2017 SUSTAINABILITY REPORT

CHINA POWER INTERNATIONAL DEVELOPMENT LIMITED

中国电力国际发展有限公司
CHINA POWER INTERNATIONAL DEVELOPMENT LIMITED

Provide green energy for clean development

01-11

Preface

12-17

Sustainable Development
Strategy

18-23

Sustainable Development
Topics

62-65

The Ending Chapter

Contents

24-39

Sustainable Development
Practices

40-61

Sustainable Development
Capabilities

Preface

Notes

Basis for the report

This report is prepared in compliance with the *Guiding Opinions on the Implementation of Corporate Social Responsibility of the Central Enterprises* issued by the State-owned Assets Supervision and Administration Commission of the State Council, the *Environmental, Social and Governance Reporting* Guide issued by The Stock Exchange of Hong Kong Limited, with reference to the *Sustainability Reporting Guidelines* (G4.0) issued by the *Global Reporting Initiative* (GRI) and *China CSR Reporting Guidelines* (CASS-CSR3.0).

Reporting period

The reporting period is from January 1, 2017 to December 31, 2017. Some of the contents are traced back to previous years.

Reporting cycle

This report is an annual report.

Reference

For the convenience of reference, China Power International Development Limited is referred to as "China Power", the "Company" or "We".

Scope

The entire Company (see the Company Structure).

Data source

The financial data cited in this report comes from the audited 2017 Annual Report of China Power. Other data comes from internal official documents and related statistics of China Power.

Notes on currency

The default currency in this report is Renminbi (RMB). If there are other currencies, they will be identified in the relevant data section.

Access to this report

This report is available in Chinese and English, both in hard copy and soft copy. To get this report, please contact us as follows:

Email: ir@chinapower.hk

Website: http://www.chinapower.hk

Tel: 852-28023861

Message from the leadership

Fortune favors the diligent and times are changing fast. 2017 was a year when the power generation industry faced an unprecedentedly severe business environment and the development and reform was extremely complicated. It is also a year when China Power rose to the challenge for transformation and development. Committed to promoting clean development and delivering green energy, we adhered to the development strategy of "four transformations", and stuck to the two main paths of enhancing the existing assets and optimizing new assets. We maintained sound business and capital operations, remarkably deepened the reform and escalated the proportion of clean energy in the power source mix. The distribution and sale of electricity and comprehensive intelligent energy service developed rapidly. The capability of scientific and technological innovation was enhanced, effectively promoting the healthy, coordinated and orderly development of the Company, along with the society and the environment.

Committed to transformation and development, enhancing sustainable value creativity. China Power was committed to transformation and development by vigorously developing clean energy and increasing the proportion of clean energy in its power source structure. All the newly installed capacity in 2017 comes from clean energy and clean energy accounted for approximately 27.54% of the total installed capacity of China Power, an increase of 3.06 percent from 2016; China Power aggressively promoted S&T innovation and improved digitization and informatization; 60 S&T projects were carried out, 18 patents were granted and the integrated energy management system (IEMS) (version 1.0) was launched for trial run; China Power enhanced the application of information technology and followed high standards in building digitized power plants, providing strong support for the Company to improve quality and efficiency. While strengthening integrated energy services, China Power continuously explored new business models in the energy industry and acquired development rights of integrated energy projects of multiple national economic development zones and industrial parks.

Making continuous efforts to enhance the Company's intrinsic safety. China Power adhered to the work safety policy of "safety first, prevention-oriented and comprehensive management", continuously improved the work safety management system and passed quality, occupational health, safety, and environment (QHSE) system certification. We continued to promote the application of HSE management tools, strengthened the safety management of key projects and processes, enhanced supervision on contractors' work safety and quality management, improved working conditions, cultivated a safety culture and raised the level of intrinsic safety. In 2017, the Company did not have any major safety accidents involving employees, equipment and environmental protection.

Delivering green energy and actively responding to global climate change. We adhered to clean development, actively responded to climate change, vigorously promoted the ultra-low emission renovation of coal-fired units and realized clean operation for all of them. We promoted the application of clean technologies such as FGD, DeNOx and dust removal, effectively reduced air pollutant emissions, strived to get rid of dependence on traditional energy sources and realized transition from high-carbon to low-carbon. We strengthened environmental protection in construction, making contributions to protect the clear water and blue sky common to all humanity. In 2017, all of the Company's fossil-fired units were modified for ultra-low emission. The net coal consumption rate was 304.23 g/kWh, a decrease of 0.70 g/kWh compared to 2016, equivalent to a reduction of about 32,383 tons of standard coal.

Committed to sharing value and promoting social harmony and prosperity. China Power respects the hard workers, protects the legitimate rights and interests of employees, promotes their growth and shows more care for them. We build an inspiring atmosphere where everyone is eager to succeed, everyone works hard, everyone has the opportunity to succeed and everyone can demonstrate their talents. We are committed to creating value and sharing it with the society. We have been carrying out sustained poverty alleviation programs and voluntary services, and conducted featured charity practices to deliver positive energy to the society. In 2017, we carried out 535 employee care activities, created 858 new jobs for the location of our operations, organized 5,044 people to participate in voluntary services and donated RMB 4,173,164 for public welfare.

Maintaining good faith for stable, efficient and compliant operations. China Power actively responded to market changes, implemented the "campaign" to improve benefit, maintained sound business development, enhanced marketing efforts, strived to increase power generation and heat generation, exercised strict control over costs and expenses and safeguarded the legitimate rights and interests of shareholders. The Company was committed to governance according to the law, and constantly improved its governance system, operation management system, and comprehensive risk management system, resolutely combated corruption and commercial bribery, and enhanced the control and supervision on the operation of power. In 2017, the net profit attributable to shareholders was RMB 795,272,000, the basic earnings per share was RMB 0.10, and the net asset value per share (excluding non-controlling stockholders' equity) was RMB 3.04.

Only by learning extensively and accumulating profound knowledge can one be ready to achieve something. The year 2018 marks the beginning of enforcing the spirit of the 19th National Congress of the Communist Party of China and a crucial year for the implementation of the 13th Five-year Plan. As we enter the new era, we have to avoid the distractions of unsubstantial ideas and superficial fame, we will maintain high-quality development, promote steady growth, continued reform, structural adjustments and forestall economic risks. We will make every effort to promote the development of the "four transformations" in depth, strive to enhance our core competitiveness, and work with all stakeholders to achieve maximum economic, environmental and social value.

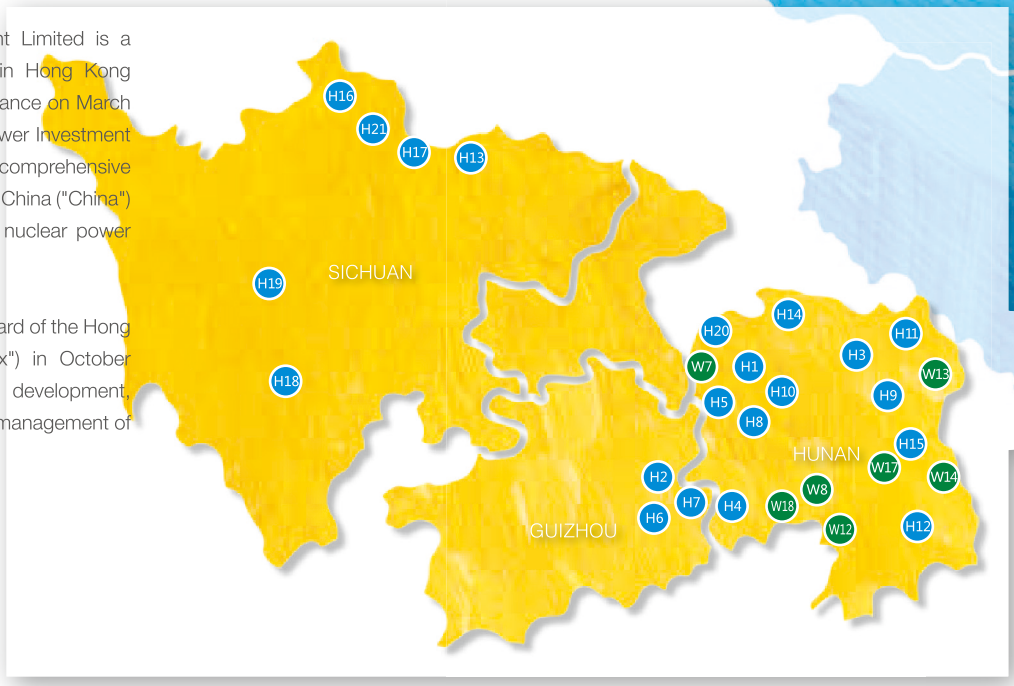
Chairman of the Board **Yu Bing**

About us

Company overview

China Power International Development Limited is a limited liability company incorporated in Hong Kong under the Hong Kong Companies Ordinance on March 24, 2004. Its parent company, State Power Investment Corporation Limited ("SPIC"), is the only comprehensive energy group in the People's Republic of China ("China") that owns thermal power, hydropower, nuclear power and new energy resources.

The Company was listed on the main board of the Hong Kong Stock Exchange Limited ("HKEx") in October 2004. Its main business covers the development, construction, ownership, operation and management of large-scale power plants in China.



In 2017

The Company's total assets were RMB

98,026,599,000

Combined total sales of electricity was

64,053,714 MWh

Total installed capacity with equity

17,051.6 MW

Coal-fired Power

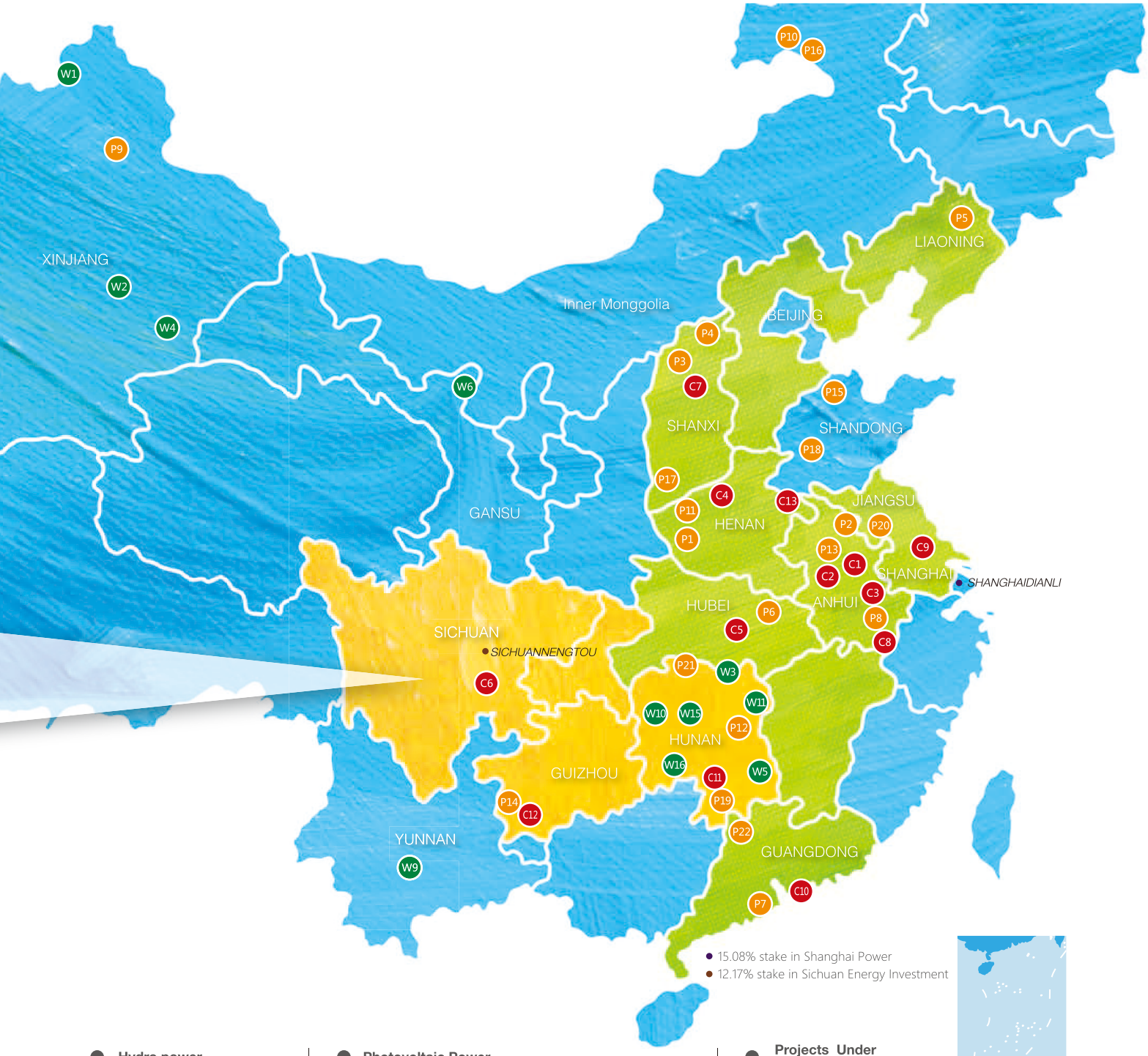
C1	Pingwei Power Plant
C2	Pingwei Power Plant II
C3	Pingwei Power Plant III
C4	Yaomeng Power Plant
C5	Dabieshan Power Plant
C6	Fuxi Power Plant
C7	CP Shentou Power Plant
C8	Wuhu Power Plant
C9	Changshu Power Plant
C10	Xintang Power Plant
C11	Liyujiang Power Plant
●	Shanghai Power

Wind Power

W1	Burqin Power Plant
W2	Toksun Power Plant
W3	Yaoposhan Power Plant
W4	Shanshan Power Plant
W5	Donggangling Power Plant
W6	Gulang Power Plant
W7	Daqingshan Power Plant
W8	Xinshao Longshan Power Plant
W9	Xinping Power Plant
●	Shanghai Power

Natural Gas Power

•	Shanghai Power



Hydro power

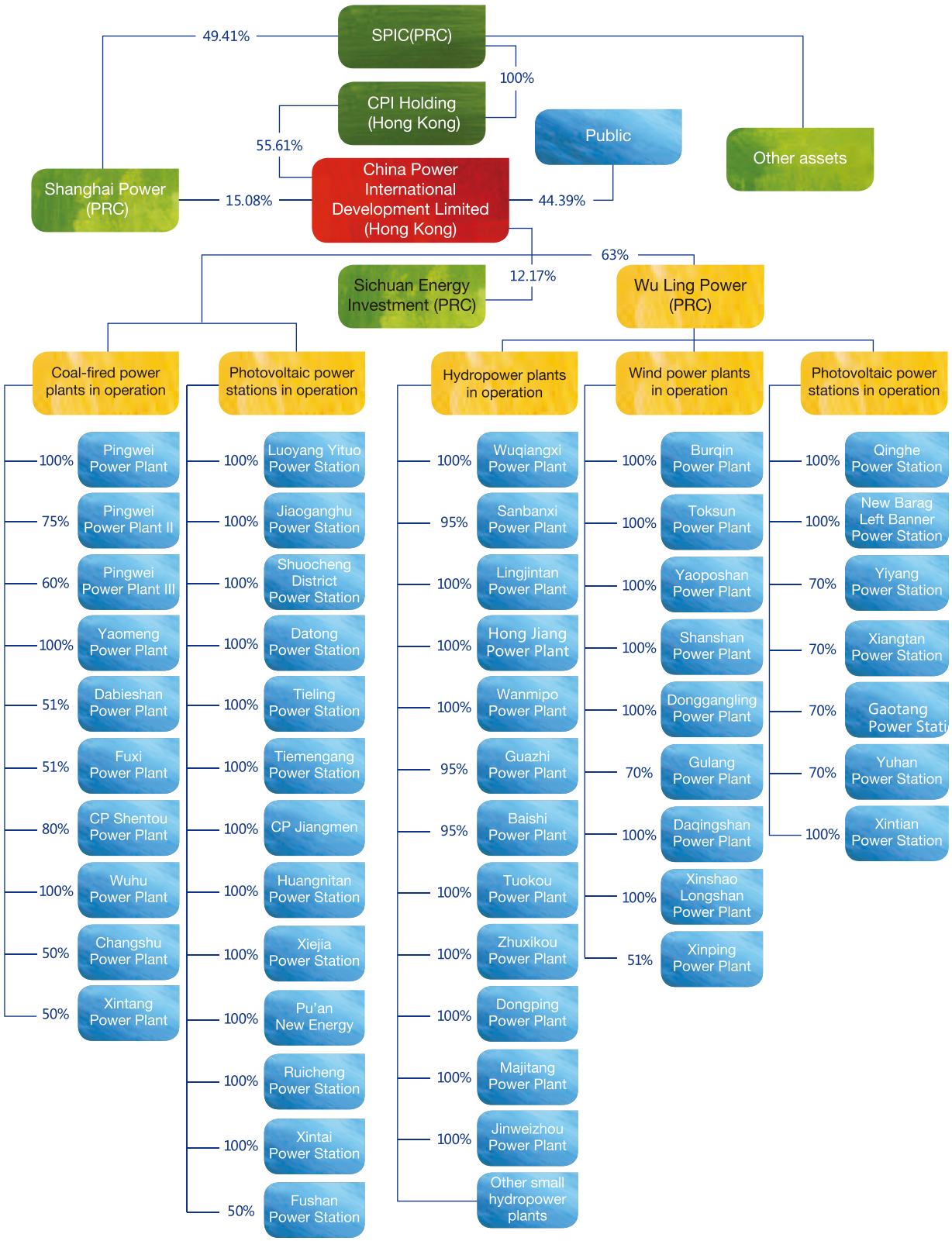
H1	Wuqiangxi Power Plant
H2	Sanbanxi Power Plant
H3	Lingjintan Power Plant
H4	Hong Jiang Power Plant
H5	Wanmipo Power Plant
H6	Guazhi Power Plant
H7	Baishi Power Plant
H8	Tuokou Power Plant
H9	Zhuxikou Power Plant
H10	Dongping Power Plant
H11	Majitang Power Plant
H12	Jinweizhou Power Plant
H13–H18	Other small hydropower plants
H19	jiesigou Power Plant
•	Sichuan Energy Investment

Photovoltaic Power

P1	Luoyang Yituo Power Station
P2	Jiaoganghu Power Station
P3	Shuocheng District Power Station
P4	Datong Power Station
P5	Tieling Power Station
P6	Tiemengang Power Station
P7	CP Jiangmen
P8	Huangnitan Power Station
P9	Qinggil Power Station
P10	New Barag Left Banner Power Station
P11	Yiyang Power Station
P12	Xiangtan Power Station
P13	Xiejiaji Power Station
P14	Pu'an New Energy
P15	Gaotang Power Station
P16	Yuhan Power Station
P17	Ruicheng Power Station
P18	Xintai Power Station
P19	Xintian Power Station
P20	Fushang Power Station
•	Shanghai Power

Projects Under Construction

C12	Pu'an Power Plant
C5	Dabieshan Power Plant
C13	Shangqiu Power Plant
H20	Luoshuidong Power Plant
H21	Mawo Power Plant
H1	Wuqiangxi Power Plant
W10	Lianyuan longshang Power Plant
W11	Jingzhushan Power Plant
W12	Weishan Power Plant
W13	Songmutang Power Plant
W14	Taihexian Power Plant
W15	Ziyunshan Power Plant
W16	Shangjiangxu Power Plant
W17	Shiziling Power Plant
W18	Jinzixian Power Plant
P21	Wanjiachong Power Station
P22	Liannan Power Station



The Company's organizational structure

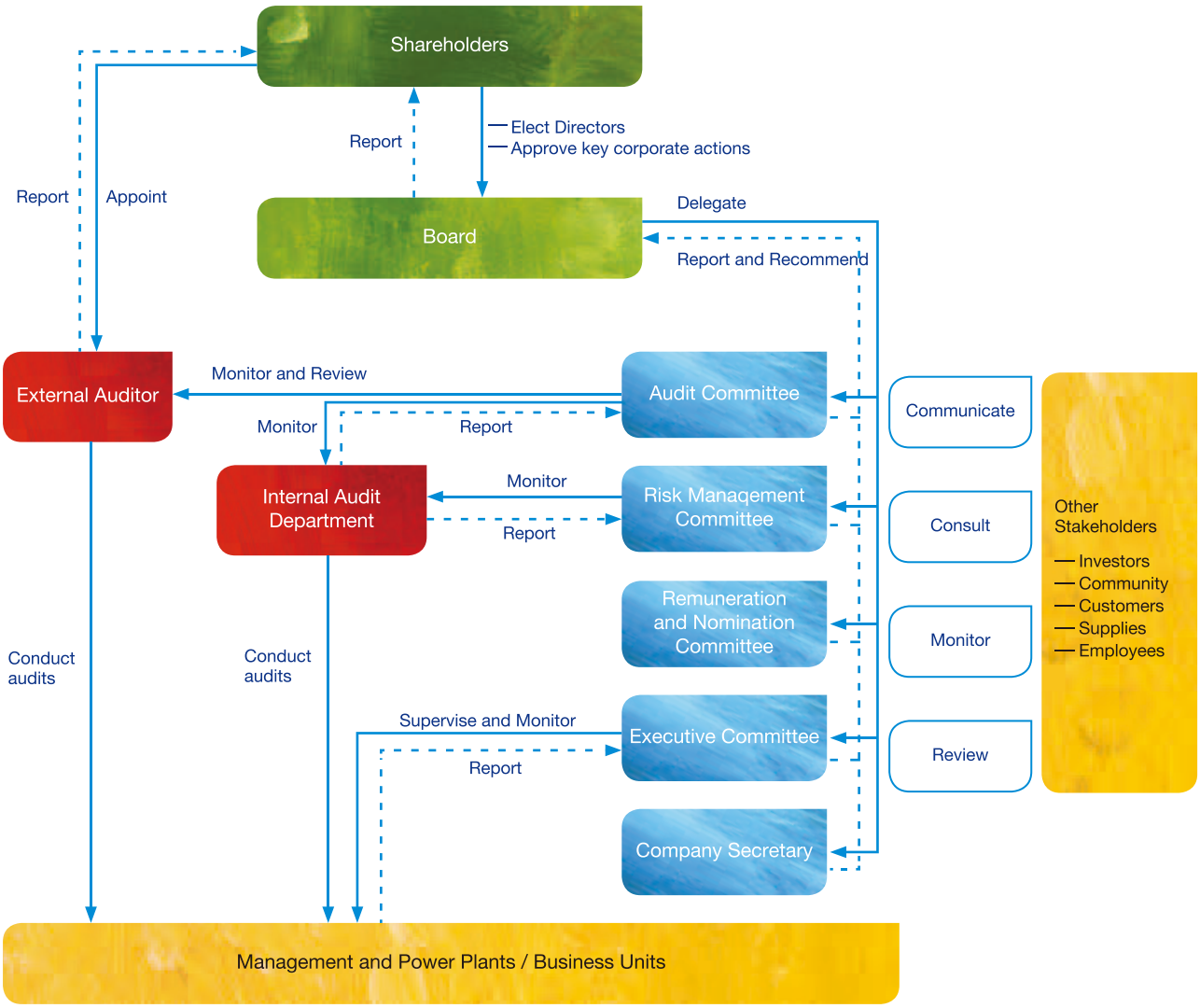
Note: The Company's organizational structure is recorded as at the release date of 2017 annual report

Governance structure

The Company strictly abided by relevant laws, regulations and the rules of regulatory authorities, further improved the corporate governance system. Its personnel structure was in line with laws and regulations and the mandatory requirements for listed companies. The source, geographical distribution and professional experience of its directors were diversified. In addition, the Company has formed a governance structure where the shareholders, board of directors (BOD), management, and executive committees operate independently and in coordination; to effectively check and balance each other.

In 2017

2	6	2	2	2	12
Shareholders' meeting	BOD site meeting	Audit Committee site meeting	Compensation and Nomination Committee site meeting	Risk Management Committee site meeting	Executive Committee site meeting



Governance structure

Rewards and Awards

Social Responsibility Committee
of The Chinese Institute of Business Administration
2017 (The 4th) China Power Enterprise Public Transparency Forum "Best Social Responsibility Report Award"

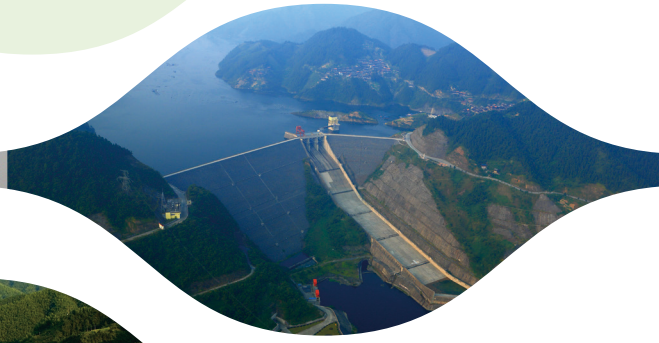
China Electric Power Construction Association
2017 National Quality Project Award in Power Industry
(Datong China Power 100 MW photovoltaic power project)

State Power Investment Corporation Limited
First Prize for Group Award in 2017 Power Plant Chemical Skills Competition

State Power Investment Corporation Limited
First Prize in 2017 Financial Management Capability Evaluation

State Power Investment Corporation Limited
Model Organization for Material and Purchase Management

State Power Investment Corporation Limited
2017 Financial Report Outstanding Organization

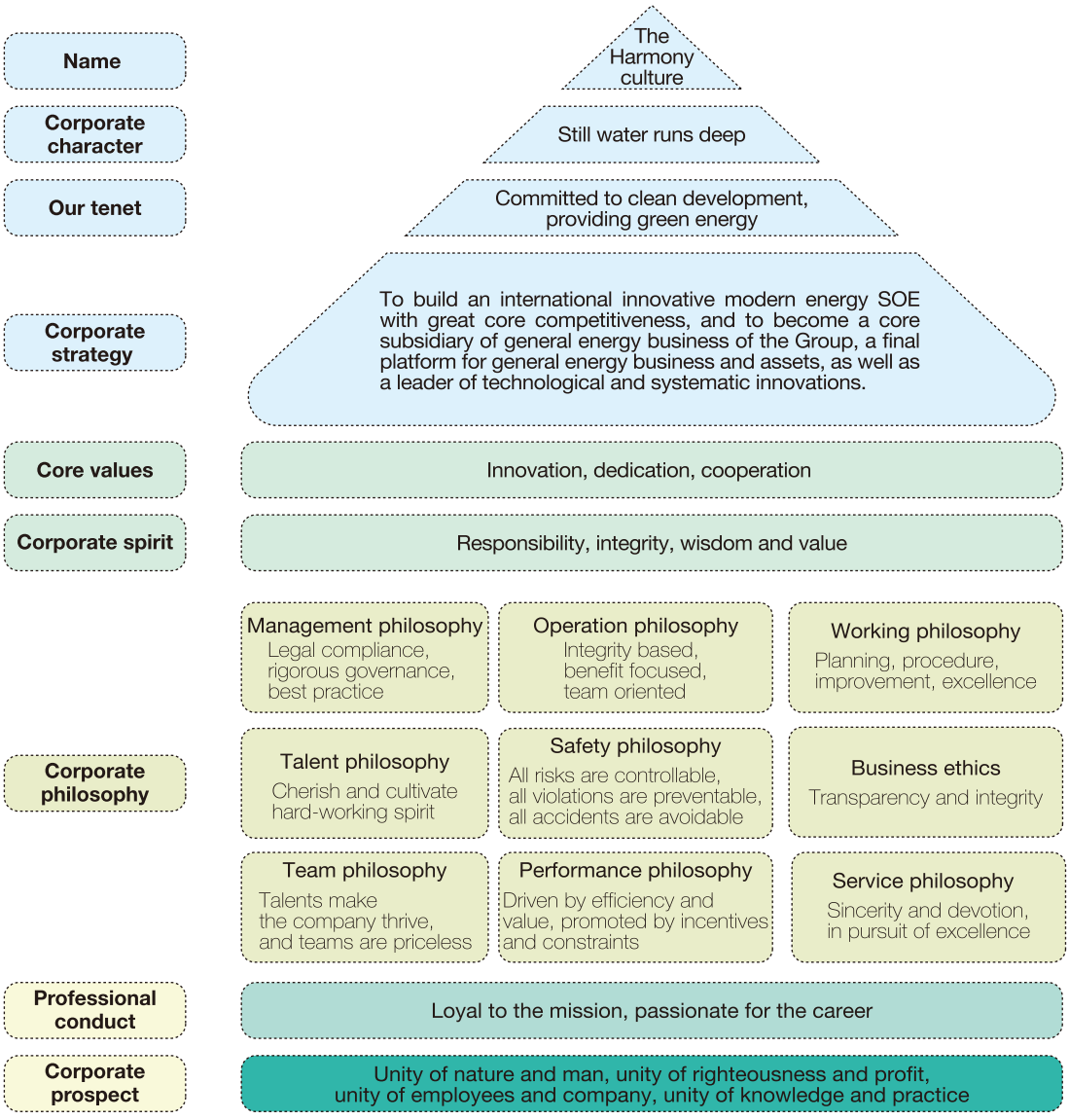


State Power Investment Corporation Limited
Outstanding Organization Award for 2017 Power Plant Chemical Skills Competition

State Power Investment Corporation Limited
Corporate Culture Model Organization

Company culture

Strengthening corporate culture and improving soft power are important aspects of sustainable corporate development. Guided by the "Harmony" culture of SPIC, the Company integrated innovation and invention into its management and development, It actively carried out the exploration and practice of culture-based growth and harmonious progress and formed a relatively complete corporate culture system. By creating the unique corporate character of "still water runs deep", the Company provided an inexhaustible spiritual power source to lead its strategic development, boost the morale and promote the long-term development.



Participation in social organizations

No.	Name	Time of participation (year)	Level
1	China Society for Hydropower Engineering	2008	National
2	Large Electric Machine Special Committee of Chinese Society of Electrical Engineering	2010	National
3	Chinese National Committee on Large Dams	2011	National
4	Chinese Society of Technology Economics	2012	National
5	National Generator Technology Collaboration	2013	Ministerial
6	Anhui Association of Foreign Investment Enterprises	1997	Provincial
7	Anhui Electrical Engineering Association	2000	Provincial
8	Anhui Electrical Engineering Society	2000	Provincial
9	Anhui Entrepreneurs Association	2001	Provincial
10	Sichuan Entrepreneurs Association	2010	Provincial
11	Anhui Association of Entrepreneurs	2010	Provincial
12	Shanxi Society of Ideological and Political Work	2010	Provincial
13	Sichuan Electric Power Industry Association	2011	Provincial
14	Hunan Electrical Engineering Society	2012	Provincial
15	Sichuan Energy Association	2013	Provincial
16	Shanxi Accounting Association	2013	Provincial
17	Hunan Hydroelectric Engineering Society	2009	Provincial
18	Shuozhou Society of Ideological and Political Work	2010	Municipal
19	Shanxi Human Resources and Social Security Association	2012	Provincial
20	Anhui Quality Management Association	2014	Provincial
21	Human Resource Association for Chinese & Foreign Enterprises	2016	Provincial
22	Henan Electric Power Enterprise Association	2016	Provincial
23	Henan Cleaning Industry Association	2016	Provincial
24	Henan Quality Association	2017	Provincial
25	Sichuan Clean Energy Industry Alliance	2017	Provincial
26	Shanxi Electric Power Industry Association	2017	Provincial

Note: These are some of the social organizations in which the Company has participated

1

Sustainable Development

Strategy

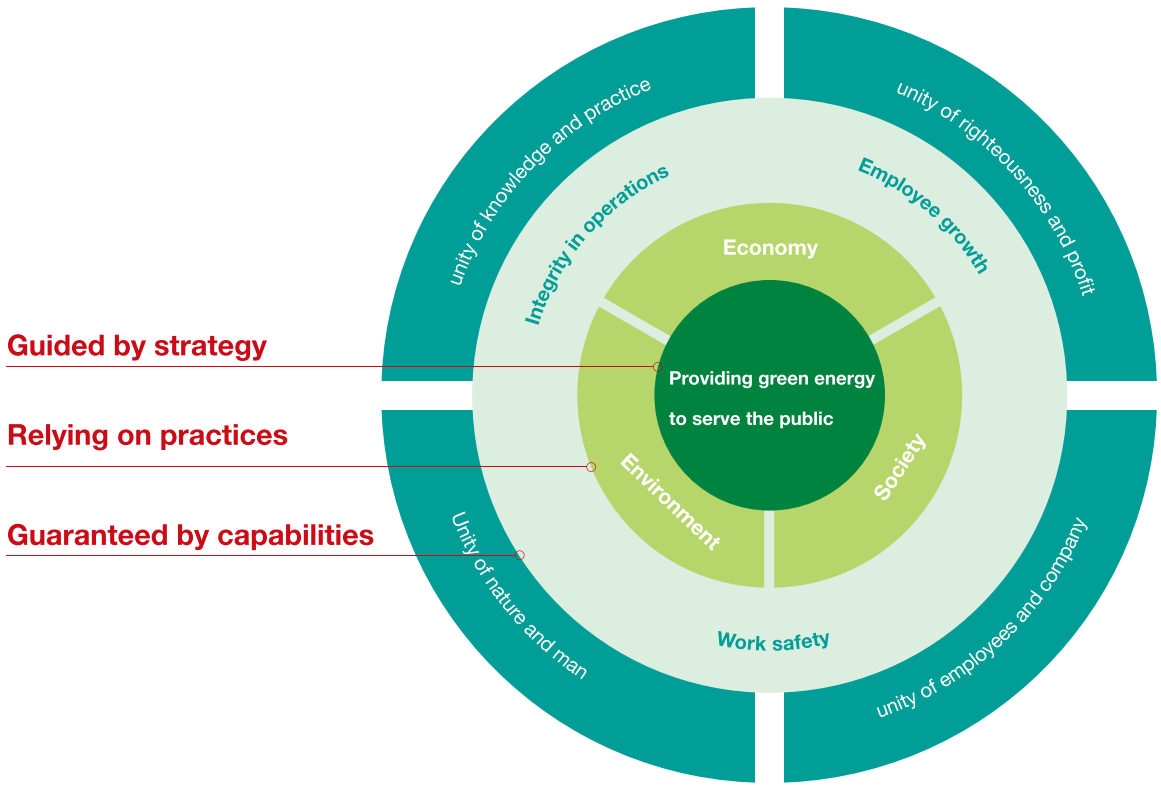
- The concept of sustainable development
- The model of sustainable development
- The management of sustainable development
- Stakeholders engagement

The concept of sustainable development

As a major player in conventional energy, the Company adheres to the sustainability concept of "providing green energy to serve the public" and follows the tactical purpose of "people-oriented, pre-controlled risk and green green operation", pursuing high operating standards and continuously improving clean operation. The Company provides safe, economical and clean products and services for customers and society, actively takes on social responsibilities, promotes the coordinated and sustainable development of the economy, society and the environment, thereby accomplishing the prospect of "unity of nature and man, unity of righteousness and profit, unity of employees and company, unity of knowledge and practice".

The model of sustainable development

The Company takes the sustainable development concept of "providing green energy to serve the public" as the core, vigorously promotes the sustainable development practices in economy, environment and society. The Company effectively guarantees work safety, pays close attention to the growth of employees, maintains honest business operation, enhances the value created by sustainable development and promotes the healthy and sustainable development of the Company.



The Company's model of sustainable development

The management of sustainable development

The Company actively discloses information on sustainable development practices to stakeholders. It has developed the Environmental, Social, and Governance Report for many years. In 2015 and 2016, the Company compiled and released the Corporate Social Responsibility Report, as well as setting up a column of "Environmental Protection and Social Responsibility Report" on the homepage of the Company's website. In 2017, the Company changed its social responsibility report into a sustainability report in order to better disclose information on fulfillment of the Company's responsibility for promoting economic, social and environmental sustainability.

Case

The first Open Day of Dabieshan Power Plant

On November 29, 2017, Dabieshan Power Plant invited more than 30 stakeholders from 15 organizations and individuals including shareholders, Huanggang Federation of Trade Unions, Huanggang Procuratorate, Macheng Municipal Committee of the Communist Youth League, China Construction Bank, schools, Zhongguanyi Town and nearby villagers, employees' family members and suppliers to the Company to attend the Open Day activity themed "promoting green development and building beautiful China". After visiting and learning about the efforts made by the Company for environmental protection and new energy development, they all praised the Company's commitment to social responsibility and its active response to the national call for ecological construction.

As one of the ten companies to hold the first Open Day event within SPIC, this event was a recognition of SPIC for Dabieshan Power Plant's efforts over the years in ensuring the safety of Central China power grid, actively promoting energy development in eastern Hubei and advancing the economic and social prosperity of old liberated areas. This event also provided a platform for the Company to enhance external communication and interaction, increase the understanding of various stakeholders on the power and energy situation and modern power technology and management. Feedback from the stakeholders regarding the power industry and ecological building was also received.

"In the past I wrongly thought that the "white gas" at the top of the cooling tower is flue gas. I will not have such misunderstanding in the future... After seeing the real-time monitoring data and indicators for myself, I understand that the measures adopted by the power plant for environmental protection are far more stringent and scientific than we can imagine."

– Liu Hongming, a resident of Zhongguanyi Town

Stakeholders engagement

Stakeholders	Regulatory authorities	Investors	Employees	Customers
Manner of communication and participation	• Attending relevant meetings • Work report • Information submission	• Results conference • Roadshow • Reverse roadshow • Investors conference • Shareholders' meeting • Daily communication	• Employees representative meeting • Youth forum	• Sales and order placement meeting • Customer satisfaction survey
Expectations and requirements	• Legal compliance • Compliance in operations • Paying taxes according to law • Energy conservation and emissions reduction • Promoting employment	• Increased profitability • Stable dividend distribution policy • Increasing market value	• Occupational health and safety protection • Fair welfare protection • Safeguarding employee health and safety • More promotion and growth opportunities • Care for employees	• Contract fulfilment • Quality assurance • Service guarantee • Mutual benefit and win-win
Our response	• Accelerating the transformation of economic development pattern • Compliance with laws and regulations • Actively communicating with relevant regulatory authorities	• Communicating closely with investors and improving the timeliness of information disclosure • Striving to enhance the profitability of the Company • Adopting market recommendations and improving Company management	• Improving the compensation system and employee security system • Increasing investment in health and safety • Improving employees' happiness index	• Providing quality, efficient, safe and green energy products and services • Maintaining business secrets

Suppliers	Creditors	Partners	Peers	Community
• Supplier meeting • Bidding information disclosure • Strategic cooperation • Cooperation agreement	• Cooperation agreement	• High-level visits • Strategic cooperation	• Industry association • Seminars	• Collaborative construction • Public welfare activities • Publicity activities
• Long-term cooperation • Keeping the promise • Open, fair, and just procurement • Joint development • Mutual benefit and win-win	• Strong debt paying ability • Repayments in time • Mutual trust and cooperation	• Long-term and stable relationship	• Fair competition and harmonious development • Promoting work safety together • Research on environmental protection and low carbon	• Participating in community development • Supporting public welfare undertakings • Providing jobs • Protecting the local ecological environment
• Implementing open and transparent business principles and processes • Standardized management and duly performance of contracts and agreements • Enforcing responsibility for purchasing	• On-schedule repayment of loans • Strengthening communication	• Honesty and legal compliance • Mutual benefit and win-win	• Promoting work safety experience • Promoting the value of the industrial chain • Sharing scientific and technological achievements and technologies	• Promoting the development of public welfare undertakings • Promoting local economic development • Increasing local employment

2

Sustainable Development

Topics

- Building digital power plants and advancing the intelligent transformation
- Strengthening integrated smart energy services and providing integrated solutions

Topic 1

Building digital power plants and advancing the intelligent transformation

"The digital economy is experiencing rapid growth and innovation, and is widely used in other economic fields. The digital economy is an increasingly important driver of global economic growth and plays a significant role in accelerating economic development, enhancing productivity of existing industries, cultivating new markets and industries, and achieving inclusive, sustainable growth."

— G20 Digital Economy International Cooperation Initiative

Digital power plants are the senior form of integrated application of digital, automated information technologies and an important sign of future modern power plants. China Power has prepared the Digital Power Plant Construction Plan and carries out pilot work in Pu'an Digital Power Plant Demonstration Project and Chengdu High-Tech Zone West Part Natural Gas Distributed Energy Station. Based on extensive use of modern digital information processing and communication technologies such as the Internet of Things, cloud computing and big data platforms, China Power integrates technologies such as intelligent sensing and actuation, intelligent control and decision support, incorporates advanced management ideas, realizes digital information collection, network-based information transmission, optimized operation control, real-time data analysis and scientific management decision. Through these efforts, China Power is committed to building digital power plants that are safe, environmentally-friendly, efficient and coordinated with the smart grid.

In 2017, the Company continued to promote the construction of digital power plant demonstration projects to achieve data sharing. The Company set up a special working group for Pu'an Digital Power Plant Demonstration Project. Aiming for surpassing in all aspects and building a leading project in China, the working group worked hard to achieve the goal of "reproducible, scalable and expandable". The Company completed the preliminary survey and technical discussion for Chengdu High-Tech Zone West Part Natural Gas Distributed Energy Station, a demonstration project for systemic distributed gas turbine "digital/smart power plant", eventually formed 27 digital power plant function modules in 7 categories and 10 key business functions.

Implementation plan of Pu'an Power Plant based on life cycle management

Four parts

- Digital engineering
- Digital control
- Digital management
- Digital decision making

Four parts → Total life cycle management of power plant

\+

Six key technologies

Six key technologies

- 3D modeling
- Fieldbus
- Cloud computing
- The Internet of Things
- Big data analysis
- Mobile technology

\+

Ten key functions

Ten key functions

- Three-dimensional design and digital transfer
- Digital final accounting based on ERP
- Main-auxiliary integrated DCS with complete APS functions based on the whole plant fieldbus
- Intelligent fuel management based on digital coal yard and whole-process information management for sampling, sample preparation and testing
- Operation and maintenance simulation and training combined with 3D display
- Equipment and maintenance management combined with 3D display
- Operational behavior safety management based on multidimensional information fusion
- Spot inspection and defect management based on field wireless network and equipment QR code
- Logistics management based on integration of ERP and Internet of Things
- Real-time data based energy consumption management, maintenance planning and power market analysis optimized intelligent decision-making

Topic 2

Strengthening integrated smart energy services and providing integrated solutions

"'Internet +' Smart Energy (Energy Internet) is a new development form of the energy industry that deeply integrates the Internet and energy production, transmission, storage, consumption, and energy markets. It is of great significance for increasing the proportion of renewable energy, promoting the clean and efficient use of fossil energy and promoting the opening and upgrading of the energy market."

— Guiding Opinions on Promoting the Development of "Internet+" Smart Energy issued by National Development and Reform Commission

Currently, China's energy supply, energy structure transformation and energy system form are presenting a new development trend. Integrated energy service is a new type of energy service intended to meet end customers' diversified energy production and consumption needs. With the accelerated development of Internet information technologies, renewable energy technologies and electricity reform, the development of integrated energy services has become an important direction for improving the efficiency of energy use and realizing the massive development of renewable energy.

Tip: What is integrated energy service?

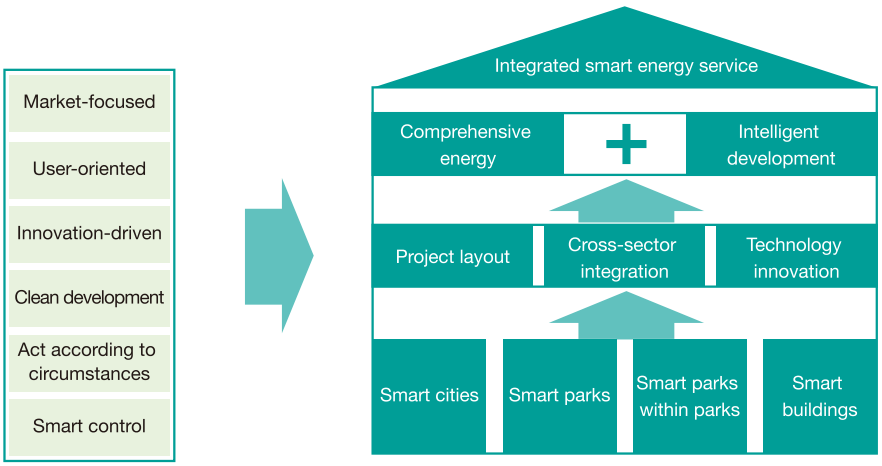
One center
Distributed energy sources and regional energy supply around them

Two meanings
Integrated energy — a variety of energy sources including electricity, gas, cooling and heating, and water;
integrated services — including engineering services, investment services, and operations services

Three elements
Capital, resources, technology

To adapt to the deepening of structural reforms on the energy supply side and the synergic development trend of multiple energy sources, the Company has actively implemented integrated and intelligent development strategies, while adhering to the principles of "market-focused, user-oriented, innovation-driven, clean development, act according to circumstances and smart control". With smart energy technology, internet thinking, and cross-boundary integration concepts as the leading force, the Company serves the construction of smart cities, smart parks, smart parks within parks and smart buildings and expands the comprehensive supply and service of electricity, heating, cooling, gas, and water. The Company provides integrated energy solutions and strives to transform from a traditional power producer to an "integrated energy service provider" and "integrated smart energy system integrator."

In 2017, the Hefei Airport Integrated Energy Project (one of the first multi-energy sources complementary integration and optimization demonstration projects of the National Energy Administration) was approved. Joint development agreements were reached on Beike Industrial Park Integrated Smart Energy Project, among others. The 1.0 version of the Integrated Energy Management System (IEMS) developed by the Company in cooperation with SNPDRI, Tsinghua University, and Huawei was completed and put online for test in the comprehensive energy project in Chengdu High-tech Zone.



The Company's integrated smart energy service promotion model

Key areas of integrated smart energy service of the Company

01 Smart cities

- Signed the Integrated Smart Energy Project Cooperation Agreement with Yanqing District Government
- Signed the Bazhou Integrated Smart Energy Cooperation Agreement with Bazhou Municipal Government and based on the cooperation in integrated energy projects participates in the construction of a smart city in Bazhou.

02 Smart parks

- Participated in the construction of the Shenzhen Smart Industrial Park in Baoding and prepared the Plan for Integrated Smart Energy Project of Shenzhen Industrial Park in Baoding.

03 Smart parks within parks

- Signed the Cooperation Agreement on Integrated Smart Energy Project and Energy Management Cooperation Agreement with Beike Industrial Park of Haidian District to develop integrated smart energy projects
- Promoted the implementation of integrated smart energy project in Changshu Development Zone

04 Smart buildings

- Implemented integrated energy project of Yanqing district government building to promote the implementation of the integrated energy project in Yanqing Traditional Chinese Medicine Hospital
- Accelerated the cooperation process of integrated energy project in the People's Hospital of Shuozhou and Huihuang Yunshang project

Case

Promoting the construction of integrated intelligent energy project in Beike Industrial Park

Beike Industrial Park Integrated Smart Energy Project is located in Haidian District, Beijing. The plan includes gas-based cooling, heating and electricity, photovoltaic project, gas-fired boiler, direct-fired unit, electric air conditioning (including ice storage), energy storage terminal micro-grid, charge and discharge terminal micro-grid and smart parking system and multi-energy flow management system (IEMS). Following the planning and design principle of "combined heat and power, multi-energy complementarity, cascaded utilization, and smart control", the project provides a clean and efficient energy supply solution for the park. The project is built in two stages in accordance with the development strategy of "overall planning and step-by-step implementation."

This project is a typical park-oriented integrated smart energy project, which is highly representative and the first project of China Power of this kind in the Beijing-Tianjin-Hebei region. Upon completion, the project will play an important leading and exemplary role.

- Innovation drives development and contributes to economic sustainability
- Responding to climate change and contributing to ecological sustainability
- Building the community for shared interests and boosting community sustainability

3

Sustainable Development

Practices

Innovation drives development and contributes to economic sustainability

Innovation is an inexhaustible motive force driving the sustainable development of enterprises. China Power implements the development strategy of "overtaking on a bend" of SPIC, continuously innovates the financing and business model, optimizes the industrial structure and regional distribution, improves the technological innovation system and upgrades the IT level to provide strong support for the Company's quality improvement and transformation and development.

United Nations Sustainable Development Goals (SDG)

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

Reduce income inequality within and among countries

Ensure sustainable consumption and production patterns

In 2017

Total installed equity capacity of the Company

17,051.6 MW

Proportion of installed capacity of clean energy with equity

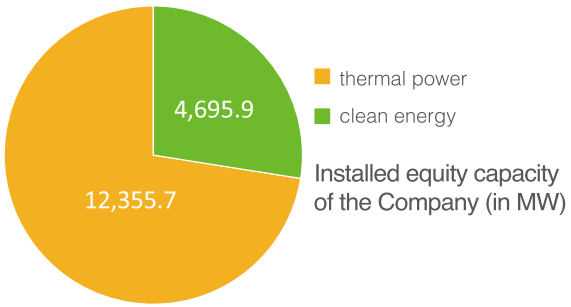
27.54%

Implemented scientific and technologica projects

60

Optimizing energy distribution

In line with the policy and changes in the electricity market, the new positioning and new requirements, the Company continued its transformation and development, continued to optimize power source structure, adjusted the regional layout, broadened the development space and continuously improved its sustainable development capabilities. In 2017, the total installed equity capacity of the Company was 17,051.6 MW. Among them, the installed capacity of clean energy resources was 4,695.9 MW, accounting for 27.54% of the total installed equity capacity. The clean energy sources produced 18,662,142 MWh of electricity, which is equivalent to a reduction of 14,929,714 tons of CO_2 emissions.



Optimizing the power source structure and transforming towards efficient and green generation

- In 2017, we made every effort to optimize the energy source structure, vigorously developed clean energy and launched a project to purchase clean energy assets from SPIC (the parent company), accelerating the transition to a clean energy company.
- Giving full play to the whole basin cascaded dispatching for optimization of hydropower production efficiency
- Gradually reducing the proportion of investment in some thermal power plants

Optimizing regional layout and transforming for higher quality and efficiency

- The Company's development strategy is to "move forward in the east, expand in the south, optimize the assets in central China and enhance the assets in the north" Following this strategy, the Company increases its project reserves and presence in east and south regions such as the Yangtze River Delta, Pearl River Delta and Bohai Rim.
- Optimizing the allocation of existing resources and innovatively promoting the development of high quality projects in north and central China
- Steadily developing onshore wind power in central and east China

Innovative operation model

In the face of policy and market changes, the Company vigorously promoted asset securitization, accelerated the Yanhuang project and actively promoted rights issue financing to provide financial support for its development. It also increased business model innovation and integrated internal and external resources in view of the new situation. The Company developed clean energy projects and was committed to providing integrated smart energy solutions to accelerate the Company's transformation process.

Broadening financing channels

- To support the acquisition of projects from SPIC's five provincial companies (Shandong, Anhui, Hubei, Guangdong and Guangxi the Company carried out rights issue financing for the first time

Innovative business model

- Making full use of internal and external resources, the Company developed IEMS, built data centers and digital power plants and established presence in distributed power, distribution and sale of electricity, heating and multi-energy complement to enhance value-added service capabilities
- The Company highlighted both independent development and cooperative development for clean energy projects, developed the innovative, comprehensive business model of "PV +" and expanded the size of clean energy projects
- The Company strengthened the development of "Internet +" user service tools, fully used the emerging Internet technologies and formed digitally based, clean and efficient integrated smart energy solutions

Case

"PV +" for a new future

The Company actively explored the "PV +" model, combined agriculture, fishery with PV power generation, increased the overall utilization of land for PV power generation projects, and realized efficient use of natural resources.

●Xintai China Power 100 MW PV Power Project

The project is one of the National PV "Leader" Base Projects in the coal mining subsidence area of Xintai, Shandong, which was connected to the grid in full capacity before September 30, 2017. The project makes full use of and effectively integrates agricultural facilities in the PV power plant. It builds an agriculture-PV complementary demonstration base featuring "agricultural and PV complementation. It consider agriculture as the first", thereby integrating clean energy, modern agricultural production, and scientific and technological demonstration. The project gives full play to the role of industry clusters and strives to be a leader in PV power generation and featured agriculture

During the entire 25-year life cycle of PV generation of this project, compared with the traditional coal-fired power plants, each year it will save about 41,242 tons of standard coal, reduce 106 tons of sulfur dioxide emissions, 115,000 tons of carbon dioxide, and 138 tons of dust

●70MW PV Power Generation Project in Xiejiaji, Huainan, Anhui

The project is located in the Shijiahu Lake dike area of Wabu Lake, Xiejiaji District, Huainan, Anhui. The project was connected to the grid on June 29, 2017 in full capacity, and achieved "one site for two uses" in the "PV + fishery" model, greatly improving the land utilization

Promoting technological innovation

The Company closely focused on transformation and development, actively responded to the challenges and opportunities brought about by technological changes, continuously improved the technological innovation system, advanced the information construction and promoted the Company's development quality and efficiency.

■ Improving technological innovation capabilities

The Company continued to improve the technological innovation system, strengthened the construction of scientific and technological innovation support platforms and the application of scientific and technological achievements, strengthened the management of intellectual property rights, created a favorable atmosphere for scientific and technological innovation, and improved the innovation capabilities.

In 2017

Total investment in science and technology	Implemented scientific and technological projects	Registered software copyrights	Obtained patents for utility models	Led and participated in revision of industry standards
RMB 55.92 million	60	7	18	11

Improving the technological innovation system

- Revised and published the 13th Five-Year Plan for Science and Technology Development of China Power
- Optimized the intellectual property management system, rules and regulations, developed the 13th Five-Year Plan for the Development of Intellectual Property and published the Intellectual Property Management System
- Improved the scientific and technological management system, published the new Intellectual Property Management System and Scientific and Technological Achievement Management System, revised the Science and Technology Work Management System, Science and Technology Project Management System, Science and Technology Award System and Science and Technology Work Assessment and Evaluation Administrative Measures, refined the management processes for science and technology work and defined the management objectives

Strengthening the application of scientific and technological achievements

- The 1.0 version of the Integrated Energy Management System (IEMS) developed by the Company in cooperation with Tsinghua University and Huawei was completed and put online in the comprehensive energy project in Chengdu High-tech Zone, making contributions to the Company's digital transformation
- China Power Huachuang provided guidance for and solved problems in the key production technologies encountered by companies within China Power. In 2017, China Power Huachuang provided 162 technical services and 112 technical consultations to the companies within China Power.

Stimulating the enthusiasm for technological innovation

- Refined the assessment criteria for scientific and technological progress awards and improved the operability for the awards
- Held the First Scientific and Technological Progress Award event, organized the companies within China Power to apply for provincial and national science and technology awards, encouraged them to carry out innovative and entrepreneurial activities and created a favorable atmosphere for scientific and technological innovation.

■ Promoting information construction

Following the 13th Five-Year Plan for Information Construction, the Company vigorously advanced the construction of information systems and data centers for better user experience, promoted the optimization and upgrading of information systems, safeguarded information security, promoted the digitalization and improved the core competitiveness.

Promoting information system construction	Improving user experience with the information systems	Improving information infrastructure	Strengthening information security management
• Accelerated the construction of the fuel management and control platform, built a decision support platform based on the basic fuel data, promoted the refined management and all of its coal-fired power plants launched the ERP fuel management system. • Made great efforts to promote the construction of infrastructure ERP, which was promoted to Dabieshan, Chengdu, Shangqiu and other projects based on the pilot project of Pu'an Power Plant, and the construction cost was initially brought under control • Actively explored the construction of risk internal control management platform in the ERP environment	• Launched the mobile application platform (APP), which integrates real-time production data query, mobile approval, company news and collaborative email and other functions • Completed collaborative office upgrades and add integrated document management functions to the new system to replace the original document exchange and electronic seal system • The enterprise integration portal and workflow platform passed the preliminary inspection and went online • Achieve unified user management and identity authentication for collaborative and mobile platforms, with over 800 authentications per month	• Completed the data center capacity expansion and reinforcement, IT room decoration and infrastructure construction • Conducted network equipment installation and commissioning, with conditions ready for system migration	• Completed network security isolation • Ensured network security, with zero information security incidents throughout the year • Vigorously promoted the safety protection projects for power monitoring system • Carried out information security level protection, the headquarters changed the protection level of the ERP system and filed it. The affiliated companies evaluated and rectified the three-level protection system

Case

Promote the construction of data center

The data center in located in Suzhou, with the purpose of comprehensively using cloud computing technology to provide necessary conditions and support for the application of big data in production. The data center was designed following the Class A standards, with 79 cabinets. The data center and technology center were built at the same site to increase synergy. The technical personnel of the technology center use the production technology information data and information tools of the affiliated companies provided by the data center to carry out statistics, analysis and diagnosis, so as to more efficient and reliable technical services for the affiliated companies. The information center relies on the data center to complete development management, technical services, operation and maintenance management as well as IT training.

Application center
Carrying the centralized deployment of applications of the headquarters and affiliated companies

Service center
Providing SaaS IT services to the headquarters and affiliated companies

Data center
Becoming a member of the SPIC Big Data Alliance and part of the SPIC Big Data System

Offsite disaster recovery center
Providing offsite disaster recovery services for SPIC and other companies

Function positioning of the data center

Responding to climate change and contributing to ecological sustainability

Climate change is one of the serious challenges facing the world today, which requires all mankind to work together to deal with it. China Power, as an energy enterprise, actively implements the requirements of national policies and regulatory standards, practices the green concept that "lucid waters and lush mountains are invaluable assets", and adheres to clean development. It strengthens energy-saving technology and environmental protection transformations, realizes the conservation and efficient utilization of resources and energy, and minimizes the emission of pollutants. The Company strives to get rid of the dependence on traditional energy resources and realizes the transformation from high carbon to low carbon. In addition, the Company integrates green concept into every link of production and operation, actively promotes green, low-carbon production, life and consumption styles, contributes to the construction of "beautiful China", and make more and greater contributions to global climate governance.

United Nations Sustainable Development Goals (SDG)

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 by regulating emissions and promoting developments in renewable energy

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

In 2017

The net coal consumption rate was 304.23 g/kWh, equivalent to a reduction of about of standard coal

32,383 tons

Investment in environmental protection

RMB **685,580,000**

Completed the ultra-low-emission modification of all

19 units

million

Reducing pollutant emissions

Promoting green and low-carbon development is an important part of ecological civilization. The Company conscientiously implements laws and regulations such as the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution and Emission Standard of Air Pollutants for Thermal Power Plants, intensifies efforts in transformation of environmental protection technologies, strengthens the control over the production and operation of its power plants and effectively controls the emissions of waste gas, water, and solid waste, contributing to protection of the clear waters and blue sky common to all humans. In 2017, the Company invested RMB 685,580,000 in environmental protection.

■ Reducing waste gas emissions

The Company strictly complies with laws and regulations such as Ambient Air Quality Standard and Emission Standard of Air Pollutants for Thermal Power Plants, actively implements the Action Plan for the Transformation and Upgrading of Coal Power Energy Conservation and Emission Reduction (2014-2020), vigorously promotes ultra-low-emission transformation of coal-fired power units, promotes the application of clean technologies such as FGD, DeNOx and dust removal to effectively reduce atmospheric pollutant emissions. As of the end of 2017, all thermal power companies of the Company have successfully applied for a pollutants discharge license and all 19 thermal power units in operation have completed ultra-low-emission modification. In 2017, 100% of FGD equipment for the Company's thermal power units was operational (100% in 2016), the FGD efficiency was 98.42% (96.67% in 2016); and 100% of the DeNox equipment was operational (99.92% in 2016), with a DeNox efficiency of 92.98% (84.14% in 2016).

Types of emissions	Unit	2017	2016	Decrease/(increase)	Variation
Total sulphur dioxide emissions	kT	3.035	6.583	3.548	-53.90%
Sulfur dioxide emission density	g/kWh	0.063	0.150	0.087	-58%
Total carbon dioxide emissions	kT	36,399	35,783	(616)	+1.72%
Carbon dioxide emission density	g/kWh	800	802	2	-0.25%
Total nitrogen oxide emissions	kT	4.540	8.158	3.618	-44.35%
Nitrogen oxide emission density	g/kWh	0.095	0.185	0.090	-48.65%
Total flue gas and dust emissions	kT	0.623	1.538	0.915	-59.49%
Flue gas and dust emission density	g/kWh	0.013	0.035	0.022	-62.86%

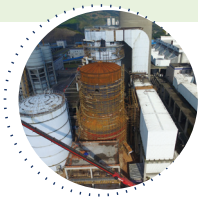
Note: Although the CO_2 emission rises as a result of increased power generation, as the Company made efforts to develop clean energy projects, such rise is controlled effectively. In 2017, the energy production from clean energy reached 18,662,142 MWh, equaling to CO_2 emission reduction of 14,929,714 tons.

Carrying out ultra-low-emission renovation

- Wuhu Power Plant launched the ultra-low-emission renovation of Unit 1 from March to June in 2017. With wet ESPs and tube heat exchangers, the white smoke plume from chimneys was removed while the emission density of air pollutants reached the gas turbine emission standard.
- Dabieshan Power Plant carried out ultra-low-emission renovation of Unit 2 from March to June in 2017. The emission density of air pollutants reached the gas turbine emission standard.
- Fuxi Power Plant carried out ultra-low-emission renovation of Unit 1 from March to August in 2017, and the emission density of air pollutants reached the gas turbine emission standard. This is an ultra-low-emission demonstration project of "W" flame coal-fired generating units in Sichuan.
- Pingwei Power Plant invested RMB274 million in 2017 on the ultra-low- emission renovation of Units 2, 3 and 4 and significantly reduced emissions of nitrogen oxides, sulfur dioxide and flue gas and dust

Promoting application of clean technology

- For the DeNox and capacity increase renovation program, SCR backup layer of catalyst was added for all the 19 units renovated as of 2017 for ultra-low emission; Fuxi Power Plant completed the replacement and regeneration of the initial layer of catalyst
- For the integrated FGD and dust removal plan, escalated absorption tower, addition of tray and spray layer and replacement of three-level ridge demister were used
- For the dust removal plan, Yaomeng Power Plant, Pingwei Power Plant and China Power Shentou Power Plan used combined electrostatic and bag dust precipitators for upgrading, Fuxi Power Plant used rotating polar plate for the last stage electric field of the ESPs, Wuhu Power Plant used low-low temperature ESPs, Wuhu Power Plant and China Power Shentou Power Plant introduced wet ESPs for further purification



Ultra-low-emission renovation of Fuxi Power Plant

■ Reducing waste discharge

Strictly following the Standard for Pollution Control on the Storage and Disposal Site for General Industrial Solid Wastes, and separating ash from slag, coarse waster from fine waste, and discharging boiler slag and dry ash in the dry manner, the Company modified the boiler burners, ash slag convey systems and other equipment. It also strengthened anti-leakage treatment of equipment and systems to reduce waste emissions. In addition, the Company studied the potential use of slag, fly ash, and gypsum to promote waste recycling.

Types of emissions	Unit	2017	2016	Decrease/(increase)	Variation
Solid hazardous waste emission density	g/kWh	0	0	-	-
Total solid hazardous waste emissions	kT	0	0	-	-
Solid non-hazardous waste emission density	g/kWh	28.8	24.8	(4)	+16.13%
Total solid non-hazardous waste emissions	kT	1,381	1,108	(273)	+24.64%

Note: In 2017, the fly ash comprehensive utilization rate of the company's was 81.46%; down 1.5% from 2016. This is mainly because some provinces and cities have raised efforts to enforce environmental protection, hence the fly ash sales dropped sharply. As we have to dispose extra fly ash, there is also an increase in nonhazardous waste emissions.

■ Reducing wastewater discharge

The Company actively implemented the Action Plan for Water Pollution Prevention and Control. Also, all of its power plants strictly enforced the Integrated Wastewater Discharge Standard and other national standards for wastewater discharge. By developing and implementing site-specific technical route for all of its power plants, the Company enhanced a comprehensive management of the use of water resources, advanced treatment of FGD wastewater (zero discharge of wastewater), and high concentration rate treatment of recycled water to ensure compliance with discharge standards and promote maximum recycling of wastewater.

Types of emissions	Unit	2017	2016	Decrease/(increase)	Variation
Total industrial wastewater discharge	kT	742.2	1,843.2	1,101	-59.73%

Saving energy resources

Natural resources are the material basis and guarantee for sustainable economic and social development. The Company improved the comprehensive utilization efficiency of coal resources through technical transformation and management improvement in all processes; through studies on water-saving technology, the Company promoted water resources conservation and recycling. The Company continued to promote green office and promote development in a more eco-friendly manner with less carbon footprint.

■ Efficient use of coal

The Company continued to increase the comprehensive energy-saving upgrade of thermal power units, improved the utilization of residual heat from flue gas, and enhanced heating efficiency. It also strengthened coal procurement management, continued to reduce net coal consumption rate, improved coal utilization efficiency, and reduced emissions of air pollutants. In 2017, the net coal consumption rate of the Company was 304.23 g/kWh, a decrease of 0.70 g/kWh compared to 2016, equivalent to a reduction of about 32,383 tons of standard coal.

Types of emissions	Unit	2017	2016	Decrease/(increase)	Variation
Net coal consumption rate	g/kWh	304.23	304.93	0.70	-0.23%

Strengthening energy conservation management

- Renovated existing conventional thermal power units for environmental protection and energy saving upgrade in an orderly manner
- Strengthened fuel management, increased the calorific value of as-received and as-fired coal, and reduced fuel consumption
- Established and improved the blending combustion system of coal to optimize the blending and combustion of coal In 2017, 6,772,700 tons of economic coal were mixed

Strengthening coal procurement management

- Strengthened coal procurement management by purchasing high-quality coal with high calorific value and low sulfur content for higher coal utilization efficiency

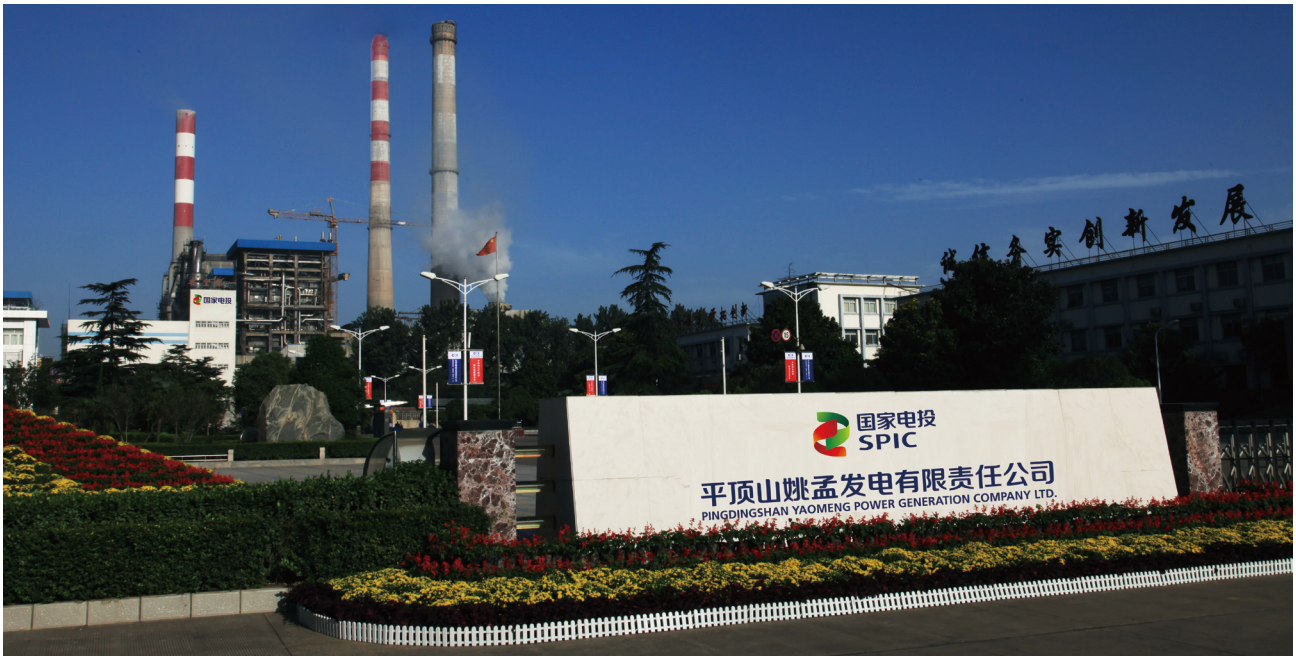
Case

Centralized heating for lower coal consumption

In the north zone of the first phase of Wuhu Economic Development Zone, heating was mainly supplied by distributed small captive boilers. The energy efficiency was low, and the pressure on energy conservation and emission reduction was high. Wuhu Power Plant vigorously developed a centralized heating project and put it into commercial operation on March 7, 2017, effectively reducing coal consumption, greatly reducing emissions of nitrogen oxides, sulfur dioxide, carbon dioxide, and ash, and achieving efficient, clean, and environmentally friendly energy utilization. The project contributed to the application for a national-level eco-industrial park.

Energy-saving transformation for higher heating efficiency

Yaomeng Power Plant vigorously advanced the steam networking project with Pingdingshan Coal Group. The two 600MW units will provide heat to external users to further increase the heating efficiency and promote the development of the heating market. Taking the opportunity of the energy-saving upgrade on Unit 4, the plant added hot primary air cooler, which together with the existing low-temperature economizer formed a two-stage generalized regenerative system, making full use of residual heat from the primary air and flue gas to heat the water supply, and improving the overall thermal efficiency.



■ Saving water resources

Strictly following the indicators specified for processes and products in The Reuse of Urban Recycling Water - Water Quality Standard for Industrial Uses (GB/T 19923-2005), the Company carried out in-depth research on water-saving technologies, increased efforts in domestic sewage reclamation, and comprehensively increased the utilization rate of water resources.

Indicator	Unit	2017	2016	Decrease/(increase)	Variation
Total water use	Million tons	64.22	64.36	0.14	-0.22%
Unit water consumption	g/kWh	1,337	1,443	106	-7.35%

Strengthening water conservation management

- Optimized the make-up water plan for thermal power generation by using the circulating drainage of the power plants to achieve zero water withdrawal from raw water
- Comprehensively used optimized dispatching to reduce water consumption rate of integrated power generation

Increasing renovation of domestic sewage

- For thermal power generation, the biological aerated filters were improved through biological treatment, and the qualified domestic sewage was recycled to the industrial cooling water system for recycling

■ Saving other resources

The Company adhered to the concept of low carbon and environmental protection, strengthened management of electricity, paper, and fuel for office, carried out energy-saving modifications for public utilities in the office areas, promoted routine use of video conferences, and raised employees awareness of green office while improving work efficiency.

Indicator	Unit	2017	2016	Decrease/(increase)	Variation
Total power consumption	kWh	8,973,920	9,085,294	111,374	-1.23%
Total office paper	Tons	27.84	32.00	4.16	-13.00%
Total consumption of fuel for official business vehicles	L	655,790	702,041	46,251	-6.59%
Video conference	Times	575	695	120	-17.27%

Saving electricity

- Utilizing technological upgrading projects, cleaned and conducted energy-saving renovations on hot water units and central air-conditioning in office areas
- Adjusted the central air conditioning and street light on and off time according to the temperature
- Adjust number of working elevators according to the flow of commuters
- The electricity saving plan was implemented starting at 6 pm and unnecessary power supplies were turned off during security check at night

Low carbon travel

- Strengthened official business vehicle management and increased vehicle utilization
- Maintained records and analysis for vehicle fuel consumption per month, arranged for repairs and maintenance to reduce emissions
- Encouraged employees to take the Company's commuter buses
- Replaced some business trips with video and voice conferences

"Paperless" office

- Made use of collaborative OA office system and mobile inspection system to promote "paperless" low-carbon office
- Double-sided printing to improve paper utilization
- Made use of smart terminals, Internet technology and document exchange in electronic form to promote "paperless" meeting.

Strengthening environmental protection

The Company actively implemented relevant national policies and environmental protection standards, closely tracked the start-up process of the national carbon emissions trading market, strengthened carbon asset management, and realized the preservation and appreciation of carbon assets; it adhered to the "three simultaneity" principle" for environmental protection in engineering construction, conducted environmental assessments at design, construction, and acceptance stages, and improve construction sites and environment; it promptly took measures to prevent pollution and realized green construction; the Company strengthened ecological protection and biodiversity conservation around the sites. It also enhanced environmental protection training, conducted environmental public welfare activities, and raised awareness of environmental protection among employees and the public. In 2017, no emergent environmental incidents and environmental reportable incidents occurred.

Case

Carrying out green construction

The Shangqiu Cogeneration Project is located in Henan province and faces great environmental protection pressure, strict environmental protection requirements and high environmental protection standard. At the beginning of the project, construction contractors were organized to prepare a special green construction plan, funds were allocated to purchase dust treatment equipment such as vehicle washing machines, sprinklers, fog guns, and air pollution monitors, and multiple environmental protection meetings were held so as to guarantee green construction. The "six 100% requirements" were strictly supervised on the site, the construction contractors were required to use the wet work methods and flush all the vehicles in and out, cover bare ground and materials with meshes in time, and install publicity walls on both sides of the roads; according to the actual progress of backfill and excavation of foundation pit, vehicle management, road cleaning, and road sprinkling were intensively managed by stages. These efforts effectively reduced the frequency and degree of dust on the site and created a green construction site.

The construction site was enclosed and water spray was used to suppress dust

Real-time monitoring of air quality

Protecting biodiversity

To promote the sustainable development of fisheries and maintain ecological balance in water areas, Wuling Power invested large sums of money in fish breeding and releasing stations, and released fish each year. Sanbanxi Power Plant released 400,000 fry in 2017, including economic fish such as grass carp, herring, bighead carp, catfish and carp, as well as unique fish in the area such as Guilin leptobotia, Zhang's leptoboti, Xianghua dace, Xiangjiang saurogobio dabryi and Hunan rhinogobio typus. It was the 10th consecutive year for Sanbanxi Power Plant to release fish since its commissioning. It has cumulatively released more than 5 million fish, effectively improving the status of fish resources and enhanced the awareness of ecological environmental protection among all sectors of society. This fully embodied the Company's high regard for protecting the water ecological environment and fishery resources in the Yuan River Basin and its awareness of social responsibility.

Building the community for shared interests and boosting community sustainability

The development of enterprises cannot be separated from the support of all sectors of society, and social progress is also related to the development of enterprises. China Power pays attention to the harmonious development of the society, uses its own advantages to actively implement the national targeted poverty alleviation strategy, supports local development, and advocates for employee voluntary services. It carries out branded public welfare activities, supports disaster relief, and effectively fulfills its social responsibilities to help the community achieve sustainable development.

United Nations Sustainable Development Goals (SDG)

End poverty in all its forms everywhere

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

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

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

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

In 2017

paid taxes

RMB **1,803** million

volunteer services

50,385 hours

new jobs for local communities

858

Supporting local development

The Company complied with policy requirements, followed economic laws, actively adapted to the new normal of economic development, and effectively aligned with local economic development needs. It strengthened communication and coordination with local governments, and invigorated local economic and social development. In 2017, the Company paid taxes of RMB1,803 million and created 858 jobs for the local communities.

Case

Resettlement for Tuokou Hydropower Station

Tuokou Hydropower Station is located on the upper reaches of the Yuan River. The residents in the area were mainly engaged in agricultural production, and the per capita income was generally low. The residents' living environment and conditions were generally poor, and there were obviously inadequate infrastructures and public facilities service capabilities. According to the resettlement planning report for the implementation phase of the Tuokou Hydropower Station reservoir prepared by Hunan and Guizhou, 42,267 were to be resettled, and the facilities around the reservoir area needed to be built at the same time, including transportation, power, telecommunication, and radio and television facilities. Wuling Power maintained close communication with the government, established a regular coordination mechanism, focused on resolving conflicts and disputes with the immigrants, and promoted the resettlement of immigrants. It greatly improved the local infrastructures, enhanced the living conditions and environment of the immigrants, and raised the local tax revenue and people's income.

Advocating volunteer service

The Company actively promoted employees to participate in volunteer services, continued to carry out the "Azalea" volunteer campaign, showed care for poverty-stricken students and left-behind children, fulfilled volunteer service missions, and continuously improved the effectiveness and level of public welfare undertakings.

In 2017

registered volunteers
2,459

voluntary activities
119

volunteer activities
5,044 person times

volunteer service hours
50,385 hours

public welfare donations
RMB **4,173,164**

Donations to schools

- Taking advantage of the "Azalea" student assistance campaign as a flagship, Wuhu Power Plant strived to build a volunteer service brand, raised RMB 39,000 for impoverished students, and supported 45 primary and secondary school students and 3 university freshmen on a one-on-one basis.
- China Power Shentou Power Plant launched multiple "Azalea" activities and donated more than RMB9,000
- Pu'an Power Plant donated RMB23,980 to Jintang Primary School of Qingshan Town for 13 pupils
- Dabieshan Power Plant established a love student fund amounting to more than RMB30,000. Peng Guangshan, one of the first helped students, had a score of 643 points at the college entrance examination this year and was admitted to the Physics Department of Huazhong University of Science and Technology

Voluntary blood donation

- Pingwei Power Plant organized 18 volunteers to donate blood for 5,900 ml
- Wuhu Power Plant organized 15,700 ml of blood donations

Case

Helping the students to inspire their dreams

As part of the "Ying Shan Hong" campaign, Wuhu Power Plant actively responded to the call and launched the "Ying Shan Hong" student support program to help the needy students, advocated social practices of being helpful and selfless, and promoted the volunteer spirit of "dedication, friendship, mutual assistance, and progress". Wuhu Power Plant led and mobilized the Youth League members to actively participate in public welfare activities and raised RMB39,000 of donations. The Plant funded 45 elementary and middle school students and 3 university freshmen on a one-on-one basis. The charity activities of the Company were also fully recognized by the society and the Company built a good social image with its actions.

Wuhu Power Plant's "Ying Shan Hong" student support activities

Dabieshan Power Plant distributes "Ying Shan Hong" student support funds

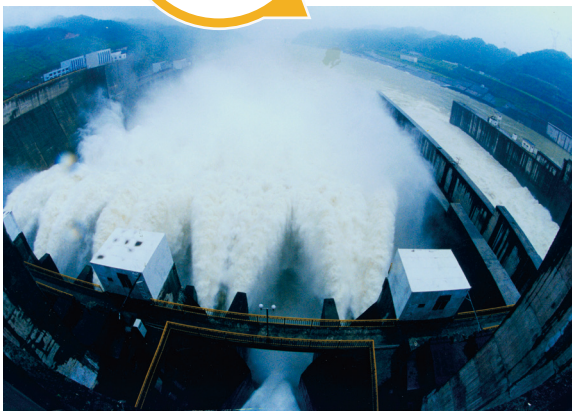
Pu'an Power Plant holds Children's Day for children from Guizhou in "Ying Shan Hong" campaign

Conducting emergency rescue and disaster relief

The Company did a solid job in preventing typhoons, thunderstorms, floods, thunder and lightning, high temperature and geological disasters. It also carried out emergency drills regularly, and made sound preparation for emergency rescue and disaster relief.

Case

Making every effort to prevent and combat floods



Wuqiang Reservoir flood discharge

From June 22 to July 2, 2017, Hunan experienced heavy rains, with a historical coverage, intensity, duration and amount, causing huge flood damage to the province. Wuling Power adhered to the principle of "safety first, prevention oriented, always prepared, and full efforts to address emergency" and the scientific guiding ideas of "three avoidances". It developed plans and made arrangements in advance, lowered the water level of Wuqiangxi Reservoir and saved reservoir capacity at the cost of the station's benefits. This gained an advantage for flood mitigation of the reservoir, protected the towns and farmlands of at the lower reaches of Yuan River, and mitigated the flood control pressure on the Dongting Lake area and even the middle and lower reaches of the Yangtze River. In addition, Wuling Power donated RMB3.83 million to Hunan Charity Federation and the local government (RMB400,000 to Qiandongnan Prefecture of Guizhou). The funds were used by the local government for disaster relief, reflecting the love for people in face of the floods.

- Focusing on the growth of employees and stimulating internal motivation
- Maintaining work safety and promoting steady operations
- Sticking to integrity in operations to ensure compliance with laws and regulations

4

Sustainable Development

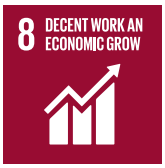
Capabilities

Focusing on the growth of employees and stimulating internal motivation

China Power always cherishes and cultivate hard-working spirit, strictly abides by relevant laws and regulations, and protects the legitimate rights and interests of employees. It cares for and values the development of employees, maintains smooth growth channels for them, strengthens all-round capability training, and enhances their professional development capabilities. The Company carries out diversified employee care activities to balance work pressures, provides employees with a good working environment, and effectively stimulates the Company's internal growth.

United Nations Sustainable Development Goals (SDG)

Achieve gender equality
and empower all women and girls



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

In 2017

Employees	Employment contract coverage	Serious illness relief fund	Care activities
9,780	100%	RMB 413,000	535

Safeguarding employee rights

The Company highlights the protection of legitimate rights and interests of employees, maintains fair employment, guarantees reasonable and competitive compensation and benefits, improves the channels for employees to express their opinions, and attaches importance to the democratic management of employees, thereby creating harmonious labor relations.

In 2017

Employees	Separated employees	Employee turnover rate	Employment contract coverage	Social insurance coverage
9,780	148	1.51%	100%	100%

Maintaining fair employment

- Strictly abided by laws and regulations such as Labor Law of the People's Republic of China and Labor Contract Law of the People's Republic of China, insisted on equal pay for equal work, avoided the use of child labor, and opposed various forms of employment discrimination and forced labor
- Maintained fair employment and strictly followed campus recruitment procedures

In 2017, the Company conducted campus recruitment at Xi'an Jiaotong University, Zhejiang University, Southeast University, and Huazhong University of Science and Technology, recruiting 593 graduates

Safeguarding compensation and benefits

- Established a compensation mechanism that is compatible with the market and closely linked to work performance, set up a performance management system with complete process, well defined right and responsibility, and simple and easy for implementation.
- Improved the performance appraisal system, applied dynamic management of employee positions, and linked compensation to performance
- Established a sound social security system, paid "five social insurance and one housing fund" for employees, and improved corporate annuity and supplementary medical insurance system as a supplement to basic medical insurance
- Improved employee vacation system and protected employees' leave rights

Strengthening democratic management

- Handling labor disputes in a timely manner to safeguard employees' legitimate rights and interests
- Held congress of workers and staff to provide channels for employees to express their appeals

Number of employees in 2017 by employment type

Type of employment	Number	Percentage (%)
Senior management	20	0.20
Middle management	266	2.72
Ordinary employees	9,494	97.08

Number of employees in 2017 by age

Age group	Number	Percentage (%)
At and below 29	1,688	17.26
30-39	2,168	22.17
40-49	3,866	39.53
50 and above	2,058	21.04

Number of employees in 2017 by gender

Gender	Number	Percentage (%)
Male	7,389	75.55
Female	2,391	24.45

Number of employees in 2017 by region

Region	Number	Percentage (%)
Northern China	2,759	28.21
Eastern China	2,896	29.61
Central China	3,191	32.63
Southern China	130	1.33
Southwest China	677	6.92
Northwest China	127	1.30

Employee turnover rate in 2017 by employment type

Type of employment	Number	Rate (%)
Senior management	0	0
Middle management	8	3.01
Ordinary employees	140	1.47

Employee turnover rate in 2017 by age

Age group	Number	Rate (%)
At and below 29	63	3.73
30-39	59	2.72
40-49	19	0.49
50 and above	7	0.34

Employee turnover rate in 2017 by gender

Gender	Number	Rate (%)
Male	84	1.14
Female	64	2.68

Employee turnover rate in 2017 by region

Region	Number	Rate (%)
Northern China	32	1.16
Eastern China	58	2.00
Central China	27	0.85
Southern China	3	2.31
Southwest China	26	3.84
Northwest China	2	1.57

Improving employee capabilities

The Company attaches great importance to the improvement of the overall quality of employees, establishes and improves training systems covering high, middle and low levels, and builds diversified training courses and bases. Through various types of technical contests, the Company promotes the improvement of employees' technical skills and professionalism. The Company has formed a good atmosphere in which everyone is eager to succeed, everyone works hard, everyone has the opportunity to succeed, and everyone can demonstrate his talents. In 2017, the Company invested RMB25,159,500 on employee training.

Training of employees in 2017 by employment type

Type of employment	Training times(times)	Per-capita hours(hours)	Training coverage (%)
Senior management	44	34	80
Middle management	181	92	91.5
Ordinary employees	2,050	78	93.5

Increasing training efforts

- Formulated 2017 training plan and established a training system covering senior management, middle management and ordinary employees
- Organized employees to participate in training held by SPIC, completed trainings for 31 person times of leaders, and conducted 67 person times of general managerial trainings for headquarters staff.
- Organized training courses for outstanding middle-level cadres from the subordinate companies to cultivate their management skills and accumulate experience in corporate operations management
- Conducted new employee orientation training to improve their adaptability
- Implemented the "123" Youth Talent Project to cultivate badly needed talents

Improving professional skills

- Implemented the "three basics" requirements and formulated a training program for this, and focused on upgrading the skills of basic positions and personnel. Held seven skills training courses for SPIC, with more than 270 person times of participants.
- Held and participated in SPIC's chemical expertise contest and fuel consummation skills contest to improve the technical capabilities of employees
- Examined the maintenance and centralized control operators for heat engines and held skill competitions such as I&C, relay protection, wind power to promote training and improve technical capabilities

Case

"123" Youth Talent Project helps employees grow

On-site activities of trainees

To meet the needs of the Company's strategic positioning and transformation and development, the Company launched the "123" Youth Talent Project in 2017. The Company intended to spend two to three years to cultivate 100 business talents with international perspectives, and 200 talents for electricity distribution and sales, and 300 management talents.

In June 2017, the opening ceremony of "123" Youth Talent Project (international English class) was held in Yaomeng Power Plant. 30 employees from the Company received a 90-day off-job training, and improved their ability to use English from the four aspects of basic listening and speaking, international business background listening and speaking, and English training in power industry to foster cross-cultural communication skills.

Case

IEMS special training

On December 15, 2017, the Company held the IEMS Special Training Conference, and invited Guo Qinglai, associate professor of the Department of Electrical Engineering of Tsinghua University and deputy director of the Energy Internet Energy Management and Operation Control Center, to give a better understanding of IEMS and familiarize employees with the top-level design and progress of IEMS. This was instructive and enlightening for enhancing employees' awareness of integrated energy services, developing integrated smart energy development ideas, and contributing to the Company's transformation and development.

New employee orientation training to create a qualified team

To help new employees transform their roles and integrate into the Company as soon as possible, from July 10 to August 2, 2017, Pingwei Power Plant carried out training for new employees in 2017 both theoretically and practically to help them understand the basic situation of the plant and relevant management rules and regulations. And, combined with the characteristics of production-oriented enterprise, the plant organized training on fitters to help them cultivate the spirit of "craftsmen" who strive for excellence through hands-on operation. A total of 36 new employees participated in the training.

Holding PV and wind power training courses

On September 12, 2017, China Power Shentou Power Plant held its first knowledge training on PV and wind power. The plant invited Xue Shangping, a PV and wind power expert and senior lecturer of Shanxi University, to give lectures. The purpose was to further strengthen the employees' mastery of PV and wind power knowledge, fully explore their enthusiasm for learning and subjective initiative, and enhance their overall quality. More than 200 employees participated in the training.

Young employee skills contest

On May 25, 2017, Dabieshan Power Plant held a young employee skills contest in the simulator training room. The contest consisted of two parts: theoretical contest and simulator contest. It aimed to examine the theoretical basis and emergency operation capabilities of young employees. To be realistic, the evaluation team strictly controlled the operation process of the simulator contest, promoted training with the contest and effectively improved the technical capabilities of employees.

Opening up growth channels

The Company adheres to the multi-channel career development for its employees and continues to improve employee advancement system. With Pingwei Power Plant as a pilot, the Company explored employees' multi-channel career development management ideas. The Company maintains market-oriented management and explores professional manager mechanisms. It builds an internal talent market to open the transition path between technology, skills and management posts to the diverse career development needs of employees.

Promoting multi-channel development

- Actively carried out multi-channel career development for employees, and taking Pingwei Power Plant as a pilot, studied management ideas for employee career development
- Organized subordinate companies to visit CGNPC for survey and study, summed up the research results, and gradually promoted them
- Using Dabieshan Power Plant as a pilot, conducted post design evaluation from six aspects including job analysis and establishment of evaluation standards system

Adhering to market-oriented management

- Studied market-oriented employment management mechanism, explored professional managers and market-oriented employment management, and established a market-oriented employment mechanism based on post management and with labor contract management as the core
- Fully adopted open recruitment or two-way selection in recruitment, and adopted an exit mechanism for incompetent employees
- Effectively built an internal talent market and activated the human resources in the system through open recruitment

Caring activities for the employees

The Company launched the "Four Major Actions for Employees" and established a standing support mechanism for employees with difficulties. The Company and employees jointly set up a special severe disease management fund to provide financial assistance to employees suffering major illness or other accidents and work with them to tide over difficulties. The Company extended the "Autumn Scholarship" program to the children of employees who experienced difficulties to ease family burden. A variety of cultural and recreational activities close to the employees were carried out to balance the work pressure and enhance employees' happiness.

In 2017

For special groups such as distressed, retired, and disabled employees

Provided caring activities	employees who need help	Serious illness relief fund	Amount granted under the "Autumn Scholarship" program	Helping children of distressed employees to continue with education
535	949	RMB 413,000	RMB 88,000	61 person times

Case

"Autumn Scholarship" helps students to continue with education

The "Autumn Scholarship" program at Pingwei Power Plant

To help the children of distressed employees to continue with education, the Company and its affiliates continued to implement the "Autumn Scholarship" program. By visiting their homes, the Company understood their actual needs and extended the care to their children, solving their trouble back at home.

- Pingwei Power Plant identified two students of fine qualities and fine scholar, each granted RMB1,000 of scholarship
- Yao Meng Power Plant granted scholarships to 3 poverty-stricken students and distributed souvenirs to 35 college freshmen
- China Power Shentou Power Plant provided assistance to children of 6 distressed employees with RMB3,000 per person

Case

Caring for retired employees

Taking commemorative photos for retiring employees

In appreciation of the devotion by made the old employees, Pingwei Power Plant held a symposium before the retirement of every old employee, took a crystal commemorative photo with the theme of "diligence in job and retirement with honor" and presented dark-red enameled potteries to them, hence making them feel the warmth and care from the Company.

"We must firmly seize this precious time before retirement, make full attendance and work diligently, play the role of "passing and helping", properly teach our apprentices, set a good example, make more contributions to the plant, and properly end my career."

— An old employee about to retire

Caring for female employees

On July 18th, 2017, as part of the Summer Cooling plan, Pingwei Power Plant purchased watermelon, green tea, and green plum bamboo cane for heatstroke prevention and sent them to the 10 model women's posts and frontline teams including electricity chemistry test and production technology positions. The female employees were advised to prevent heatstroke and make reasonable arrangements for work in high temperature.

China Power Huachuang holds the first basketball game

In 2017, China Power Huachuang held the first May Fourth Youth Basketball Competition, and 16 young employees from various departments participated in the competition. On the playground, the players were heroic and high-spirited. Accurate pass, smooth dribbling and slick one-handed layup, and three-point jumper, fully demonstrated the unity, fraternity and striving spirit of Huachuang's young employees. Through the event, the employees' cohesion and centripetal force were further enhanced, contributing to the healthy development of the Company.

Fuxi Power Plant sends cool drinks to employees

China Power Shentou Power Plant sends regards to distressed employees

Jiangmen Power Plant's new year employee fun game

Female employees of Dabieshan Power Plant female receive eye health examination

Maintaining work safety and promoting steady operations

Safety is the top priority. The Company always implements the safety policy of "safety first, prevention foremost, and comprehensive management" and the safety concept that "all risks are controllable, all violations are preventable, all accidents are avoidable". We improve the work safety management system, foster a safety culture, and raise the level of intrinsic safety. In 2017, the Company carried out various types of safety education and training for 270 times. There were no major safety accidents in employee, equipment and environmental protection throughout the year.

United Nations Sustainable Development Goals (SDG)

Ensure sustainable consumption and production patterns

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

In 2017

serious injuries and deaths

0

equipment accident of Grade 1 and above

0

General and above sudden environmental incidents

0

Improving the work safety system

To adapt to the "four transformations" development strategy, the Company carried out quality, occupational health and safety, environmental (QHSE) certification, improved the quality, safety and environmental management system/procedures/standards, enhanced the work safety reward and punishment mechanism, promoted the application of HSE management tools, and continuously improved work safety management.

Improving QHSE management systems

- Revised and improved 23 QHSE management systems

Improving work safety reward and punishment mechanism

- Revised the Management System for Rewards and Punishment for Work Safety, formulated the Measures for Special Rewards for Work Safety and Detailed Rules on the Assessment of Work Safety Performance, and improved the reward and punishment mechanism that combines positive incentives and negative constraints.
- Imposed more severe punishment on work safety incidents, and enforced the "one-vote veto" in work safety
- Established a special award fund for work safety, and implemented a work safety performance assessment method that emphasizes both process and results

Carrying out QHSE "three standards" certification

- Conducted QHSE management status survey and compiled QHSE "three standards" system certification implementation plan
- Formulated 12 management systems such as Quality Health and Environment (QHSE) Management Manual
- Carried out QHSE hazard identification and risk assessment
- Conducted internal audits and management reviews

Promoting HSE management tools

- Organized all employees to learn A Practical Guide to HSE Management Tools to understand and master various HSE management tools
- Evaluated HSE management tools and had timely follow-up and rectifications
- Combined with the update of systems and policies, the application of HSE management tools was incorporated into them

Strengthening HSE risk control

- Analyzed HSE risks on a monthly basis, focused on the top 10 risks, and implemented risk control measures
- Introduced HSE risk control measures to various job documents such as work permits, operation permits, and maintenance/construction work instructions

Case

Conducting QHSE management system certification

Zhong An Authentication Center and BSI respectively issued certificates of quality, occupational health and safety, and environmental management systems to the Company, indicating that the Company's QHSE management system complies with GB/T19001-2016, GB/T24001-2016, GB/T28001-2011 standards, and is properly operating and continuously effective.

QHSE "three standards" system certification

Strengthening safety management

The Company continued to increase safety management, carried out hazard investigations and safety inspections, strengthened supervision on key projects and key processes, and enhanced management of outsourced projects and contractors. Through administrative, physical and technical methods, the Company increased intrinsic safety.

Strengthening the control of key projects

- Conducted safety, quality and environmental inspections on construction, technical renovation and maintenance projects, and issued 46 work safety rectification notices
- Enhanced management on major construction activities and hazardous activities, strictly enforced work/operation permit system, identified hazard sources and conducted risk assessment, and developed and implemented risk control measures
- Strengthened site supervision, implemented an "HSE-compliant workplace" management model, assigned full-time safety inspectors, and implemented project-specific, region-specific, full-process, and full-time management
- Carried out planned repairs on generator units to remove safety hazards and improve equipment reliability. Completed 8 Class A repairs, 14 Class B repairs and 45 Class C repairs on generator units in 2017

Strengthening contractor management

- Enforced strict criteria for qualifications of contractors and personnel and selected excellent contractors by controlling the source
- Evaluated safety management capability of contractors and eliminated those with poor capabilities and poor service quality
- Enforced equal work safety management for contractors, project departments, and work teams
- Strengthened site supervision on contractors, assigned standby supervision personnel with enforcement recorder for the owner, and implemented full-process management. Make sure every worker is under supervision during work.
- Improve HSE standards on site, investigated and strictly punished violations of rules, and achieved zero tolerance for violations, strictly implemented the "four ones" penalty rules and the "black list" system
- The contractors made adequate investment in measures for construction safety and the owners supervised the proper use of these funds

Increasing investment in technical measures for safety

- Thermal power projects adopted safety management support system for thermal power projects. Access control system was used for thermal power plants, and by using face, fingerprints and other biological recognition technologies, the access of visitors and unauthorized persons into the production areas was effectively controlled. In 2017, the access control systems were upgraded in 11 power plants of the Company
- In conjunction with the access control system upgrading, the Company carried out pilot construction of work safety management support system in Pingwei Power Plant, Wuhu Power Plant and Changshu Power Plant (co-operated power plant)
- Wuhu Power Generation Company associated staff authorization with the access control system in ERP system work permit management module, effectively controlling the access of non-staff from entering workplace
- Wuhu Power Plant and Pingwei Power Plant developed contractor management information system, effectively controlling contractor personnel.
- The construction sites of maintenance and renovation projects were fully closed and physically isolated and mobile video surveillance was installed on the sites to achieve 24-hour full-time monitoring

Case

"safety experience"

Safety experience training site

Dabieshan Power Plant carried out "safety experience" for construction personnel (fall at opening, electric shocks, blows to safety helmet, safety belts hanging, and walk at height) to improve safety awareness and skills of all employees.

Strengthening emergency management

The Company continuously strengthened emergency management, established a sound emergency management system, defined the organizational structure, improved the emergency response plans, and prepared emergency response cards. The Company carried out live emergency training and drills, accomplished collaboration in emergency rescue, and effectively improved emergency response capabilities.

Improving emergency management system	Accomplishing collaboration in emergency rescue	Improving emergency response capabilities
• Improved emergency management agencies and adjusted them in accordance with personnel changes • Improving emergency plans. The Company revised and issued 1 comprehensive emergency plan and 19 special emergency plans. The subordinate companies revised and issued 32 comprehensive emergency plans and 346 special emergency plans	• All subordinate companies signed emergency rescue agreements with local governments, hospitals, and fire control departments to ensure that external support is available for emergencies. • Organized subordinate companies to establish collaboration mechanism for regional emergency response and achieved resource sharing	• All affiliated companies regularly carried out live emergency drills. On July 21, 2017, the Company organized an emergency fire response plan drill on coal convey system at Fuxi Power Plant for observation and exchange • Conducted 14 emergency response assessments, including 5 external assessments • Prepared emergency response cards and posted them on production /construction sites

In 2017

subordinate companies released

comprehensive emergency plans
32

special emergency plans
346

site disposal plans
879

emergency drills
884

person times of participants
11,449

Case

Liquid ammonia leakage emergency drill

On June 22, 2017, China Power Shentou Power Plant organized an on-site, special and comprehensive emergency plan drill, where several departments were involved to address liquid ammonia leakage. Ammonia poisoning, coma, danger reporting, cordon off, sprinkling and dilution, first-aid on site, leakage elimination and other emergency response scenarios for ammonia leakage were simulated. After 50 minutes of collaborative efforts, the simulated danger was successfully eliminated, and the participants' emergency response capability was greatly enhanced.

Emergency drill site

Fostering a safety culture

The Company was committed to building a safety culture, vigorously fostered safety concept, updated the safety management culture, and standardized the safety behavior culture. It promoted a safe physical state culture, and safety awareness, behavior, and habit cultivation for all employees. In 2017, the Company conducted 270 safety trainings with 76,253 person times of participants

Strengthening safety training

- Used animation demonstration, theoretical explanation, hands-on operations, simulation drills, experience and other means for safety education and training
- Held the first special training for quality management and environmental management (each a session)
- Organized 4 sessions of human error training for foremen
- Conducted special video training for lifting equipment management and scaffolding safety management
- Introduced innovative training methods and built experiential safety training facilities
- Strengthened safety lesson education, organized employees to learn from various safety incidents, prepared safety warning cards, and conducted experience feedback
- Used the SABA system to conduct monthly safety examinations for different levels of employees at different positions. In 2017, 1,511 employees were selected for the examination
- Conducted regular statistical analysis and announced the safety education and training of each power plant

Building safety teams

- Formulated and implemented the safety team building plan and chose the chemical testing team of Pingwei Power Plant as a model team for safety building of SPIC
- Visited and learned the experience of exemplary safety teams and shared good practices in time
- Required executives and managers to participate in safety team activities

Carrying out safety activities

- Familiarized the employees with concepts, guidelines and policies of quality, safety, health and environment through website, WeChat, newspapers, magazines, posters, banners and other media
- Strengthened efforts in the promotion of safety culture by organizing work safety month, work safety publicity day, safety culture week, "Show My Safety" and other activities
- Promoted the construction of team safety culture publicity corner, solidly carried out safety education and training for teams, continuously improved the site working environment, and effectively cultivated a good working atmosphere for safety. Promoted employees' safety awareness, behavior, and habit formation, and had the safety and culture rooted in the grass roots level

Case

"Show My Safety" activity

The Company actively participated in the second "Show My Safety" held by SPIC. It held the activities for the first division of the event, and was recognized as an "excellent organizer." A number of model teams and individuals from the affiliated companies were awarded. Five teams including relay protection team from Pingwei Power Plant won the "Excellent Safety Work Team" award; 10 employees including Nie Xiangling from Yao Meng Plant won the "100 Safety Guards" award; Tao Jian from Changshu Power Plant won the "Top Ten Work Safety Model" award.

"Show My Safety" activity

Attaching importance to occupational health

The Company strictly followed the laws and regulations such as the Occupational Disease Prevention Law promulgated by the Chinese government, continuously strengthened occupational health management, improved working conditions, increased efforts on occupational health and safety knowledge and skills training, and ensured the occupational health and life safety of employees.

Improving the working environment

- Improved the facilities for daily office and duty places, implemented fixed management to keep clean and orderly
- Improved site work conditions, implemented visual safety management, and maintained complete and clear safety signs
- Separated, grid-like management was implemented on construction sites, and hazardous areas were fenced and provided with access control
- Maintained complete, reliable and functional facilities on the sites for prevention of occupational diseases, and passed regular inspection for occupational hazards and set up announcements
- Work permit system was strictly enforced for hazardous work with effective measures and monitoring in place

Improving protection

- According to job requirements, we provided all types of labor protection equipment for employees and the correct use was supervised
- Organized occupational health training for all employees to familiarize them with on-site occupational hazards and protective measures
- Organized regular occupational health examinations for all employees

In 2017

fatalities from work
0

lost days due to work injury
0 day

Sticking to integrity in operations to ensure compliance with laws and regulations

Integrity in operations is the cornerstone of business development. China Power strictly abides by the laws and regulations of China, continues to improve the internal control system for risks, safeguards the rights and interests of shareholders, actively promotes the construction of anti-corruption, and creates a transparent supply chain, thereby ensuring the sustainable development of its business.

United Nations Sustainable Development Goals (SDG)

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

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

In 2017

review and audit

100%

participants in anti-corruption training seminars and publicity activities

10,242 person times

Interaction with investors

150 person times

Safeguarding shareholders' interests

The Company adhered to the principle of sustainable development and transparent operation, established and improved the risk management system, promoted internal control management, strengthened the management of investor relations, and maintained the full communication between the Company and investors, so as to continuously enhance its core competitiveness and achieve good business performance for safeguarding shareholders' interests.

In 2017

Net profit attributable to shareholders

RMB **795,272,000**

Basic earnings per share

RMB **0.10**

■ Risk management

The Company continued to improve the risk management system, strengthened comprehensive risk management, completed the risk assessment of investment projects, strengthened the management of major risks, integrated the requirements for risk management and control into corporate management and business processes, and effectively prevented internal and external risks and enhanced the Company's overall risk prevention and control capabilities.

Strengthening risk management	Identifying risk factors
• Revised related systems such as Risk Assessment Management Measures and Risk Management System • Carried out 2017 full risk assessment	• Took the business process as the main line, considered internal and external risk factors, and comprehensively assessed the risks in production, operation and management • Comprehensively reviewed the risk factors in business processes such as strategic planning, investment and financing, marketing, and finance • Reported major risk records on a quarterly basis and dynamically adjusted major risk lists based on actual conditions

■ Internal control management

The Company comprehensively upgraded its internal control system, continuously improved its internal control compliance system, strengthened internal control team building, and actively communicated with SPIC and other peer companies. It created opportunities for exchanges, promoted the internal auditors to update their knowledge and update mindset, ensured the quality of audits, and effectively played the role of internal control management in business protection.

Improving the internal control compliance system

- Formulated the Implementation Plan for Construction of Internal Control Compliance System
- Revised the Internal Control Management System
- Completed management systems and operation manuals such as the Internal Control Compliance Procedures and Internal Control Compliance Manual.
- Established a long-term and standing mechanism for internal control compliance to enhance the overall compliance level of the Company

Conducting internal audit

- Following the off-office audit principle and as recommended by the HR Department of the Company, economic accountability audit for office term was conducted for 8 affiliated companies
- Strengthened closed-loop audit management and conducted post-audit assessments on some affiliated companies; paid attention to key areas and weak links of management, and conducted special audits on financial income and expenditures of some affiliated companies
- Strengthened the supervision and control of the internal control compliance system, and steadily advanced it according to milestone plan

Strengthening the building of internal control team

- Made great efforts to promote compliance culture and raised awareness of all employees' active compliance
- In 2017, the Company participated in the office term economic accountability audit on Chongqing Company organized by SPIC, and fostered capabilities through actual work

■ Investor relations management

The Company actively strengthened the management of investor relations and maintained sufficient communication with investors. Chairman of the board of directors, directors and senior management all participated in various types of investor relations activities and honestly answered questions from each investor so that the investors would fully and objectively understand the Company's operations and development strategies. Due to this, the Company formed a good interactive relationship with the investors and increased the transparency of information disclosure.

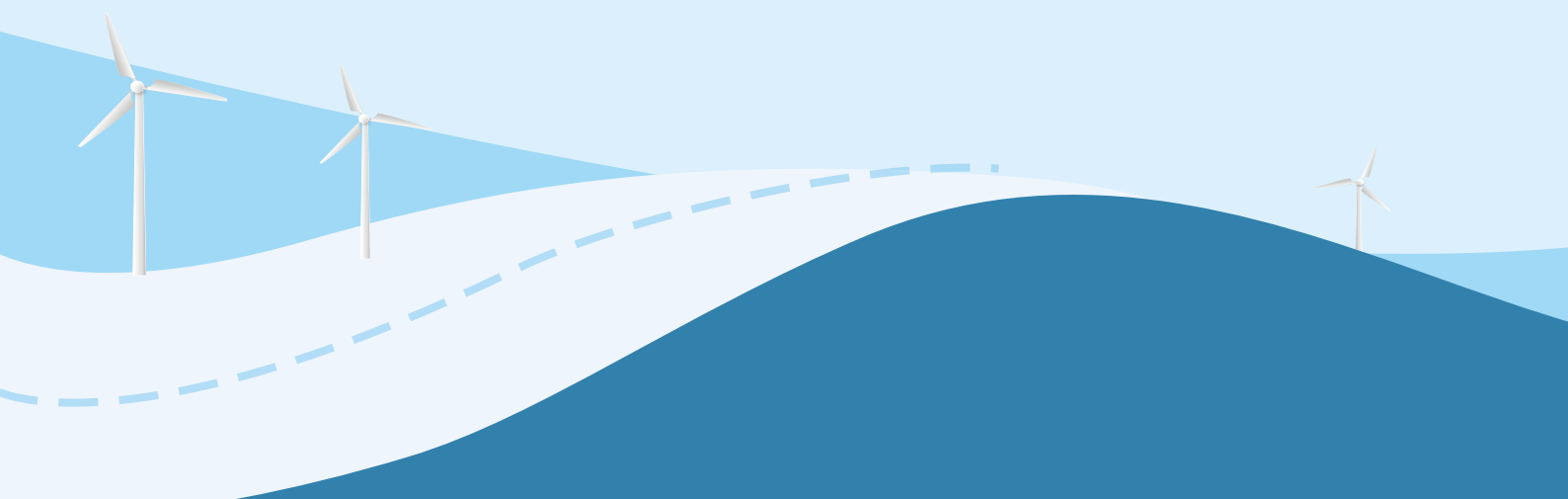
In 2017

Interaction with investors

150 person times

consultations for proposals for topics of the "Three Meetings"

174



Maintaining legal governance

The Company continued to improve the working mechanism for legal governance, and strictly implemented related systems such as Administrative Measures on Legal Affairs, Legality Management System and Legal Review System for Contracts. In comprehensively strengthening legal education, the Company conducted legal knowledge training, enhanced legal information exchange, laying a solid foundation for the sustainable development of the Company. In 2017, 100% review and audit was implemented and there were no legal risk incidents that the Company was held accountable.

Improving the working mechanism for legal governance

- The general counsel attended board meetings as a non-voting attendee, participated in general manager office meetings, executive committee meetings, and got fully involved in business operations
- Incorporated the requirements for decision-making according to the law into the rules of procedure and included the legal governance results into the comprehensive performance evaluation
- Established a law studying system for CPC committees of the affiliated companies and explored the legal knowledge examination system for leaders before taking office
- Optimized the working system for counsels, and urged the 11 affiliated companies to assign full-time counsels

Carrying out legal knowledge education

- According to the 7th Five-Year Plan for Law Publicity, advanced law publicity in order
- Centering around main tasks, served the overall interests of the Company, conducted in-depth law publicity and education and solidly promoted legal governance

Strengthen specials training on legal knowledge

- Conducted training on counsels of the Company, carried out four trainings on Company executives and relevant managers in 2017 to further enhance their compliance management and risk prevention awareness

Enhancing efforts on combating corruption

To strengthen the culture of honesty and cleanliness, the Company pushed the latest anti-corruption campaigns and typical cases in a timely manner through new media such as websites and WeChat, and intensified supervision and inspection, so that employees were deeply educated imperceptibly. In 2017, 10,242 people participated in 227 anti-corruption training seminars and publicity activities and there was no action related to corruption.

Improving anti-corruption supervision mechanism

- Held the 2017 Anti-Corruption Conference to supervise and guide the affiliated companies to strengthen planning and implementation
- Promoted the implementation of "two responsibilities" and the fulfillment of objectives

Deepening anti-corruption education through typical cases

- Focused on anti-corruption advocacy month, took major holidays as key nodes, and conducted self-discipline education for leaders and key personnel
- Conducted education through typical cases in violation of rules and regulations, and guided the leaders to check erroneous ideas at the outset
- Conducted integrity reminder talks, guided leaders to build ideological and moral defenses and conscientiously abide by the requirements for integrity
- Had integrity talks with new leaders before taking office and guided new employees to take a good start in new positions

Investigating corruption and violation practices

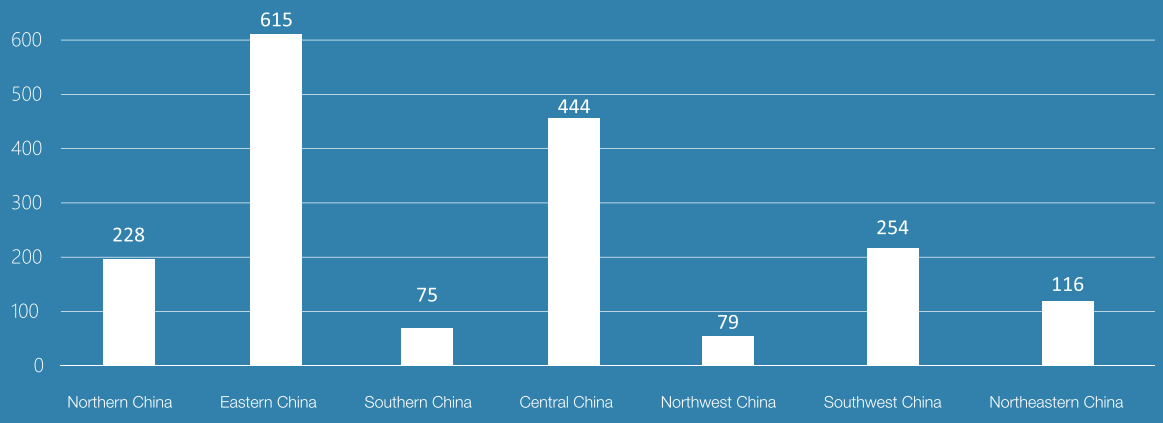
- According to filed complaints and clues, investigated violations of work integrity, abuse of power for personal gain and detriment to the interests of masses
- Investigated and punished the persons held accountable based on the verified results, and the person liable and his supervisors were both investigated

Building a responsible supply chain

The Company adhered to the principle of equality and reciprocity, grew and created value together with partners, creates value, and implemented a closed-loop management model including admission, evaluation, and optimization. While fulfilling its social responsibilities, the Company also focused on integrating its social responsibility concepts and requirements into supplier management, provided training for suppliers, and improved their ability to fulfill their social responsibilities, driving the sustainable development of upstream and downstream sectors.

In 2017

Audited suppliers of fuels and other materials	Identified defective suppliers	Blacklisted suppliers
1,811	110	60



Number of suppliers of fuel and equipment by region in 2017

Promoting supply chain management systems

• Formulated strict and normative supplier selection and management systems, and developed rules and regulations such as Fuel Supplier Management and Evaluation Implementation Rules, Material Supplier Management System, Supplier Bad Behavior Record Management Measures, contributed to a healthy and orderly market environment

Optimizing supplier bid management

• Strengthened bid plan management, strictly enforced bid requirements, improved the quality of bid, optimized procurement strategy, and ensured that the project requirements were met
• Suppliers were comprehensively reviewed from qualification, technical capability, product status, price level, after-sales service and reputation, and against Classification Catalogue of Materials. They were classified into Classes I, II, and III. Focus was placed on Classes I and II suppliers, new and eliminated suppliers

Improving suppliers' capability to fulfill social responsibility

• Conducted qualification review on work safety and employee training of suppliers
• Improved supplier incentives
• Comprehensively urged suppliers to raise their awareness of social responsibility management
• Took the initiative to strengthen communication with large electricity consumers

The Ending Chapter

Outlook for 2018

2018 is a year to continue deepening reforms, and marks the beginning for SPIC to build a world-class comprehensive energy group with global competitiveness. China Power will continue to comprehensively deepen its reforms, take the initiative to act, improve the quality of development, accelerate its transformation into a clean energy company, and continue to promote the sustainable development of the Company in a responsible manner and enhance its ability to create value.

We will continue to drive development with innovation and contribute to economic sustainability. We will firmly promote the transformation and development, vigorously develop clean energy projects, and strive to reduce the dependence on traditional energy sources; we will accelerate the construction of digital power plants, promote integrated and smart energy services, and strive to achieve the leap from a "conventional company" to an "innovative company"; we will strengthen cooperation with all parties, innovate development models, enhance corporate brand influence, and provide society with more stable, reliable, higher-quality, cleaner power supplies.

We will focus on clean and green development and contribute to ecological sustainability. We will continue to explore environmental protection technologies, increase energy conservation and emission reduction efforts, increase resource use efficiency, maintain green and low-carbon operations, promote industrial energy conservation, efficient, green development, and respond to global climate change, and play a greater role in China's ecological civilization development.

We will strengthen work safety management and contribute to operational sustainability. By improving the work safety system, we will deepen the application of the HSE management system, strengthen work safety management and safety culture cultivation, pay attention to the occupational health of employees, raise internal work safety management in all aspects, and solidify the foundation for our own stable and sustainable operation.

We will maintain harmony and sharing and contribute to community sustainability. We will continue to share development results with the community, help employees continue to grow, continue to explore targeted poverty alleviation paths, take the initiative to participate in social welfare, build a distinctive charity brand, combine our own development with social progress, and promote social well-being and sense of gain with actions.

Index for indicators in the report

	Main categories		Content	Page
A Environmental	Aspect A1: Emissions	A1.1	Types of emissions and emissions data.	P32-P36
		A1.2	Greenhouse gas emissions in total (in tons) and (if applicable) density (if calculated based on per unit of output or per facility).	P32
		A1.3	Total hazardous waste produced (in tons) and (if applicable) density (if calculated based on per unit of output or per facility).	P33
		A1.4	Total non-hazardous waste produced (in tons) and (if applicable) density (if calculated based on per unit of output or per facility).	P33
		A1.5	Measures to mitigate emissions and results achieved.	P32-P35
		A1.6	Handling of hazardous and non-hazardous wastes, reduction initiatives and results achieved.	P33
	Aspect A2: Use of Resources	A2.1	Direct and/or indirect energy consumption by type in total (such as electricity, gas, or oil) (in kWh per kilo-second) and intensity (if calculated based on per unit of output or per facility).	P33-P35
		A2.2	Water consumption in total and intensity (if calculated based on per unit of output or per facility).	P35
		A2.3	Energy use efficiency initiatives and results achieved.	P33-P35
		A2.4	Issues in sourcing water, water efficiency initiatives and results achieved.	P35
		A2.5	Total packaging material used for finished products (in tons) and (if applicable) per unit of production.	N/A
	Aspect A3: Environment and Natural Resources	A3.1	Significant impacts of activities on the environment and natural resources and actions taken to manage them.	P36
B Social Employment and Labour Practices	Aspect B1: Employment	B1.1	Total workforce by gender, employment type, age group and geographical region.	P44
		B1.2	Employee turnover rate by gender, age group and geographical region.	P45
	Aspect B2: Health and Safety	B2.1	Number and rate of work-related fatalities.	P55
		B2.2	Lost days due to work injury.	P55
		B2.3	Occupational health and safety measures adopted, how they are implemented and monitored.	P55
	Aspect B3: Development and Training	B3.1	Percentage of employees trained by gender and employee category (e.g. senior management, middle management).	P46
		B3.2	Average training hours completed per employee by gender and employee category.	P46
	Aspect B4: Labour Standards	B4.1	Measures to review employment practices to avoid child and forced labour.	P43
		B4.2	Steps taken to eliminate such practices when discovered.	N/A
Operating Practices	Aspect B5: Supply Chain Management	B5.1	Number of suppliers by geographical region.	P61
		B5.2	Practices relating to engaging suppliers, number of suppliers where practices implemented, how they are implemented and monitored.	P61
	Aspect B6: Product Responsibility	B6.1	Percentage of total products sold or shipped subject to recalls.	N/A. Due to the special nature of the power industry, power products are not recoverable.
		B6.2	Number of complaints received and how they are dealt with.	N/A
		B6.3	Practices relating to observing and protecting intellectual property rights.	
		B6.4	Quality assurance process and recall procedures.	N/A. The product of China Power is electricity and this indicator does not apply.
		B6.5	Consumer data protection and privacy policies, how they are implemented and monitored.	N/A. The customers for China Power's product are power grid companies. There is a business relationship between the power grid companies and consumers, and 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 and the outcomes.	P59
		B7.2	Preventive measures and whistle-blowing procedures, how they are implemented and monitored.	P59
Community	Aspect B8: Community Investment	B8.1	Focus areas of contribution (e.g. education, environmental matters, labour demand, health, culture, sports).	P37-P39、P48-P49
		B8.2	Resources contributed (e.g. time or money).	P38、P39、P49

Feedback form

Dear reader:

Thank you for reading this report! We are happy to listen to and adopt your opinions and suggestions on this report so that we can continue to improve in the preparation of future reports.

Please answer the following questions and fax the form at:852-28023922; or send to us via mail at: ir@chinapower.hk。

Please check at appropriate locations

	Y	Neutral	N
Do you think this report highlights the Company's work in economic, social, and environmental issues and the major impact?			
Do you think the information and indicators disclosed in this report are clear, accurate and complete?			
Do you think the layout and style of this report are easy for reading?			

Open questions:

1. What part of the report are you most interested in?

2. What needed information do you think is not reflected in this report?

3. What are your suggestions for our future social responsibility reports?

If you like, please tell us about your information:

Name:

Employer:

Phone:

Address:

E-mail:

中国电力国际发展有限公司
CHINA POWER INTERNATIONAL DEVELOPMENT LIMITED

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

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