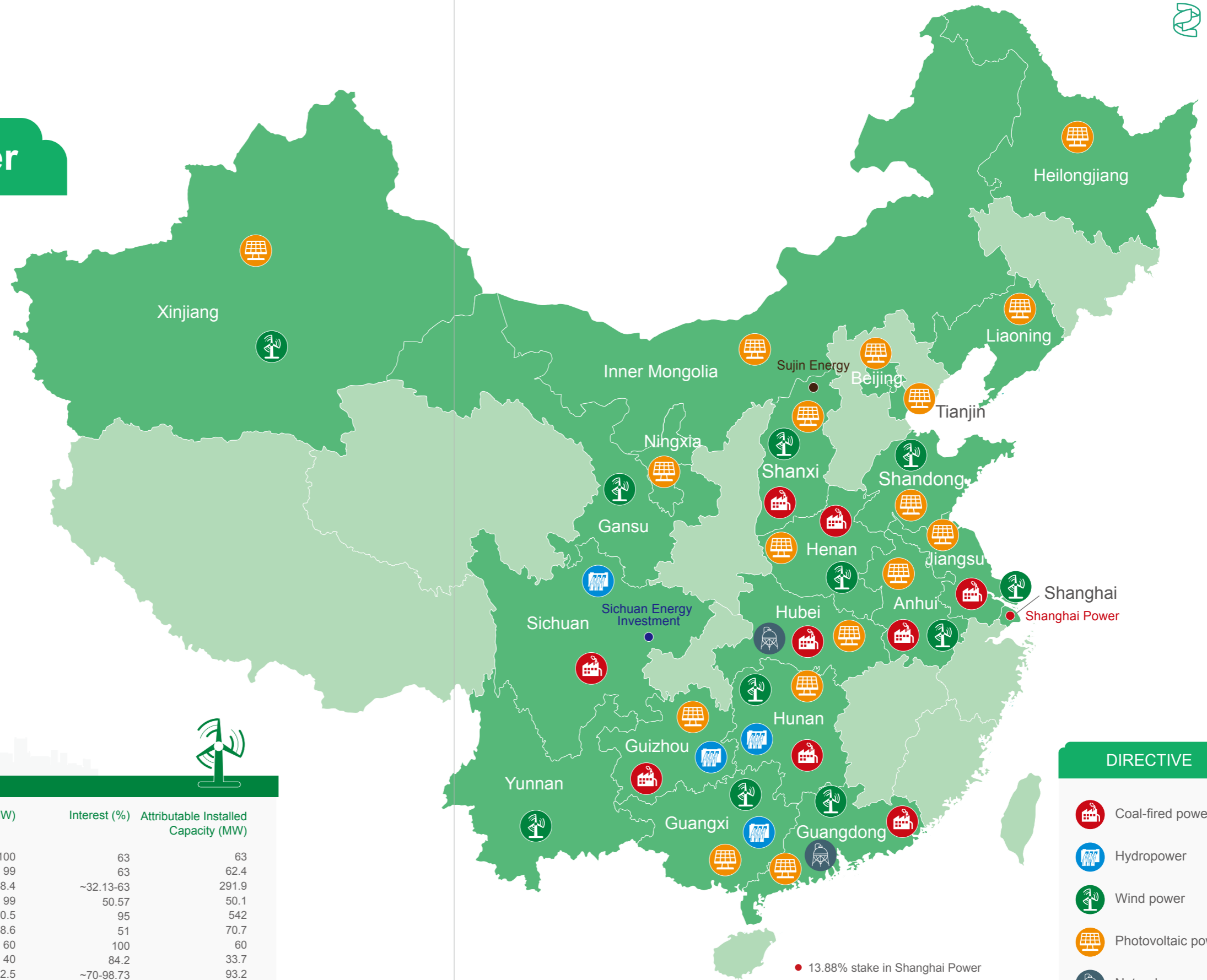
“
Attributable clean energy installed capacity **7,510.1** MW
accounting for **35.57%**
”

“
Total electricity sold
83,558,993 MWh
”



About China Power

Company Profile



Wind Power

Power Plant	Installed Capacity (MW)	Interest (%)	Attributable Installed Capacity (MW)
Linxiang Power	100	63	63
Shanshan Power Plant	99	63	62.4
Other small wind power plants under Wuling Power	568.4	~32.13-63	291.9
Jinzishan Wind Power	99	50.57	50.1
Xing'an Wind Power	570.5	95	542
Anqiu Hengtai	138.6	51	70.7
Lingchuan Wind Power	60	100	60
Other small wind power plants under Guangxi Company	40	84.2	33.7
Small wind power plants under Shandong Company	112.5	~70-98.73	93.2
Shanghai Power	1,934.2	13.88	268.5
Total	3,722.2		1,535.5

DIRECTIVE

- Coal-fired power
- Hydropower
- Wind power
- Photovoltaic power
- Natural gas power

- 13.88% stake in Shanghai Power
- 9.13% stake in Sichuan Energy Investment
- 9.50% stake in Sujin Energy

Coal-fired Power


Power Plant	Installed Capacity (MW)	Interest (%)	Attributable Installed Capacity (MW)
Pingwei Power Plant	1,260	60	756
Pingwei Power Plant II	1,280	60	768
Pingwei Power Plant III	2,000	60	1,200
Yaomeng Power Plant	2,160	100	2,160
Dabieshan Power Plant	1,280	51	652.8
Fuxi Power Plant	1,200	51	612
CP Shentou Power Plant	1,200	80	960
Wuhu Power Plant	1,320	100	1,320
Changshu Power Plant	3,320	50	1,660
Xintang Power Plant	600	50	300
Liyujiang Power Plant	600	25.2	151.2
Pu'an Power Plant	1,320	95	1,254
Shangqiu Power Plant	700	100	700
Shanghai Power	7,449.5	13.88	1,033.9
Sujin Energy	792	9.5	75.2
Total	26,481.5		13,603.1

Hydropower


Power Plant	Installed Capacity (MW)	Interest (%)	Attributable Installed Capacity (MW)
Wuqiangxi Power Plant	1,200	63	756
Sanbanxi Power Plant	1,000	59.85	598.5
Lingjintan Power Plant	270	63	170.1
Hongjiang Power Plant	270	37.06	100.1
Wanmipo Power Plant	240	63	151.2
Guazhi Power Plant	150	59.85	89.8
Baishi Power Plant	420	59.85	251.4
Tuokou Power Plant	830	37.06	307.6
Other small hydropower plants under Wuling Power	465.1	~44.1-63	287.6
Changzhou Power Plant	630	64.93	409.1
Sichuan Energy Investment	138.7	9.13	12.7
Total	5,613.8		3,134.1

Natural Gas Power


Power Plant	Installed Capacity (MW)	Interest (%)	Attributable Installed Capacity (MW)
Shanghai Power	2,648.2	13.88	367.6
Total	2,648.2		367.6

Photovoltaic Power

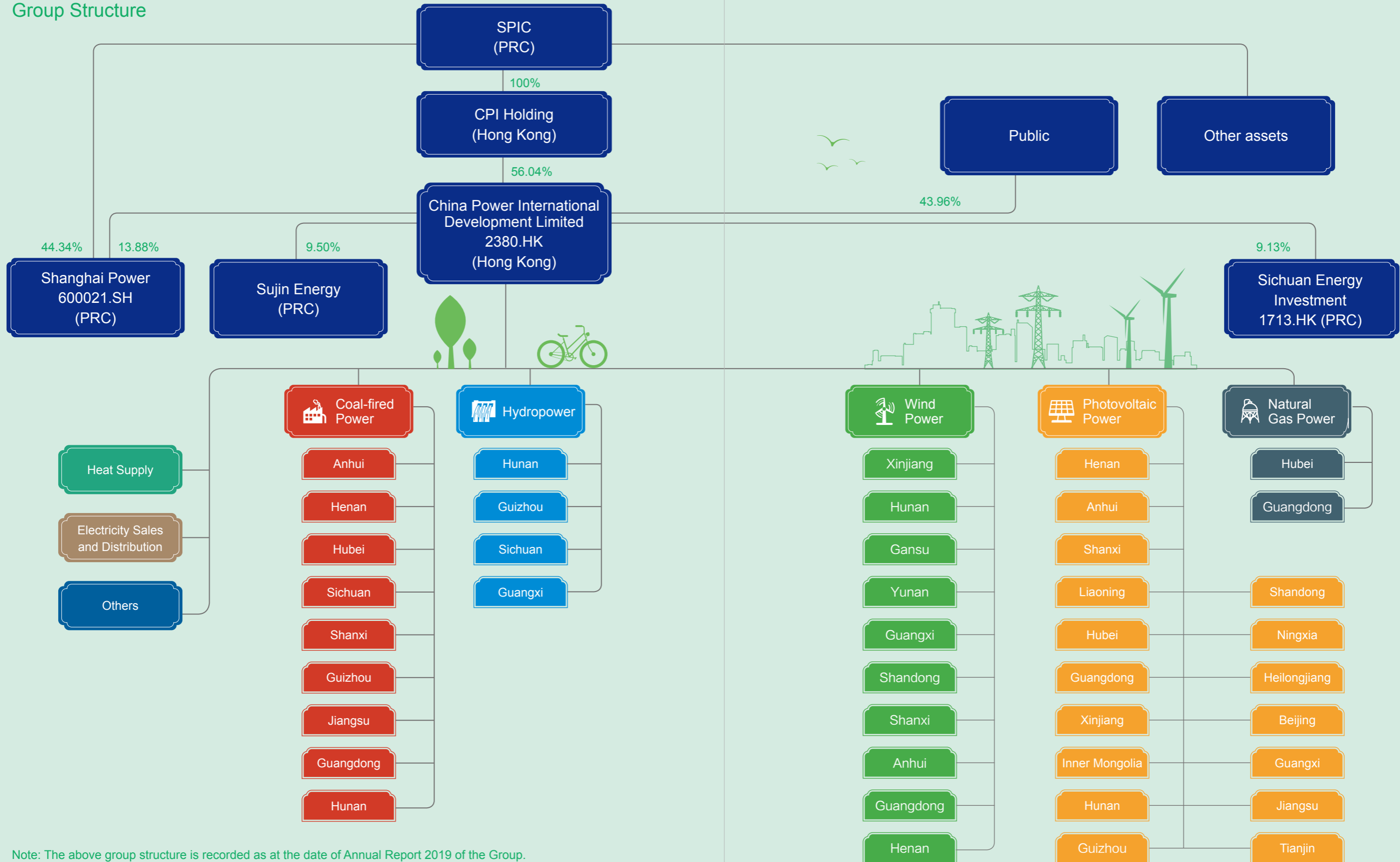

Power Station	Installed Capacity (MW)	Interest (%)	Attributable Installed Capacity (MW)
Shanxi Shentou	100	100	100
Datong CP	300	100	300
Tiemengang Power Station	50	100	50
Pu'an New Energy	100	100	100
Xiejiaji Power Station	70	100	70
Ruicheng Power Station	80	100	80
Xintai Power Station	100	100	100
Huiqing Power Station	80	70	56
Zhaozhou Power Station	80	70	56
Zuoyun Power Station	100	100	100
Hunyuan Power Station	100	100	100
Other small photovoltaic stations under the Company	247.3	~50-100	207
Zhongning Longji	200	44.1	88.2
Other small photovoltaic stations under Wuling Power	513	~34.65-63	226.5
Small photovoltaic stations under Guangxi Company	20	64.93	13
Small photovoltaic stations under Shandong Company	66.2	51-100	48.8
Huainan New Energy	130	100	130
Other small photovoltaic stations under Anhui Company	120.2	~35.7-100	87.9
Shayang Power Station	50	100	50
Hanchuan Power Station	50	100	50
Other small photovoltaic stations under Hubei Company	233.9	~65-100	176.2
Shanghai Power	2,040.8	13.88	283.3
Total	4,831.4		2,472.9

Projects Under Construction

As at 31 December 2019, the Group's projects under construction were as follows:

Power Plant	Type of Power Plant	Installed Capacity (MW)	Interest (%)	Attributable Installed Capacity (MW)
Dabieshan Power Plant	Coal-fired power	1,320	51	673.3
Shanxi Shentou Power Plant II	Coal-fired power	2,000	100	2,000
Wuqiangxi Power Plant	Hydropower	500	63	315
Jingle Power Plant	Wind power	299.5	44.1	132.1
Other small wind power plants under Wuling Power	Wind power	1,205	~32.13-63	578.3
Jinzishan Wind Power	Wind power	230	50.57	116.4
Xing'an Wind Power	Wind power	126	95	119.7
Lingshan Dahuashan	Wind power	160	84.2	134.7
Lingchuan Wind Power	Wind power	50	100	50
Qingyun Power Plant	Wind power	100	66	66
Shanghe Power Plant	Wind power	100	66	66
Aishan Power Plant	Wind power	100	66	66
Other small wind power plants under Shandong Company	Wind power	207.4	~51-100	144.9
Gushi New Energy	Wind power	150	100	150
CP Chaoyang	Photovoltaic power	500	100	500
Other small photovoltaic stations under the Company	Photovoltaic power	41.2	~32.1-100	37.1
CP Jiangmen	Natural gas power	120	100	120
Jingmen Lvdong	Natural gas power	154	90	138.6
Other natural gas projects under Hubei Company	Natural gas power	1.8	100	1.8
Total		7,364.9		5,409.8

Group Structure



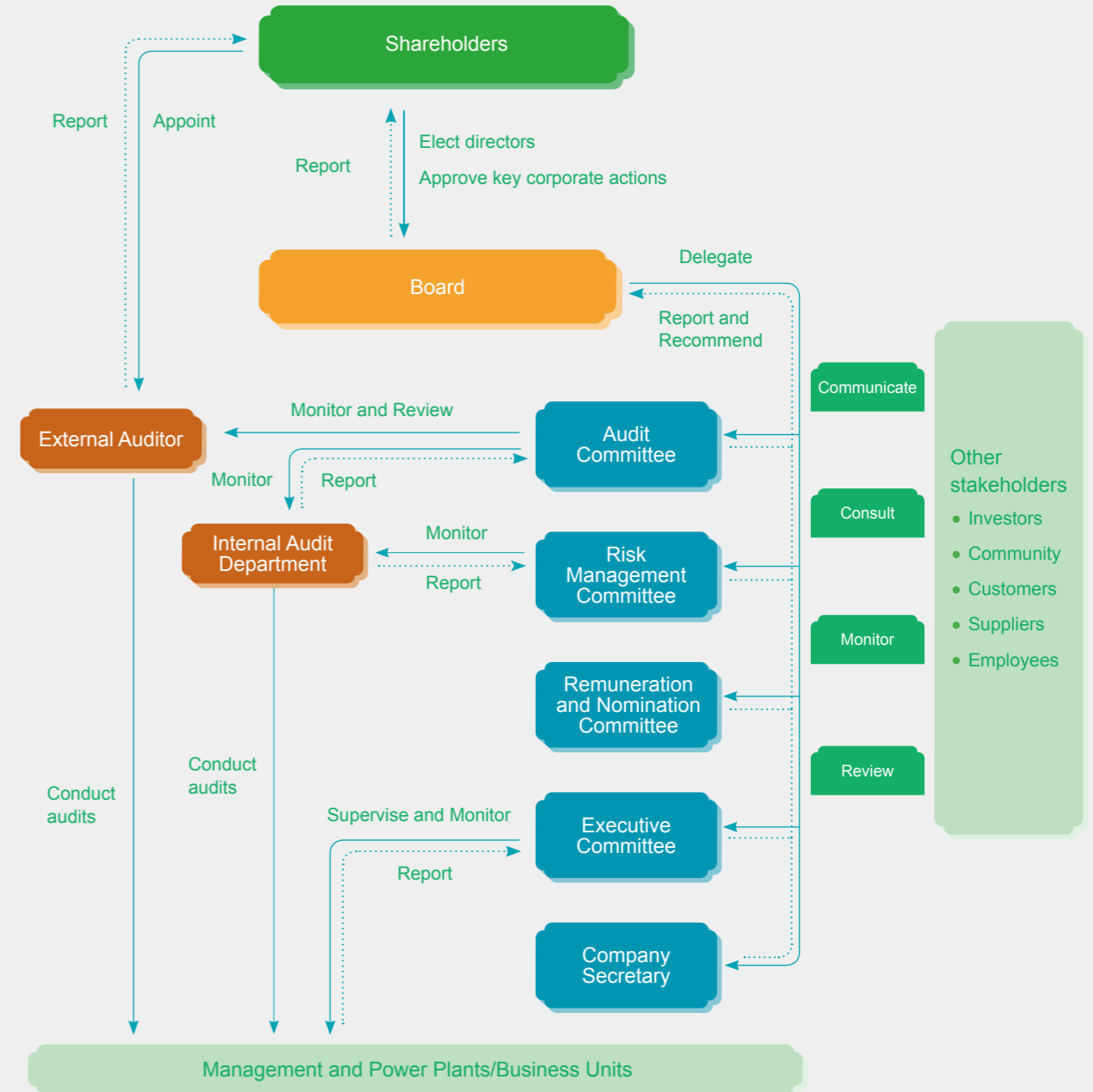
Note: The above group structure is recorded as at the date of Annual Report 2019 of the Group.

Corporate Governance

The Company strictly abides by 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 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.



Governance Framework



☘ Sustainability Strategy

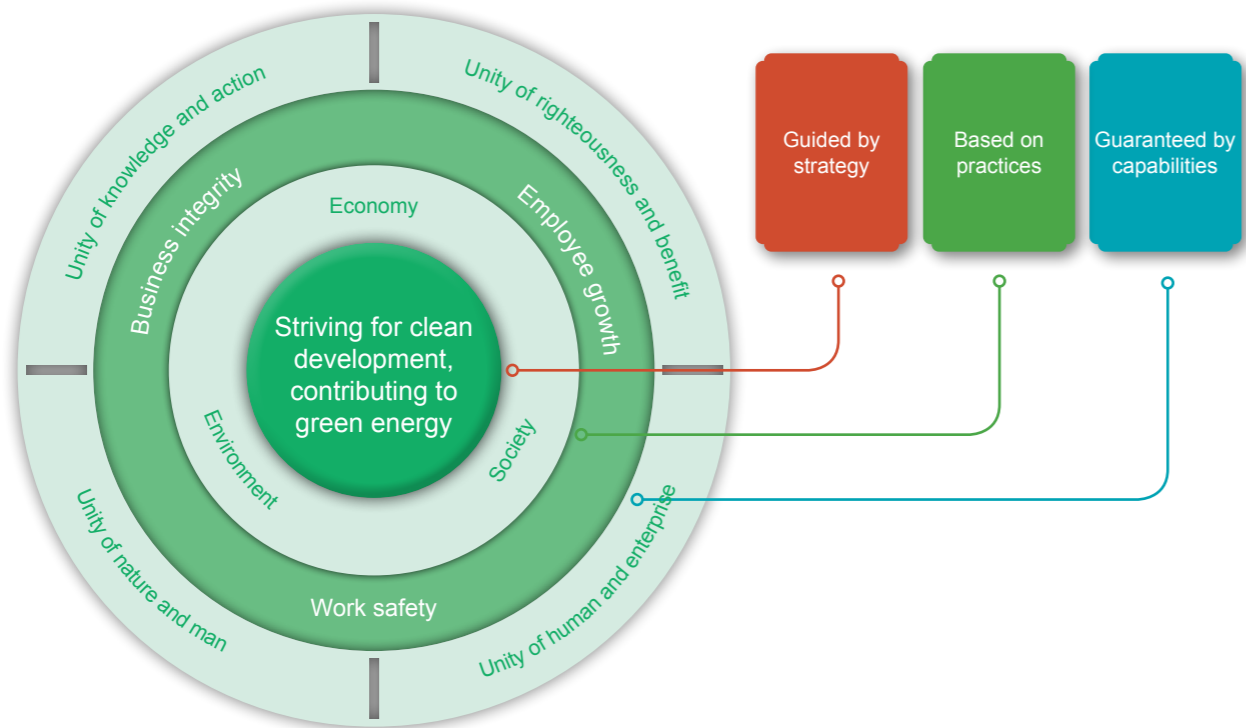
We do business in line with a people-oriented development philosophy that focuses on innovation, coordination, green growth, openness and sharing, with the aim to properly deal with the relationships among company development, staff development, social development and environmental protection, integrate social responsibility management into the Company's strategies and routine operation, and achieve common development with stakeholders.

Sustainability Philosophy

As a main force in building a world-class clean energy enterprise, we are committed to sustainable development philosophy of "striving for clean development, contributing to green energy". We pursue high-quality operation and constantly improve our clean production approach by adhering to the policies of "people orientation, proactive risk control, green operation". At the same time, we provide safe, stable, clean and efficient products and services for customers and the society, take on social responsibilities, promote the coordinated, sustainable development of economy, society and environment, and strive to achieve the development concept of "unity of nature and man, unity of righteousness and benefit, unity of human and enterprise, unity of knowledge and action".

Sustainable Development Model

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, do business with integrity, enhance our capability to create value, and promote the healthy and sustainable development of the Group.



Assessment of Important Topics

Based on the Group's current strategic positioning and business development characteristics, combined with the consultation conclusions on review of the "Environmental, Social and Governance Report Guidelines" and related listing rules issued by the Hong Kong Stock Exchange in December 2019, we comprehensively sorted out the Group's social responsibility issues in 2019 to form a list of issues. The issues were sorted from the two dimensions of importance to the business and external impact. It finally determined 22 issues after reviewed by the management.



Stakeholders Engagement

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"> Participate 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 regulatory authorities
Investors	<ul style="list-style-type: none"> Increased profitability Stable dividend distribution policy Increasing market value Reducing operating risks 	<ul style="list-style-type: none"> Press conference 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 Adopting market recommendations and improving group management
Employees	<ul style="list-style-type: none"> Protecting legitimate rights and interests of employees Ensuring occupational safety and health Providing proper remuneration and benefits Fostering fairness in the workplace Showing care for retired employees 	<ul style="list-style-type: none"> Staff congress meeting Staff forum Rationalization suggestion Opening 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 Opening 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 in a timely manner 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 and maintaining 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 industry policies and regulations Healthy competition Promoting 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 competencies Strengthening industry communication and promoting industry development
Community	<ul style="list-style-type: none"> Supporting local economic development Protecting living environment 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 assets Organizing environmental protection publicity activities Organizing community volunteer service activities

Accolades

2019



China Power was awarded the "Excellent Corporate Award for Responsible Disclosure of Information" at the Public Transparency Summit Forum of the PRC Electricity Industry Players for three consecutive years

Dabieshan Power Plant was awarded the title of "Advanced Central Enterprise" and "40 years of Reform and Opening Up Outstanding Contribution Enterprise of Huanggang City"

The phase I of the construction of Pingwei Power Plant was enlisted in the "Classic Project" catalog for the celebration of the 70th anniversary of the founding of the People's Republic of China

China Power Suzhou Shared Service Co., Ltd was awarded the Best Shared Service Center of the Year 2019 in China

China Power won three team championships and two team runners-up in SPIC's first "World Class Construction" vocational skills competition, and six persons were awarded the "Technical Expert of Central SOEs" by SASAC

One person won the honor of "Leading Talent of China's Electric Power Industry" and six persons won the honor of "Technical Expert of China's Electric Power Industry" in the fuel sample taking, preparing and testing finals of China's electric power industry

Sustainability Topics

Topic 1

Unwavering Commitment to Pursue Our Dreams for 70 years

The year 2019 was the 70th anniversary of founding the PRC and also marked the 15th anniversary of China Power's listing. We are committed to becoming a main force world-class clean energy enterprise, and work hard to promote the transformation to the development of a clean, integrated intelligent and multinational enterprise. Our unremitting efforts lead to our increased overall strength. We have proved that only the reformers and innovators will emerge stronger and win.



Pursue cleaner energy

- 2005 After carrying out the technical renovation of coal-fired power generating units, the coal consumption of our dropped significantly
- 2008 All coal-fired power generating units were installed desulphurization facilities and commenced operation
- 2009 We acquired a **63%** equity interests in Wuling Power, after which the proportion of our installed hydropower capacity reached up to **18.73%**, making us the cleanest offshore listed Chinese independent power producer with the largest proportion of hydropower
- 2013 Wind power plants under Wuling Power were commissioned, which further increased our proportion of clean energy
- 2017 A low capacity coal-fired power generating unit of Yaomeng Power Plant officially ceased operation
- 2018 The acquisitions of Guangxi Company, Shandong Company, Anhui Company, Hubei Company and Shouxian Company were completed during the year making a great step in our transformation to a clean energy enterprise



Pursue more comprehensive development

- 2010 Completed the acquisition of Wuling Power, initially forming the overall strategy of "balanced hydro and coal-fired generation" and reversing the situation of our sole dependency on the profitability from coal-fired power
- 2011 We sold part of the equity interests of Pingwei Power Plant II and Dabieshan Power Plant to Huainan Mining Group that marked the beginning of promoting coal-electricity integration
- 2015 We commenced a batch of renewable projects including the Datong **100MW** photovoltaic power project based on the "photovoltaic power leader" technology, marking our full business coverage of hydropower, wind power and photovoltaic power
- 2019 We sold part of the equity interests of Pingwei Power Plant I and Pingwei Power Plant II to Huainan Mining Group to further promote coal-electricity integration and to establish a win-win cooperation mechanism
- 2019 CP Changyang, the single largest project among the first batch of grid-parity photovoltaic power demonstration projects in China, was connected to grid successfully, marking the beginning of a new era of grid-parity photovoltaic power

 **Expand our presence**

2006

The acquisition of a **25%** equity interests in Shanghai Power, increased the attributable installed capacity of China Power reached **5,348MW**, representing an increase of over **25%**.

2009

The **2×600MW** coal-fired power generating units of Fuxi Power Plant and **2×300MW** cogeneration units of Xintang Power Plant obtained approval from the National Development and Reform Commission ("NDRC"), marking our debut in Sichuan province, the largest power market in China's western region, and Guangdong province, a promising power market in terms of profit.

2019

In striving to explore the development and use of hydrogen power actively, the Group reached a cooperation intension with Beijing municipal government on a hydrogen power application demonstration project.

 **Pursue more advanced technologies**

2007

We implemented the upgrading of coal-fired power units and commissioned the first four **600MW** coal-fired power generating units. After that, our attributable installed capacity had more than doubled since our public listing

2014

We completed the energy-saving upgrading of three coal-fired power generating units to effectively improve the unit efficiency. Also, we completed the denitration modification of four coal-fired power generating units and the operational ratio of denitration facilities reached **97.75%** in the year

2015

We launched the energy service innovation program and established the first batch of comprehensive energy service companies in Wuhu (Anhui Province), Chengdu (Sichuan Province), Gui'an (Guizhou Province) and Jiangmen (Guangdong Province)

2019

We completed the digitalization of Pu'an Power Plant, improving the plant operation and reducing operating risks and O&M cost through fully automated management

2019

We implemented the comprehensive smart energy programs in Beijing, Anhui and Sichuan by virtue of the comprehensive energy management system



Diabieshan Power Plant



Datong Power Plant



Pingwei Power Plant



Pu'an Power Plant



Wuhu Power Plant



CP Shentou



CPISEC



Changshu Power Plant

To celebrate the 70th anniversary of founding the PRC, the staff of China Power sang the song "My Motherland and Me" to express their infinite love for the motherland and demonstrated the spirit of all the cadres and employees of the Group.

Sustainability Topics

Topic 2

Deepening Reforms to Improve Management Efficiency

We fully implement the central SOEs reform policies and deepen the comprehensive reform of "Double Hundred Action", so as to eliminate the obstacles of the system and mechanism, improve the management level of the Group, and escort the sustainable and healthy development through the reform.

Implementing the "Double Hundred Action" to create new vitality in management

In March 2018, the Leading Group for State-owned Enterprises Reform of the State Council decided to implement the "Double Hundred Action in SOEs Reform" program in 100 central SOEs and 100 regional SOEs ("Double Hundred Enterprises"), and we, being the subsidiary of one of Double Hundred Enterprises, in 2019, focusing on the reform goals of "five breakthroughs and one strengthening", we promoted the reform in a proactive yet prudent manner, by deepening the reform of market-oriented mechanism, fostering vitality and inherent impetus for growth, resolving the longstanding issues, and easing the burden of companies.

Key tasks of the "Double Hundred Action"

- Special reform of board of directors' authority and management control system optimization
- Special reform of gross payroll and medium- and long-term incentives
- Special reform of equity diversification and mixed ownership of asset-heavy companies
- Special reforms to improve labor productivity in old power plants
- Comprehensive reform of power plant service business
- Comprehensive reform of user energy service business
- Comprehensive reform of technology, information and trade logistics business

Data



Proper arrangements were made for **390** workers involved in the reform.



It will help saving about RMB **16** million each year.



• Founding ceremony of Sinopharm (Pingdingshan) Healthcare Corporation



• Commissioning of water supply booster station for staff living area of Yaomeng Power Plant



• Improved community service functions for staff living area of Wuhu Power Plant



• Clean and tidy staff living area of Shentou Power Plant after renovation

Implement "Plan-Budget-Assessment-Incentives" system to invigorate management

The "Plan-Budget-Assessment-Incentives" system is a strategic system developed by SPIC in line with the "World Class Strategy 2035" as it embarks into a new journey to a world leading clean energy provider.

To complete the annual important tasks, China Power used the DOAM tool and method to develop action plans, review the assessment criteria, and adjust the reward and punishment. In 2019, we completed the development of a preliminary "Plan-Budget-Assessment-Incentives" management system, and developed and issued the "1+N" system that is suitable for China's electric power industry. In particular, we focused on improving our assessment system to attach more importance to economic efficiency as well as the corporate value and cash flow contributions of companies. In addition, we promoted the application of DOAM tool. To ensure the completion of key tasks, we developed a quarterly assessment process to break down the annual goal into monthly goals and perform assessment on a quarterly basis.



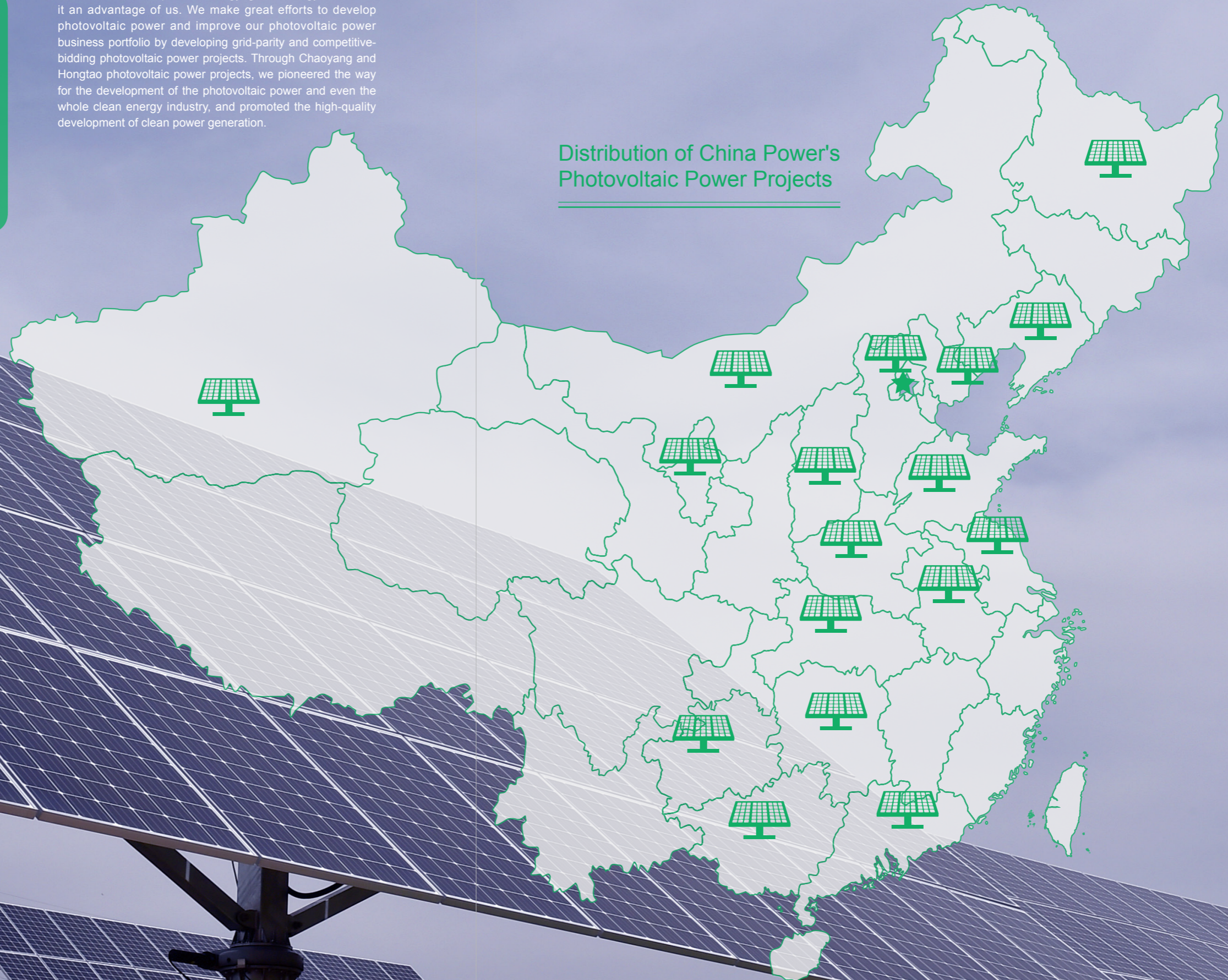
Sustainability Topics

Topic 3

Developing Clean Energy to
Make A Better Future Possible

We strive to develop clean energy, green energy and make it an advantage of us. We make great efforts to develop photovoltaic power and improve our photovoltaic power business portfolio by developing grid-parity and competitive-bidding photovoltaic power projects. Through Chaoyang and Hongtao photovoltaic power projects, we pioneered the way for the development of the photovoltaic power and even the whole clean energy industry, and promoted the high-quality development of clean power generation.

Distribution of China Power's Photovoltaic Power Projects



Chaoyang Photovoltaic Power Project: Generating Clean Electricity from Solar Energy

We need to strengthen the implementation of strategies, promote our clean energy transformation, and continue to strengthen strategic cooperation with the local, so as to make Chaoyang Photovoltaic Power Project a benchmark for grid-parity photovoltaic power projects. Besides, we need to explore other quality resources in the region, and strive to build Chaoyang area into a clean energy base of the Company. We need to construct the project according to high standards, and build it into a national excellent photovoltaic power project.

—Tian Jun, Chairman of the Board, Executive Director and President of China Power

The China Power Chaoyang 500MW Photovoltaic Power Project is enlisted in China's first batch of grid-parity pilot photovoltaic power projects by NDRC and the National Energy Administration. In developing the project, China Power strengthened control of the progress, cost, quality and safety, with an aim to make it a benchmark for grid-parity photovoltaic power projects.



On 24 December 2019, the project achieved grid connection of the first batch of photovoltaic modules. After being fully completed and commissioned, the project is expected to generate **9,012,280,000** kWh of clean power generation each year, contribute RMB**120** million of land-leasing revenue to Chaoyang County and bring about RMB**2** billion of fixed asset investment. In addition, during the construction and operation periods, the project will create **3,000** jobs, which can help lift about **4,000** local residents out of poverty for **25** years.

Significance of the project

- One of China's first batch of grid-parity pilot photovoltaic power projects
- The largest grid-parity photovoltaic power project in terms of installed capacity
- Great support for achieving the "one belt and five bases" development goal of the "Northeast China Revitalization" policy
- Active response to Chaoyang City's development plan of new energy base for Beijing-Tianjin-Hebei region
- Important industrial support for poverty alleviation in Chaoyang County

Case Making a concerted effort to ensure safety

The Chaoyang 500MW Photovoltaic Power Project occupies a wide area with complex landforms and terrain conditions. China Power entrusted several organizations to develop the technical scheme, and optimized the design and type selection under the help of SPIC's Photovoltaic Innovation Center and with reference to SPIC's photovoltaic empirical research results, which has laid a solid foundation for the project's life cycle reliability and return on investment. We chose qualified and reputable suppliers, strengthened whole process supervision and management in construction, and made a concerted effort with the EPC contractor and supervisor to ensure safety throughout the project.

During the construction period, it rained **27** times and snowed **5** times on the project site, adding to the difficulties of construction in mountainous areas. Despite of the difficulties, China Power made every effort to guarantee the construction and fought for **203** consecutive days, so that the project has attained successfully of "obtaining approval, construction commencement and grid connected" in the same year.

"The China Power Chaoyang 500MW grid-parity pilot photovoltaic power project is of great importance for accelerating Chaoyang's industrial restructuring, ensuring steady economic growth, and helping people overcome poverty, and will definitely give a strong impetus to Chaoyang's economic and social development."

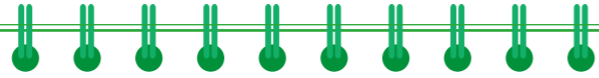
—Xie Weidong, Mayor of Chaoyang City, Liaoning Province



Hongtao Photovoltaic Power Project: Clean Photovoltaic Power Farm On Abandoned Ash Yard

The Shentou Ash Yard Photovoltaic Power Project Phase II in Shanxi Province is constructed on the site of the soil-covered old ash yard that was previously designed for the decommissioned units. It helps promote the geological environment restoration and improve the environment. Besides, it plays an important role in helping power producers make efficient use of idle resources and a demonstration role in efficient use of land.

With an installed capacity of **54.99MW**, the project was connected to grid on 19 December 2019. After its completion, it would generate an average of **77,711.24MWh** of clean electricity every year.



Significance of the project

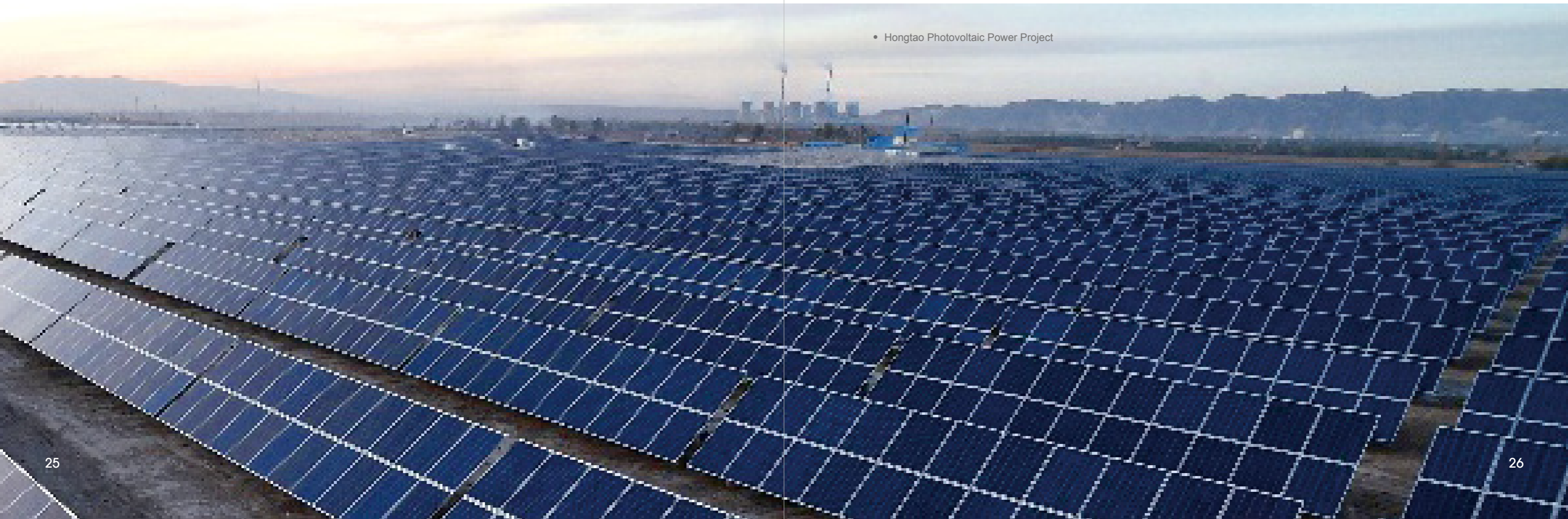
- A combination of new energy construction, ecological environmental protection, and ecological restoration
- SPIC's first Photovoltaic Power project constructed on the site of ash yard
- Rated as "AAAAA" in China Electricity Council's assessment of the operating indicators of China's photovoltaic power stations of 2018

Case Efficient use of resources creates comprehensive benefits

The phase II of Shentou Ash Yard Photovoltaic Power Project has an installed capacity of 50MW. It makes full use of the favorable sunlight and land conditions of Shuozhou City, Shanxi Province, and achieves an efficient combination of sunlight and land resources. Also it solves the problems of ecological restoration of ash yard site and land waste, promotes geological environment restoration, develops clean energy, and improves the environment.

"The construction of Shentou Ash Yard Photovoltaic Power Project Phase II marks another stride toward Shuocheng District's industrial transformation, which definitely promotes the further optimization of its industrial restructuring and transformation in Shuocheng District."

—Leadership of Shuocheng District, Shuozhou City, Shanxi Province



• Hongtao Photovoltaic Power Project

Green Future — Creating a More Beautiful Environment

We have actively tackled climate change, insisted in green and low-carbon development, further focused on clean energy development, provided support for the Group to build a future-oriented industrial structure and modern energy industrial system through comprehensive energy services and transformation, established a more favorable external environment for the Group's development, made efforts for improvement of the natural environment, and made contributions to a green and beautiful earth.

United Nations Sustainable Development Goals



Ensure availability and sustainable management of water and sanitation for all



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



Take urgent action to combat climate change and its impacts

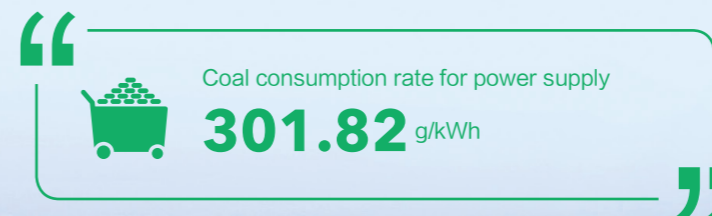
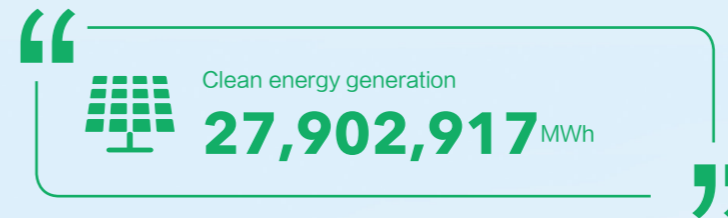


Conserve and sustainably use the oceans, seas and marine resources for sustainable development



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

KPIs in 2019



Combating Climate Change

We paid close attention to both the international and national updates and regulations on combating climate change, took actions to combat climate change and its impacts, effectively controlled waste emissions during production and operation to minimize impacts of the Company's activities on the climate, and made contributions to the blue sky protection campaign.

We are committed to the clean development of existing coal-fired power projects. To this end, we plan to complete the ultra-low emission retrofit of all coal-fired power generating units for to reduce the pollutant and greenhouse gas emissions per unit of power generation, improve unit efficiency and reduce the fossil fuel consumption per unit of power generation. In addition, to reduce investment in coal-fired power generation, we plan to shut down small low-parameter coal-fired power generating units that fail to undergo ultra-low emission retrofit, and actively seek cooperation with other enterprises to develop the existing coal-fired power projects, thus reducing our proportion of shareholding in coal-fired power enterprises.

Reducing Pollutant Emissions

Based on the Group's "13th Five-year Plan" and medium- and long-term environmental protection planning, as well as the latest national policies on environmental protection, we actively promoted pollution control and effectively controlled pollutant emissions by means like upgrading technologies, strengthening management, and improving capabilities, thus minimizing the adverse impact of our activities on the environment. In 2019, we invested RMB165,080,000 in environmental protection-related technical modification.



Reducing Waste Gas Emissions

We strictly follow the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, GB 13223-2011 Emission Standard of Air Pollutants for Thermal Power Plants, GB 3095-2012 Ambient Air Quality Standard and other laws and regulations. We continued our efforts to reduce waste gas emissions, improved the ultra-low emission projects for generating units newly commissioned, and implemented the "Technology for Efficiency Improvement of Denitration System Based on Advanced Measurement and Control Technology" project to maximize denitration efficiency and avoid ammonia pollution.

By the end of 2019, more than **90%** of operating coal-fired power generating units of the Group have met the ultra-low emission standards, among which six power plants received incentive electricity for environmental protection (totaling about **1,521,000MWh**) from local governments.

The emission density of nitrogen oxides and sulfur dioxides increased year on year, since the two **660MW** units newly put into commercial operation did not meet the ultra-low emission standards. However, thanks to the remarkable results of upgrade and retrofit projects of some power plants for ultra-low emission, the Group's dust emission density further decreased by **12.5%**. We reduced greenhouse gas emissions by developing clean energy projects, thereby effectively controlling the relevant increase.

In 2019, our clean energy generation reached **27,902,917MWh**, equivalent to a reduction of **22,127,013** tons of carbon dioxide emissions.

Emission Types and Categories	Unit	2018 ²	2019 ²	(Decrease)/Increase	Change
Nitrogen oxide emission density	g/kWh	0.097	0.133	0.036	+37.11%
Sulfur dioxide emission density	g/kWh	0.056	0.076	0.02	+35.71%
Carbon dioxide emission density ¹	g/kWh	841	839	(2)	-0.24%
Dust emission density	g/kWh	0.008	0.007	(0.001)	-12.50%
Total nitrogen oxide emission	'000 tonnes	5.097	7.874	2.777	+54.48%
Total sulfur dioxide emission	'000 tonnes	2.952	4.478	1.526	+51.69%
Total carbon dioxide emission ¹	'000 tonnes	45,527	48,855	3,328	+7.31%
Total dust emission	'000 tonnes	0.426	0.429	0.003	+0.70%

¹ The carbon dioxide emissions is calculated in accordance with the Guide for Greenhouse Gas Emission Accounting and Reporting of Chinese Power Generation Enterprise (Trial) and the Requirements of the Greenhouse Gas Emission Accounting and Reporting—Part 1: Power Generation Enterprise (GB/T 32151.1-2015). Due to the increase in the calculation of relevant emission factors, the comparative figures for 2018 have been restated.

² The Group's greenhouse gas emissions mainly come from the consumption of coal in the power plant boilers (Scope 1). Except for the office buildings (the value is relatively few), since there is no electricity and heat purchased (Scope 2), they are not shown separately.

Optimizing Disposal of Solid Wastes

We strictly abide by GB 18599-2001 Standard for Pollution Control on the Storage and Disposal Site for General Industrial Solid Wastes, and follow the principle of separate handling of bottom and fly ash, separation of coarse ash from fine ash and dry-type emission of dry ash to establish a perfect bottom and fly ash handling system, so as to reduce waste emissions. We have fully exploited potential uses of fly ash, developed comprehensive utilization and management methods and annual targets for fly ash, and achieved the recycling of wastes. In 2019, the comprehensive utilization rate of fly ash of the Group was **84.88%**, a decrease of **2.06** percentage points as compared with 2018.

Emission Types and Categories	Unit	2018	2019	(Decrease)/Increase	Change
Emission density of hazardous solid wastes	g/kWh	0	0	0	0
Emission density of non-hazardous solid wastes	g/kWh	25.8	33.2	7.4	+28.68%
Total emission of hazardous solid wastes	'000 tonnes	0	0	0	0
Total emission of non-hazardous solid wastes	'000 tonnes	1,323	1,963	640	+48.37%

Note: With the increased power generation and commercial operation of two large-capacity generating units of the Group, the emissions of non-hazardous wastes were increased.



Reducing Hazards of Wastewater

We strictly abide by GB 8978-2002 Integrated Wastewater Discharge Standard, DL/T 997-2006 Discharge Standard of Wastewater from Limestone-Gypsum Flue Gas Desulfurization System in Fossil Fuel Power Plants and other applicable standards, actively implement the Water Pollution Prevention Action Plan launched by the State Council, and reduce the amount of pollutants in wastewater by means of technological modification, so as to ensure that discharge of wastewater reaches the national standards.



Substantial progress in water pollution control in 2019

- The zero wastewater discharge project was successfully implemented in Shangqiu Power Plant.
- After modification of the circulating water system and make-up water system, the wastewater discharge of Yaomeng Power Plant reduced about **300** million m³/year, significantly reducing the impacts on water bodies around.

Emission Types and Categories	Unit	2018	2019	(Decrease)/Increase	Change
Total amount of industrial wastewater discharge	'000 tonnes	339.9	110.4	(229.5)	-67.52%

Case

Zero discharge due to the advanced treatment system for wastewater from flue gas desulfurization

At 10:10 a.m. on 4 December 2019, the **168**-hour trial operation of the advanced treatment system for wastewater from desulphurization of Shangqiu Power Plant was successfully completed at one attempt, marking the successful completion of SPIC's demonstration project of zero wastewater discharge from coal-fired power plants.

The **2×350**MW units of Shangqiu Power Plant have been provided with zero wastewater devices that integrate non-softening low-temperature flash evaporation and concentration plus high-temperature bypass drying technologies. The successful completion and commissioning of the project realized the full recovery of wastewater from desulphurization, and finally achieved the target of zero discharge of wastewater from desulphurization in the whole plant, setting a good example for SPIC's other coal-fired power plants. The project is also a "three China's first" project (the first project to adopt the low-temperature flash evaporation and concentration plus high-temperature bypass drying technologies, the first project to adopt the three-fluid atomization process, and the first project to adopt the dry products pre-dedusting and separation process).

Saving Energy and Resources

We endeavor to build a resource-saving enterprise, strengthen environmental protection during production activities, and improve energy efficiency by upgrading production technologies. We also advocate for energy-saving office work, and make efforts to create a green and low-carbon office environment, thereby realizing resource conservation in production, operation and daily work.

Efficiently Utilizing Coal Resources

We have worked out targeted energy conservation schemes from the aspects of energy conservation management, operation optimization, technical modification, etc., through integrated use of methods such as power mix optimization, energy conservation management, coal procurement management, and coal utilization rate improvement, to reduce coal consumption and consumption of non-renewable resources.

In 2019, **6,600,600** tons of economic coal were consumed for blending combustion, and the coal consumption rate of the Group was **301.82g/kWh**, representing a decrease of **0.59g/kWh** as compared with the previous year, equivalent to saving of about **52,858** tons of standard coal.

Indicator	Unit	2018	2019	(Decrease)/Increase	Change
Coal consumption rate	g/kWh	302.41	301.82	(0.59)	-0.20%

Case Transformation and upgrading of traditional industries won special award

At the science and technology innovation and technical modification awarding ceremony held in Macheng on 11 December 2019, Dabieshan Power Plant won special award funds for its generating unit production line and energy saving technical modification projects.

Dabieshan Power Plant upgraded the system equipment to improve the operating efficiency of the power generating units and implemented the optimization of cooling tower of #1 unit, modification of frequency converter on condensate pump, modification of booster pumps A and B of #1 unit, and other modification projects. After the completion of these projects, the equipment performance in terms of safety, energy conservation, and environmental protection was improved, the operating efficiency of generating units was increased, the auxiliary power consumption rate of Dabieshan Power Plant reduced by **0.3%**, and the coal consumption rate reduced by **0.9 g/kWh**.



Saving Production Water

We enhance water-saving capacity in production activities, increase recycling efficiency of water resources, carry out in-depth research on water-saving technologies, strengthen operation and maintenance of wastewater treatment facilities, establish a reusable water collection and treatment system, and optimize comprehensive utilization and dispatching of hydropower generation, so as to realize efficient use of water resources.

Indicator	Unit	2018	2019	(Decrease)/Increase	Change
Total water consumption	million tonnes	72.49	87.17	14.68	+20.25%
Water consumption per unit	g/kWh	1,352	1,471	119	+8.80%

Note: In 2019, the unit water consumption and total water consumption increased due to the commercial operation of large-capacity units, commissioning of expanded units and renovation of circulating water system of 300MW generating units.

Case Inspection of water discharge from the production area to improve water resources management

In order to actively promote fine management and achieve the goal of zero drainage, Yaomeng Power Plant designated a joint inspection team to check on 21-27 November 2019 whether buried pipelines and underground wells of industrial water, domestic water, and firefighting water are free of leakage, whether equipment cooling water and flushing water are recycled, and whether domestic water generated by production teams and in office areas was directly discharged or wasted. Problems found during inspection were corrected, thus improving the management of water resources of the plant.

Promoting Green Office Culture

We integrate the concept of low-carbon development into daily office operations, use the OA system and mobile phone-based patrol inspection system to realize "paperless office", implement power saving management plans in office buildings to raise employees' awareness of green office, strengthen official cars management, and improve the car utilization efficiency, so as to push forward green and low-carbon development of the Group.

Indicator	Unit	2018	2019	(Decrease)/increase	Change
Total paper used	tonnes	38.46	30.37	(8.09)	-21.03%
Total power consumption	kWh	12,790,188	13,038,586	248,398	+1.94%
Total fuel consumption of corporate vehicles	litres	776,855	727,340	(49,515)	-6.37%
Total water consumption	tonnes	144,944	154,029	9,085	+6.27%
Video conference	times	1,109	1,629	520	+46.89%

Note: In 2019, though the consumption of resources was increased due to the commercial operation of Shangqiu Power Plant, the green office performance of most subsidiaries of the Group represented a year-on-year increase.

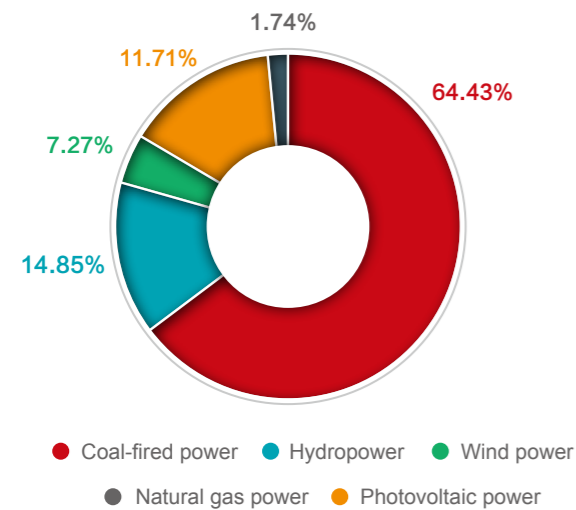
Optimizing Energy Mix

We are committed to developing and supplying reliable and sustainable modern energy, promoting the development of clean coal-fired power, intensifying the orderly development of clean energy, and exploring effective ways of developing and utilizing hydrogen energy. We have continuously optimized the power source mix and fully pushed forward structural transformation of social energy consumption.

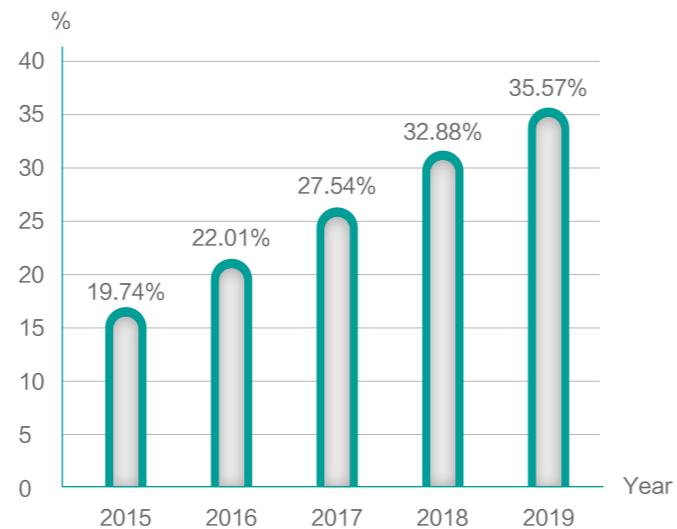
We focus on the development of clean energy, maintain a competitive edge in the hydropower, promote the development of high-quality wind power and photovoltaic power projects, and properly control and slow down the development of coal-fired power projects, thus increasing the proportion of clean energy. In addition, we actively explore new energy business segments and promote the development of hydrogen energy projects.

By the end of 2019, the attributable installed clean energy capacity of the Group reached **7,510.1MW**, accounting for **35.57%** and a year-on-year increase of **2.69** percentage points. Clean energy generation reached **27,902,917MWh**, equivalent to a reduction of **22,127,013** tons of carbon dioxide emissions, which further optimized the energy mix of the Group.

Proportion of the Group's attributable installed capacity by the end of 2019



Proportion of the Group's attributable installed clean energy capacity



Developing Efficient and Clean Coal-fired Power

We continue to strengthen air pollutants emission control by means of all-time and whole-process supervision and management; conduct benchmarking with coal-fired power units in the same area and with same boundary conditions, continuously optimize benchmarking models to improve scientific benchmarking and analysis of energy consumption of units and explore more ways of energy conservation.

In 2019, the per-hour average emissions were all below the limit. All power plants owned by the Group complied with relevant national environmental protection regulations, with no fines being imposed due to violations. The Group conducted 4 overhauls on Class A, 10 overhauls on Class B, and 54 overhauls on Class C. The operational rate of desulphurization facilities for the coal-fired power generating units was **100%**, and the efficiency ratio of desulphurization was **99.3%**. The operational rate of denitration facilities was **100%**, and the efficiency ratio of denitration was **89.85%**.

Case Digitalization construction gives "super capability" to Pu'an Power Plant

As a digitalization demonstration project of SPIC and China Power, Pu'an Power Plant comprehensively applies the fieldbus technology and adopts 3D design, integrates emerging technologies to change its operation management mode, improves its safety, reliability and efficiency and reduces its operating costs with a real-time, visible and intelligent management and control system.

Pu'an Power Plant is the first to realize the automatic power plant startup and shutdown system (APS) function among W-flame boiler units across China. The boiler function of ignition and temperature and pressure ascendant, in particular, is a technical difficulty and a leading technology of the industry. The SIS-based 3D visible wall temperature monitoring system for W-flame boilers is the first of its kind in China, which can provide real-time instructions on combustion adjustment for operators, and prevent the boilers from overheating and excessive temperature difference.



Supporting Clean Energy Development

We support the orderly, rapid and healthy development of clean energy. Through cooperative development of new energy projects, we have strengthened the construction of new energy systems and provided support for new energy. We have also made great efforts to explore the space for application of hydrogen energy and develop relevant technologies, and constantly expand the channels for energy development.

Promote energy cooperation

- Strengthened cooperation with local governments and strategic partners to combine the respective advantages of all parties, and develop more wind power, photovoltaic power, and other clean energy projects relying on the rich wind and light resources.
- Cooperated with Shanghai Electric Power Company and Jiangsu Electric Power Company to complete the preparation of two special plans for the Yangtze River Delta energy eco-system integration planning and clean and low-carbon energy supply planning.

Widen application of hydrogen energy

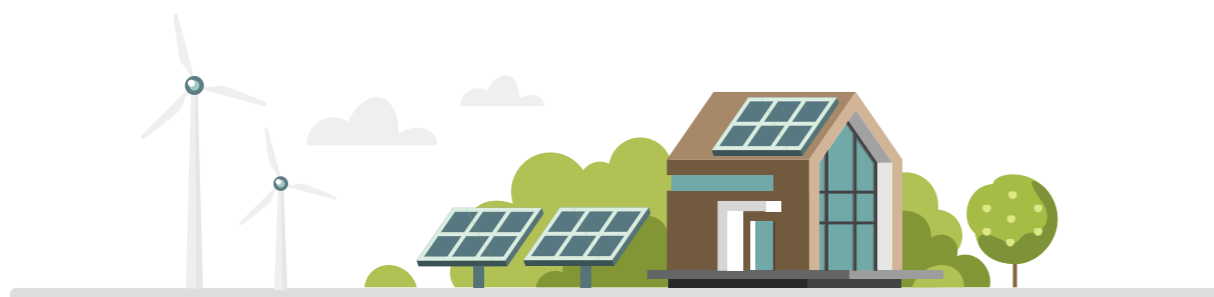
- Signed the Framework Agreement on Strategic Cooperation in Green Hydrogen Power with the government of Yanqing District.
- Commenced to construct the Group's first hydrogen refueling station—Yanqing Park Hydrogen Refueling Station, a small-sized multi-energy combined and zero-emission energy supply pilot system project.
- Completed the preliminary feasibility study report for the hydrogen production plant (a supporting facility for 2022 Winter Olympics) in support of the government of Yanqing District in conducting project siting and feasibility study.

Case

Combination of photovoltaic power generation and construction to realize green energy supply

On 28 December 2019, the roof landscape PV generation project, Phase I of Huitong Times Square Integrated Smart Energy Project in Chaoyang District, Beijing was successfully connected to the grid at all **8** points of connections, starting to supply green energy for the park.

The project is Beijing's first roof landscape PV project, with a capacity of **2.56MW** installed in roof landscape phase I. It is invested, constructed and operated by CPISEC. It combines industrial arts with the landscapes and culture of parks, and integrates blue sky, white cloud, vegetation and other design factors into the green energy project, making it a integrated intelligent energy project of culture, art, science and technology, and innovation. It will further promote the development of integrated intelligent energy projects in Beijing.



Protecting Ecological Environment

We orderly promote pollution control and ecological protection, implement environmental protection improvement actions, take timely measures to prevent pollution to ensure green construction, and advocate green life with practical actions.

Creating a green environment

We have always insisted in the philosophy of green development, integrated ecological protection and orderly construction into our project construction management system. We have been committed to building green construction sites and taken practical actions to protect the natural environment.

Case

Making the river water clean again

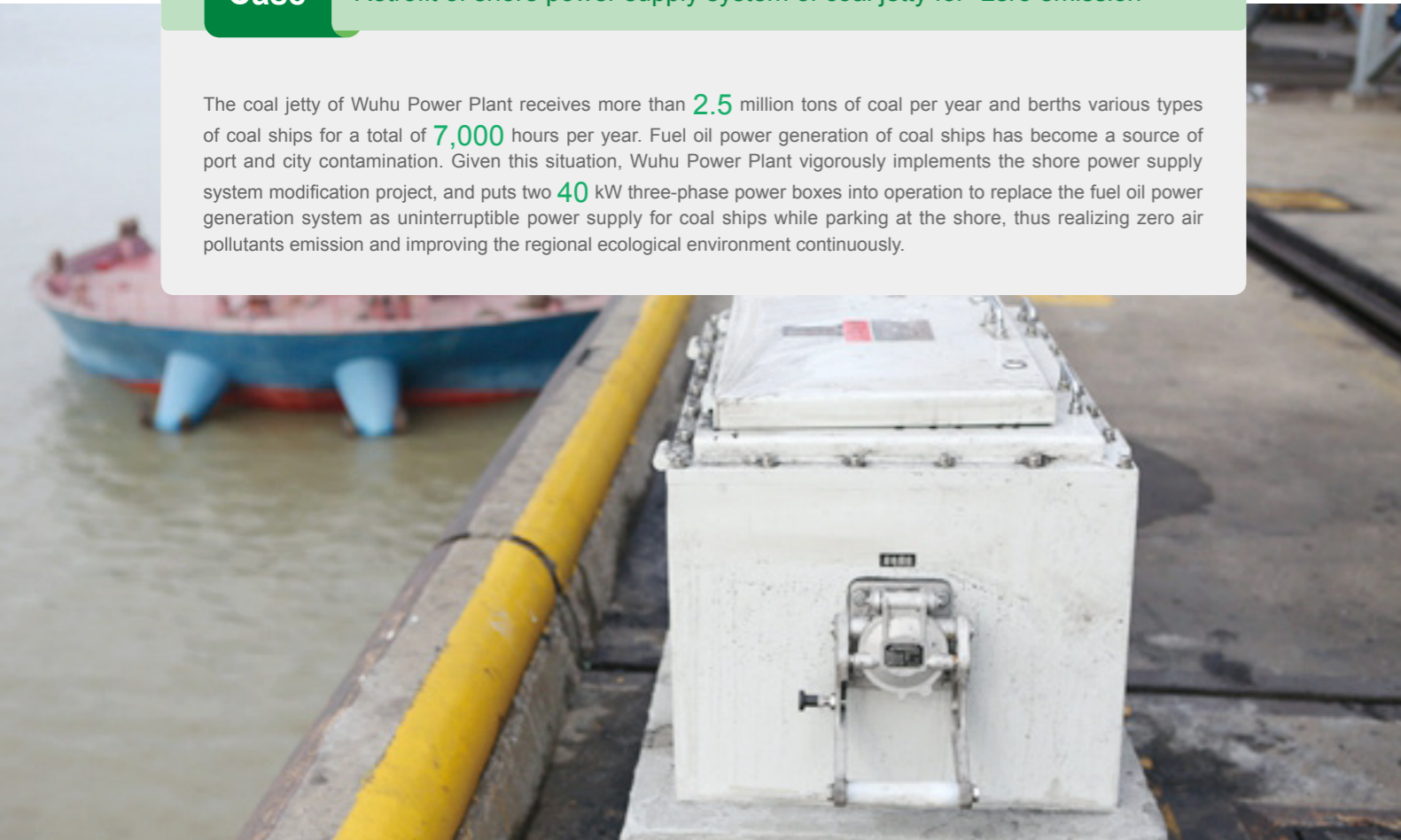
Of the four rivers in Hunan, namely, Xiang River, Zi River, Yuan River, and Li River, Zi River had once been famous for its crystal clear water and abundant aquatic products. However, the issue of water pollution in the rivers have become severer and severer since the 1980s. Majitang Power Plant of Wuling Power organized professional personnel to clear the rivers, to centrally dispose of the wastes collected, to disinfect or deep bury dead animal bodies, and to remove any slag deposited upstream the dam or waste barrier at the water intake.

In 2019, the power plant organized **784** times of waste collection activities, and collected up to **8,200 m³** and **3,770** tons of slags, substantially removing all garbage heaps at banks and all wastes drifting on the river, protecting the ecological environment of Xiunvhu National Wetland Park downstream, contributing to creating a beautiful and livable environment, and making Zi River benefit the people better.



Case Retrofit of shore power supply system of coal jetty for "zero emission"

The coal jetty of Wuhu Power Plant receives more than **2.5** million tons of coal per year and berths various types of coal ships for a total of **7,000** hours per year. Fuel oil power generation of coal ships has become a source of port and city contamination. Given this situation, Wuhu Power Plant vigorously implements the shore power supply system modification project, and puts two **40 kW** three-phase power boxes into operation to replace the fuel oil power generation system as uninterrupted power supply for coal ships while parking at the shore, thus realizing zero air pollutants emission and improving the regional ecological environment continuously.



• Retrofit of shore power supply system of Wuhu Power Plant



• Chaoyang photovoltaic power project: Use of container type SVG for land saving



• Chaoyang photovoltaic power project: Use of waste materials and slag in road pavement for material saving

Advocating Green Life

We take our own actions to drive green social development and advocate the philosophy of green life, and strengthen the promotion of philosophy through various publicity activities.

Case Holding environmental protection campaign

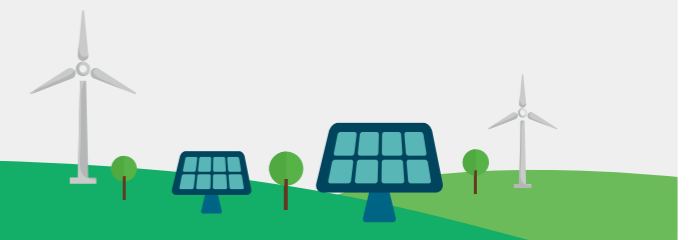


On the morning of 10 May 2019, China Power Huachuang organized its employees to hold an environmental protection activity, including walking around the lake and picking up garbage, to advocate low-carbon travel and focus on environmental protection, showing the spirits of youths in the new era. In this activity, the young people of Huachuang showed a positive life attitude, made their contributions to protecting the environment, and raised their awareness of environmental protection.

Case Activities held on the "World Environment Day"

On the 48th "World Environment Day", 5 June 2019, Fuxi Power Plant held publicity activities in the theme of "Get everyone involved in the blue sky protection campaign".

During the activities, Fuxi Power Plant posted environmental protection knowledge on the OA system, WeChat groups, QQ groups, and at the company's website, played the theme song and videos about the "World Environment Day" in public areas such as the canteen and office buildings, let all employees sign their names on the theme banner, posted environmental protection-themed posters, and organized environmental protection inspections in the plant area. These activities raised awareness of all employees on environmental protection. They all started to learn the theme of the "World Environment Day" and knowledge about environmental protection.



Green Future – Advancing More Scientific Operations

We accelerate the transformation and development of the Group, seize the opportunities for reform, continue to promote innovation and development, strengthen the construction of intrinsic safety and risk management system, enhance the risk management and control, improve the Group's management capabilities, increase the competitiveness and development level of the Group, and promote the sustainable and healthy economic and social development.

United Nations Sustainable Development Goals



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



Reduce inequality within and among countries



Ensure sustainable consumption and production patterns

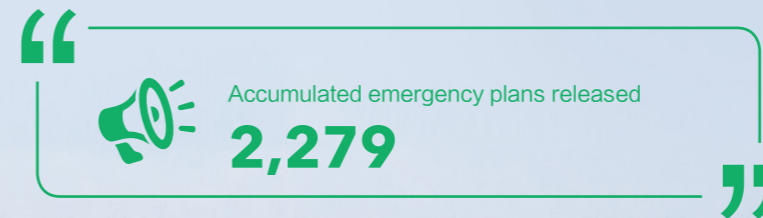


Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development



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

KPIs in 2019



Promoting Innovative Development

Innovation is the drive of enterprise development. We insist in innovation-driven development, increase investment in technology, and strengthen information construction and management innovation, to create an atmosphere for technology innovation and inject vitality for development of the enterprise. In 2019, our investment in technology totaled RMB309,880,000.

Strengthening Technology Innovation

In order to meet the needs of future development, we strengthen technology innovation, explore cutting-edge technologies, carry out technical exchanges, and encourage all-involvement innovation, to improve work efficiency.

In 2019

we carried out **69** technology projects, obtained **39** authorized patents, including **37** utility model patents and **2** invention patents

and **38** registered software copyrights, and chaired and participated in the formulation of **38** industry standards, including **1** national standard.



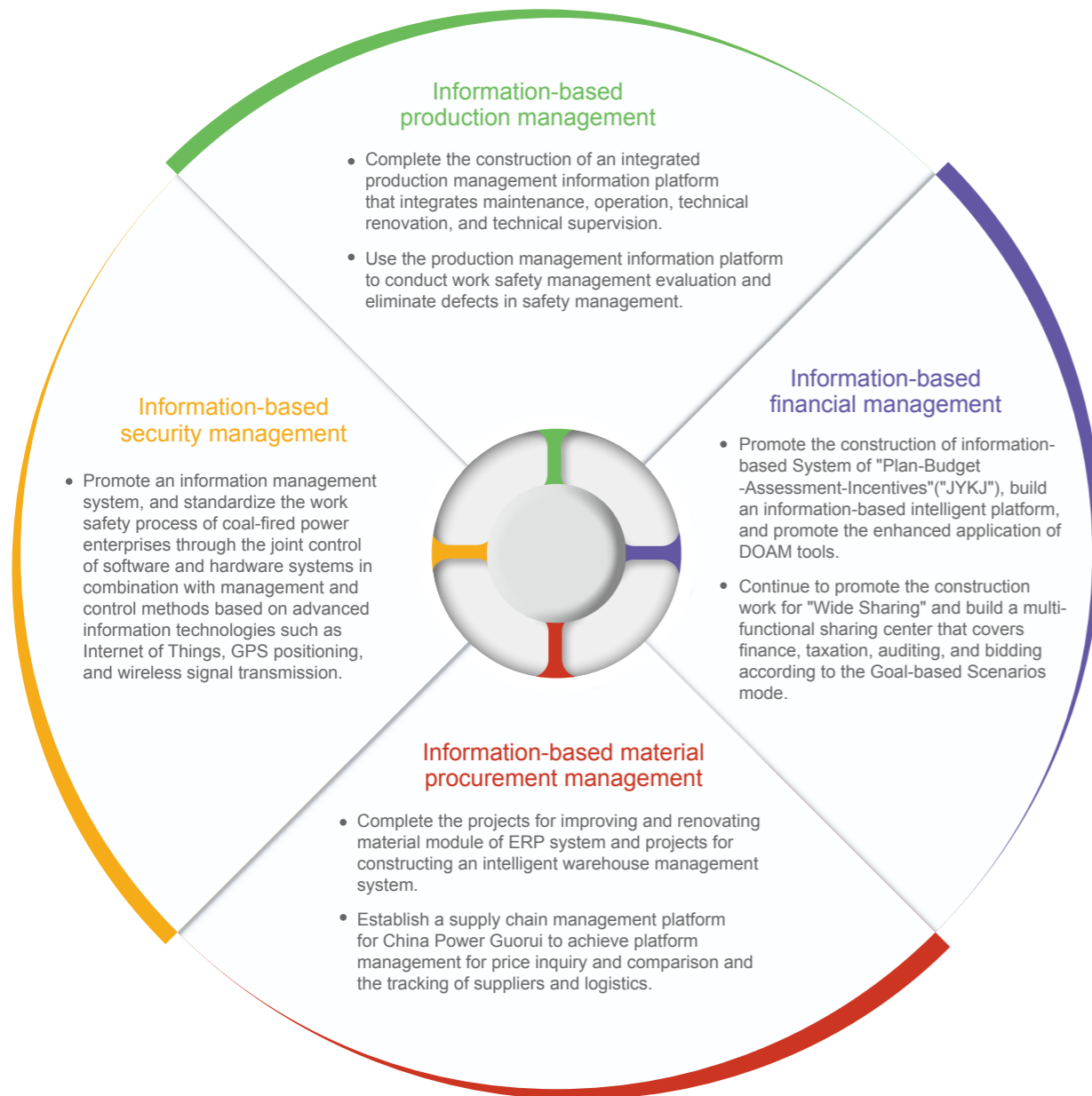
Case R&D data monitoring system

To extend the service time of outdoor hardware equipment, Hubei Company designed an outdoor data monitoring device for field benchmarking hardware equipment. The device can be connected with the existing components of PV system, installed near the grid-tied PV inverter, and electrically connected with the inverter. To facilitate field installation and wiring, the lead of the photovoltaic monitoring device was integrated with the device, and a certain length of lead wire was reserved. This system had been installed and operated in some selected PV stations in Huanggang, Suizhou, Xiangyang and other regions of Hubei.



Promoting Information-Based Management

We use information-based means to improve management efficiency. With the help of management and control methods based on the integrated production information management platform, GPS positioning, wireless signal transmission and other advanced information technologies, we have realized information-based production management, security management, financial management, and material procurement. In 2019, no information security incidents were reported all around the year.



Promoting Management Innovation

We have summarized our work experience in management innovation and formulated the Detailed Rules for Management and Implementation of Management Innovation Work to further create an atmosphere of management innovation, stimulate the Company's innovation vitality, and release the creative potential of employees.

In 2019, we organized our subordinates to apply for SPIC Management Innovation Achievement. The "Global Business Sharing Model" and "Technical Supervision Management and Evaluation System" won the first prize of SPIC Management Innovation.

Case Implementing "One Plant, One Strategy" to promote management innovation

Given Anhui Company has a large number of power stations that are located in different regions with different characteristics in such aspects as station structure, owner and consumption mode, it organized a three-month survey on "One Plant, One Strategy; One Station, One Brand", summarized the basic conditions of 31 power stations and various information of the power stations, put forward the existing problems, and gave suggestions and measures, in order to promote refined management of production and operation.

After more than three years' exploration and practice, the Company's management of photovoltaic power projects has gradually improved. In order to sum up experience, improve efficiency, consolidate achievements and form a system, and to effectively solve the problems in photovoltaic power project management, the Company prepared the Guidelines for photovoltaic Power Project Management to promote the continuous improvement of the Group's management.



Enhancing Intrinsic Safety

Safety is the cornerstone of the Group's development. We always uphold the safe production directives of "safety as priority, prevention rather than cure and comprehensive management" and the safety philosophy of "no risks are uncontrollable, no breaches are unpreventable and no accidents are unavoidable" to build a strong safety shield. In 2019, the Company saw no material safety accidents involving employees, facilities or environmental protection.

KPIs in 2019



Emergency drills

1,510



Participants in emergency drills

16,416



Death toll from work

0

Improving Safety System

We improve the safety system, and implement a work safety accountability system to strengthen identification of hidden hazards and strictly investigate safety responsibilities, to ensure continuous and stable work safety and lay a good foundation for work safety.

Improve system construction

- Revised and improve **24** management systems, including the Quality, Health, Safety and Environment (QHSE) Management Manual.
- Organized subordinates to revise and improve the work safety accountability lists for all posts.
- Organized leadership teams of **15** third-level subordinates to supervise the fulfillment of work safety responsibilities.

Lay a solid foundation for work safety

- Attached great importance to the work safety of work shifts, improved the associated accountability system and established an incentive mechanism.
- Strengthened the team building, established a high-quality safety supervision team with registered safety engineers as the main force, strictly controlled the admittance of safety supervision personnel entitled to possess the corresponding qualification certificates.

Strengthen identification of hidden hazards

- Established a TOP indicator system for new energy security risks, and carried out risk identification and preventive control and early warning related to PV and wind power.
- Organized seasonal and special safety inspections, as well as safety inspections for cold and frost prevention and during holidays, and continued to do a good job in the identification of hidden dangers and governance of violations. In 2019, the subordinates identified **6,998** hidden hazards, rectified **6,876** hidden hazards, achieved a rectification rate of **98.26%**, investigated and dealt with **3,898** violations.
- Conducted spring and autumn maintenance. In conjunction with special inspections for unit maintenance and construction projects, a total of **15** copies of the Notice on Work Safety Rectification were issued in 2019.

Enhancing Emergency Management

We enhance the emergency management capability, constantly improve the emergency response system, organize subordinates to upgrade and improve the emergency response system, and prepare and release comprehensive and special emergency plans. In 2019, we released **2,279** emergency plans, including **73** comprehensive emergency plans, **790** special emergency plans, and **1,416** on-site handling plans, and organized **1,510** emergency drills involving **16,416** participants.

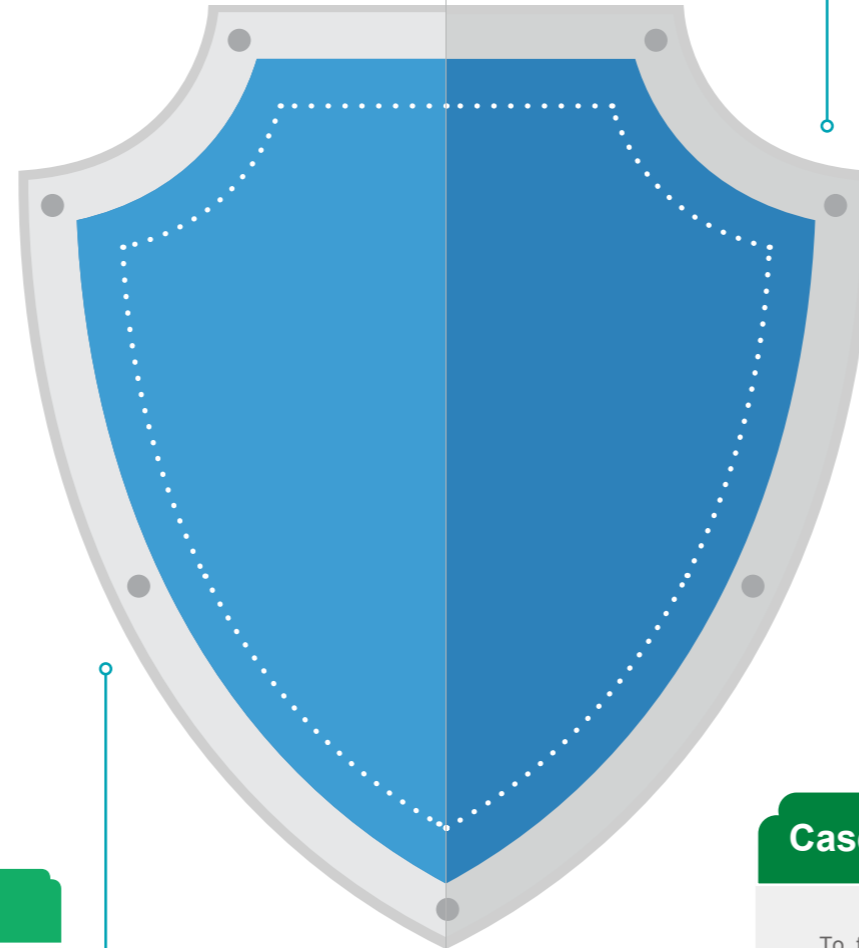
Case Wuhu Power Plant - Organising Emergency Management Training

Wuhu Power Plant provided a two-day emergency management training for more than 150 personnel from more than 10 departments, including members of the Emergency Management Committee of Wuhu Power Plant, emergency response experts, and departmental personnel in charge of emergencies, shift leaders and safety officers. Practical safety trainers were specially invited to give lectures on emergency management requirements in the new work safety law, emergency management regulations for enterprise work safety in order to strengthen employees' capabilities of hidden hazard prevention and emergency response, and to improve the organization, management, and guarantee of emergency rescue.

Creating a safety culture

We actively promote the construction of a safety culture. By means of participating in SPIC safety trainings and organizing subordinates to conduct safety-related training, we provide safety education and trainings for all employees, improve the safety awareness and skills of all employees, thereby forming a good atmosphere of "everyone talks about safety, everyone understands safety, and everyone ensures safety". In 2019, **0** working days lost due to work-related injuries and **0** death toll from work was reported, **745** annual safety education and trainings were provided for **34,482** personnel.

Number of work-related fatalities occurred in each of the past three year		
Year	Number of people	Proportion
2017	0	0
2018	0	0
2019	0	0



Strengthening safety training

- Participated in safety trainings, the third round of "HSE Director Training Courses", and pre-examination training and continuing education training for registered safety engineers held by SPIC, and improved the work safety management capabilities of the "key few people".
- Organized subordinates to carry out safety-related trainings, organized trainings on "Prevention of errors due to human errors" for shift leaders for four times, "Safety training courses for leaders" and "2019 safety management training courses", and carried out "Open work safety courses", "Management of lifting machinery and lifting safety" and other special trainings in the form of video trainings.
- Revamped training methods, increased investment in safety education and trainings, and improved safety training information platform and facilities for experiential training, trainings on prevention of errors due to human errors, practical training, etc.

Creating a safety climate

- Publicized the philosophy and policies of intrinsic safety via various media and channels.
- Held various safety promotion activities such as safety-related photography contest, and safety-themed comic exhibition.
- Carried out safety competition activities for "Zero fatality from work, and first-class safety team".

Case Display of safety culture by comic exhibition

To further improve the safety awareness of employees and ensure long-term work safety, CP Shentou Power Plant organized an employee cartoon collection campaign themed "Safety in mind". Employees enthusiastically responded to and participated in this campaign. We received more than 160 works from employees.



The comic works on display in this exhibition vividly publicized the importance of work safety and the dangers of habitual violations of regulations, and implicitly warned employees to abide by various laws and regulations on work safety, and educated employees to keep in mind the safety concept that "no risks are uncontrollable, no breaches are unpreventable and no accidents are unavoidable", to regulate their own behavior, cherish the safety of life, achieve the goal of "Not hurting yourself; not hurting others; not being hurt by others; protecting others from harm", thereby laying a solid foundation for corporate security and for achieving high-quality development of the Company.

Putting Risks under Stringent Control

Safeguarding Shareholders' Rights and Interests

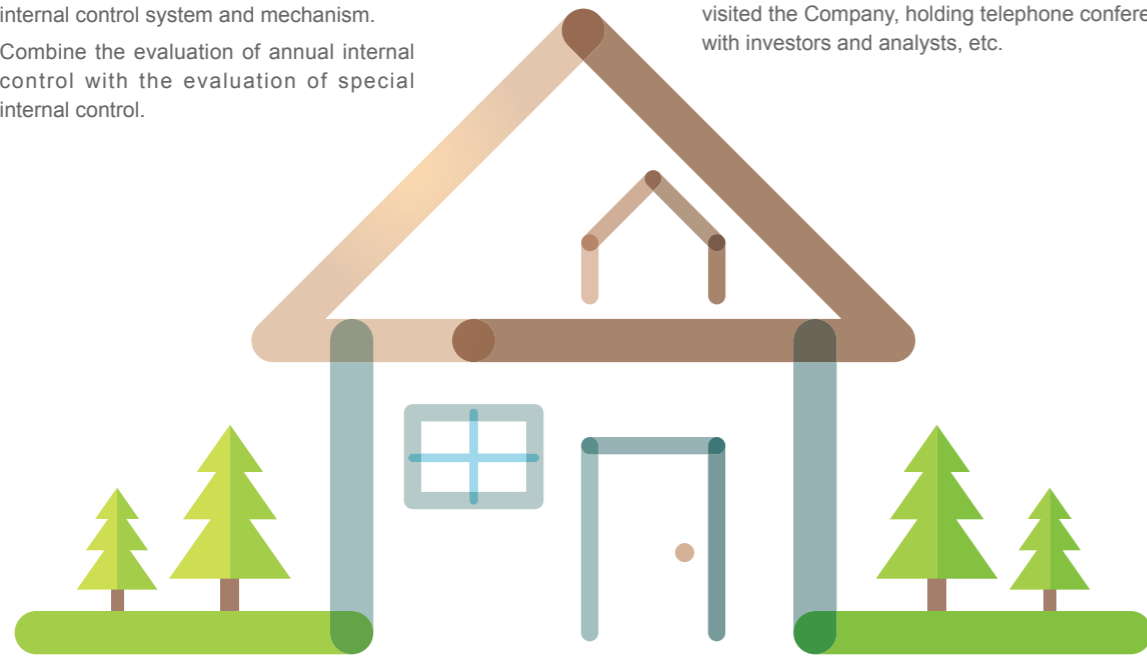
We continue to improve quality, efficiency and management level, adhere to risk management, internal control management and transparent management, continuously enhance profitability and anti-risk capabilities, and give full play to the functions and values of the internal control compliance system, so as to protect the interests of investors, and achieve sustainable corporate development.

Internal control management

- Constantly improve the construction of internal control system and mechanism.
- Combine the evaluation of annual internal control with the evaluation of special internal control.

Transparent management

- Maintain efficient interaction with investors, organize performance road shows in Hong Kong, Shenzhen, Shanghai and other places, organize reverse road shows for Wuling Power, and participate in investor summits and forums. In 2019, we met more than 150 investors by means of receiving investors that visited the Company, holding telephone conferences with investors and analysts, etc.



Risk management

- Optimize the risk management system, and list the risk points from various risk assessments in the risk management records and compliance risk records to achieve comprehensive tracking and prevention of risks.
- Manage daily risks, major risks and special risks, formulate specific and effective risk response measures, and track major risks in real time.
- Optimize personnel management, standardize the process management and strictly implement the procedures for selecting and appointing management personnel.

Adhering to Legal Corporate Governance

We adhere to the legal corporate governance, optimize the top-level design of legal governance construction, formulate and release the key points of annual legal governance construction of the Group, define the responsibilities of the main responsible person as the primary person in charge of the legal governance construction, integrate and optimize relevant rules and systems, and implement the rule requiring senior management to learn laws; improve the construction of the Group's legal governance system, continue to promote the establishment of legal risk prevention mechanism, and continue to improve the legal information disclosure management system of listed companies. We keep enhancing the construction of our legal system to govern and operate the Company in accordance with laws and regulations.



Enhancing Anti-Corruption Efforts

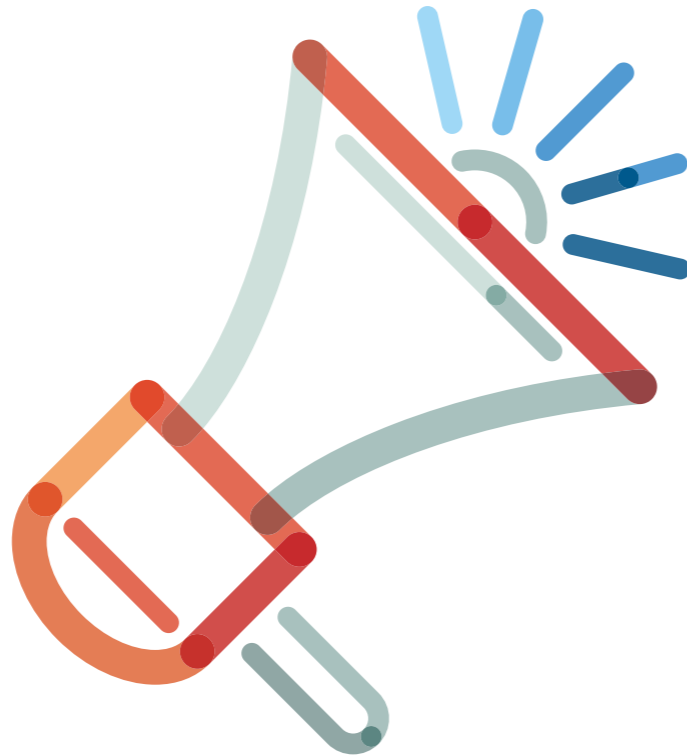
To improve the awareness of honesty and self-discipline and enhance the construction of a culture of integrity, we strengthen supervision and implementation of disciplines and accountability system, improve the anti-corruption supervision system, strictly investigate anti-corruption violations, provide vivid teaching materials for all position levels of the Group, and increase the participation of Board members in integrity education, so as to create a clean and upright atmosphere for development of the Group. In 2019, the Group carried out **219** educational trainings on anti-corruption and honesty for **12,055** personnel.

Improve anti-corruption supervision mechanism

- Revised and improved 19 rules in 2019, including Rules of Procedure for Joint Meeting of Great Supervision of China Power International Development Limited, and Measures for Implementation of Supervision Responsibilities of Disciplinary Committee of China Power International Development Limited.

Strictly investigate violations of anti-corruption disciplines

- Rectify the prominent problems of formalism and bureaucracy in a centralized way, and formulate targeted rectification measures.
- Strictly follow the procedure for handling complaint letters to check various links of the handling process.
- Strengthen the follow-up, supervision and handling of transferred complaint letters.



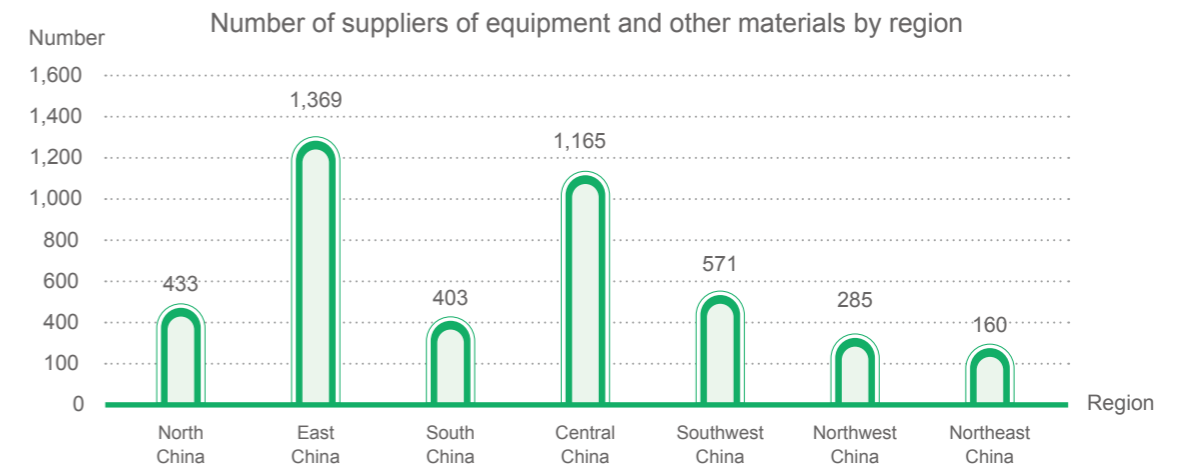
Strengthen anti-corruption warning education

- Publicity and education. We carry out "anti-corruption publicity and education month" activities, and utilize various media to publicize disciplines and regulations.
- Short message-based education. Send anti-corruption messages for warning education through SMS, WeChat and other means at important time nodes such as the Spring Festival, Mid-Autumn Festival, National Day, etc.
- Case education. Carry out warning education with cases to learn from cases, and give full play to the role of warning, deterrence and education.
- Conversation education. Give kind reminders and have conversations based on post responsibilities and risks points related corruption in work, and put forward various requirements for compliance with rules and regulations.

Building a Responsible Supply Chain

We uphold the principles of fairness and justice, are committed to transparent procurement, and optimize supplier bidding and procurement management. The criteria for selecting a supplier mainly include quality assurance, price rationality, corporate integrity, and environmental management system for products and services. The supplier shall have a complete quality assurance system and possess nationally recognized quality management system certificate, environmental management system certificate, and occupational health and safety management system certificate. We put the first batch of supplier evaluation and management system into on-line operation, and realize the evaluation of suppliers based on each order by using the ERP system, to effectively improve our management level.

In 2019, according to the Management Measures for Bad Behavior Records of China Power Suppliers, we carried out six batches of audit for **4,386** suppliers, among them, **142** were found defective, and **66** were listed in the supplier blacklist.



Strengthening Transparent Management

We make all sectors of the society understand power producers through periodic information disclosure and smooth communication, and pay close attention to the expectations and demands of our stakeholders. In 2019, we held the first Open Month to invite the public to visit our Group, and make the public understand the daily operation mode of power producers and the general knowledge of the power industry.

Regular information disclosure

- Publish the annual financial reports and environmental, social and governance reports to receive supervision from the market and regulatory bodies.
- Publish the sustainability reports for five consecutive years to receive supervision from the governmental bodies and all sectors of the society.

Information exchange

- Hold open days to invite all sectors of the society to visit our Group.
- Organize and hold various symposiums to strengthen ties with all parties and solve various problems.
- Respond to the demands of stakeholders through various activities such as holding press conference and investor roadshows.

Open Days: Hand in Hand for a Green Future

In October 2019, to celebrate the 70th anniversary of founding the PRC, we organized our representative subordinates to hold the first Open Month themed "Hand in Hand for a Green Future" to invite all sectors of the society to witness the efforts made for our transition to a world leading clean energy provider.

Pingwei Power Plant: Modernization of Power Producer

On 16 October 2019, Pingwei Power Plant invited 40 cadres from the 8th Young and Middle-aged Cadres Training Program of Huainan Municipal Committee to visit the green and clean plant area and advanced instruments and equipment, and experience its advanced production mode and "Culture of Harmony".

Pu'an Power Plant: Production and Operation of Coal-fired Power Plant

On 20 October 2019, Pu'an Power Plant invited 15 senior student representatives from local Qingshan Town Middle School to visit the power plant to understand the production process, environmental protection measures, and unit operating parameters of coal-fired power plant and experience the safety facilities, and explained the misunderstanding of the public about the "pollutants discharged from the stack".

CP Shentou: Clean Energy

On 31 October 2019, CP Shentou invited over 50 governmental officials and media professionals to visit Datong CP PV power project to understand the development of Datong PV Station, one of the first batch projects of "Photovoltaic Leader" program, and demonstrated the operation, control, production process, technologies, environmental protection and other characteristics and advantages of photovoltaic power generation, so that the public can personally experience the rapid development, gardenization and landscape of photovoltaic power generation.

Wuhu Power Plant: Change and Transformation

On 31 October 2019, Wuhu Power Plant invited 32 representatives from direct power supply, heat supply enterprises and other neighborhood enterprises, financial institutions, and local communities to view the corporate culture poster and visit the steam turbine platform to understand the history, transformation and development, work safety and cultural development of the Group.



• Explaining the concept of digital design



• Visiting the steam turbine platform

Green Future — Boosting Well-Being and Happiness of Employees

We always persist in striver-oriented development. By virtue of safeguarding the legitimate rights and interests of employees and focusing on their career development, we keep on rejuvenating our employees in their career. In addition, we build a happier and healthier working environment for employees by organizing various caring activities and professional competitions.

United Nations Sustainable Development Goals

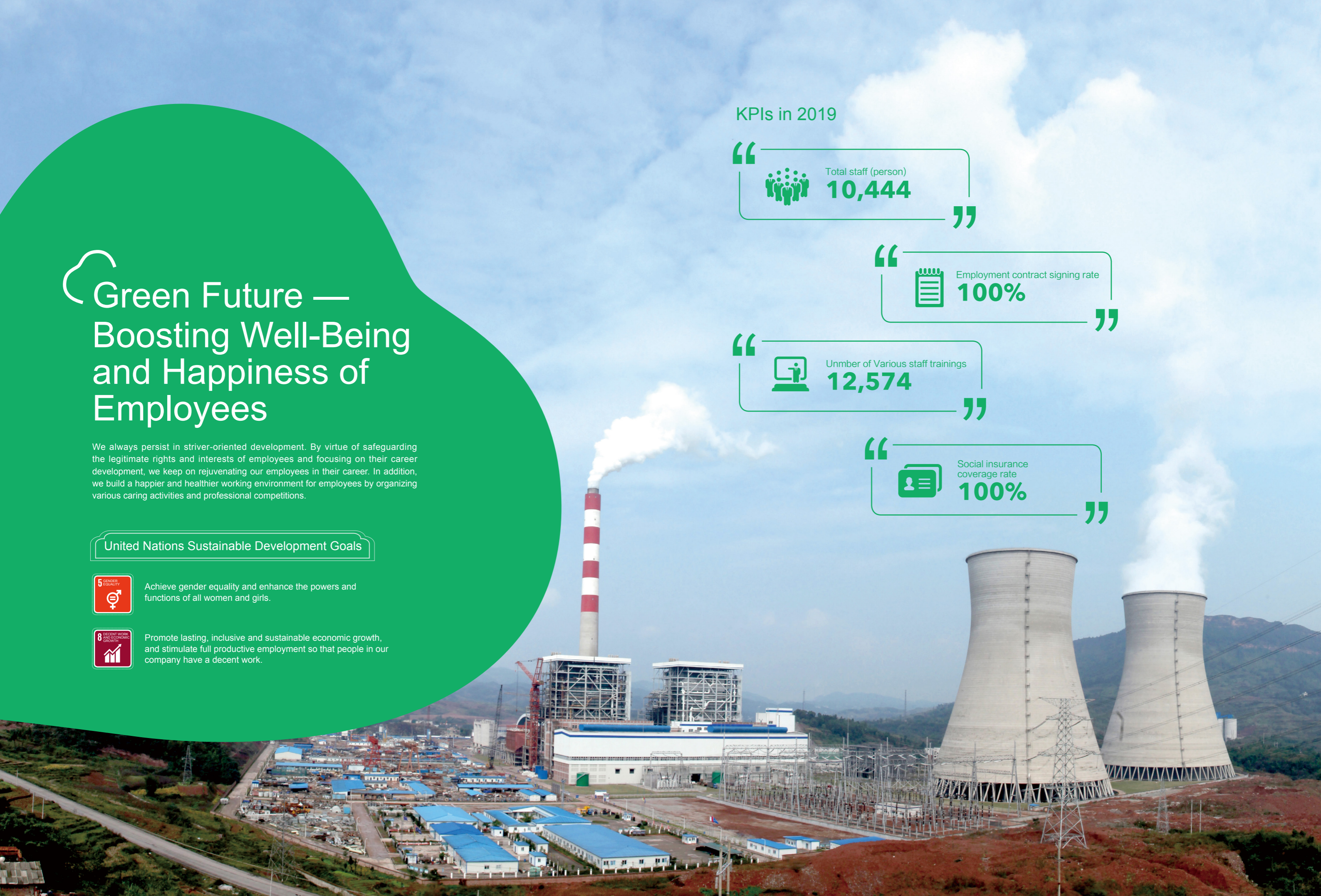


Achieve gender equality and enhance the powers and functions of all women and girls.



Promote lasting, inclusive and sustainable economic growth, and stimulate full productive employment so that people in our company have a decent work.

KPIs in 2019



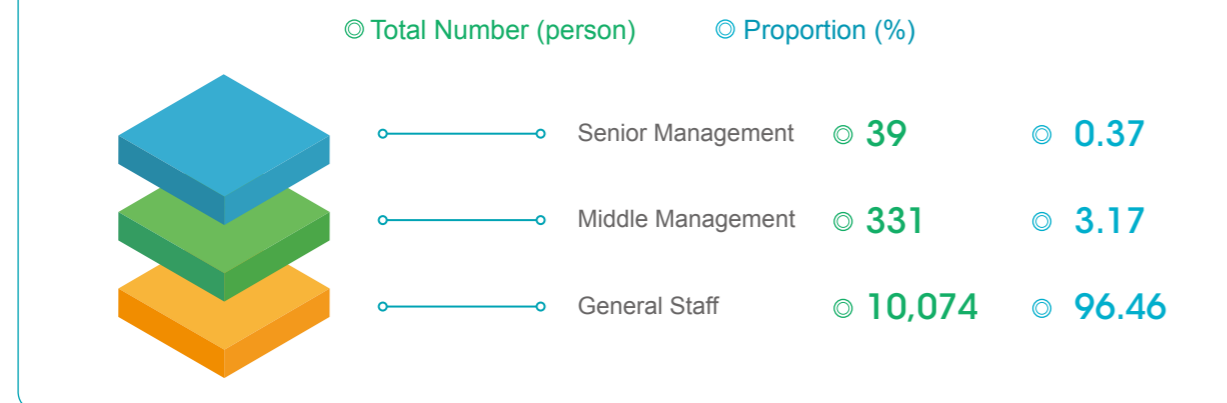
☘ Safeguarding Legitimate Rights and Interests

We always focus on safeguarding the vital interests of employees and protecting the legitimate rights granted to the workers by national laws and regulations. We adhere to fair employment, establish a reasonable and well-organized performance management system, smooth the channels for employees to raise their complaints and demands, emphasize the democratic management of employees, and strive to build a harmonic labour relation. Moreover, we have signed and released Special Collective Contract for Protecting the Rights and Interests of Female Workers in order to improve the extent and ability of female workers in participating the enterprise management. By 2019, we have a total of **10,444** employees. The employment contract signing rate and the social insurance coverage rate are both **100%**. In addition, we have **200** newly enrolled college students.

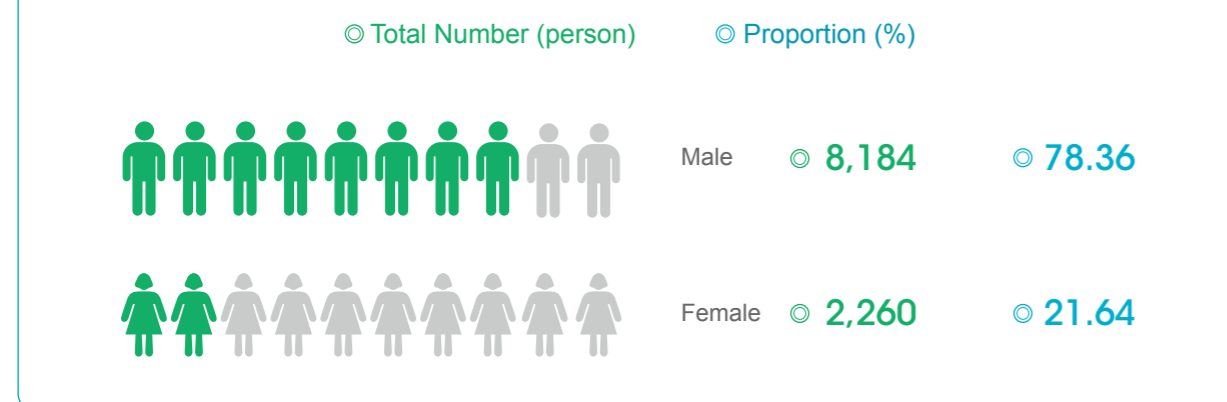
Fair Employment System

We strictly abide by the Labour Law of the People's Republic of China, Labour Contract Law of the People's Republic of China and other laws and regulations, offer equal pay for equal work, and prohibit employment of minors and all forms of employment discrimination and forced labour. We open widely the gate to universities and society to attract social talents, while doing so, we always bear the recruitment rules in mind to ensure an open and transparent process.

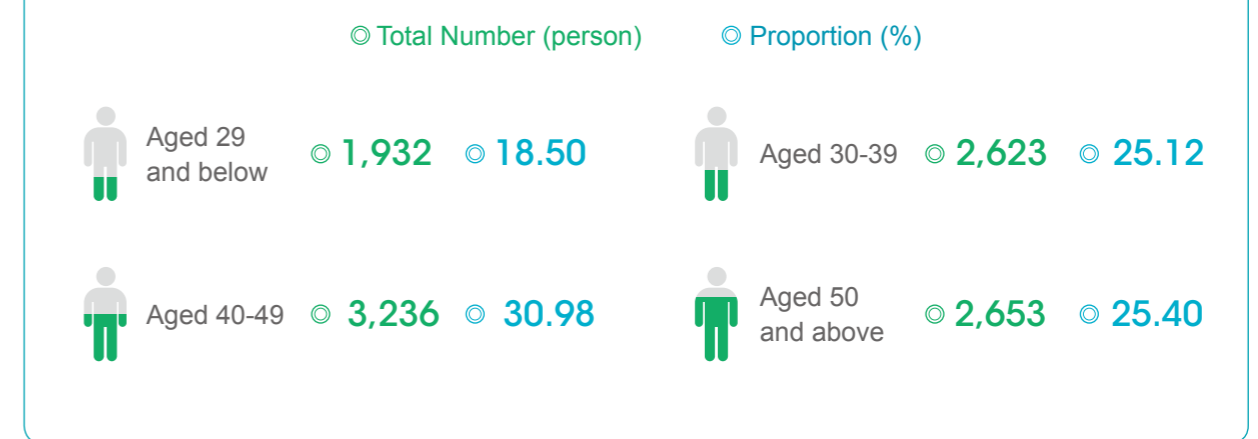
○ 2019 Total Number of Employees by Position Level ○



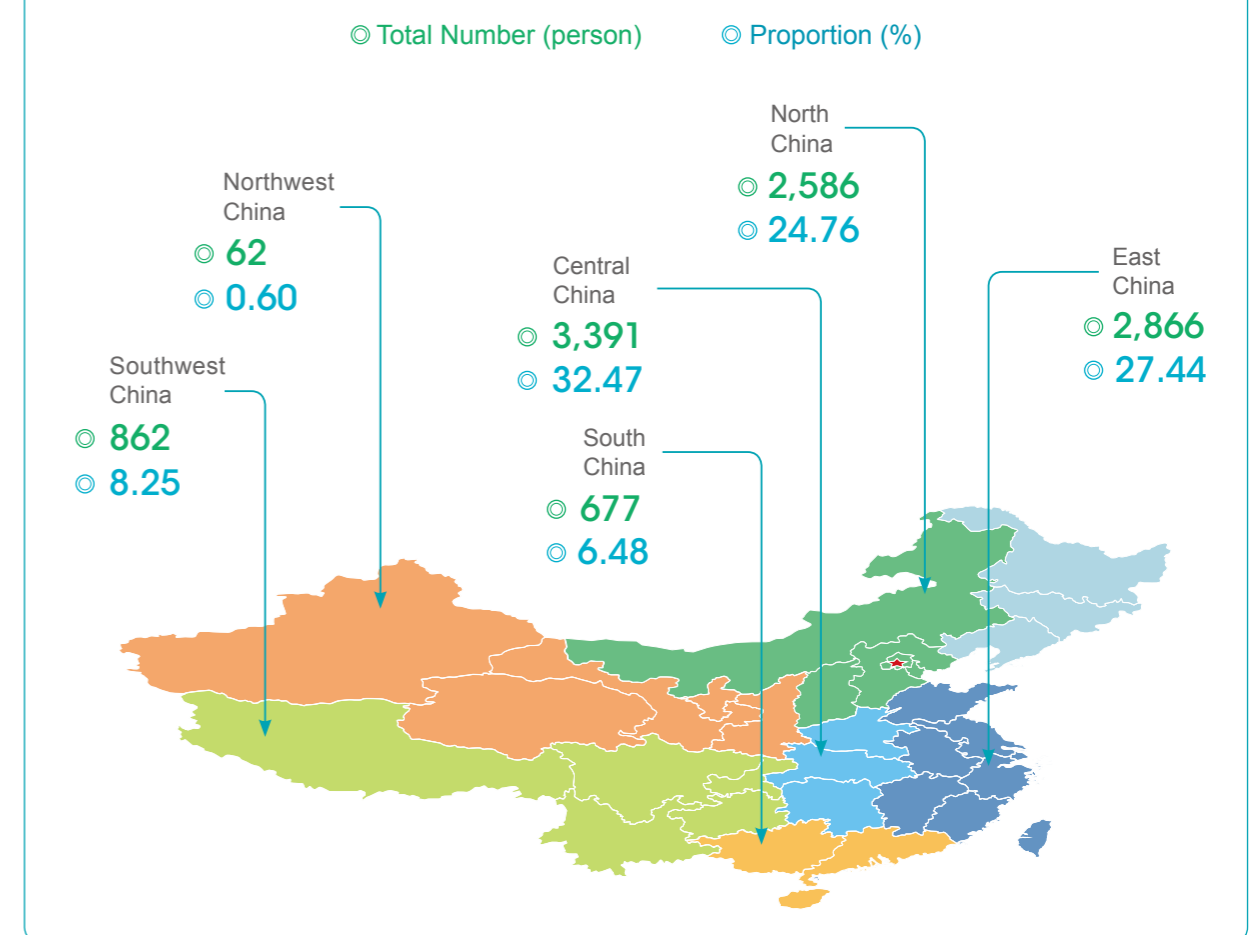
○ 2019 Total Number of Employees by Gender ○



○ 2019 Total Number of Employees by Age Group ○



○ 2019 Total Number of Employees by Region ○



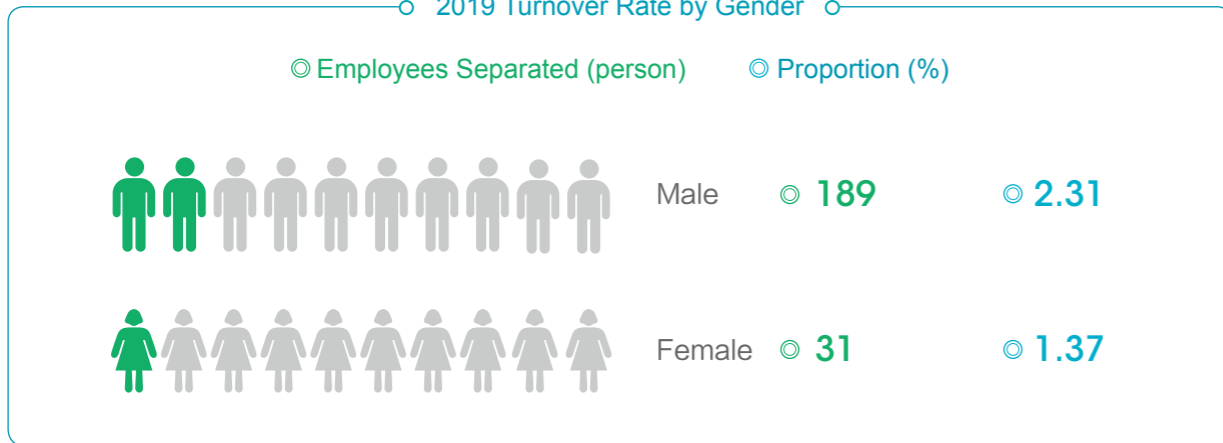
2019 Turnover Rate by Type of Employment

Type	Total Number (person)	Proportion (%)	Employees separated (person)	Turnover Rate (%)
Full-time Employees	10,444	100	220	2.11
Part-time Employees	—	—	—	—

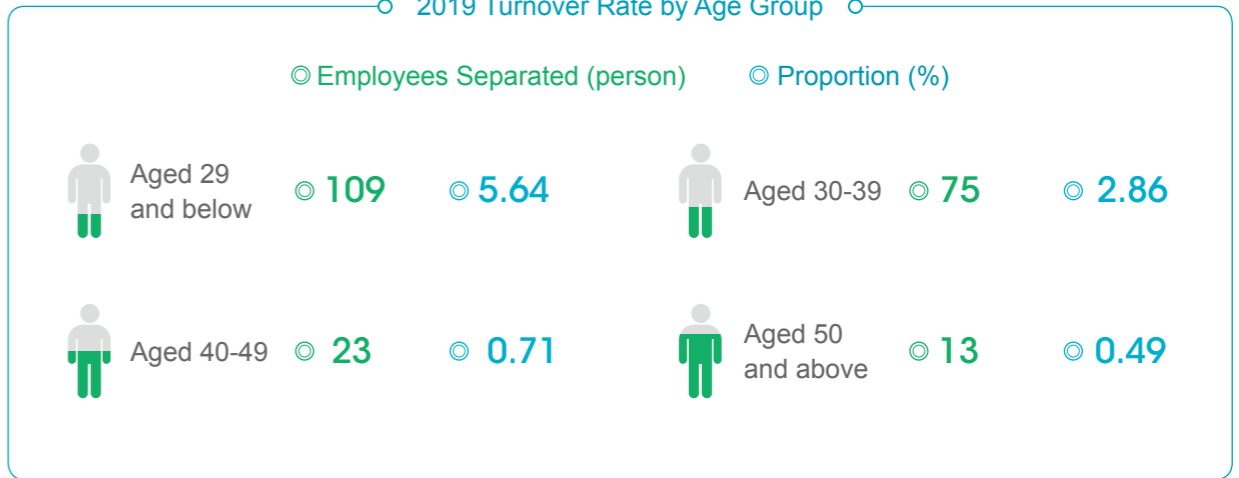
2019 Turnover Rate by Position Level



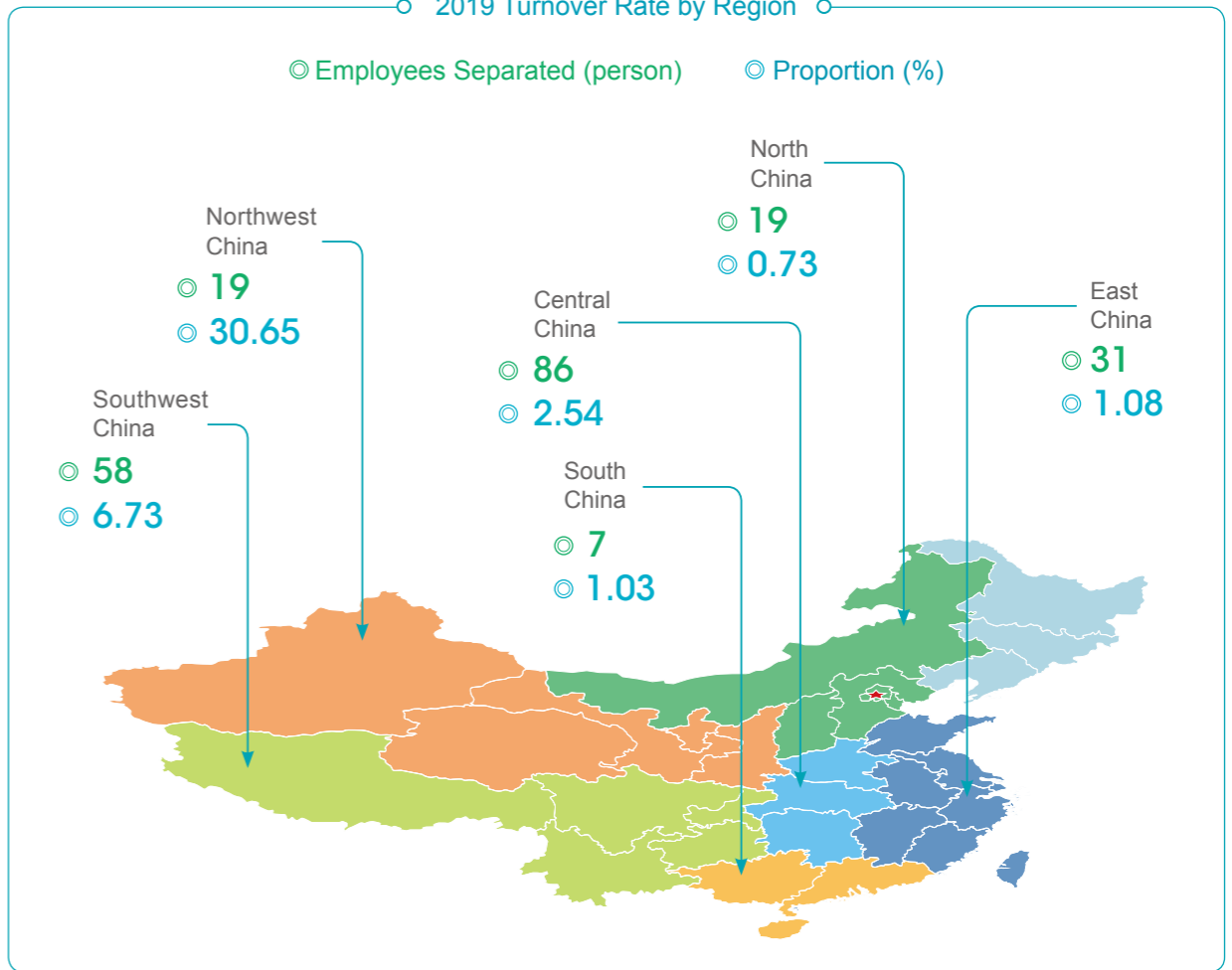
2019 Turnover Rate by Gender



2019 Turnover Rate by Age Group



2019 Turnover Rate by Region

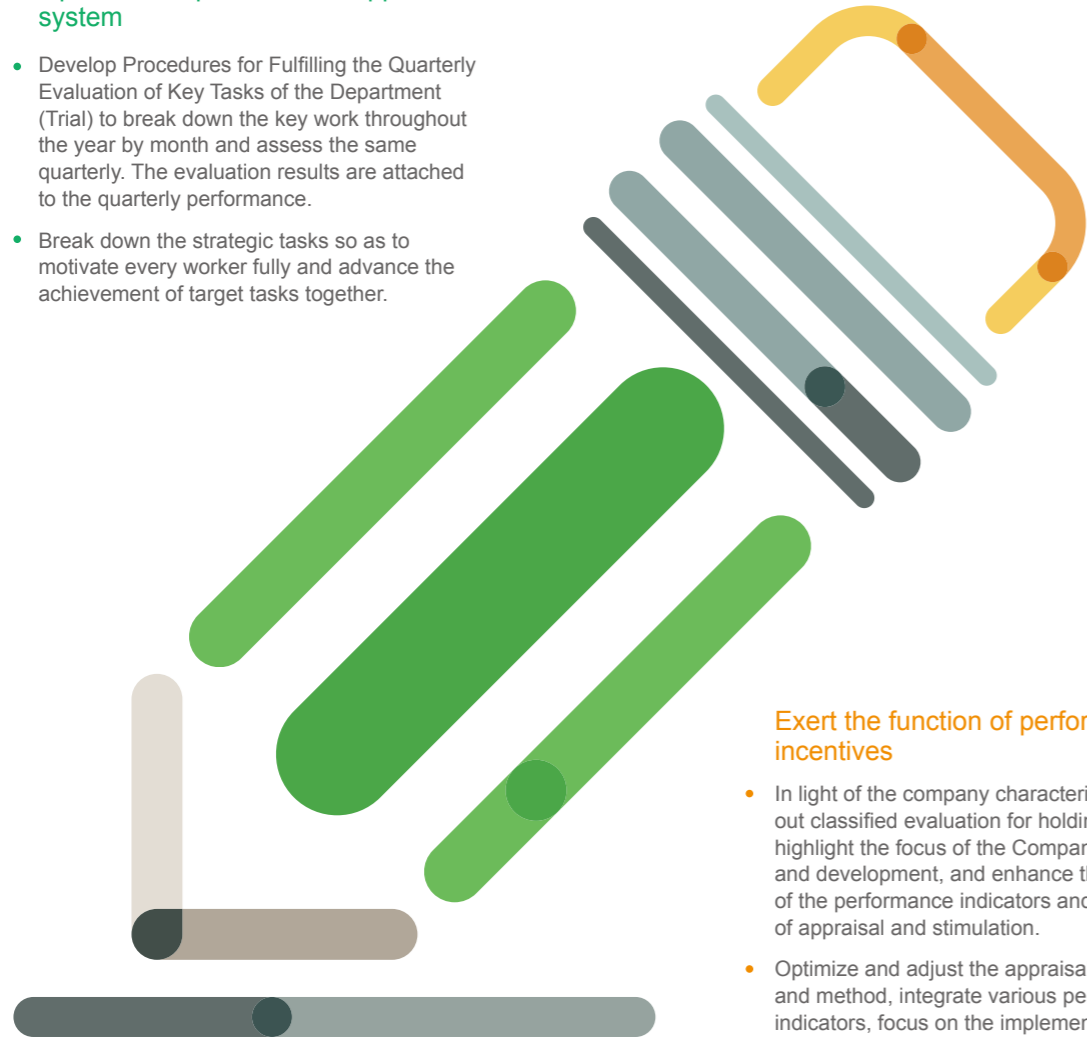


Reasonable Performance Management System

In 2019, we optimized the performance appraisal system of the Company by revising the Performance Management System of Holding Companies based on the Company's "JYKJ" system construction, so as to boost continuously the value management based staff performance management and to improve the overall performance.

Optimize the performance appraisal system

- Develop Procedures for Fulfilling the Quarterly Evaluation of Key Tasks of the Department (Trial) to break down the key work throughout the year by month and assess the same quarterly. The evaluation results are attached to the quarterly performance.
- Break down the strategic tasks so as to motivate every worker fully and advance the achievement of target tasks together.



Exert the function of performance incentives

- In light of the company characteristics, carry out classified evaluation for holding companies, highlight the focus of the Company's operation and development, and enhance the guiding role of the performance indicators and the promotion of appraisal and stimulation.
- Optimize and adjust the appraisal mode and method, integrate various performance indicators, focus on the implementation of key tasks of the year, and promote the transformation development of the Group.
- Revise Labour Cost Management System of Holding Companies, Annual Salary Management System for Leaders of Holding Companies, Special Incentive Methods for Marketing, and develop Incentive Methods for Scientific and Technological Achievements.



Democratic Management System

We carry out the democratic management in the Group and hold staff representative meeting to listen to the opinions and suggestions of the staff and promote the implementation of proposals of the staff representatives. By holding thematic democratic life meetings and organizational life meetings, we organize democratic review with respect to the evaluation of the Group's leading bodies and leaders, and works related to employment and appointment, so as to enlarge the right to know and the right to oversee of the staff.

Dabieshan Power Plant won the honorary title "Advanced Unit of Open Democratic Management of Factory Affairs" of Hubei Province.



☘ Focusing on Career Development

We pay attention to the all-round development of employees and keep on exploring and optimizing the employee training modes in order to provide more channels for improving their competences. Moreover, we focus on building a favorable work atmosphere such that our employees have a better development environment in their career growth.

Diversified Training Modes

In order to improve the training effects, we develop annual training plans for managers, professional technicians and skilled personnel by fields and levels. In addition, we input more training resources, build a talent training platform, and organize the writing of training materials and exam database with China Power characteristics to improve the skills of employees. In 2019, the Group's capital input in employee training was up to RMB42,196,300.

Senior Management

Number of Trainings **71**
Hours Per Capita **82**
Coverage **100%**

Middle Management

Number of Trainings **524**
Hours Per Capita **83**
Coverage **100%**

General Staff

Number of Trainings **11,979**
Hours Per Capita **75**
Coverage **100%**

Improved the organization system

- Wrote training materials and exam database with China Power characteristics and finished the evaluation of central control trainings and simulator trainings.
- Advanced the building of internal trainer team, devoting to establish a high-level personnel training system; planned for and organized the training of internal trainers.

- Held and participated in various technical and skill training courses and training camps, carried out series trainings, such as China Power lectures and lectures on special topics.
- Set lecturing groups to give lessons for technical experts and young employees via new media.
- Gave full play to the practical experience of front-line technicians and asked them to give lectures.

Conducted trainings for all workers

Organized skills competition

- China Power mobilized employees to participate in SPIC and national electric power industry skills competitions, and won three team championships and two team runners-up in the seven competitions of SPIC's first "World Class Construction" vocational skills competition, and six employees were awarded the "Technical Expert of Central SOEs" by SASAC. One person won the honor of "Leading Talent of China's Electric Power Industry".

Case

innovative training modes

Pingwei Power Plant initiated the training dedicated for safety production using the WeChat account. By releasing the self-directed and self-acted training videos, employees can participate in the tests during their rest time, so that their confusions can be cleared up on this technical exchange platform. The platform has helped employees improve their work efficiency and safety production level. Also, it was a favorable attempt of Pingwei Power Plant in innovating the training mode and improving the skills and technological levels of employees.



• Internal trainer contest



• I&C contest



• The first project manager training salon organized by China Power Huizhi



• The second apprentice ceremony themed on "Tutoring brings glory for teachers and their students" by China Power Huachuang

Favorable Development Environment

We devote to provide smooth career development channels for our employees and thus we never stop to optimize the organizational structure and personnel management so as to provide a larger space for their growth and development. Besides, we accelerate the training of young officials and backbone talents, release the Implementation Plan for Enhancing the Training of Outstanding Young Officials, set the objectives of young officials training and enforce the measures based on the actual situation, and accomplish the creation of database for key trained young officials and business backbones.

☘ Caring for Life of Employees

We strive to build a harmonic work environment for employees, carry out caring activities to understand their actual demands, and offer caring ways that consistent with their expectations. Also, we organize a variety of recreational and sports activities to enrich employees' spiritual and cultural life, improve their cohesion and centripetal force as well as the sense of belonging, and strengthen their recognition to the Group's value and culture.

All-round Caring for Employees

We pay attention to the physical and mental development of our staff and take account of the actual demands of special groups so that the Group's caring activities can genuinely warm the heart of every employee. In 2019, the Group organized **285** caring activities, helped **474** employees in difficulties or suffering from serious diseases, and granted special disease relief fund of RMB**407,000**.



• Visiting front-line workers

Caring for health of employees

- **Ensuring occupational health and safety.** We released Quality, Environment and Occupational Health & Safety Management Manual and kept on improving.
- **Caring for health of employees.** We arrange overall health examination for the staff annually, and arrange occupational disease examination for the production personnel every two years. What's more, employees are provided with occupational disease examination at the time of demission or retirement.
- **Caring for mental health of employees.** We set psychological counseling room and work with professional mental health guidance center to provide psychological counseling service for employees.

Caring for life of employees

- **Providing traffic convenience for employees.** We coordinated with local traffic department to set a bus station and increase new buses in the staff living quarters of the Group, so as to provide traffic convenience for employees.
- **Reconciling work with rest.** We improved the infrastructures and renovated the recreational sites for employees to provide a new place for exercising and relaxation of the retired workers.
- **Funding for children of employees.** We organized "Golden Autumn Scholarship Program" and granted a total of RMB94,427 to 21 children of our employees in difficulties.

Caring for special groups

- **Caring for female employees.** We revised Management System for Family Planning and Labor Protection of Female Workers and held lectures themed on the health of female workers.
- **Caring for employees with difficulties.** We visited employees with difficulties and retired workers during New Year's Day and Spring Festival.
- **Caring for employees suffering from serious diseases.** We helped 50 employees who suffered from serious diseases.



• Women's Day activity in Dabieshan Power Plant

Diversified Cultural Activities

We ensure our employees enjoying a happy life while working hard by holding diversified leisure activities. We foster internal unity and build a positive work environment for them.

Case

Cultural exchange activities

The Hong Kong employees visited the central control center, dam center, new energy center, and financial sharing center onshore the PRC, and had a face-to-face exchange with leaders and colleagues of Wuling Power. During the visits, the Hong Kong employees also toured the famous patriotism education bases, for example Shaoshan, Yuelu Academy, Orange Chau Tau and etc. Furthermore, they paid a visit to the former residence of Mao Zedong and experienced those eventful years and traditional education in the places where revolutionary predecessors used to live, study, work and combat.

"I'm astonished by the visit to Hunan Province and gain a lot. I'm greatly inspired by the advanced management and technologies of the power company, and impressed by the profound historic culture of Yuelu Academy in Yuelu Mountain and the statue of Mao Zedong in Orange Chau Tau. These places impressed me with the assiduous and unremitting tradition of China Mainland people in the study. We are proud of increasing strong of our country and of being a Chinese."

—Wu Siqi from Hong Kong Affairs Department



• "My Motherland and Me" flash mob organized by the Headquarters



• Youth Forum



• Staff billiards tournament held by Fuxi Power Plant



• Celebration of the 70th Anniversary of the Founding of The People's Republic of China held by Pingwei Power Plant



• Volleyball tournament held by Pu'an Power Plant



• Lantern Festival activity of Hong Kong Affairs Department

Green Future – Building More Harmonious Communities

We always pursue harmonious development, devote ourselves to social charity activities, contribute to poverty alleviation, assist the local in combating natural disasters, strive to create greater social value, and build more harmonious communities.

United Nations Sustainable Development Goals



1 NO POVERTY
End poverty in all its forms everywhere



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



3 GOOD HEALTH AND WELL-BEING
Ensure healthy lives and promote well-being for all at all ages



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



11 SUSTAINABLE CITIES AND COMMUNITIES
Make cities and human inhabited places inclusive, safe, resilient and sustainable

KPIs in 2019



Encouraging Voluntary Services

We enthusiastically participate in public welfare undertakings, actively organize various voluntary service activities and environmental protection activities, continually carry out the "Yingshanhong • China Power Marching toward Brightness" voluntary activity, and provide employment and educational assistance for university students to spread the volunteerism of "dedication, friendship, mutual aid and progress". In 2019, the Company organized voluntary donations totaling RMB**146,718**, and completed **35,537** hours of **186** voluntary service activities by **2,795** registered volunteers.

"Yingshanhong • China Power Marching toward Brightness" voluntary activity

- The Company organized the youths to carry out voluntary service activities.
- The Company provided the "Yingshanhong • China Power Marching toward Brightness" one-on-one educational assistance for 25 poor students of Ershijiazi Town Central Primary School in Chaoyang County, Liaoning, and denoted to the school a "Yingshanhong Library" with more than 100 books.
- The Company organized its subordinate business units to carry out "Yingshanhong • China Power Marching toward Brightness" educational assistance activities.

Environmental protection activities

- Dabieshan Power Plant was invited to participate in the launching ceremony of the "6.5" World Environment Day in the local city to show the environmental protection achievements of power companies.
- Yaomeng Power Plant launched the "Protecting Baigui Lake and Cherishing Water Source" voluntary service activity.
- Wuhu Power Plant organized a green trailwalker activity to promote green and environmentally sound practices.
- Shangqiu Power Plant brought warmth and care for sanitation workers.

Educational assistance activities

- Yaomeng Power Plant donated books, red scarf and other articles to the children of Guduo Village Primary School in Daying Town to encourage them to study hard and work hard for their dreams.
- Fuxi Power Plant provided summer internship positions for minority college students under the Dream Plan.
- Shangqiu Power Plant launched voluntary service activities to help orphans and disabled and abandoned children in Shangqiu Children's Home.

Case Providing internship positions for minority college students

In 2019, China Power invited 244 minority college students of different nationalities from 26 universities to conduct a one-month internship. During the internship, the various power plants under China Power gave these students safety education on entering the factory, practised multidisciplinary on-the-site safety experience, visited corporate culture exhibition hall, and diversified field practice and various internship activities. These enable them to experience power safety and production, understand the power generation process, go deep into the corporate's real situation and lay the foundation for going to the society and serving the motherland in the future.

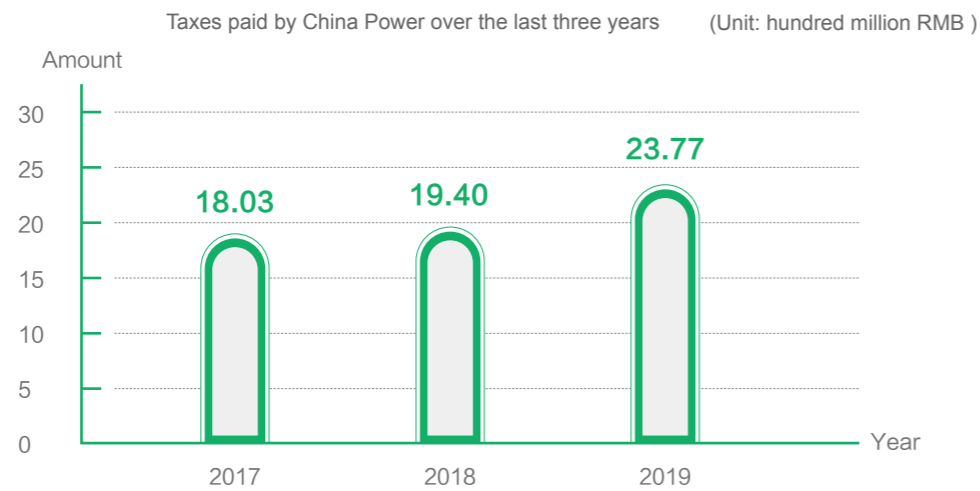
"Well, the internship made me experience the progress of our national industry and science and technology. It is amazing!"

—A minority intern college student



Supporting Local Development

We take initiatives to adapt to the new normal of economic development, meet the needs of local economic development, strengthen communication and coordination with local governments, and explore long-term cooperation mechanisms. In the whole process of preparation, construction and operation of the project, we strive to promote local economic development and benefit local people through our own development. In 2019, the Company paid various taxes of RMB2,376,759,391 and created 361 new jobs in the region where it operates.



Promote local economic development

- Carry out targeted poverty alleviation for the local.
- Promote the growth of local tertiary industry and other consumer markets, and drive the development of related downstream industries.

Enhance local employment

- Prioritize hiring local employees.

Case Industry-academia collaboration promotes local employment level

Changshu Power Plant, an associate of the Group, implemented the enterprise-talent strategy of developing a system of technological innovation built up primarily by enterprises, led by market forces and with an in-depth integration of industries, academia and research. Leveraging the strengths of colleges and universities, the Group signed a strategic agreement and a base co-construction agreement for industry-academia-research collaboration with the School of Energy and Power Engineering of Nanjing Institute of Technology to cultivate talents for the Group in the future.

The agreements stipulated that both parties will jointly build a base for college students' employment, innovation, entrepreneurship and internship practice, and conduct in-depth exchanges and cooperation in scientific research platforms, scientific research, professionals training, and transfer and transformation of scientific and technological achievements.

In this way, we can better promote the combination of professional teaching and actual generation and boost local employment.

Case Donation ceremony for poverty alleviation

In response to the national rural vitalization strategy, Shandong Company actively assisted the CPC Qingyun County Committee and the County Government in implementing the strategy. In February 2019, knowing that the County Government encountered difficulties in raising poverty alleviation funds, Shandong Company took the initiative to shoulder the responsibility of assisting local economic and social development, and actively organized its private shareholders to donate RMB3,500,000 to Qingyun County for social undertakings such as funeral and interment reform, elderly care service and environmental governance, so as contribute to the social development and poverty alleviation of Qingyun County.



• Donation ceremony

Participating in Rescue and Disaster Reliefs

While ensuring our own work safety, we help the local to deal with disasters, formulate emergency plans against natural disasters, enhance the speed of emergency response, and minimize the possible negative effects .

Typhoon

- Wuhu Power Plant actively responded to typhoon warning to carry out rescue and disaster reliefs



Earthquake

- Fuxi Power Plant actively responded to Changning Earthquake that occurred on 17 June 2019 to ensure personnel and equipment safety and guarantee reliable power supply.



Cold wave

- Shangqiu Power Plant urgently repaired the heating piping to protect people's livelihoods against cold wave.
- Pingwei Power Plant actively responded to the low-temperature, raining and snowing weathers, and made every effort to ensure stable operation and reliable power generation of units.



Case

Fuxi Power Plant actively responded to earthquake

On 17 June 2019 , a 6.0-magnitude earthquake hit Changning County, Yibin, Sichuan, and strong tremors were felt in Fuxi Power Plant, which is only 38 km away from the epicenter. The earthquake caused serious damage to the wall of the duty dormitory, and the power buildings cracked in varying degrees. Over 40 aftershocks occurred in half a month.

Fuxi Power Plant organized equipment inspection immediately after the disaster to ensure safe operation of the power equipment, thus guaranteeing reliable power supply during subsequent aftershocks. In addition, the plant strengthened hazard identification around power buildings and duty dormitory to ensure the safety of on-site personnel, and provided employees with post-earthquake psychological intervention for stress, anxiety, and depression, so as to minimize the effects of the earthquake.

Case

Pingwei Power Plant actively responded to low-temperature, raining and snowing weathers

On 9 January 2019, Huainan Meteorological Bureau issued a heavy snowfall warning for Jianghuai. To ensure the safe and stable operation of the units, Pingwei Power Plant actively took measures to cope with the cold wave and ensure the stable operation and reliable generation of the units.

To cope with the threat of severe weather to the safety of our business units, the relevant departments of Pingwei Power Plant have carefully studied and implemented the Technical Measures for Meeting Winter Peak Demand in 2019, made preparations in advance, comprehensively strengthened the implementation of various freeze prevention measures, intensified the inspection of outdoor equipment, paid attention to the monitoring and analysis of unit parameters, prevented inadvertent operations and failures of protections due to freezing of measuring points, tracked and analyzed the dynamic changes of unit parameters, and formulated accident preconception and emergency response plans against abnormal parameters. In addition, the maintenance personnel enhanced the speed of response against system abnormalities and equipment defects during rain and snow, paid close attention to weather changes, and formulated response plans against raining, snowing and icing weathers, so as to minimize the impact of natural disasters.

Outlook for 2020

2020 is the "milestone" year of achieving the first centenary goal of building a moderately prosperous society in all respects for China, and the key year for the Group to base itself on a new starting point, embark on a new journey and cross new thresholds. Facing new opportunities and challenges, we always adhere to the mission of clean development and dedication to green energy, actively seize opportunities in policies, markets and industries, enhance market competitiveness, deepen reforms, strengthen management, promote innovation, fulfill social responsibilities, and pursue high-quality development.

We will continue to pursue cleaner development.

We will intensify the efforts to develop high-quality clean energy to ensure that a number of projects such as the photovoltaic power generation demonstration project in Liaoning achieve milestones as scheduled. We will continue to strengthen cooperation with investment funds and strategic investors, innovate cooperation models, expand development opportunities for new energy projects, and steadily promote co-developed new energy projects. We will strengthen cooperation with local governments, and accelerate the establishment of a number of photovoltaic and wind power bases. We will accelerate the development of new energy information management platform to realize intensive management of wind power and photovoltaic power stations, and further improve clean energy development and management.

We will continue to pursue higher quality development.

We will continue to depend on scientific and technological innovation for support, focus on the transformation and upgrading of traditional industries and the integrated application of new technologies, combine the efforts of enterprises, universities, research institutes and end users, expand and deepen cooperation with universities and research institutes, and gradually increase investment in science and technology to improve the efficiency and benefits of scientific and technological innovation. We will always pay attention to work safety and explore modern technologies for work safety to improve the intrinsic safety of the Group. We will intensify management innovation, establish and improve a rationalization proposal mechanism, and encourage optimization and innovation in system processes, management methods, and management tools to promote continuous management improvement and escort the Group's high-quality development.

We will continue to pursue a more harmonious relationship.

We will continue to train more employees in a pluralistic way, guide their career development, and care for them. In addition, novel coronavirus outbreaks across the country in early 2020. Our Hubei Company and Dabieshan Power Plant are located at the main epicenter of the epidemic. We earnestly fulfill our social responsibilities and make every effort to ensure power supply and support epidemic prevention and control. We will take the initiatives to minimize the impact of epidemic prevention and control on the employee livelihood, production and operation. We will further promote the "Yingshanhong" public welfare project, promote the sustainable development of public welfare undertakings, and realize the coordinated development of the Group and the society.

We will work together to write a new chapter in sustainable development. Standing at a new historical starting point, we will work with people from all sectors to win the recognition of all stakeholders and make new and greater contributions to sustainable development with a responsible attitude.

Index of KPIs

	Subject Areas	General Disclosures	Page	
A Environmental	Aspect A1: Emissions	A1.1 A1.2	The types of emissions and respective emissions data. Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	P30-P32 P30
		A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	P31
		A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	P31
		A1.5	Description of emission target(s) set and steps taken to achieve them.	P29-P32
		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.	P31
		Aspect A2: Use of Resources	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).
	A2.2		Water consumption in total and intensity (e.g. per unit of production volume, per facility).	P32,P34
	A2.3		Description of energy use efficiency and a description of target(s) set and steps taken to achieve them.	P33
	A2.4		Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency and a description of target(s) set and steps taken to achieve them.	P32,P34
	Aspect A3: Environment and Natural Resources	A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	N/A
Aspect A4: Climate Change		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.	P77-P78
B Employment and Labor Practices	Aspect B1: Employment	B1.1	Total workforce by gender, employment type (i.e. full- or part-time), age group and geographical region.	P58-P60
		B1.2	Employee turnover rate by gender, age group and geographical region.	P61-P62
	Aspect B2: Health and Safety	B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	P47,P49
		B2.2	Lost days due to work injury.	P49
		B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored.	P48- P50,P67
	Aspect B3: Development and Training	B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	P65
		B3.2	The average training hours completed per employee by gender and employee category.	P65
	Aspect B4: Labour Standards	B4.1	Description of measures to review employment practices to avoid child and forced labour.	P59
B4.2		Description of steps taken to eliminate such practices when discovered.	N/A	

	Subject Areas	General Disclosures	Page	
Operating Practices	Aspect B5: Supply Chain Management	B5.1	Number of suppliers by geographical region.	P54
		B5.2	Description of practices relating to engaging suppliers, number of suppliers where practices are being implemented, how they are implemented and monitored.	P54
		B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	P53-P54
		B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, how they are implemented and monitored.	P54
	Aspect B6: Product Responsibility	B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	N/A. Due to the special nature of the power industry, power products are unrecoverable.
		B6.2	Number of products and service related complaints received and how they are dealt with.	N/A
		B6.3	Description of practices relating to observing and protecting intellectual property rights.	P44
		B6.4	Description of quality assurance process and recall procedures.	N/A. The product of China Power is electricity and this indicator does not apply.
		B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	N/A. 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.
	Aspect B7: Anti-Corruption	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.	P51-P53
B7.2		Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	P51-P53	
B7.3		Description of anti-corruption training provided to directors and staff.	P51-P53	
Community	Aspect B8: Community Investment	B8.1	Focus areas of contribution (e.g. education, environmental matters, labor needs, health, culture and sport).	P71-P78
		B8.2	Resources contributed (e.g. money or time) to the focus areas.	P71-P78



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