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START FROM HEART



China Resources Power
Holdings Co., Ltd.

Sustainable Development Report 2018





About the Report

This is the 9th annual Sustainability Development Report issued by China Resources Power Holdings Company Limited ("CR Power") for the year from January 1 to December 31, 2018.

Basis of Preparation

This Report is prepared with reference to the Environmental, Social and Governance Reporting Guide as set forth in Appendix 27 of the Main Board Listing Rules issued by the Stock Exchange of Hong Kong ("HKEx"), Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI Standards), China Corporate Social Responsibility Reporting Guidelines—Power Production Industry and Guidance on Chinese Corporate Social Responsibility Reports of the Chinese Academy of Social Sciences (CASS-CSR 4.0), Social Responsibility Guidelines for Central Enterprises issued by the SASAC, CR Group Management Methods for Social Responsibility, and CR Power Management Standards for Social Responsibility.

Reporting Scope

This report relates to China Resources Power Holdings Company Limited and its affiliates (see the organizational structure on Page 21), referred to herein as "We", "the Company", or "CR Power".

We have engaged an independent third party to perform assurance of 13 performance indexes in this report. The scope includes all the operating thermal power plants that are wholly-owned, controlled or managed by CR Power in 2018 (see P.16 and P.17 for details).

Information Sources

The data and cases of this report all come from relevant Company statistical reports and documents. We guarantee that this report contains no misrepresentations, misleading statements, or material omissions, and take responsibility for the authenticity, accuracy and completeness of its contents.

Report Approval

This report was approved by the Board of Directors and management of the Company on June 11, 2019.

Access to this Report

This report can be viewed on and downloaded from www.hkexnews.hk and www.cr-power.com/duty/kcxfzbg.

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Assurance Report

Independent practitioner's limited assurance report

To the Board of Directors of China Resources Power Holdings Company Limited

We have undertaken a limited assurance engagement in respect of the selected sustainability information of China Resources Power Holdings Company Limited (the "Company") listed below and identified with an asterisk (*) on pages 85 to 86 in the Company's sustainability report for the year ended 31 December 2018 ("the 2018 Sustainability Report") (the "Identified Sustainability Information").

Identified Sustainability Information

The Identified Sustainability Information for the year ended 31 December 2018 is summarised below:

- Nitrogen Oxides (NO_x) emissions (10,000 tonnes)
- Nitrogen Oxides (NO_x) emission rate (g/kWh)
- Sulphur Dioxide (SO₂) emissions (10,000 tonnes)
- Sulphur Dioxide (SO₂) emission rate (g/kWh)
- Particulates emissions (10,000 tonnes)
- Particulates emission rate (g/kWh)
- Installation rate of desulfurization device in coal-fired thermal power plants (%)
- Installation rate of denitrification device in coal-fired thermal power plants (%)
- Natural gas consumption (million cubic meters)
- Diesel consumption (10,000 tonnes)
- Coal consumption (10,000 tonnes)
- Net generation coal consumption rate (g/kWh)
- Purchased electricity (MWh)

Our assurance was with respect to the year ended 31 December 2018 information only and we have not performed any procedures with respect to earlier periods or any other elements included in the 2018 Sustainability Report and, therefore, do not express any conclusion thereon.

Criteria

The criteria used by the Company to prepare the Identified Sustainability Information is set out in Note 5 of "Key Performance Index" on pages 85 to 86 of the 2018 Sustainability Report (the "Criteria").

The Company's Responsibility for the Identified Sustainability Information

The Company is responsible for the preparation of the Identified Sustainability Information in accordance with the Criteria. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation of Identified Sustainability Information that is free from material misstatement, whether due to fraud or error.

Inherent limitations

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measures and measurement techniques and can affect comparability between entities.

Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.



Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Identified Sustainability Information based on the procedures we have performed and the evidence we have obtained. We conducted our limited assurance engagement in accordance with International Standard on Assurance Engagements 3000 (Revised), Assurance Engagements other than Audits or Reviews of Historical Financial Information issued by the International Auditing and Assurance Standards Board. That standard requires that we plan and perform this engagement to obtain limited assurance about whether the Identified Sustainability Information is free from material misstatement.

A limited assurance engagement involves assessing the suitability in the circumstances of the Company's use of the Criteria as the basis for the preparation of the Identified Sustainability Information, assessing the risks of material misstatement of the Identified Sustainability Information whether due to fraud or error, responding to the assessed risks as necessary in the circumstances, and evaluating the overall presentation of the Identified Sustainability Information. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks.

The procedures we performed were based on our professional judgment and included inquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

Given the circumstances of the engagement, in performing the procedures listed above we:

- Made appropriate inquiries of management of the Company and its subsidiaries;
- Assessed the design of critical process and control for collecting and reporting the Identified Sustainability Information;
- Undertook limited analytical procedures over the Identified Sustainability Information;
- Reviewed relevant supporting information and documents for Identified Sustainability Information provided by management; and
- Did not perform any testing on the Continuous Emission Monitoring System of the Company.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement. Accordingly, we do not express a reasonable assurance opinion about whether the Company's Identified Sustainability Information has been prepared, in all material respects, in accordance with the Criteria.

Limited Assurance Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Company's Identified Sustainability Information for the year ended 31 December 2018 is not prepared, in all material respects, in accordance with the Criteria.

Our report has been prepared for and only for the board of directors of the Company and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the content of this report.

PricewaterhouseCoopers
 Certified Public Accountants
 Hong Kong, 27 May 2019



Chairman's Statement

A tree will not last long without roots, and water is not sustained without a source. Understanding and fulfilling our responsibilities, and strengthening and enhancing our abilities to perform our environmental, social, and governance duties, are some of the ways that we build our core competitiveness. These are also our expectation from all sectors of society, and the inevitable requirement of sustainable corporate development in the new era.

As a large-scale energy company, CR Power integrates environmental, social and governance responsibilities into our daily business operations, constantly reviews our performance and deficiencies, and strives to enhance our ability to implement sustainable development, laying the foundation for long-term corporate value creation.

In 2018, we further strengthened our corporate governance, vigorously developed renewable energy, further reduced energy consumption and emissions, drove quality development through innovation, substantially disposed of and reduced our shareholding of coal assets, actively participated in the construction of Guangdong-Hong Kong-Macao Greater Bay Area (GBA), and innovatively developed renewable energy in combination with targeted poverty alleviation. Our environmental, social and governance efforts have achieved impressive results. Our company and the subsidiaries have won many international and regional honors such as the Asian Power Awards, National Prime-quality Project, Hong Kong Green Awards, and Top 20 Hang Seng Index Corporation of Hong Kong Business Sustainability Index.

Being responsible to guarantee intrinsic safety.

We emphasize on people-orientated, and prioritize life and safety over everything else. We made further efforts to develop our safety supervision and assurance, rigorously implemented our responsibility system for production safety, continued promote management of major safety hazards, risk evaluation, emergency management, compliance, NOSA Five Star Management, research and development in smart technology, improved working conditions, consolidated the safety foundations, and ensured the personnel safety. In 2018, the company invested about RMB 312 million in production safety, and recorded no major safety incidents and one personnel casualty accident, achieving our best production safety performance in the past 8 years.

Enhancing corporate governance to create sustainable value.

We have continuously improved corporate governance, revised the Articles of Association of the Board of Directors, and

amended and refined a series of management systems. The supervision management layers have implemented corporate strategies and operational objectives while enhancing institutionalization and standardization. Over the course of the year, the Board of Directors held 8 meetings and reviewed a series of construction, technical renovation, and M&A projects. We strengthened continuous tracking of post-investment evaluation, unproductive asset disposal, and major information system construction. We also strengthened the review of investment project approval, further standardized decision-making procedures, avoided investment risks, and improved investment quality.

Performing environmental responsibility for green development.

We upheld the concept of green and low-carbon development, accelerated the development of renewable energy, strictly controlled our coal power investment, and optimized our energy structure. As at the end of 2018, attributable clean energy generation capacity accounted for 20.4% of total attributable generation capacity – an increase of 3% over the last year. Through technical transformation and information system construction, we have improved operational management and created an excellent operating system. The utilization hours of thermal and wind power projects substantially exceeded the national average levels. In 2018, we insisted on innovation-driven development, invested RMB 197 million in technological R&D, and used advanced technologies such as big data and cloud computing to transformation and innovation for higher-quality development. We continued to increase investment in energy-saving and emission reduction, and ultra-low emission transformation has been completed on 98% of the attributable operational capacity of our subsidiary coal-fired power plants. Our main energy consumption and emission indicators were further improved, and our average coal consumption rate decreased by 3.62g/kWh compared with the last year. We have optimized our asset structure, substantially disposed of and reduced holding shares of coal assets, reduced and disposed of selective thermal other unproductive assets, and recovered remarkable improvements in quality and efficiency. In 2018, we resolutely disposed of coal assets in Shanxi Province, and recovered over RMB 9.5 billion in cash, with the remaining RMB 5 billion expected to be recovered in the next three years. We actively explored thermal waste blended combustion power generation technology, and 13 plants of CR Power including Guangdong Haifeng and Ji9angsu Changshu Power Plant implemented sludge disposal treatment, treating approximately 403,000 tons of sludge in 2018, helping resolve the problem of urban sludge, and also expanding our own development space. Meanwhile, we have attached importance to water and soil pollution prevention and ecological protection, and minimized the impact of project construction and operation on the environment. In 2018, we invested a total of approximately RMB 1.52 billion on environmental protection.

Fulfilling social responsibility to eliminate poverty.

We are actively involved in public welfare, and do our best to give back to making full use of our advantages in the industry, funds, management, and technology, and have been actively involved in targeted poverty alleviation with scientific planning. Through industrial and education poverty alleviation, we have alleviated poverty from the source and made new contributions to quality of life. In 2018, we donated a total of about RMB 6,606,900 to society.

Communicating our responsibility by proactively accepting supervision.

We attach great importance to all forms of communication with society and the community, and promptly disclose relevant information of our business development. In July 2018, we held a Sustainable Development Report Release Conference to publicly disclose our corporate governance, production and operations, energy conservation, emission reduction, innovative transformation, charity, employee care, and other key performance indicators and outstanding practice cases. Foreign media were invited to witness the event. September marks the third consecutive year of our "Green Development, Beautiful Life" Clean Energy Open Month, attended by 36 companies of CR Power from 10 regions. A total of 1,735 representatives including community residents, teachers, students, environmental volunteers, customers, partners, governments, and media visited the enterprise to inspect our work and performance in clean development, environmental protection, innovative transformation, and social responsibility. In 2018, all enterprises under the Company organized a total of 168 open activities to actively accept scrutiny from society.

This is the ninth consecutive year that we have issued a Sustainable Development Report, which systematically discloses CR Power's environmental, social, and governance policies, initiatives, and performance indicators in 2018. This is the third consecutive year that an independent third party has provided and assured the key indicators contained in this report. We will continue our efforts in listening to the opinions and suggestions of all stakeholders, and to optimize the preparation and disclosure of this report to further promote implementation and improve the practice of our environmental, social, and governance responsibilities.

2019 marks the 70th anniversary of the founding of People's Republic of China. Keeping in mind our mission and responsibility, in unremitting pursuit of perfection, with an entrepreneurial spirit of reform and innovation, and a realistic and pragmatic work style, we will work hand in hand with all stakeholders for outstanding performance. By doing so, we hope to make new and greater contributions to the progress and development of the human society!

2018

A Glimpse of KPIs

Economic Performance



Total Assets
HKD

208.23
billion



Profit Attributable to
Owners of the Company
HKD

3.95
billion



Gross Generation Volume
(subsidiary power plants)

166.34
TWh



Turnover
HKD

76.94
billion



Attributable Operational
Generation Capacity

37.44
GW



Total Heat Supply

92,044.29
kJ





Coal Consumption Rate
299.54
g/kWh



Sulphur Dioxide
Emission Rate
0.08
g/kWh



Particulate Emission
Rate
0.01
g/kWh



Investment in Energy
Conservation and Emission
Reduction
RMB
1.283
billion



NOx Emission Rate
0.13
g/kWh

Environmental Performance

Social Performance



Total Taxes
RMB
7.04
billion



Total Number of Employees
21,629
employees



Philanthropic Donations
RMB
6.07
million



Safety Investment
RMB
312
million



New Graduates Employed
489



A large circular graphic composed of several overlapping segments. The outer ring is a solid orange color. Inside, various images are arranged in a circular pattern, separated by white borders. The images include: a factory with a smokestack emitting white smoke; solar panels installed on a grassy field; two wind turbines in a field; two workers in yellow protective suits and hard hats working on a large industrial component; a close-up of a person's hands working on a circular mechanical part; and a landscape with multiple wind turbines under a blue sky. The text 'Milestones in' is positioned in the center-right of the circle, in a bold, orange, sans-serif font.

Milestones in



2018

01

Equity transfer of Dudgeon Offshore Wind Power Project

On March 15, CR Power went to London to host the ceremony for the 30% equity transfer of Dudgeon Offshore Wind Power Project on behalf of CR Consortium. Located 30km offshore in England, the offshore wind farm uses 67 Siemens 6MW direct-drive wind turbines, with a total generation capacity of 402MW, making it the world's sixth-largest offshore wind farm. It is CR Power's first overseas project, and also its first time tapping into the offshore wind power business.

02

Divestment of Shanxi Coal Assets

On August 17, CR Power and Guoyuan Shidai Coal Asset Management Co., Ltd. ("Guoyuan Company") entered into an equity transfer framework agreement. Under the agreement, CR Power transferred its indirectly-held wholly-owned subsidiary China Resources Coal (Group) Co., Ltd., and its equity held in three subsidiary coal enterprises – China Resources Liansheng, Shanxi China Resources, and Taiyuan China Resources – as well as all subsidiary coal mines, to Guoyuan.

03

Rapid Development of Wind Power Business

On November 26, CR Power's grid-connected wind power capacity exceeded 7,000 MW, as the wind Turbine F176 of the Neihuang 400 MW Wind Power Project in Henan Province achieved grid connection. This milestone was achieved only 334 days after our wind power grid-connection reached 6,000 MW capacity on December 27, 2017. In 2018, our approved wind power capacity reached 3,258.8 MW, ranking among the top players in the industry. 2,664.8 MW of this capacity commenced wind power construction planning.

04

Establishment of the Comprehensive Energy Brand Lingxi

Combining our strength in comprehensive energy with cross-regional energy market conditions, CR Power founded the comprehensive energy brand Lingxi in 2018. On October 11, the company obtained the registration approval certificate from the National Copyright Administration on October 11, and the trademark registration entered the final review stage of the State Administration for Industry and Commerce.

05

Remarkable Business Development Results from Industrial Fund

In 2018, the Guangdong Runchuang New Energy Equity Investment Fund was established less than one year ago, and the rapid investment deployment has achieved remarkable results. It invested in 900 MW worth of wind power projects through M&A. Its reserve investment projects include a batch of waste-to-energy and biomass cogeneration projects, one newly started biomass project (30 MW), one newly approved biomass project (15 MW), one household waste incineration power generation project (800 T/D), one waste-to-energy generation project (1,200 T/D), and one biomass heat and power generation project (30 MW) with approved conditions.

06

New Progress in Coal-fired Coupled Waste Power Generation Project

On October 12, CR Power, CR Cement, and Shenzhen Water Group signed the Shenzhen Municipal Sewage Treatment Strategic Cooperation Agreement to jointly advance the combined sewage treatment/power generation project of CR Haifeng Power Plant and the synergic sewage treatment project of CR Cement. Thus far, a total of 12 plants of CR Power have implemented sludge disposal treatment, treating about 400,000 tons in 2018. Furthermore, 12 coal-fired coupled biomass combined power generation projects were included in the Technology Pilot Project of the National Energy Administration and Ministry of Ecology and Environment.

07

Launch of CR Power's first national incremental distribution network pilot project

On August 1, the Power Distribution Network Project of Hezhou CR Circular Economy Industry Demonstration Park officially supplied power to users to realize commercial operations. The project is one of the first batch of incremental distribution network pilot projects for incremental power distribution reform in China. On January 15, the project obtained the first power distribution license of Guangxi and for CR Power. The project also obtained the country's first approval of transmission.

08

Sequential development of thermal power centralized supervision and analysis specialist systems

The first phase (Jiangsu Region) CR Power Thermal Power Centralized Supervision and Analysis Specialist Systems (CSASS) was officially launched in October 2017. In 2018, all functions of Sections I & II were launched in the Jiangsu Region, and functional modules of Section III were launched in three pilot project companies in the Jiangsu Region. Providing a complete thermal power production integration solution based on big data, this system offers a complete range of features for the reliability, economical efficiency, and flexibility of thermal power production.

09

Received many international and regional honours such as the Asian Power Awards

In 2018, CR Power Haifeng Power Plant won the title of Best Environmental Upgrade Project of the Year in China, Panjin Power Plant won Best Technological Innovation Project of the Year in China, and Fuqing New Energy won Best Intelligent Power Grid Project of the Year in China. CR Power and its subsidiary companies were presented with 11 honours, including the Green Management Award, Extraordinary Environmental, Protection, Safety and Health Platinum Award, and Superior Environmental Protection Management Gold Award of the Hong Kong Green Awards. CR Power was ranked 8th in the 4th Hong Kong Business Sustainability Index, and has been included among the top 20 corporations for 4 consecutive years, and for the first time into the ranks of the "Pioneers".

10

Ranked among the best in the National Wind Farm Production and Operating Indicator Competition

At the 2018 Wind Power Operating Indicator Release Conference & 12th Annual Conference of National Wind Power Generation Technology Cooperation Network from August 29-30, the China Electricity Council released the key Chinese wind power production and operation indicators for 2017, and announced the results of the National Wind Farm Production and Operating Indicator Competition. A total of 26 CR Power wind farms were granted the awards, including 6 plants in 5A, 7 plants in 4A, and 13 plants in 3A. CR Power ranked first in terms of winning ratio in the industry.



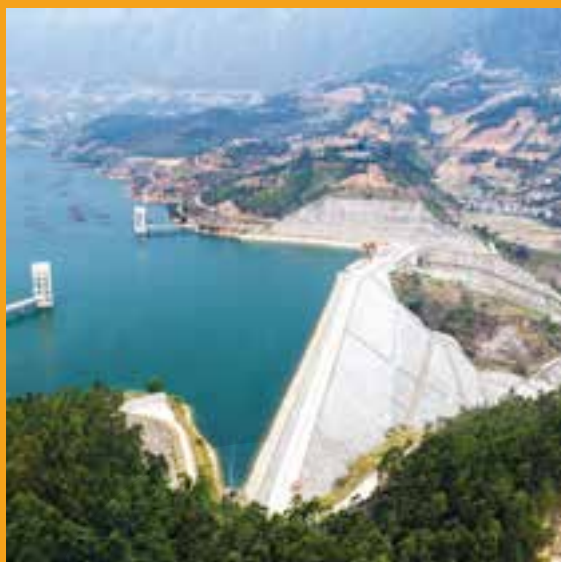
01 | Wind Power



02 | Photovoltaic Power



03 | Distributed Energy



04

Hydropower

About Us

CR Power was established in August 2001, and listed on the Main Board of the Hong Kong Stock Exchange in November 2003 (stock code 836). A Hong Kong publicly traded corporation under China Resources (Group) Limited ("CR Group"), CR Power is one of the most efficient and profitable comprehensive energy companies in China. Its business covers wind power, thermal power, hydropower, photovoltaic power generation, distributed energy, power sales, intelligent energy, coal mining, and other areas.



05

Thermal Power

Over the 17 years since its establishment, CR Power has grown into a comprehensive energy provider with total assets reaching HKD 208.23 billion, attributable operational generation capacity of 37.44GW, and investment covering 30 provinces, autonomous regions, municipalities and special administrative region. We have been selected as one of the Top 250 Platts Global Energy Companies and Forbes Top 2,000 Corporations for 12 consecutive years, ranking 131st and 977th respectively in 2018.



06

Smart Energy Services

Business Distribution

Our business is primarily distributed in 30 provinces, autonomous regions, municipalities, and special administrative region across China.

Jiangsu Province

Changshu (3x650MW) Δ
Nanjing Thermal Power (2x600MW) Δ
Tongshan (2x1000MW) Δ
Zhenjiang (2x630+2x140MW) Δ
Nanjing Chemical Park (2x55 +2x300MW) Δ
Yangzhou No. 2 (2x630MW)
Xuzhou (4x320MW) Δ
Nanjing Banqiao (2x330MW) Δ
Huaxin (2x330MW) Δ
Changzhou (2x630MW)
Yixing (2x60MW) Δ
Nantong Wind Power (65.5MW)
Sugian PV Power (20.4MW)
Huainan PV Power (10MW)

Guangdong Province

Haifeng (2x1000MW) Δ
Guangzhou Thermal Power (2x300MW) Δ
Lianzhou Wind Power (190MW)
Chaonan Wind Power (145.9MW)
Huilai Wind Power (133.5MW)
Xuwen Wind Power(100MW)
Yangjiang Wind Power (89.8MW)
Lufeng Wind Power (66MW)
Xinfeng Wind Power (50MW)
Yangjiang Wind Power Phase II (45.5MW)
Xinyi Wind Power (39MW)
Shantou Wind Power (29.2MW)
Shantou Haojiang Wind Power (18MW)
Yingde PV Power (29.2 MW)
Haifeng PV Power (4MW)

Henan Province

Dengfeng(2×320+2×600MW) Δ
Jiaozuo Longyuan (2×660MW) Δ
Shouyangshan (2×600MW) Δ
Gucheng (2×300MW) Δ
Luoyang (2×50MW) Δ
Neihuang Wind Power (326MW)
Biyang Wind Power (167MW)
Yanhsi Wind Power (30MW)
Wugang Wind Power (28MW)
Queshan Wind Power (26MW)

Yonghua Coal

Hebei Province

Bohai New District (2×350MW) Δ
Cangzhou (2×330MW) Δ
Caofeidian (2×300MW) Δ
Tangshan Fengrun (2×350MW) Δ
Hengfeng (2×300MW)
Hengxing (2×300MW)
Chengde Weichang Wind Power (198MW)
Mulan Weichang Wind Power (75MW)
Chengde Wind Power (48MW)
Caofeidian PV Power(11.4MW)

Liaoning Province

Panjin (2×350MW) Δ
Shenhai Thermal Power (3×200MW) Δ
Beipiao Wind Power (198.1MW)
Fuxin Wind Power (99MW)
Jianping Wind Power (99MW)
Fuxin Wind Power P2 (97.5MW)
Linghai Wind Power (90MW)
Jinzhou Wind Power (48MW)

Shandong Province

Heze (2×600MW) Δ
Dongying Wind Power (100MW)
Haiyang Wind Power (100MW)
Feixian Wind Power (80MW)
Linyi Wind Power (78MW)
Juxian Wind Power Phase I (50MW)
Juxian Wind Power Phase II (50MW)
Wulian Wind Power Phase I (50MW)
Wulian Wind Power Phase II (50MW)
Penglai Daliuhang Wind Power (49.8MW)
Penglai Daxindian Wind Power (49.8MW)
Qingdao Wind Power Phase I (49.8MW)
Qingdao Wind Power Phase II (50MW)
Weihai Huancui Wind Power (49.8MW)
Weihai Wind Power (49.8MW)
Jining Wind Power (49.5MW)
Rizhao Wind Power (48.6MW)
Yantai Wind Power (48MW)
Yantai Penglai Wind Power (46.6MW)
Zoucheng Wind Power (44MW)

Inner Mongolia Autonomous Region

Dengkou (2×300MW) Δ
Bayinxile Wind Power (99MW)
Manzhouli Wind Power (49.5MW)
Manzhouli Wind Power Phase II(49.5MW)
Wulanchabu Wind Power (49.5MW)
Wulanchabu Bayin Wind Power (49.5MW)
Wulanchabu Hongmu Wind Power (49.5MW)

Hubei Province

Hubei (2×300+2×1000MW) Δ
Yichang (2×350MW) Δ
Suixian Tianhekou Wind Power(220.5MW)
Yicheng Wind Power (150MW)
Zaoyang Wind Power (129.5MW)
Guangshui Wind Power (110MW)
Suizhou Fengming Wind Power (76.5MW)
Suizhou Wind Power (49.8MW)
Zaoyang Bailu Wind Power (20MW)

Guangxi Autonomous Region

Hezhou (2x1000MW) Δ
Rongxian Wind Power (86MW)
Hezhou PV Power (6MW)

Anhui Province

Fuyang (2x640MW) Δ
Huoshan PV Power (17.5MW)
Huaibei PV Power (5.9MW)

Hunan Province

Liyujiang B (2x650MW) Δ
Lianyuan (2x300MW) Δ
Liyujiang A (2x300MW) Δ
Linwu Wind Power (68MW)

Hunan Coal

Zhejiang Province

Cangnan (2x1000MW) Δ
Wenzhou Telulai (2x300MW)
Cangnan PV Power (12.1MW)

Yunnan Province

Honghe Hydropower (210MW)
Midu PV Power (20.3MW)
Zhaotong PV Power (20.1MW)

Sichuan Province

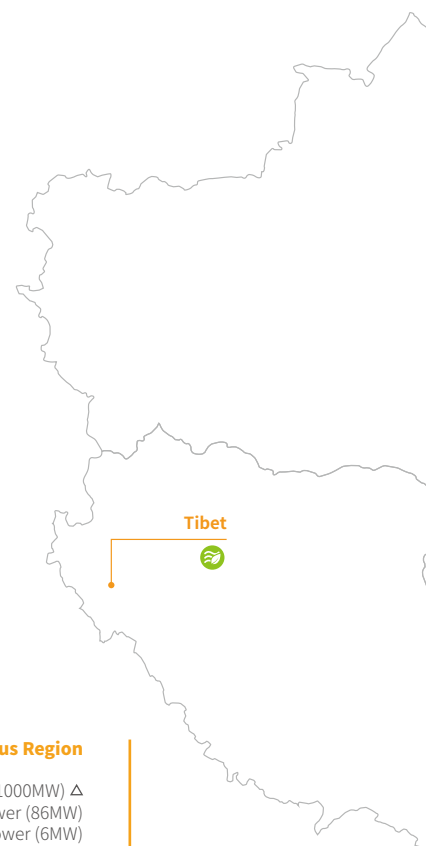
Yazuihe Hydropower (260MW)
Heishui PV Power (30MW)

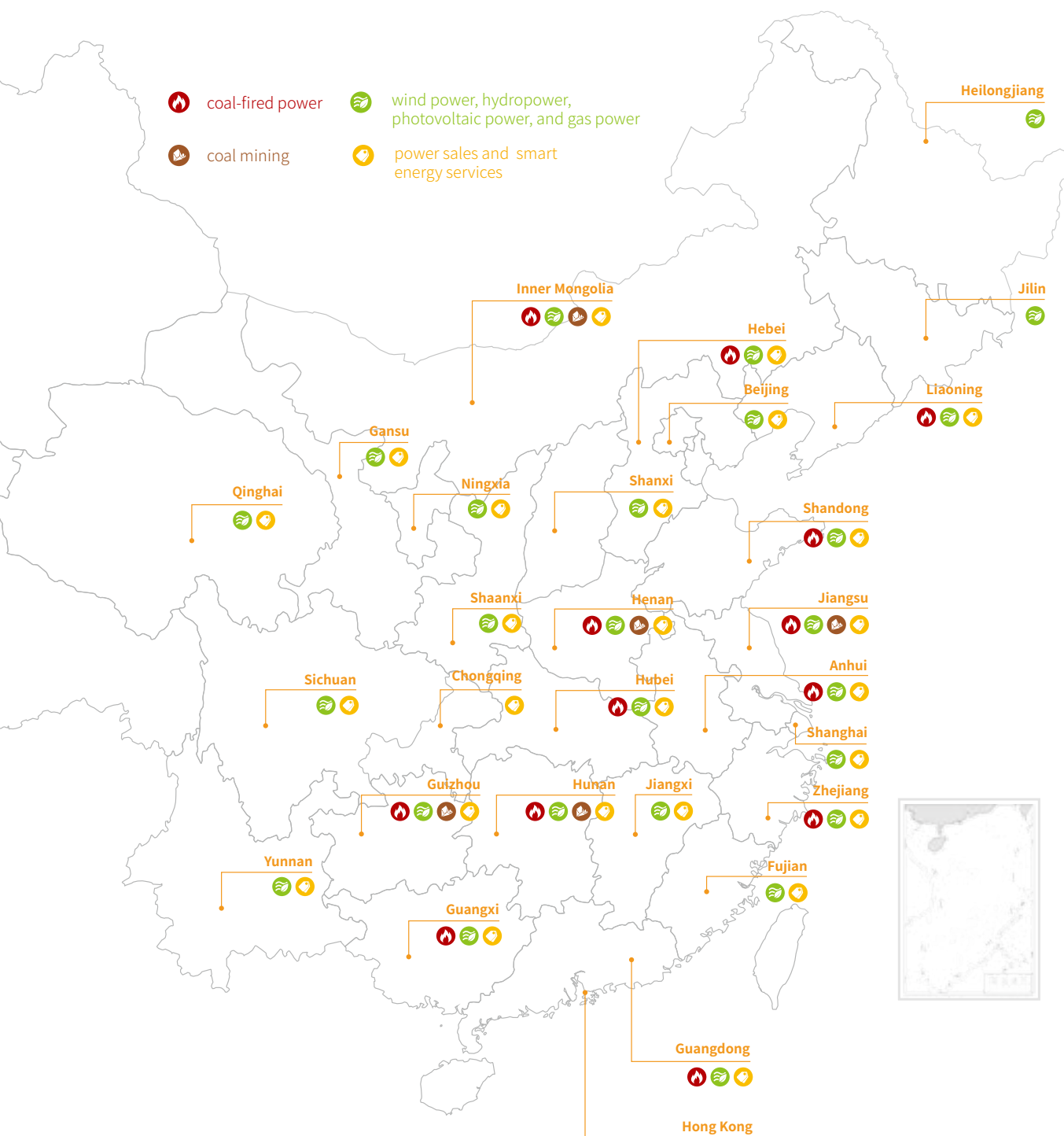
Gansu Province

Guazhou Wind Power (201MW)
Huanxian Wind Power (50MW)

Beijing City

Beijing Thermal Power (2x75MW) Δ





Heilongjiang Province

Fujin Wind Power (50MW)
Jiamusi Wind Power (43.5MW)
Anda PV Power (29MW)
Tailai PV Power (20MW)

Shanxi Province

Datong Wind Power (198MW)
Xinzhou Wind Power (120MW)
Zhongyang Wind Power (120MW)
Datong Guangling Wind Power (100MW)
Datong Yanggao Wind Power (99MW)
Linfen Wind Power (99MW)
Guxian Wind Power (19.5MW)
Xinrong PV Power (50MW)
Tianzhen PV Power (20MW)
Lanxian PV Power (30MW)

Guizhou Province

Guizhou Liuzhi (2x660MW)
Liping Wind Power (144MW)
Jianhe Wind Power (40.5MW)
Jinping Wind Power (22MW)

Ningxia Autonomous Region

Haiyuan Wind Power (300MW)

Jiangxi Province

Ganzhou Nankang Wind Power (64MW)
De'an Wind Power (48MW)
Ruichang Wind Power (30MW)

Tibet Autonomous Region

Jiangzi PV Power (20.2MW)

Qinghai Province

Dachaidan Wind Power (50MW)
Delingha PV Power (20MW)

Shaanxi Province

Baoji Wind Power (100MW)

Shanghai City

Shanghai Gas (2.4MW) Δ

Jilin Province

Nong'an Wind Power (20MW)

Fujian Province

Longyan Wind Power (48MW)
Huian Wind Power (26MW)
Fuqing PV Power (13.5MW)

■ Operating Power Plants ■ Operating coal mines

Corporate Governance

Extraordinary General Meeting of Shareholders

1

General Meeting of Shareholders

1

Board of Directors Meetings

8

Nomination Committee Meeting

1

Sustainability Committee Meeting

1

Audit and Risk Committee Meetings

3

Remuneration Committee Meeting

1

CR Power has established a sound corporate governance structure in accordance with the requirements of the Corporate Governance code in Appendix 14 of the Rules Governing the Listing of Securities on Main Board of the HKEx. The general meeting of shareholders has been established for the continuous improvement of the Company's governance system, the development of the Company's overall strategic plan, the establishment of performance and management objectives, assessment of performance, and monitoring of management performance to maintain good governance.

The Board of Directors consists of the Audit and Risk Committee, Nomination Committee, Remuneration Committee, and Sustainable Development Committee. The chairmen of the Sustainability Committee, the Audit and Risk Committee, and the Remuneration Committee are all independent Non-executive Directors, while the Chairman of the Nomination Committee is a Non-executive Director.

In 2018, we improved and revised the Board Charter to further clarify, refine and strengthen the responsibilities of the board of directors as needed to achieve high-level corporate governance, to oversee and implement a comprehensive sustainability policy.

Executive Directors
Non-executive Directors
Independent Non-executive Directors













Shareholders ----- Board of Directors

Senior Management



Board of Directors

Mr. Li Ru Ge Chairman of the Board of Directors & Non-executive Director		Mr. Hu Min Executive Director & President	
	Ms. Wang Xiao Bin Executive Director, CFO & Company Secretary		Mr. Chen Ying Non-executive Director
Mr. Wang Yan Non-executive Director		Mr. Ge Changxin Non-executive Director	
	Mr. Andrew Ma Chiu-Cheung Independent Non-executive Director		Ms. Elsie Leung Oi-sie Independent Non-executive Director
Dr. Raymond Ch'ien Kuo Fung Independent Non-executive Director		Mr. Jack So Chak Kwong Independent Non-executive Director	

Management Team

Mr. Hu Min
President



Ms. Wang Xiao Bin
CFO



Mr. Jiang Lihui
Senior Vice President



Mr. Zhu Guolin
Senior Vice President
& Financial Director



Mr. Zhou Jianbo
Senior Vice President



Mr. Wang Gaoqiang
Vice President



Mr. Ding Yuankui
Vice President



Mr. Zhao Houchang
Vice President



Mr. Wang Lin
Vice President



Mr. Hou Yongjie
Vice President



Mr. Zhang Gang
Vice President & General
Legal Counsel



Mr. Xu Hongbo
Assistant President &
General Manager of Strategic
Development Division



Organizational Structure

China Resources Power Holdings Co., Ltd.

Strategic Development Department

Construction Management Department

Operations Management Department

Power Wholesale Management Department

Fuel Management Department

International Business Department

Finance and Accounting Department

Human Resources Department

Environment, Health and Safety Department

Procurement Management Department

Audit Department

Legal Department

Administrative Office

Intelligence and Informatization Management Department

Supervision Department

Mass Affairs Department

Technical Research Institute

Rundian Information Company

Rundian Investment Company

Intelligent Energy Company

Jiangsu Region — Project Company

South China Region — Project Company

Central and Western Region — Project Company

Central China Region — Project Company

East China Region — Project Company

North China Region — Project Company

Northeast Region — Project Company

Northern Region — Project Company

Southeast Region — Project Company

Southwest Region — Project Company

Coal Branch Company — Project Company

RESPONSIBILITY STORY

First



Happiness Brought by the Wind

"After the Wind Farm was put into operation in 2017, we started to develop the tourism industry and experienced earth-shattering changes in life. In this poverty-stricken village, we have hope for prosperity. Power is the impetus for our development!"

The villagers of Qingshuidian Village, Zaoyang wore smiles from the heart – the best affirmation of the CR Power Zaoyang Bailu Wind Power Poverty Alleviation Project.

As an old revolutionary base area and poverty-stricken area in the Dabie Mountains, Hubei Province, Zaoyang has 77 key poverty-stricken villages and a poverty-stricken population of 51,500. Speaking of the local conditions, the person in charge of the city's Poverty Alleviation and Development Office said, "The poverty-stricken villages are over-populated and have poor natural conditions, backward transportation facilities, and huge unmet needs in public service. Most strikingly, the overall village-level collective economy is backward." More importantly, the remote location deep in the mountains creates high costs on power line construction, so power access has become a huge problem for the villagers, and inhibiting development.

Selection of proper investment projects, increasing the operating revenue of poverty-stricken villages, and effectively solving the predicament of no dominating industry and weak collective economy in the 77 poverty-stricken villages have become key issues to be addressed by Zaoyang. In response to the state's call for poverty alleviation, to lift more people out of poverty, China Resources Wind Power (Zaoyang) Co., Ltd. actively communicates and negotiates with Zaoyang Municipal People's Government. In April 2016, it finally entered into the Zaoyang Bailu Wind Power Project Investment Framework Agreement with Zaoyang Municipal People's Government to commence the Zaoyang Bailu Wind Power Project. Alongside project expansion, this project is also expected to gradually transform the predicament of Zaoyang's poverty-stricken villages.

The project has ten 2MW wind power generation units, a total generation capacity of 20MW. Construction started in July 2016, and all units were put into operation in January 2017. During construction and operation, the project has provided a large number of jobs for local villagers, allowing them to work contently right at home rather than travelling. Furthermore, they can take

Social Responsibility

CR Power has introduced the concept of "wind power poverty alleviation" innovatively, and uses profits from government investment in wind power for poverty alleviation, so that the development of enterprises will benefit local economic and social development. This model can not only improve the income of poor villagers around the project, promote local employment, solve the problem of power shortage in certain mountainous areas, but also accelerate CR Power's proportion of clean energy in line with the national energy development strategy, achieve win-win situation in economic and social benefits, and promote sustainable development of the enterprise and the area. Thus far, CR Power has launched wind power poverty alleviation projects in Zaoyang (Hubei Province), Qingyuan (Guangdong Province) and Cangwu (Guangxi Region). By the end of 2018, the capacity of poverty alleviation wind power projects that has been signed reached approximately 1,290 MW.

In addition, the wind power poverty alleviation projects also promote local green economic development and ecological conservation. A 50 MW wind power project, for example, can provide 105,800 MWh of clean energy every year. After all the poverty alleviation projects are put into operation, it can save about 510,000 tons of standard coal per year, reduce the emission of carbon dioxide by 1.3 million tons/year, sulfur dioxide by 1,220 tons/year, particulates by 335 tons/year, and nitrogen oxides by 3,285 tons/year, it has significant environmental benefits and effectively protects the green hills in local areas. The project's environmental protection facilities and the main project will be carried out simultaneously to maximize the protection of the environment; after the completion of the project, the development of rural tourism industry will bring new revenue sources to the local villagers, truly realizing the vision that clear waters and green mountains are as good as mountains of gold and silver.



Sweep to learn more

care of their fields without going back and forth during the busy farming season, and spend more time with seniors and children. With the completion of the project, transmission lines have been connected to the houses, offering power access to villagers in certain mountainous areas. Moreover, about RMB 10 million has been invested in water and soil conservation and vegetation restoration since construction started, greatly boosting green economic development and ecological conservation.

To accelerate the poverty alleviation in the 77 poverty-stricken villages of Zaoyang – in particular its 5 extremely poor villages – CR Power again entered into an agreement with Zaoyang Municipal People's Government in 2018 to jointly build and operate the 20MW Zaoyang Pinglin P2 Project and further improve the lives of local villagers.

As the "New Energy + Poverty Alleviation" project of Zaoyang Egret Wind Power combines industrial development with local development, and made positive contributions to poverty alleviation, the project stood out from 93 participating cases and won the "2018 ai Social Value Co-Creation" Enterprise Targeted Poverty Alleviation Case Model Award, which

was issued by the Management School of Fudan University and the Simeng CSR Promotion Centre.



Zaoyang Bailu Wind Farm

Resolving the Municipal Sludge Disposal Problem

"2018 was the toughest year for the Haifeng Power Plant sludge-coupled power generation project, and it is also a year of great harvest." Speaking of the topic of sludge disposal, Zhang Zongzhen, who is the leader of the Haifeng Power Plant Sludge Coupling Power Generation Project Team.

Sludge treatment coupled with power generation refers to mixing municipal sludge with coal at a certain proportion and then feeding it into the boiler for incineration. The high temperature of the power plant boiler is used to decompose the sludge. At the same time, the heat value of the sludge is fully utilized to generate clean power and heat for external supply. The noncombustible components contained in the sludge can be produced by the high temperature treatment, and can be recycled in the production of building materials such as cement.

Haifeng Power Plant is located in the Shenzhen-Shantou Special Cooperation Zone in the hinterlands of the Guangdong-Hong Kong-Macau Greater Bay Area. According to statistics, Shenzhen and Shanwei produce over 1 million tons of sludge every year. With the issuance of state regulations like the Water Pollution Prevention & Control Action Plan and Soil Pollution Prevention & Control Action Plan, The landfill disposal with the largest proportion of sludge disposal methods is subject to increasingly rigorous control. Due to the severe shortage of sludge disposal facilities, a great deal of sludge can't be treated in a sanitary way, resulting in an increasingly prominent problem of sludge in the city.

This is a practical problem of urban development and environmental protection, and a new opportunity for clean and green development of coal-fired power. At the end of 2016, Haifeng Power Plant decided to launch the sludge coupling power generation project in hopes of using sludge co-combustion as a profit growth point to resolve the problem of urban sludge, fulfilling its corporate environmental responsibility.

The development and construction of a project in its early stage is very difficult. Since the urban sludge in Guangdong is basically disposed by simple greening and landfill, it contains a great deal of pathogenic bacteria, chromium and mercury, and many other toxic and hazardous substances that are difficult to degrade. Improper disposal can easily cause secondary damage to the ecological environment. After the establishment of Sludge Co-combustion Research Team at the end of 2016, the team members went to the Bureau of Housing and Urban-Rural Development of Shanwei City and the Water Authority of Shenzhen City many times to introduce the harmless disposal plan of Haifeng Project and received support from relevant government departments. In August 2017, after several rounds of negotiations with the bid sludge disposal company, we finally signed a 300 t/d disposal cooperation agreement with the cooperation unit, preliminarily securing sludge resources for project initiation.

In October 2017, Haifeng Power Plant signed a formal cooperation agreement with China Energy Environmental Protection Co., Ltd. ("CEEP") to utilize the existing high-efficiency power generation system and clean and green environmental protection systems of Haifeng Power Plant to give full play to the technical strengths of CEEP in sludge disposal. This partnership focused on joint development and construction of the Haifeng Sludge Coupling Power Generation Project, steering it into a fast track.

In July 2018, Phase I of the Project was completed and put into operation. On July 5, Shenzhen Municipal Government requested Haifeng Power Plant to urgently dispose of municipal sludge. The project team immediately initiated the Emergency Sludge Disposal Plan and disposed of 500 t/d sludge (with a water content ratio of 60%). Although the sudden increased amount of sludge had been disposed, the impact on the plant equipment and the surrounding environment, and whether the unit capacity of sludge co-combustion had reached the design objective needed to be verified. To ensure no secondary pollution during sludge disposal, realize harmless disposal and turn sludge into resources, Haifeng Power Plant and Guangdong Power Research Institute jointly initiated a 3-month test on environmental impact, air monitoring and equipment efficiency

evaluation on the Haifeng Sludge Co-combustion Project from July to October 2018. The test results show that the impact of sludge co-combustion on the economic performance of the unit is within the acceptable range. However, in the subsequent operation of the unit, problems such as blockage, coal breakage, and uneven mixing frequently occurred, severely threatening the safety of the unit. In order to fully understand the influencing factors, the coal handling engineer of the Power Generation Department of Haifeng Power Plant conducted on-site inspections, recording comparisons and analyses every day. After a month of observation, he summarized the patterns of the problems and took effective measures to resolve the major safety hazards. The unit's daily sludge co-combustion amount has increased from 3% to 6%.

Fruitful results only come from hard work. At the end of 2018, Haifeng Power Plant's Sludge Coupling Power Generation Project had disposed of 64,400 tons of municipal sludge, which not only eliminated the municipal sludge accumulated in Shanwei City, but also offers an emergency disposal option for sludge that could not be properly disposed of in Shenzhen. At the same time, through the application of new technology and new equipment and the in-depth development of existing resources, Haifeng Power Plant has explored a series of sludge disposal technologies that can be applied, such as intelligent feed bins, steam drying, and flexible sludge treatment. The program has set a good example for the transformation and upgrading of traditional thermal power plants. The contributions of Haifeng Power Plant in sludge disposal have been fully affirmed by the Shenzhen Municipal Government.

On October 12, 2018, CR Power and CR Cement signed the "Shenzhen Municipal Sludge Disposal Strategic Cooperation Framework Agreement" with Water Authority of Shenzhen. According to the agreement, CR Power and CR Cement will exert their respective advantages and jointly advance the CR Haifeng Power Plant 1,500 t/d Sludge Coupling Power Generation Project and CR Cement Sludge Synergic Disposal Project. The second phase of the Haifeng Sludge Coupling Power Generation Project is expected to start construction in May 2019. It will be put into operation in May 2020. The sludge disposal capacity will reach 2,200t/d, and the annual sludge disposal scale will reach 429,000 tons. The project will become a regional sludge disposal center in Shenzhen. It will play an important role in improving the ecological environment of the Greater Bay Area, reducing the environmental impact of urban development, and supporting the healthy and sustainable development of the area.



Social Responsibility

Sludge coupled power generation can greatly eliminate the problem of municipal sludge pollution caused by rapid urban development and population increase. The residue generated by burning sludge in power plant's boiler can be used as building materials for urban construction, and at the same time improve the working and living environment of residents. It fully reflects the environmental, economic and social values of the project. CR Power plans from a strategic perspective, seeks to provide more services to the community, and implements the Municipal Sludge Drying and Co-combustion Project through the use of coal-fired boilers to solve the pain points of urban development, and transform itself into a green comprehensive energy service provider to create social, economic and environmental benefits. In 2018, 13 power plants under CR Power, including Guangdong Haifeng, Guangzhou Thermal, Jiangsu Changshu, Nanjing Chemical Park and Henan Gucheng, participated in municipal sludge co-combustion disposal, and has cumulatively disposed of 403,000 tons of sludge. It has effectively resolved the problem of sludge in the city, promoting the coordinated development of regional economy and ecological protection, demonstrating CR Power's commitment to social responsibility.

Changshu Power Plant

Capable of disposing of

900 tons of municipal sludge a day

Disposed and utilized

7.06

Reaching

100%

of municipal sludge in Changshu

Nanjing CR Thermal Power Plant

Capable of disposing of

300 tons of municipal sludge a day

Disposed and utilized

20,600

tons of municipal sludge in 2018

Reaching

30% of municipal sludge in Nanjing

Nanjing CR Thermal Power Plant

Capable of disposing of

360 tons of municipal sludge a day

Disposed and utilized

70,200

tons of municipal sludge in 2018

Reaching

37.68%

of municipal sludge in Nanjing

Nanjing Chemical Park Power Plant

Capable of disposing of

375 tons of municipal sludge a day

Disposed and utilized

46,200

tons of municipal sludge in 2018

Reaching

24.8%

of municipal sludge in Nanjing



Sweep to learn more

Haifeng Power Plant

Capable of disposing of

500 tons of municipal sludge a day

Disposed and utilized

64,400

tons of municipal sludge in 2018

After the project is finally completed, it will be able to dispose of

429,000

tons of municipal sludge a year and become the largest sludge coupling power generation project in China.

Corporate Responsibility

Philosophy of Responsibility

"Power Culture" is the unique positioning of CR Power's corporate culture and is the unique personality, feature, image label of CR Power. The idea of "power culture" model is derived from the basic principle of generating electricity from the "stator" and "rotor". Mission, vision, values, development philosophy and entrepreneurial spirit are the core of CR Power Corporation's cultural concept system. The principles of operations management are derived from the core concept, providing an inexhaustible force driving society, economy, enterprise, and its employees.

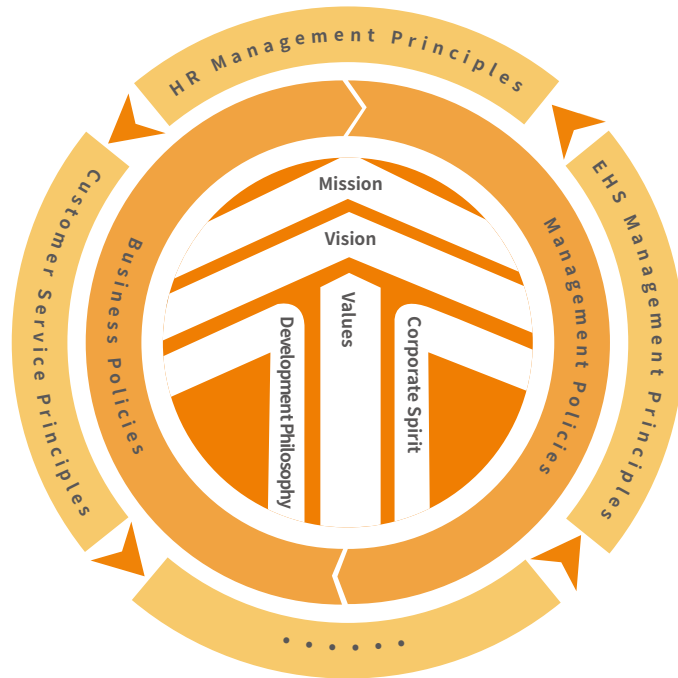


Diagram of the CR Power "Power Culture" Philosophical System



Driving sustainable and sound corporate development through efficient operations management



Driving career development of all staff through excellent team building



Driving quality of life and economic development through high-quality products and services.

Mission

Leading the industry and providing life motivation

Vision

Become an international integrated energy service provider with public trust and customer preference

Values

Honest and trustworthy performance-oriented people-oriented innovative development

Development philosophy

Be practical strong large-scale good, and long-term business

Corporate Spirit

Pragmatics Professional Collaborative and Dedication

Responsibility Governance

Based on the "Power Culture" responsibility concept, CR Power continues to promote the deep integration of sustainable development in the company's strategic planning.

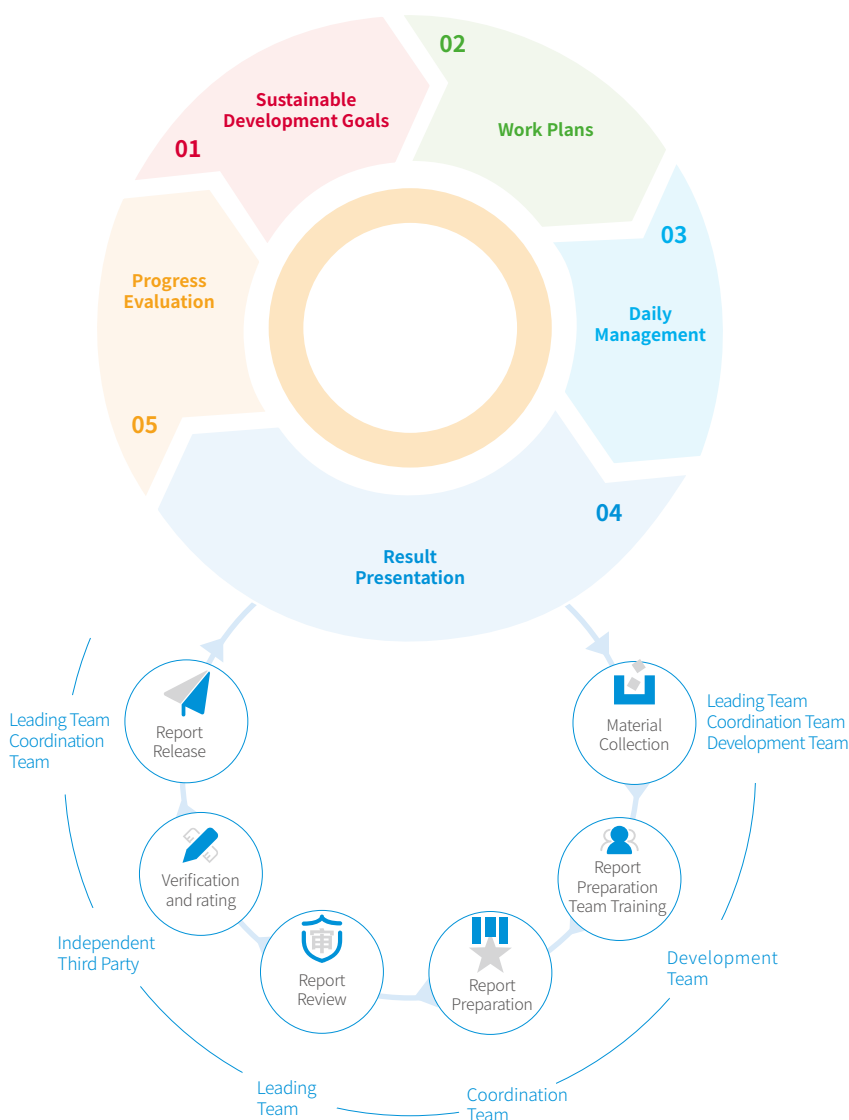
CR Power set up a four-level sustainable development management structure and formulated the CR Power Social Responsibility Management Standard to improve and strengthen the standardization, institutionalization and strategic management of the company's sustainable development work.



CR Power pays attention to the improvement of its own responsibility. By organizing social responsibility work meetings, training and other activities, it effectively enhances the relevant knowledge level and social responsibility awareness of social responsibility management and report preparation personnel, in order to further enhance the Company's performance and reporting standards, laying a foundation for further improvement in responsibility fulfillment and report preparation quality.



CR Power held the 2018 Sustainable Development Report Preparation & Social Responsibility and Charity Training Exchange Conference



Under the collaboration of the Sustainable Development Team, CR Power continuously optimizes the sustainable development management process and improves management efficiency. Based on the 17 goals of the UN Sustainable Development, we set goals and take action in conjunction with our strategic planning and operations.

In order to completely and accurately

convey the progress of our sustainable development work to both internal and external stakeholders, our teams of various levels are involved in the preparation of the annual sustainable development reports. Based on the requirements and goals of the Leading Team, the Steering Team trains the Coordination and Development teams involved in report writing. After the material collection of and text finalization, we repeatedly check and confirm the

accuracy of the information to ensure that it is correct. After the report has been reviewed by the leading group, independent third-party data verification and report rating, the coordinating group organizes the publication of the sustainability report, and the leading group introduces and displays the results of our work to the public, disseminates the report and collects valuable feedback from all relevant parties to continuously improve the sustainable development of CR Power.



Goal 1

Eliminate all forms of poverty throughout the world.

- Targeted poverty alleviation
- Charity events



Goal 2

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

- Industrial poverty alleviation
- Soil Protection



Goal 3

Ensuring a healthy lifestyle and promoting the well-being of people of all ages.

- Care for employee occupational health
- Promoting employee work/life balance



Goal 4

Ensure an inclusive and fair quality education that promotes lifelong learning opportunities for all.

- Education subsidies



Goal 5

Achieve gender equality and empower all women and girls.

- Against gender discrimination
- Care for female employees



Goal 6

Ensure availability and sustainable management of water and sanitation for all.

- Participation in community development



Goal 7

Goal 7 Ensure access to affordable, reliable, and sustainable modern energy for all.

- Providing stable and reliable electricity, heat, and cooling
- Developing smart energy and comprehensive energy services



Goal 8

Promote lasting, inclusive and sustainable economic growth, promote full and productive employment and decent work for all.

- Providing employment opportunities
- Protecting employee compensation and benefits
- Improving talent training and development system



Goal 9

Create an infrastructure that is resilient to disasters, promote inclusive and sustainable industrialization, and drive innovation.

- Quality control on construction projects
- Standardized operation management
- Technology and management innovation



Goal 10

Reduce inequality within and between countries.

- Equal employment



Goal 11

Building inclusive, safe, resilient, and sustainable cities and human settlements.

- Participating in community building



Goal 12

Adopt sustainable consumption and production patterns.

- Safe production
- Develop clean energy



Goal 13

Take urgent action to address climate change and its impacts.

- Develop clean energy
- Control greenhouse gas emissions
- Carbon capture, utilization and storage technology research



Goal 14

Protect and sustainably use the marine and marine resources for sustainable development.

- Offshore wind power development
- Seawater desalination recycling



Goal 15

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

- Optimize coal power and coal asset structure
- Environmental management
- Soil and water conservation



Goal 16

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

- Compliance with business ethics
- Improve the rule of law
- Against corruption and bribery



Goal 17

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

- Responsible supply chains
- Multi-party strategic cooperation

Responsibility Communication

We attach great importance to daily communication with stakeholders, establish diversified communication methods and listen to valuable opinions from relevant parties. and timely disclose to the relevant parties the latest news in production, management, cultural concepts, development and reform, etc.. By timely

disclosing our latest news regarding production, cultural philosophy, development and reform, we aim to enhance stakeholders' understanding and recognition of CR Power, incorporate the expectations and concerns of relevant parties in corporate strategy and operations management, and win their support.

Case

CR Power 2017 Sustainable Development Report Release Conference

On July 23, 2018, CR Power held the 2017 Sustainable Development Report Release Conference in Shenzhen. Management executives such as Mr. Li Ru Ge, the chief accountant of CR Group and the Chairman of the Board of CR Power, and Mr. Hu Min, the President of CR Power, and other management team members, representatives of various departments and regions of the Company, there were in total over 100 persons who attended the conference. The leaders of CR Charity Fund, the Corporate Social Responsibility Research Center of the China Academy of Social Sciences, as well as the reporters from 10 domestic and international media agencies, including Workers' Daily, China Environmental News, China Energy News, China Electric Power News, Hong Kong Economic Times, Phoenix TV and CBN Daily also joined the conference. After the conference, Chairman Li Ru Ge accepted an exclusive interview with Phoenix Satellite TV to share the achievements of CR Power in sustainable development, the transformation challenges of the power industry and the Company's innovative development initiatives.

Stakeholders	Main Concerns	Communication Methods	Response Measures
State Council SASAC	Appreciation and preservation of state-owned assets	Working report Statistical report	Complete the budget and the assessment criteria of SASAC
	Legally compliant operation Open and transparent information	Information submission Topical report	Conscientiously implement SASAC requirements Timely and accurate reporting of the Company
Local governments	Compliance with laws Safety and environmental protection	Regulations and policies	Comply with laws and regulations in business activities Take measures to reduce safety production risks
	Local economic development Tax payment Job creation Corporate stability	Strategic cooperation Work reporting Statistical report	Prevent major and serious accidents Environmental indicators meet national standards Guarantee employee compensation and benefits and improving employee's loyalty to the Company
Investors	Corporate governance Performance growth Dividend distribution Investor relations Stock price performance	Shareholder meetings Information disclosure Field trips	Establish scientific decision-making, implementation and supervision mechanisms, and strengthen internal control Adhere to high quality growth and create value for shareholders
			Improve information disclosures and increase transparency Organization and participation in a variety of activities to communicate with shareholders
Employees	Legitimate rights and interests Compensation and benefits Career development Training Occupational health and working environment Employee care	Employee representative meetings Rationalization proposal Internal and external websites Seminars, networking, etc.	Sign labor contracts according to law to protect employee benefits Conduct various types of training to encourage internal mobility Implementing an occupational health programs Improve production and office environment Conduct employee engagement surveys Improve human resource policy
Customers	Provide safe and stable power and heat	Satisfaction surveys Agreements/contracts Customer seminars	Provide adequate, reliable, and environmental-friendly energy services such as electricity, heat and coal
Partners	Abiding by contracts and maintaining trustworthiness Equal and long-term Cooperation Mutual win-win benefit	High-level meetings Agreements/contracts Products and services	Transparent procurement and elimination of commercial bribery Integrity and good business ethics Long-term strategic cooperation agreements
Community and environment	Environmental protection Safety and stability Harmonious community charity programs Public relations	Philanthropic activities Community building	Environmental protection and compliance with pollutant emission standards Circular economy and green office operations Stronger safety management and prevention of major safety incidents Participation in community building and support for philanthropic programs Construction of CR Hope Town
Media and NGOs	Information disclosure Media interaction Contributions to NGOs Impact on sustainable development	Activity Organization Field Visits Information Disclosure	Organizing events open to the media Promptly providing external publicity materials and inviting media Participation in industry exchange meetings and professional technical competitions Benign interaction and communication with NGOs

To enhance public understanding of CR Power, we have launched open activities and invited stakeholders like employee families, community members, teachers, students, environmental volunteers, customers, partners, government and media to visit CR Power to gain an intuitive understanding of our history and culture, technology and innovation, clean development. In 2018, all enterprises under the Company organized a total of 168 open-day activities, earning high praise from all sectors of society.

"Green Development, Beautiful Life" Clean Energy Open Month

In September 2018, CR Power again opened its doors to welcome people from all walks of life to join a Clean Energy Open Month Journey themed "Green Development, Beautiful Life". Visitors got the opportunity to understand CR Power's arduous efforts and results in wind power and other renewable energy sources in response to supply-side reform, exploring integrated energy services and innovative disposal of social waste to resolve urban environmental difficulties and give back to the community.

During the Open Month, 36 enterprises across the 10 regions of the Company launched Open Day activities relating to wind power, PV power, hydropower, thermal power, and power retail in 19 Chinese provinces, autonomous regions, and municipalities. A total of 1,735 stakeholders visited the enterprises, to understand the green development, energy conservation and environmental protection, advanced technology, social responsibility and other aspects of the Company, enhancing their awareness of CR Power through interaction activities like the Creative Group Photo, Pass on Joy, Safety Experience, Power Plant Freehand Sketches, Welfare Orchard Planting, and Book Donation.



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Responsibility Issues

CR Power has constantly improved its processes to identify and evaluate sustainable development issues.

01

Step I Pre-evaluation Preparation:

Sorting out the important issues relating to CR Power from a multi-dimensional perspective.



Policy Trend Analysis

Interpret national macro-policies and energy/power industry policies and regulations, and understand industry sustainable development trends



CR Power Development Planning

Identify key issues significant to the realization of CR Power's strategic goals as per its strategic development planning and annual business plan



Domestic and International Peer Benchmarking Analysis

Conduct benchmarking analysis on outstanding domestic and international sustainable development reports and identify the key issues and information disclosure approaches of the power industry



Report Standard Analysis

Analyse international, domestic, and industry social responsibility standards, and understand the latest sustainable development issue management standards and information disclosure requirements



Stakeholder Opinion Solicitation

Solicit opinions on sustainable development issues of concern to the public, employees, media, suppliers and other stakeholders, and understand their priorities



Capital Market Analysis

Study the ESG ratings or index evaluation reports of the capital market, and identify the priority issues requiring response by the Company, and level of response

02

Step II Sustainable development issue bank improvement:

13 environmental issues, 21 social issues, and 13 governance issues

Environmental Issues

- 1 Environmental Management Objectives
- 2 Environmental Risk Response
- 3 Carbon Emission Management
- 4 Increased Environmental Investments
- 5 Innovative Environmental Protection Technology
- 6 Environmental Protection Information Disclosure
- 7 Waste Disposal and Integrated Utilization
- 8 Water Resource Management
- 9 Reduction of Production Energy Consumption
- 10 Ultra-low Emission Achievement
- 11 Development of Clean Energy
- 12 Strengthening Ecological Protection
- 13 Efficient Resource Utilization

Social Issues

- 14 Sustainable Development Planning
- 15 Response to National Policies
- 16 Diverse and Equal Employee Opportunities
- 17 Employee Remuneration and Benefits
- 18 Knowledge/skill Training and Employee Development
- 19 Customer Satisfaction
- 20 Respect for Intellectual Property
- 21 Targeted Poverty Alleviation
- 22 Safe Production
- 23 Provision of Safe and Stable Power and Heat
- 24 Corruption Punishment and Prevention
- 25 Responsible Supply Chains
- 26 Employee Life Care
- 27 Corporate Culture
- 28 Strengthen Risk Management
- 29 Occupational Health and Safety
- 30 Protection of Market Environment
- 31 Support of Social Welfare
- 32 Community Exchange and Communication
- 33 Volunteering Advocacy
- 34 Protection of Legitimate Rights and Interests

Governance Issues

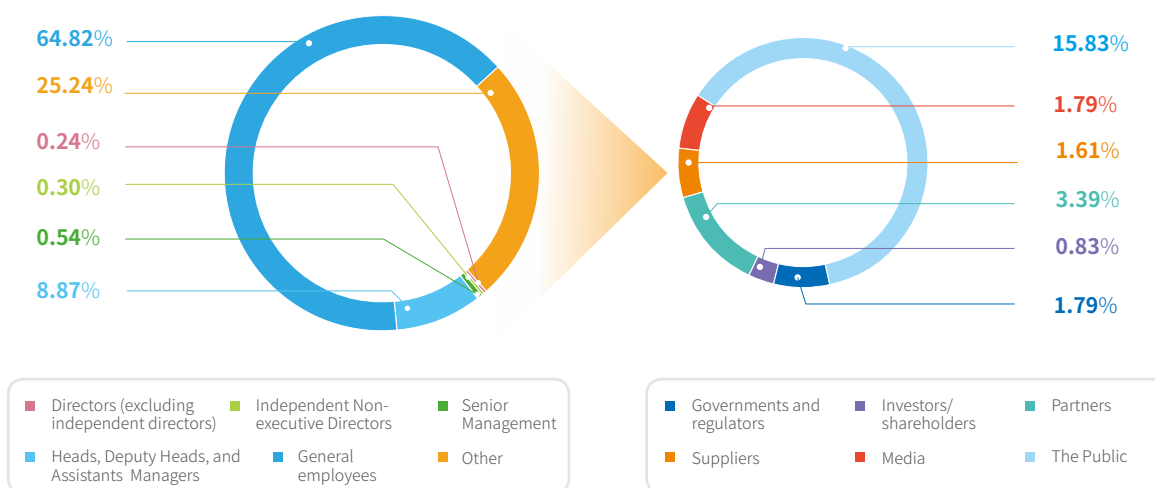
- 35 Corporate Governance System
- 36 Protection of Shareholder's Equity
- 37 Information Disclosure and Transparency
- 38 Value Preservation and Appreciation of State-owned Assets
- 39 Stable and Consistent Returns
- 40 Legally Compliant Operation
- 41 Tax Payment According to Law
- 42 Fair Competition
- 43 Responsible Procurement
- 44 Leading Industrial Development
- 45 Strengthening Proprietary Innovation
- 46 Strategic Cooperation
- 47 Optimizing Customer Service

03

Step III Stakeholder Survey:

Evaluating the significance of different sustainable development issues, and collecting opinions regarding current sustainable development strategies and related Company performance and reporting methods through an online questionnaire-based survey.

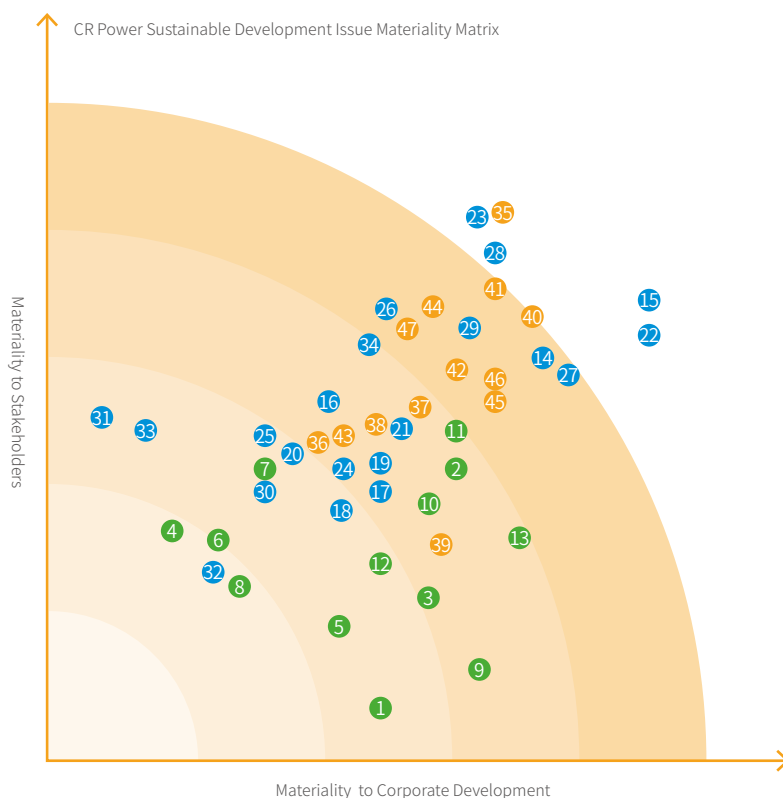
In 2018, 1,680 stakeholders were surveyed, including business managers, general employees, investors/shareholders, partners, suppliers, media, the public, governments, and regulators.

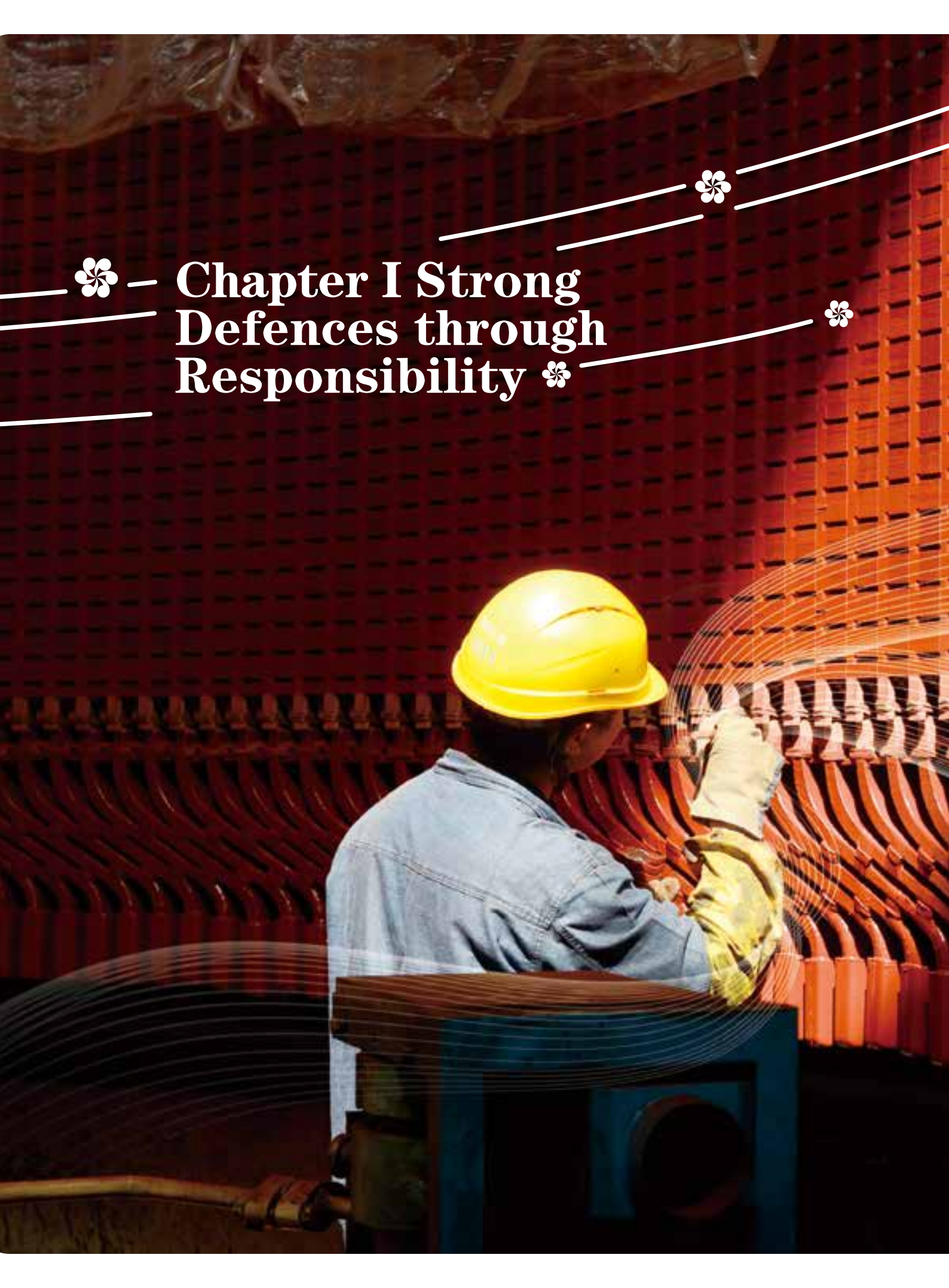


04

Step IV Issue significance analysis:

The issues are ranked based on survey results, forming the two-dimensional matrix of significance to stakeholders and to corporate development.





Chapter I Strong Defences through Responsibility



"Safety production is a huge responsibility." Safety production is the fundamental guarantee of corporate development. We firmly believe that safety has no boundaries, and continue to strengthen the safety management awareness of People First and Life Foremost, establishing a safety guarantee from organizations, institutions, risks, emergencies, and supervision, as well as safety culture development, forming an all-around and all-encompassing safety network.

P36 Strengthening Safety Production Management

P38 Ensuring Safe and Stable Operation



P40 Guaranteeing Employee Occupational Health

P41 Enriching the Production Safety Culture



Key Issues and Performance

Key Issues

- **Safety Production**
- **Occupational Health and Safety**



Our Challenges

From the introduction of the most restrictive safety production laws and regulations in history to the requirement that "we must firmly establish redline awareness to never develop at the cost of safety", and the implementation of the State Council's Opinions on Advancing Safe Production Reform and Development for the first time, have severely challenged our efforts at production safety.



Our Strategies

- Strict implementation of safety production responsibility system
- Closed-loop management from EHS supervision and inspection to time-limited rectification
- NOSA system development through a "hand-in-hand" support system
- Stronger emergency prevention and drills to deal with extreme weather conditions and emergencies
- Cultural education and creation of a safety culture atmosphere
- Organize and develop safety team to strengthen safety awareness and necessary skills of grass-roots employees
- On-going safety assessments to ensure intrinsic safety



Our Regulations

- EHS Post Responsibility System
- Safety Risk Classification and Control Work Guidelines
- EHS Supervision Management Standards
- EHS Accident and Event Management Standards (Tentative)
- Safety Production Educational Training Management Standards
- Occupational Health Management Standards
- Safety Production Accident Hazard Identification and Management Guidelines
- EHS Stakeholders Management Standards



Our Performance

Investment in Production Safety: RMB

312 million

Safety Training Coverage Rate:

100%

Emergency Drills:

1,377



SDG Goals





East China Region, Jiangsu Region,
Hunan Power Plant, Heze Power Plant,
and Zhenjiang Power Plant, etc.,

**were awarded the honorary
title of Advanced Unit of
Safety Production**

Number of accidents with personal
injuries and deaths

1

Number of deaths of employees

0

Number of deaths of contractors

1



NOSA Five Star Enterprises

8



NOSA Four Star Enterprises

18



NOSA Three Star Enterprises

26



The National Occupational Safety Association (NOSA) has developed the NOSA Five Star System, an important integrated EHS management system, widely accepted and adopted around the world. Composed of 72 elements in five areas, the system emphasizes continuous improvement as well as compliance. It uses a specific and systematic grading system for star ratings to stimulate improvement. It puts people first and is concerned with employees' safety and health, as well as the impact of production on the surrounding environment.

Strengthening Safety Production Management

Taking safety production as our core value for enterprise sustainable development and survival, we have further enhanced and consolidated safety production management levels by implementing safety responsibility at every level, carrying out supervision and inspections, and promoting system development.

Promoting System Development

To help power plants truly realize intrinsic safety management, in 2018, we further developed the NOSA system and consolidated EHS management. Through "hand-in-hand" support and internal resource mobilization, we required companies at the NOSA Three Star level and above to sign partnership support agreements with companies beginning to introduce the NOSA system, using the strong to help the weak. Meanwhile, making the best use of the circumstances, we promoted NOSA system development in a targeted way for different formats, and encouraged the development of internal NOSA auditors. In 2018, 4 new NOSA Five Star Enterprises, 7 new Four Star Enterprises, and 16 new Three Star Enterprises were added.

Implementing Safety Responsibility

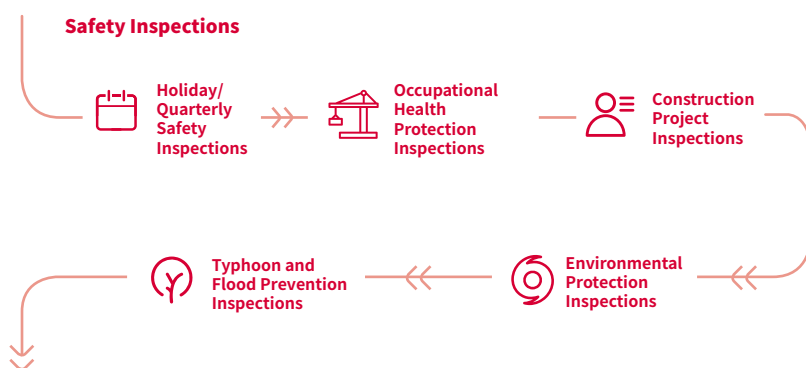
As required by the Production Safety Law of the People's Republic of China, we have gradually improved our organization construction and established EHS committees and management departments in the Company, regions, and project companies. Our production safety responsibility system has been implemented strictly, making safety the top priority in all of our work. In 2018, we fulfilled our EHS responsibilities by developing EHS job responsibilities for all employees, decomposing EHS management control goals, signing responsibility statements, improving the safety system, evaluating safety indicators, making evidence-based work arrangements, and strictly handling EHS accidents and events.



Strengthening Supervision

Leaving no blind spots in management, we focus on major EHS risks as well as small items. Multiple measures have been adopted to expand the supervision scope and strengthen supervision efforts. In 2018, leaders at all levels and all units of the Company launched multiform inspections and implemented

rectification measures seriously to ensure closed-loop inspection management. Various safety inspections were organized by the regions/coal branch companies and grass-roots enterprises on a regular and irregular basis, achieving a rectification rate of 98.84%.



Case

Safety Accident of Stakeholders

On April 8, 2018, an electric shock accident occurred at the CR Power Xishuangbanna Hydropower Construction Project, leading to the death of one contractor employee. CR Power set up the Accident Investigation Team to coordinate with the government investigation on the accident. In accordance with the Four-never Principles, we dug deep into the accident cause, formulated prevention measures against re-occurrence, and held the responsible persons accountable. Video conference on the accident was organized, and accident investigation report was issued to warn and educate all staff.



Case

Construction Safety Governance in Construction Projects

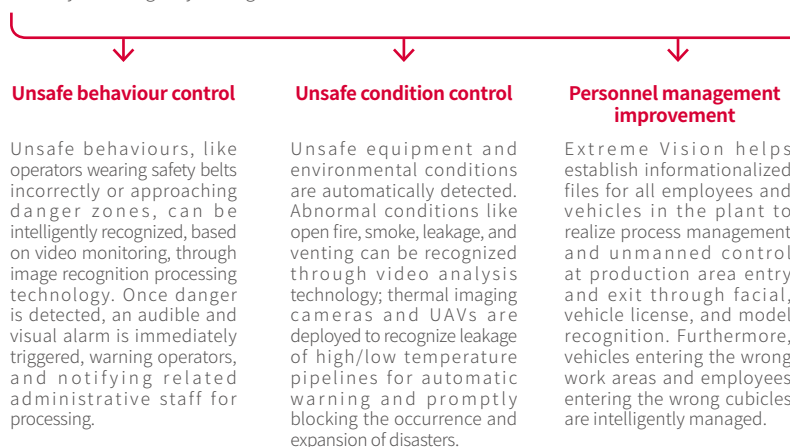
Since June 2018, the EHS Management Department and Construction Management Department jointly launched a half-year Construction Safety Governance Program for Construction Projects to strengthen safety supervision of construction sites and construction operators. Project management at all levels earnestly practiced the safety management work philosophy and requirements, clarified the responsibilities of all safety principals, raised awareness on the extreme importance of production safety, and comprehensively improved the safety management of CR Power's construction projects to ensure the Company's transformation, innovation and high-quality development.

Ensuring Safe and Stable Operation

With an unceasing focus on safety, we emphasize control over unsafe behaviours and conditions in day-to-day operations. Safety accident emergency plans are continuously revisited to constantly improve employee safety skills and awareness and continuously ensure the safe and stable operation of power facilities and equipment. By the end of 2018, there were 11 enterprises with safety production and operation for more than 10 consecutive years in the Company, and 37 enterprises with safety production and operation for 5 to 10 years.

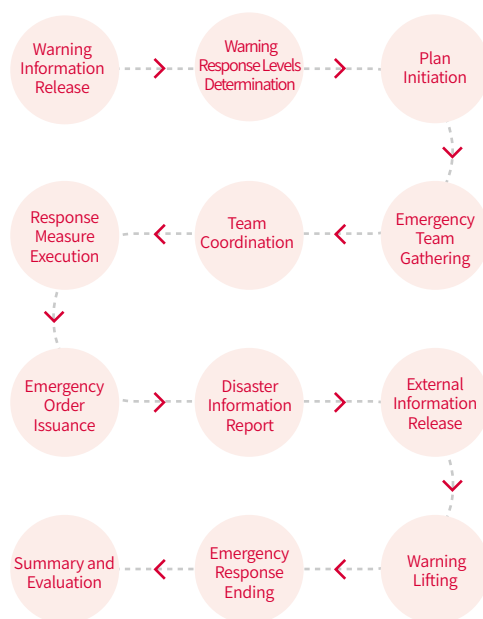
Intelligent Control System

We developed the Extreme Vision Intelligent Safety Control System which can provide customized intelligent safety solutions with big data, artificial intelligence (AI), and internet of things (IOT) to ensure power plant production. This project was selected as a 2018 Key Technology Project on Safety Production and Major Accident Prevention and Control by the Ministry of Emergency Management.



Emergency Drills

Any accident can be avoided. By focusing on preliminary potential hazard elimination, we realized proper pre-accident prevention, accident response, handling, and post-accident management. We organized various forms of emergency drills involving special equipment, fires, protection against cold and freezing conditions, and high-altitude escape, to constantly enhance emergency management and strengthen employee's self-rescue and mutual assistance capabilities. In 2018, 81 grass-roots enterprises of the Company carried out evaluation of emergency capability building.



Comprehensive Emergency Plans

129

Specialized Emergency Plans

2,150

Number of Emergency Drills

1,377

Number of Participants in Emergency Drills

25,542



Case

Preparing for Response to Super Typhoon Mangkhut

On September 16, 2018, Super Typhoon Mangkhut landed on the coast of Haiyan Town, Taishan, Guangdong Province, putting the thermal power and new energy projects along the coast of Guangdong and Southern Guangxi to a severe test. With advance planning and sophisticated deployment, all units took preventive measures and responded calmly and successfully passing the test.



Disaster Preparation

- Following weather information closely and issuing warnings for extreme weather
- Holding emergency work conferences to make work arrangements
- Organizing typhoon and flood prevention inspections, putting forward correction opinions, and supervising the implementation



Disaster Response

- The "zero reporting" system is used for typhoon and flood prevention to promptly grasp on-the-ground disaster information
- Equipment protection by emergency personnel through 24-hour unit operation status monitoring



Post-disaster Recovery

- Post-disaster inspection and restoration for affected areas and equipment



Guaranteeing Employee Occupational Health

We focus on employee occupational health protection from occupational health risk evaluation, risk control, personal protection, health examinations, and publicity and training to create a safe and healthy working environment for employees.

We have formulated and issued the Occupational Health Management Standards in accordance with the Law on Prevention and Control of Occupational Diseases of the People's Republic of China and local occupational disease prevention and control regulations. Occupational health examinations are organized for staff with special responsibilities on a regular basis. We also arrange health lectures on a long-term basis to disseminate knowledge on occupational disease prevention and protection measures to employees at all levels.

In 2018, we planned a publicity week for the Law on Prevention and Control of Occupational Diseases, and organized training on occupational health, the importance of personal protective equipment (PPE), and how to use PPE. We posted posters, slogans, billboards and columns related to occupational health, and printed and released publicity manuals.

Employees were requested to watch videos about occupational hazards, grass-roots employees built up an occupational health law lecture team; and an occupational health knowledge competition was held to help all employees attach importance to occupational disease prevention and control.



Case

PPE Standardization and Adaptability Guidance

In 2018, the EHS Department established a survey work team, inviting internal and external experts to give occupational health PPE standardization and adaptability guidance to Haifeng Power Plant, Lufeng Power Plant, and Guanjiaya Coal. These efforts were intended to further regulate the occupational health protective equipment of employees working in thermal, wind power and coal.

posters and display boards

573

columns

219

horizontal banners set up in the publicity week

433

Employees learned about occupational health online

30,237 times

Coverage rate of employee occupational health examinations and health files

100 %

Number of employees with occupational diseases

0



On June 19, 2018, Guangzhou Thermal Power Plant held its 4th EHS Knowledge Competition.

Enriching the Production Safety Culture

We encouraged production safety through culture, and created a safety culture of "vigilance during peacetime." In 2018, we actively launched safety training education and built up EHS culture by organizing EHS activities, exchanges, and knowledge competitions. Through knowledge dissemination and education, we continuously enriched the cultural connotations of EHS, developed an EHS culture with CR Power characteristics, and guided employees' correct values.

Safety Training and Education

Guided by an innovative safety training philosophy in 2018, we offered comprehensive training courses to different employee groups on EHS guarantee and EHS supervision systems, and organized EHS training five times to actively explore effective management methods. The regions/coal branch companies and grass-roots enterprises of the Company launched EHS training through GM lectures, safety lectures by functional line management, and employee cloud platform training to advance the continuous and steady development of production safety in each region.



Shouyang Shan Power Plant and Guangzhou Thermal Power Plant
were Honored as National Demonstration Enterprises on Safety Culture Development

Fengrun Power Plant

was Honored as Provincial Demonstration Enterprise for Safety Culture Development by the Hebei Province Production Safety Supervision Administration

Safety Training Coverage Rate

100%

Total Safety Training

1,592,409 hours

Production Safety Investment RMB

312 million

EHS Culture Development



Safety Production Month Events

In June 2018, the regions and grass-roots enterprises of the Company organized various and productive Safety Production Month events to improve our employees' safety awareness and skills, and the intrinsic safety levels of our equipment.



EHS Exchanges

We launched exchanges and discussions related to EHS management and technology with advanced EHS culture enterprises in the power industry and within the CR Group, to jointly meet current environmental protection and safety challenges.



Knowledge Competitions

Safety knowledge and skill competitions centering on production safety laws and regulations, safety management and technology, occupational health protection, and the NOSA system were held to promote learning through competition and education through culture.



Power Safety Books

On the basis of recent production safety laws, regulations, and standards, we plainly introduced elementary knowledge, operations specifications, and operating methods relating to job site safety through a combination of cartoons and text descriptions to facilitate employees' understanding of the safety requirements.



Safety Experience Hall

We set up a falling experience, helmet experience, safety belt experience, and VR safety experience as well as safety experience training for stakeholders, nearby residents, and students, achieving good safety education and warning results.



Chapter II Steady Operations through Well Running



As the reform of the national power system deepens continuously, we actively responded to national policies and upheld the development ideas of progress while maintaining stability and innovative transformation. For development planning of the Company, we further defined our "3+1" business strategy executing goals to ensure the steady development of the Company and the appreciation of state-owned assets.

P46 Complying with Laws and Regulations

P47 Steady Growth in Economies of Scale



P48 Transforming into Comprehensive Energy Services

P49 Inspiring Corporate Vitality with Innovation



P50 Collaboration for Common Development

P51 Jointly Building a Responsibility Supply Chain



Key Issues and Performance

Key Issues

- **Response to National Policies**
- **Good Corporate Governance**
- **Strengthening Risk Management**
- **Strengthening Proprietary Innovation**
- **Leading Industrial Development**



Our Challenges

The reform of the power system deepens continuously; As the Chinese power market approaches saturation, it is unbalanced between supply and consumption in power generation; Achieving sustainable development while effectively serving economic and social development is a tough issue before every power operator.



Our Strategies

- Steady control of operation compliance risks
- Accelerated development of renewable resources
- Innovative transformation and lean management
- Strategic cooperation for common development
- Supply chain responsibility management



Our Regulations

- Internal Audit Regulations
- Tax Risk Management Standards
- Legal Dispute Cases Management Standards
- Knowledge Management Standards
- Methods of Integrity and Self-discipline Information management on Managers and Key Personnel
- Implementation Measures on Anti-corruption Talks
- Management Methods on Administrative Expenditure and Expense Reimbursement
- Procurement Management Standards
- Procurement Center Management Guidelines
- Management Standards for Procurement Personnel Certification
- EHS Management Guidelines for Stakeholders in Tender Stage



Our Performance

Total Assets: HKD
208.223 billion

Attributable Operational Generation Capacity:

37.44 GW

Net Generation Volume (subsidiary power plants)

166.34 TWh



SDG Goals



Complying with Laws and Regulations

System Risk Prevention

To continuously strengthen CR Power's legal compliance system, and supervise and evaluate our compliance with national laws and regulations and corporate policies, and our managers' performance, we continued to improve the 3-Line audit control system and the Organization-Procedure-Policy (OPP) internal control and risk management framework. The long-term pre-incident, incident, and post-incident risk prevention mechanisms was formed, providing rational guarantees and value added services to realize our overall strategic goals and sustainable development.

Legal Risk Prevention and Control

Six legal risk prevention and control implementation measures, including specialized pilot implementation, legal inspection, contract management, institutional improvement, information construction, and publicity and implementation of risk prevention and control.

Internal System Development

driven by the Management Standardization Committee, the Company Headquarters and units at all levels have continuously developed process and institutional standardization management.

Internal Control Evaluation

combining internal self-evaluation with audits evaluation, the Company developed internal control through evaluation, pushing units at all levels to continuously improve their internal control management.

Specialized Major Risk Governance

The Company attached importance to identify, publicize, and implement cases that integrated risks into best practices, and encouraged business units to innovatively manage risks and strengthen the application of risk information tools in business systems to guarantees steady and compliant corporate development.

Personal information protection

managing the personal information of customers, employees and suppliers in the process of business operation with care, the Company further defined accountability and reporting channel via privacy system. In combination with risk control system, we dealt with all confirmed privacy leaks severely.

Fighting Corruption with Proper Supervision

With full awareness that anti-corruption is the key to long-term business development, we established our good faith culture through improving supervision processes, optimizing supervision organizations, and organizing talks and publicity on corruption. There were no lawsuits within the reporting period relating to commercial bribery, blackmail, fraud, or money laundering.

Establishing and improving supervision system processes

There were 16 internal management processes having been printed, released and implemented to improve internal work procedures, standard documents and work ledgers, giving all employees a regulatory basis.

Organizing warning education activities

Making full use of democratic life meetings, management meetings, and thematic meetings to convey the anti-corruption spirit to employees at all levels, and organizing warning education film sessions and education at anti-corruption bases to strengthen awareness of corruption and self-discipline

Implementing and rectifying all feedback and suggestions from external inspections

Emphasizing on external feedback and suggestions, and using inspection and implementation results as an important basis of assessment, selection, appointment, and promotion in inspected units.

Optimizing and improving the supervision organizational structure

With the team growing stronger, a three-level management system involving headquarters, regions and project companies has been set up to realize full coverage of regulators and to practically advance honest construction and fight corruption.

Publishing report channels

the informants' hotline, email address and mailing and visiting address have been announced on the WeChat official account and website; there were special staff receiving, recording and registering complaint letters and keeping the reporters' information strictly confidential.

Emphasizing on anti-corruption education

Newly appointed managers, bid evaluation experts, professional engineers, grass-roots management personnel, and other key personnel were covered with early prevention.

Supervision and internal inspection

Supervision and inspection on some key business links and positions such as bidding and procurement, by-product sales, and sampling to promote compliance.

Standards Formulated or Revised by Company Headquarters

70

Number of Audit Projects Completed

37

Number of Trainees Received Legal Risk Training

533

Number of anti-corruption conversations with subordinate units and department heads

700 above

Number of pre-job anti-corruption conversations with cadres


300

Number of anti-corruption statements by leading cadres

80

Number of grass-roots anti-corruption talks


20



Case

Cases of Risk Management Integrated into Business Practices

In 2018, we reviewed the outstanding risk management projects of subordinate units and completed Cases of Risk Management Integrated into Business Practices. All collected cases derived from business practices and combined with risk management concepts of the Company. It constantly deepen the risk management awareness at all levels, fully promoted ideas, inspired thinking, and driven steady and compliant corporate development through cases promotion.



3-Line Audit Control System

Pre-line Warning and Prompting

On-line Consultation and Services

Off-line Supervision and Evaluation

Steady Growth in Economies of Scale

In 2018, our business covered 30 provinces, autonomous regions, municipalities and special administrative region in China, with an attributable operational generation capacity of 37.44GW. The mix of clean and renewable energy attributable generation capacity further increased to 20.4%. Newly commissioned grid-connected generation capacity of wind power amounted to 1,187MW, and that of photovoltaic power reached 173MW. Wind power development, construction and grid-connection capacity reached record highs. In the past three years, the compound annual growth rate of newly invested wind power capacity were among the top ranks in the Chinese power industry.

We have been seriously combing through our portfolio of assets by accelerating the disposal of inefficient assets, retrieving capital, optimizing shareholding structure, improving the overall quality of the Company's assets and laying a foundation for our long-term market competitiveness. In 2018, we disposed its coal assets in Shanxi Province.

The Company maintained a steady capital structure in 2018. The ratio of return on invested capital and liability with interest respectively reached 6.0% and 55.6%.

The capacity of coal-fired power

29,815 MW

accounting for

79.6 %

of the total generation capacity

The generation capacity of wind, hydro, photovoltaic and gas-fired power was at

7,623 MW

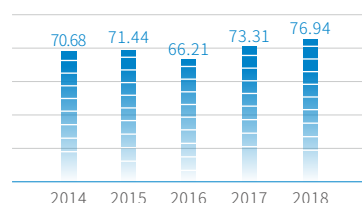
accounting for

20.4 %

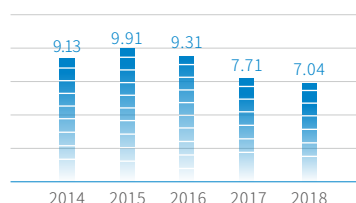
Appreciation rate of State-owned Assets

103.6 %

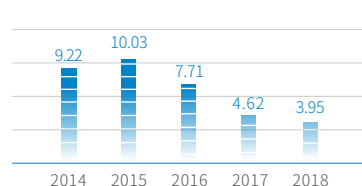
Turnover HKD billion



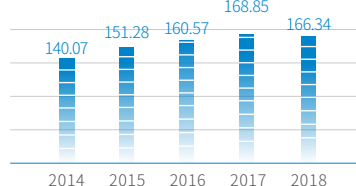
Total Tax RMB billion



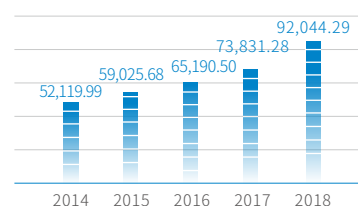
Profit Attributable to Owners of the Company HKD billion



Gross Generation Volume (subsidiary power plants) TWh



Total Heat Supply kGJ



We have deepened our lean management and continuously improved our economic and technical indicators.

Thermal Power



The full-load equivalent utilization hours of our subsidiary coal-fired power plants reached 4,976 hours, 615 hours higher than the average for coal-fired power units nationwide.

Wind Power



Our average wind power utilization hours reached 2,314 hours, 219 higher than the average for wind power units nationwide, maintaining leading positions in the industry.

Transforming into Comprehensive Energy Services

With the in-depth reform of national supply-side, we have actively explored energy services, and provided intelligent comprehensive energy services from efficient energy supply, smart energy usage and other dimensions.

Diversified Development of Energy Service Projects

With continuous innovations in distributed energy, incremental distribution networks, shore power for vessels, and smart energy comprehensive service projects, multiple projects have been successfully rolled out.

Rapid Development of Power Retail

As at the end of 2018, CR Power had set up 25 provincial power retail companies, achieving full nation-wide coverage. Among them, 18 companies participated in the power trading on regional markets, selling 70.25 billion kWh of electricity via bilateral negotiation and on-grid competitive bidding.

By actively developing an intelligent cloud platform, we have effectively supported the management of power retail, and laid a solid foundation to cope with the present trends of data and intelligence.

While assuring rapid business development, we endeavored to maintain and improve the service level. We have conducted customer satisfaction surveys via phone and online questionnaire, and improved continuously based on customer feedback.

CR Power Retail Cloud Platform

Based on CR Power's existing "Headquarters + Regions" management model, the Power Retail Cloud Platform is operated in accordance with the requirements of power retail in each region. Designed as an "Online Business Hall + Power Retail Management" model, the power retail platform was built with functions including customer relations, power trading, risk control management and diversified power retail business to realize the platform-based management at all power retail business processes.

Number of customer call-backs

128

Number of valid online questionnaires revealed

56

Customer satisfaction rate

91.8%

Explanation

Helping customers realize an operating model of "self-generation for self-utilization and grid connection of remaining power", reducing power utilization costs, and promoting the synergic growth of energy conservation, environmental protection, and the economy, by advancing distributed energy construction projects including natural gas and photovoltaic.

We actively responded to the state's demand of incremental power distribution network reform. Relying on local power advantages to revitalize idle assets for competitive power prices, and create good conditions for renewable energy access and comprehensive energy construction.

Building power supply facilities through integrated utilization of existing wharf facilities to supply power for ships, effectively reducing pollution and engine noise emission.

Building Lingxi Smart Energy Cloud Platform to collect, predict, optimize dispatch and assess the management of power supply, generation, consumption, and conservation to enterprise power distribution networks. It adopted load prediction and management, economic analysis, and other methods to statistically analyze energy utilization, and guided enterprises to rationalize and economize power utilization to realize energy conservation management and green energy utilization.

Distributed Energy

Incremental Distribution Networks

Shore Power for Vessels

Smart Energy Comprehensive Service Projects

Our Actions

In June 2018, the 1.92 MW distributed photovoltaic Power Project of CR Power Beijing Xiexin Power Plant was connected to the grid. The project is capable of generating 2,000MWh of power annually.

In January 2018, the Power Distribution Network Project in Guangxi Hezhou CR Circular Economy Industry Demonstration Area was granted the China's first Power Business License for incremental power distribution network.

On April 11, 2018, the Chinese bulk carrier Xinkangshan was successfully connected to shore power at the quay berth for coal of Guangdong Haifeng Power Plant, marking the plant's first power supply to port vessels through the shore power system.

On December 27, 2018, an energy control platform customized for Fujian Jingwei Newfiber S&T Co., Ltd. was put into operation. It directly displayed an energy flowchart for the enterprise's comprehensive energy step utilization, realized energy efficiency benchmarking, demand warnings and lean management, and provided measures for reliable energy conservation and emission reduction.

Inspiring Corporate Vitality with Innovation

In active response to CR Group's "Development through Transformation, Growth from Innovation" innovation strategy, we have launched innovative research, increased scientific research and technology investments, built an innovation platform, established innovation mechanisms, trained innovative experts, and created an innovative enterprise. The well-established scientific research system in CR Power Technical Research Institute has formed a technical basis for new energy and coal-fired power.

CR Power Technology Research Institute

- Rundian Energy Science & Technology Co., Ltd.
- ShenZhen ZhiRun Renewable Energy Exploration & Design Co., Ltd.
- Intelligent Power Generation Research Center
- Renewable Energy Center
- Intelligent Safety Engineering Technology Research Center
- Chuxin Intellectual Property Management Co., Ltd.

In 2018, the Company invested RMB

197

million in research and development, and commercialized intellectual properties and major technologies with fruitful results

As at the end of 2018

the Company has been applied

864 patents

and granted **395** patents

Multiple CR Power Projects Won China Power Industry Equipment Management Innovation Achievement Awards

The 2018 China Power Industry Equipment Management Work Conference & The 6th Chinese Power Industry Equipment Management Innovation Achievement Award Conference was held in the Beijing China Palace Hotel (All-China Federation of Trade Unions) on March 27-28. We won 8 achievement awards, which reflected the recognition from the China Power Industry Association for our equipment management work.



The First Station of Heat Supply Network Capacity Increase and Upgrade Project in Hebei Cangzhou Thermal Power Plant won the First Prize in Technology.



The Constructing Technical Monitoring Centers and Building Intelligent Power Plants Project in Guangdong Haifeng Power Plant won the First Prize in Management



The Thermal Primary Air System Optimization Plan in Inner Mongolia Xilinguole Power Plant won the Second Prize in Technology.



The project Power Generation Enterprises Developing Technical Supervision and Management Platforms Based on Real-time Production Data in Jiangsu Xuzhou/Tongshan Power Plant won Second Prize in Management.



Henan Dengfeng Power Plant won an Excellence Award in Management for Implementing the Six-Integration Stakeholder Control System and Realizing the New Power Production and Operations Model



Shandong Heze Power Plant won an Excellence Award in Technology for its Equipment Health Optimization (EHO) System



Jiangsu Nanjing Chemical Industrial Park Power Plant won an Excellence Award in Technology for its Coordinated Automatic Optimization Control Technology for Double-inlet/outlet Direct-fired Coal Pulverizing System



Shanxi Datong Guangling Wind Power Plant won an Excellence Award in Technology for its A.U.R.A. Diagnostic System for Wind Turbines.

Collaboration for Common Development

Upholding the principle of cooperation for win-win outcome and mutual benefit, we have actively established strategic sharing mechanisms and cooperation platforms with governments, customers, specialist institutions, and research institutions. We have expanded our service fields through power generation project construction and the strength of experience. Through stronger technological and business model innovation, it deepened cooperation with all parties to realize resources and advantages complementarity and common sustainable development.

Complementary Advantages via Powerful Combination

CR Power signed a strategic cooperation framework agreement with Electrical Planning and Design Institute to strengthen cooperation at strategic planning, policy research, technical applications, emerging businesses, and international markets.

Superior Brand through Quality Services

We insisted in the concept of market-oriented, customer-centric to actively expand service fields and meet customer requirements through quality services.

Global Influence through International Cooperation

We have continuously expanded our international cooperation to promote global business partnerships, strengthen exchange and cooperation with outstanding international peers, and jointly support sustainable development.

Partners	Fields of Cooperation
Shenzhen Municipal Government	Municipal sludge disposal
Qingyuan Municipal Government	Wind power poverty alleviation cooperation
Electrical Planning and Design Institute	Policy research
SF Express	Electric vehicle infrastructure construction and park comprehensive energy services
Jinzh Technology	Intelligent power plant and energy efficiency management platform
POWERChina Guizhou	New energy project cooperation and overseas business expansion
Jiangxi Energy Group	Fuel supply and demand, new energy operation and development, Energy investment and development
Beijing Enterprises Water Group Limited	Power equipment maintenance and energy saving transformation

Partners	Fields of Cooperation
CHINT Group	Comprehensive energy service project development and intelligent power stations
J-Power	Established an annual regular visit mechanism for senior management, and further promoted exchange and project development cooperation in technical and management fields.
Vestas	Intelligent power plant and energy efficiency management platform

Industry Development through Extensive Exchange

We have actively attended industry seminars, strengthened domestic and international research cooperation and exchange to promote industry-wide development.

Undertaking The 4th Guangdong CCUS Charrette

The international Guangdong Carbon Capture, Utilization, and Storage (CCUS) Charrette, sponsored by UK-China (Guangdong) CCUS Center and organized by CR Power and Guangdong Electric Power Design Institute Co., Ltd., was held on April 24, 2018. At the seminar, CR Haifeng Power Plant CCUS Platform drew high attention from domestic and international experts. Upon completion, this platform would become one of the world's three medium-sized CCUS test bases and would be worked on carbon capture innovation, carbon capture cost reduction, and industry applications and validation of CCUS technology.

Rundian Technology Approved to Prepare 3 Energy Industry Standards

On July 20, 2018, the National Energy Administration released the Notice on Releasing the 2018 Energy Industry Standard Formulation (Revision) Plan by the Comprehensive Division of the National Energy Administration on its official website. Rundian Energy Technology Co., Ltd ("Rundian Technology") would prepare the Computational Methods for Water Efficiency Indicators of Thermal Power Plants, participate in the preparation of Technical Specifications for Thermal Power Plants' circulating Water saving and Technical Guidelines for Allocation and Management of Water Metering Instruments in Thermal Power Plants.

Statoil of Norway Equinor Visited Haifeng Power Plant

On October 9, 2018, a delegation from the new energy business division of Statoil of Norway Equinor visited Haifeng Power Plant for in-depth exchange and interaction on CCUS test platform construction, operations management of offshore wind power projects, and wind power generation technology.

Undertaking China Energy High-end Forum -Thermal Power Circular Economy Seminar

China Energy High-end Forum -The Thermal Power Circular Economy Seminar, sponsored by China Energy Research Society and organized by CR Power, was held on June 4, 2018. The seminar provided a platform to exchange and share research results regarding the typical experience model of the circular economy in the thermal power industry, helping expand its development idea, change its development model, optimize its supply-demand structure, and transform its growth engine.

Technical Exchange between the School of Power and Mechanical Engineering, North China Electric Power University and Rundian Technology (NCEPU)

On October 26, 2018, Han Zhonghe, Dean of the School of Power and Mechanical Engineering, NCEPU, with his 7 members research team carried out technical exchanges about energy conservation and emission reduction in Rundian Technology. Each specialist center in Rundian Technology conducted in-depth exchange and discussion with instructors from NCEPU on technical topics like energy-saving technology for power plants, intelligent power plants monitoring, units shafting vibration, condensate throttling frequency modulation performance, pipeline system stress and vibration testing, and research on thermal power units' turbine conditions during deep load changing.

Over

95 %

of suppliers certified by quality management, environmental management, and occupational health and safety management systems

100 %

Responsible Procurement

100 %

of Economic Contracts Fulfilled

99.77 %

of Equipment Localized

Number of Suppliers Reviewed

12,581

Jointly Building a Responsible Supply Chain

While setting an example for suppliers and managing sincerely, we have incorporated the social responsibility concepts and requirements into our supply chain management. Quality suppliers have been evaluated, selected, regularly assessed, and reviewed from multiple dimensions including product qualities, service levels, contractual capacity, labor rights, occupational health and safety, environmental protection, and bank credit rating to implement responsible procurement and promote supply chain partners to fulfil their social responsibility.

Standardizing Procurement Management

In strict accordance with the Bidding Law of the People's Republic of China, we have adopted public bidding for projects meeting national and internal standards to be purchased by bidding, and set up complaint and enquiry channels. Bidders' queries and complaints are received and handled during bid issuing, opening, and result announcement to promote fair competitions.

In 2018, we further improved our procurement management system by issuing and releasing bid documents and contract templates, standardizing the preparation of bid documents and contracts, and conducting procurement in accordance with law. Abiding by industry norms and business ethics, consciously maintaining the market order, we resolutely resisted unfair competitions like colluding in bidding, bidding under cost, industrial monopoly, and kickbacks.

Strengthening Supplier Management

We established a supplier bank, all suppliers were required to sign our Integrity Commitment to undertake that all materials and information provided were real, and complied with national laws and regulations and prohibited any form of commercial bribery in tendering and bidding. Furthermore, we established a dishonest supplier bank identifying suppliers with dishonest tendering, bidding, and contract fulfillment, prohibiting them to participate in all the bidding by CR Power within the prescribed time. Our privacy policy is applicable to suppliers. Any personal information disclosure in tendering, bidding and procurement is prohibited.

Promoting Responsibility Fulfillment by Stakeholders

To ensure stakeholders' labor rights and EHS responsibility fulfillment, we released the EHS Responsibility Management Guidelines for Stakeholders in Tender Stage to standardize stakeholder approval, specify EHS performance and qualification requirements in tendering, enhance stakeholder approval standards, and prevent the occurrence of "strict qualifications and small teams." Stakeholders' managers, technicians, and other key staff are required to pass competency interviews; production safety cost ratios and usage supervision responsibility have been stipulated. We have further strengthened monitoring of dynamic risks during stakeholders' operations, and actively launched education and training programs to enhance their safety awareness and skills, and to promote their responsibility management.



Case

Environmental Regulation of By-products

Emphasising on the comprehensive utilization and environmental risk control of by-products like coal ash, slag and desulfurization gypsum, CR Power Jiangsu Zhenjiang Power Plant has selected qualified environmental underwriters and established archives to track the flow of by-products in the sales process, supervise underwriters to restrict uncontrolled emission, to prevent environmental problems in transit shipment and warehousing.





Chapter III ❁ Pursuit of Protecting the Blue Skies and Clear Waters ❁

Energy shortage, climate warming and environmental pollution has gradually become a bottleneck for sustainable development of the human society. We make full use of our advantages and strive to develop clean energy and promote circular economy for the better of social green development, reduce negative influence on the earth and environment, and constantly explore the best of human-beings and the nature.



P56 Providing Renewable Energy

P57 Strengthening Energy Conservation and Emissions Reduction



P60 Improving Resources Utilization

P62 Protecting the Beautiful Ecological Environment



P63 Green and Low-carbon Offices



Key Issues and Performance

Key Issues

- Development of Clean Energy
- Response to Environmental Risk
- Implementation of Ultra-low Emissions
- Efficient use of Resource



Our Challenges

Opinions of the Central Committee of the Communist Party of China and the State Council on Comprehensively Strengthening Ecological Environment Protection, Pollution Prevention and Control, Three-Year Plan on Protecting the Blue Sky, and other policies indicate that the government has attached increasingly great importance to the ecological environment protection, which has set a new goal for us to attain.



Our Strategy

- Develop wind power, solar photovoltaic, distributed energy for clean power generation
- Accelerate ultra-low emission transformation of thermal power and further strengthen energy saving and consumption reduction
- Expand efficient use of resources to solve social and environmental problems
- Integrate the green ecological concept into the life cycle of power plant planning, construction and transformation operations
- Advocate green working environment and low-carbon life





Our Regulations

- *Environmental Protection Management Standards*
- *EHS Supervision Management Standards*
- *EHS Job Responsibility System*
- *Energy Conservation Management Standards*
- *Unit Energy Conservation Supervision Standards for Thermal Power Plants*
- *Work Guidelines for Power Generation Efficiency Improvement in Wind Power Units*
- *Carbon Asset Management Standards*
- *Integrated EHS Emergency Response Plan*



Our Performance

Clean Energy Attributable Operational Generation Capacity Mix

20.4%

Total Environmental Investment: RMB

1.518 billion

Comprehensive Utilization of Ash and Slag Ratio

95.91%

Emission intensity of carbon for thermal power generation

0.834 t/MWh



SDG Goals



Providing Renewable Energy

The development of clean energy has become a common choice against climate change worldwide, and promotes the transformation of energy structure from fossil energy to renewable energy. Large-scale, high-efficiency development and utilization of various types of clean energy such as wind power, hydropower, photovoltaic power generation to promote clean and green ways to meet power demand and share a clean future. As at the end of 2018, the attributable generation capacity of CR Power's clean energy, including wind power, photovoltaic power, distributed gas power and other type of clean energy, amounted to 7,623MW, accounting for 20.4% of the Company's total attributable operating generation capacity, representing an increase of 3.0 percentage points.

Milestones of Clean Energy Development in 2018

- 1 January 25th**
The commissioning of the first wind power generation project in Qinghai, Dachaidan 50MW Wind Power Project.
- 2 June 30th**
25 arrays of 30MW Concentrated Photovoltaic Poverty Alleviation Project in Heishuizhawo, Sichuan Province were put into operation.
- 3 July 25th**
The first 120MW wind power project of Zhongyang, Shanxi Province was successfully connected to the grid.
- 4 September 29th**
Memorandum of Understanding on the 1,000MW Development Agreement of CR Power Cangnan Offshore Wind Power Project and the Establishment of China Resources Wenzhou Integrated Energy Company Cooperation Letter of Intent was signed with the Cangnan County Government of Wenzhou City, Zhejiang Province, to jointly develop offshore wind power.
- 5 November 26th**
Wind grid-connected capacity for the Central and Western China Region exceeded 1,000 MW, and CR Power's wind power grid-connected capacity exceeded 7,000 MW.

Wind Power

CR Power has actively responded to the nation's call for the construction of a beautiful China and vigorously developed a clean energy business based on wind power. Currently, the main areas of wind power generation and growth are Guangdong, Shandong, Hubei, Henan and along the Inner Mongolia ultra high voltage(UHV) transmission lines. In 2018, CR Power's commissioned attributable generation capacity of wind power was 1,187MW for the whole year, and the total grid-connected capacity exceeded 7,000MW. At the same time, with the advancement of offshore wind power technology and the decline of wind power development costs, offshore wind power has gradually entered a new stage of large-scale development, CR Power will also cooperate with many parties in Guangdong, Shandong and Zhejiang provinces to give full play to their respective advantages and for the better of clean energy development.



CR Power Haiyuan Xihuashan 300 MW Wind Project was awarded

2018 China Quality Power Project

Commissioned Attributable Generation Capacity

1,187 MW

Total Grid-connected Capacity

7,389 MW

Attributable Operational Generation Capacity

6,816 MW

Photovoltaic Power

Focusing on the development of high-quality resources such as distributed photovoltaic power and UHV resources for the better development of clean energy and well-being of the society. In 2018, commissioned attributable generation of photovoltaic power was 173MW.

Commissioned Attributable Generation Capacity

173 MW

Total Grid-connected Capacity

485 MW

Attributable Operational Generation Capacity

448 MW

Distributed Energy

Distributed energy has the characteristics of high utilization efficiency and better energy supply reliability. We focus on the load centers of China's central, eastern and southern regions, and use gas and biomass energy as the driving force for distributed energy development, actively develop distributed energy projects and achieve multi-dimensional goals of high efficiency, energy conservation and environmental protection for the supply of clean energy to thousands of households. In 2018, the attributable operational capacity of distributed energy was 79MW.



Strengthening Energy Conservation and Emissions Reduction

Accelerating the installation of ultra-low emission of coal-fired power generation and energy-saving renovation is a necessity to build a resources-saving and environment-friendly society. We strictly abide by the Environmental Protection Law of the People's Republic of China, Environmental Protection Tax Law of the People's Republic of China, The Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, Emission Standards for Air Pollutants in Thermal Power Plants, which promotes energy conservation, emission reduction and the development of circular economy for a more clean, low-carbon, safe and efficient energy system. In 2018, we invested a total of RMB 1.28 billion in energy-saving and emission reduction technology transformation, the net generation on standard coal consumption rate was approximately 299.5g/kWh, and the thermal power generated carbon dioxide emissions was 133.30 million tons. Energy consumption and pollutant discharge continued to decline, exceeding the five energy conservation and emission reduction assessment targets issued by China Resources Group.

Overall Improvement of Management

We adhere to the concept of green development, and are committed to continuously deepen environmental management, and carry out management improvement in the system for the better of target management, monitoring and early warning, training and publicity, and promotion of innovation.

Establishing an environmental management and regulations system. We established an EHS Committee directed by the President, with the CR Power executive team and regional managers as its main members. It forms the leading decision-making body of CR Power for EHS business decisions, and is responsible for its Board of Directors.

Improving environmental goals and report management. According to the environmental performance targets issued by China Resources Group, the environmental performance indicators of major regions and project companies are formulated at different levels, and the data direct reporting system for environmental reports is set up and directly reported by the grassroots enterprises, and the system collects statistics by itself. The data system will ask the reporter to confirm when abnormal data occur.

Improving environmental protection early warning and emergency response mechanisms. Deeply excavate system data, develop environmental monitoring and early warning system, to realize real-time monitoring of the exceeding standard discharge of air pollutants, four-level early warning, auxiliary management and timely operation of on-site maintenance personnel to effectively control excessive emission of atmospheric pollutants.

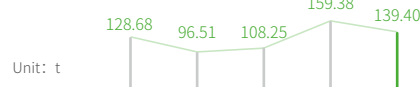
Strengthening environmental protection training and publicity. During the year, a total of 280 staff from departments of new energy construction, security systems and supervision system EHS management were trained based on the Environmental Protection Risks and Precautions for Environmental Protection of New Energy Construction Projects and Environmental Protection Risks and Precautions.

Promoting energy-saving and emission reduction technology innovation. Encourage the active exploration of various technological innovations, including solid waste treatment and sludge drying and blending research; self-developed operation and operation optimization system, fuel full value chain optimization system; research and development of thermal power centralized monitoring and professional analysis system, new energy centralized monitoring systems and etc., to lead the green development of enterprises with innovation.

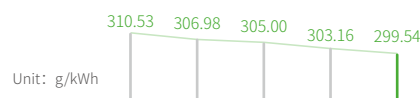
Energy Consumption per RMB 10,000 of Industrial Added Value



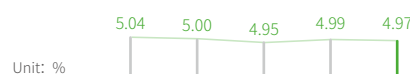
Water Consumption per RMB 10,000 of Industrial Added Value



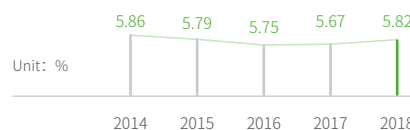
Net Generation standard Coal Consumption rate (Subsidiary Power Plants)



Power Consumption Rate of Power Plants



Power Consumption Rate of Comprehensive Plants



Hunan Power Plant won the honorary title of Hunan Province for ultra-low emission and energy-saving transformation advanced units

Hezhou Power Plant won the first prize of the State-owned Assets Supervision and Administration Commission for "State-owned enterprises to strengthen safety and environmental protection to promote green development typical case and national green state-owned enterprise"



Case

Carbon Capture Project

The carbon dioxide produced by fossil energy accounts for 57% of global greenhouse gas emissions. It is the main cause of climate change and poses severe challenges to the current human survival and development. Global carbon capture, utilization and storage (CCUS) technology is currently the only important technology to achieve large-scale emission reductions of greenhouse gases while continuing to allow fossil fuels.

On January 15th, 2018, the China Resources Haifeng Power Plant commenced its carbon capture pilot project. The platform relies on the construction of #1 unit of China Resources Haifeng Power Plant, which was composed of flue gas pretreatment system, carbon capture system of amine absorption method and membrane separation method, compressed purification system, and supporting electrical, thermal control and other auxiliary systems, is the first international multithreading carbon capture test platform for coal-fired power plants in Asia.

Upon completion, the platform will capture about 20,000 tons of CO₂ a year. After purification, the CO₂ can be used to industrialized utilization, such as meeting the needs of food processing, and also act as China's first CO₂ offshore storage safety and leakage monitoring research project. Active contributions will be made for national ecological civilization construction and climate change addressing.



Ultra-low Emission of Thermal Power

We deeply understand the importance of comprehensively implementing energy conservation, emission reduction and upgrading, continuously improve our sense of responsibility and urgency, and continue to carry out ultra-low emission transformation of desulfurization, denitrification and particulates removal. By the end of 2018, a total of 24,643 MW units of CR Power had completed ultra-low emission installations, accounting for approximately 98% of the attributable operational capacity of the subsidiary coal-fired power plants, further reducing emissions of sulfur dioxide, nitrogen oxides and particulates.

Each generator unit selects the tailored ultra-low emission modification technic. For example, the #1 unit of Dengkou Power Plant adopts the "SCR denitration catalyst (Selective Catalytic Reduction) with more spare layer + bag filter ultra-clean membrane filter bag and reinforced bag cage + desulfurization and particulates removal integration"; the Lianyuan project achieves ultra-low emissions by low-nitrogen combustion reform of boiler, denitrification and capacity enhancement and integrated desulfurization and particulates removal projects.

Case

Seeking Reverse Innovation Breakthroughs and Creating a New Ultra-low Emission Situation

The #1# and #2 boiler of CR Power Hunan Power Plant is a W-type flame one. Due to the inability to disassemble the main equipment, it poses a challenge for ultra-low emission retrofit. On the basis of no reference and experience, CR Power Hunan Power Plant made an adaptive adjustment to the area and layout of the boiler's refractory belt, and creatively changed the design coal of the #1 unit boiler from anthracite to bituminous coal, and realized the transformation with SCR. The unit has ultra-low emission. The #1 unit mainly used bituminous coal, the nitrogen oxides at the SCR inlet was reduced by about 30%, and the ammonia injection was reduced by 750 tons. The practical experience earned provided a new technical concept for W-type flame boilers to achieve ultra-low emission and energy saving. The project won the second prize of 2018 Outstanding Achievements in Equipment Management Innovation of Power Enterprises.

Case

Waste Heat Utilization and Pollutant Elimination

Henan Shouyangshan Power Plant adopted the method of waste heat recovery and reducing the waste heat generated by the absorption temperature at the outlet of the absorption tower for waste heat utilization and smoke whitening. Based on large amount of data calculation and theoretical analysis, combined with the consideration of advantages of low moisture content of coal used in the Shouyangshan project, the boundary condition of flue gas waste heat utilization is set to 85°C. After the completion of the project, the coal consumption of power generation was reduced by about 1.62g/kWh, which became the first unit in the local area to complete the whitening of the flue gas. In December 2018, it was highly appreciated by the local environmental protection department.



Density of Hazardous Wastes Produced

18 g/ MWh

Density of Non-hazardous Wastes Produced

0.12 kg/ kWh

Rigorous Waste Control

We strictly abide by the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes and the principles of "reduction, recycling, and harmlessness", actively explore ways to maximize the utilization of waste resources. We will continuously improve the utilization rate of waste and reduce the discharge of waste.



Disposal of Non-hazardous Waste

The non-hazardous waste generated by CR Power is mainly derived from by-products such as fly ash, slag and desulfurization gypsum produced after boiler combustion. We do not rely solely on economic benefits, but focus on comprehensive utilization of resources and environmental risk management, selling power generation by-products such as coal ash and gypsum to other industries, and seeking the best solutions for resource utilization to drive local economic development.



Disposal of Hazardous Waste

The hazardous waste generated by CR Power mainly includes waste oil, waste catalyst, and waste lead storage battery. We follow the requirements of laws and regulations such as Technical Specifications for the Collection, Storage and Transportation of Hazardous Wastes and Management Measures for the Transfer of Hazardous Wastes, resolutely reduce the generation of hazardous wastes from the source, and entrust the units with hazardous waste disposal qualifications to dispose of hazardous wastes in a coordinated manner. We will also implement a jointly-managed system to ensure the proper storage and transfer treatment, and follow-up supervision of hazardous waste, preventing the spread of secondary pollution of hazardous waste, and reducing the impact on the environment.



Case

Making the Best Use of Waste

Henan Jiaozuo Power Plant has two coal-fired heating units with 660 MW ultra-supercritical units. When the annual consumption of coal is 2.5 million tons, fly ash of about 500,000 tons is generated. In order to achieve comprehensive utilization of waste, Jiaozuo Power Plant aims to build four 50,000m³ steel ash tanks and a 600m³ fly ash bulk storage tank, introduce dry slag grinding and sorting grinding system, for deeply processing the bottom slag into powder. Coal ash is sold as a by-product to the construction industry and the industrial waste is then transformed into treasures.

Improving Resources Utilization

Power generation water consumption rate

1.42 kg/kWh

Wastewater discharge rate

28.82 g/kWh



Gucheng Power Plant

**won the honorary title
as a water-conservation
enterprise of Henan Province**

We value the efficient operation of the Company and care more about the burden of development to the environment. We strived to improve the efficiency of resources utilization, and strictly controlled all aspects from origins to end-users to reduce resources consumption. At the same time, we used innovative technologies to explore the best use of external resources, focused on circular economy and achieved resources-saving and environmental-friendly development in exchange for less impact on the environment.

Recycling Water Resources

We will further promote the rational use of resources, in order to improve the water-use efficiency and use innovative technologies such as desalination, water treatment, rainwater and mine water recycling. In 2018, all power plants implemented recycling of waste water, hitting a compliance rate of 100%.

Emission reduction and comprehensive utilization of wastewater

The desulfurized wastewater and miscellaneous wastewater from thermal power plants and coal mines are reused after multi-stage treatment, and are used for spraying of coal mines and the flushing of coal handling system. The self-built domestic sewage treatment facilities of the wind farm shall be used for the greening and watering of the site after treatment to achieve zero discharge of wastewater.

Increasing source of resources by desalination projects

The seawater is converted into fresh water by desalination projects. The replenished freshwater is supplied by our self-built desalination system with a maximum output of 450 m³/h, and the annual consumption of freshwater is about 850,000 tons. In case of emergency, the freshwater could also be provided to the local community.

Environmentally-friendly recycling and reclamation

Reclaiming domestic sewage and replacing production water (such as by condensation) with coal mine water or making deepwater treatment for boiler water circulation pot, spray dust, irrigation and etc. to achieve an environmentally-friendly recycling of industrial water and domestic water.

In 2018, Hebei Cangzhou Thermal Power Plant, Henan Shouyangshan Power Plant and Inner Mongolia Dengkou Power Plant recycled about 26.2197 million tons of urban reclaimed water in all.



Case

Water Recycling

The source of the water circulating system of Cangzhou Thermal Power Plant in Hebei Province was the reclaimed water after preliminary treatment of the municipal sewage in Cangzhou City, and we made initial investment of RMB 120 million for the construction of the plant. The utilization rate of the water treatment was up to 100%, annual utilization of reclaimed water was 8 million tons, and the cumulative utilization was about 85 million tons over the years, indirectly saving 85 million tons of fresh raw water.

At the same time, Cangzhou Power Plant actively carried out energy-saving technical transformation projects such as reform of circulating water system and waste heat recovery, comprehensive utilization of desulfurization wastewater, and upgrading and reform of domestic sewage treatment, which greatly reduced the discharge of urban wastewater, effectively avoided the pollution of sewage to the environment, and greatly protected the surface and groundwater resources of Cangzhou City. The Company has won many honors such as "Top 100 Energy-saving and Environmental Protection Enterprises in the Power Industry", "Provincial Water-saving Enterprises" and "Energy-saving Advanced Enterprises" from the national, provincial and municipal governments.



Collaborative Disposal of Waste

We are constantly seeking ways of harmonious development along with the society and environment, for example, actively participating in social waste management, exploring the use of coal-fired

boilers to co-dispose waste, reducing environmental load, contributing to ecological civilization construction, and sharing environmentally-friendly development with the society.

Explore sludge-coupling power generation technology, apply biomass coupling, dry blending and other technologies to replace some coal-fired raw materials with sludge, and develop the thermal power industry more environmentally friendly while mitigating risks of secondary environmental pollution of traditional disposal methods (such as composting and landfill).

The white mud and marble slurry replaces limestone in flue gas desulfurization systems, in which way other industry by-products are being made full use of, and meanwhile reduce the impact of by-products to the environment.



Wastes from the pharmaceutical and manufacturing industries are used as substitutes for coal-fired raw materials, and new ideas for waste disposal are explored with innovative blending technology.



Case

Comprehensive Utilization of Hazardous Waste Resources

As a kind of hazardous waste, antibiotic residue incurs high disposal cost. A large amount of antibiotic-containing drugs are composted, buried, burned, and even disposed of by being illegally fed to animals, endangering the environment and the health of people.

Henan Gucheng Power Plant conducted research and analysis on local bio-pharmaceutical enterprises and found that the drug residue produced in the process of antibiotic production by pharmaceutical factories has high volatile content, low ash and low fixed carbon, which can be used as a better substitute for coal combustion. Gucheng Power Plant passed a large number of blending tests and commissioned qualified institutions to conduct on-site inspection, sampling and testing of burnt fly ash, slag, gypsum and exhaust gas, and used data to prove the feasibility of disposing antibiotics residue in thermal power plant boilers.

On July 16, 2018, Gucheng Power Plant was granted the operating license issued by the Henan Provincial Environmental Protection Department, becoming the first thermal power plant in the country to co-dispose hazardous waste (antibiotic slag). According to the 10% blending ratio, the annual emission reduction of 535t of sulfur dioxide, 102t of nitrogen oxides and 3.5t of soot can effectively alleviate the disposal pressure of hazardous waste and reduce pollutant emissions.

Protecting the Beautiful Ecological Environment

Biodiversity is the cornerstone for the survival and development of the human society, and an important indicator for measuring the environmental quality and ecological civilization of a region. We care for nature, and take biodiversity conservation, eco-environmental protection, and prevention of soil erosion as important measures in the whole life cycle of project planning, design, construction, transformation, operation and maintenance. All operating

projects strictly implement the People's Republic of China Soil and Water Conservation Law and Construction Project Environmental Protection Management Regulations and other national policies and regulations, carry out the Three Simultaneous investigation of ecological environmental protection and investigation of ecological and environmental risks, and strive to build a green power plant within the environment.

1 Pre-construction Planning

- Environmentally sensitive areas such as nature reservation areas and water source protection areas are directly excluded to ensure that project construction does not have a serious impact on the local ecological environment in the planning stage of power plants;
- Conduct environmental impact and energy conservation assessment, and establish environmental early warning mechanism;
- Firmly stick to principles of honesty and transparency, we actively communicate with the communities and residents within the local community to gain stakeholders' understanding and support.

2 Environmental Protection while Construction

- In the process of construction, environmental protection and thematic projects are simultaneously designed, constructed, and put into operation at the same time;
- Construction is under progress scientifically to reduce the impact on surrounding environment and soil erosion;
- The construction unit is required to implement EHS management requirements and sign an EHS agreement to ensure quality and safety construction;
- Strictly monitoring environmental protection and soil and water conservation progress along with construction.

3 Post-construction Restoration

- Immediately backfilling stones and concrete after the closing of construction to re-green the soil and water restoration system;
- Actively carry out environmental protection and soil and water conservation completion acceptance work.



Green and Low-carbon Offices

We fully integrate the concept of energy conservation and emission reduction into our daily operations, advocate employees to start from scratch to become pioneers and practitioners of green office, and also encourage employees to save every degree of electricity, every drop of water, each sheet of paper to improve their awareness of resources and environmental protection, and create a "green, low-carbon" working environment.



Power Saving

Promoting the use of energy-saving lamps, and cultivate the habit of "turning off the light before you leave".



Water Saving

Using water-saving appliances and checking for water leakage on a regular basis.



Energy Saving

Setting air conditioning temperature of no less than 26°C in the summer and no more than 18°C in the winter; promoting video conference normalization and reducing utility vehicle use.



Paper Saving

Accelerating the improvement of information office system construction to realize a paperless working mode; promoting the re-use of used paper and double-sided printing of documents.



Case

Tree Planting for Greenness

March is a good time to sow green plants. On March 12th, 2018, a themed tree planting activity was organized by the project company of CR Power. The saplings such as peach trees, apple trees, Xifu crabapple trees and bamboos were planted for encouraging everyone to contribute more in environmental protection and public welfare activities.



Case

Waste Sculpture Creative Design Competition

On November 26th, 2018, Guangdong Haifeng Power Plant held its first waste sculpture creative design themed competition, aiming to promote the concept of ecological and environmental protection, advocate energy-saving innovation, and enrich employees' leisure time. The 16 entries in the contest reflect the beauty of energy conservation, environmental protection, industrial civilization and natural ecology. They show the spirit of employees' intelligence and craftsmanship. They use sculpture to present elements of people and nature, industry and art, energy conservation and environmental protection, hopes and dreams and other elements.





Chapter IV Joining Hands with Employees for Common Growth

"Respecting the employee's personality, sublimating their soul, exerting their strengths, tapping their potential, caring for their needs and realizing their values" is the value of CR Power's human resources management. We are committed to providing a steady stream of talent for the growth and happiness of talents, and we are aimed to build a talents team that has won market leadership and comparative advantages.



P68 Safeguarding Basic Rights and Interests of Employees

P69 Supporting the Development of Employees

P70 Building a Happy Working Environment for Employees



Key Issues and Performance

Key Issues

- **Care for Employees' Lives**
- **Protection of Legitimate Rights**
- **Diversity and Equal Working Opportunities**

Our Challenges

As one of the closest stakeholders of the Company, employees are the most concerned group of CR Power. How to protect the basic rights of employees, let each employee work and live decently, let employees grow with the Company and increase the well-being of employees are the key issues that CR Power always cares about.

Our Strategy

- Introducing policies to protect employees' basic rights and interests, including equal employment for men and women and the nation, employees' entitlement to holidays and sufficient rest, and opposing of any form of discrimination and forced labor
- Setting career paths, enriching training programmes
- Caring for employees, organizing diverse recreational and sports activities
- Helping employees with financial difficulties



Our Regulations

- Management Standards for Organizational Performance
- Management Standards for Staff Performance in the Regions
- Management Standards for Talent Planning and Exchange
- Implementation Plan Guidelines for Specialized Career Paths in the Regions
- Management Standards for Lean Talent Cultivation
- Management Regulations for Selection and Appointment of Managers
- Remuneration and Welfare Management System
- Management Standards of Vacations for the Administration of Headquarters
- Management Standards for the Administration of Labor Contract
- Implementation Rules of the Annuity Scheme Implementation for the Enterprise



Our Performance

Total Headcount

21,629

Labor Contract Signing Rate

100%

Total Training Hours for Employees

712,567 hours

Total Training Investment: RMB

12.8 million

Employee's Care Fund: RMB

9.747 million



SDG Goals



Safeguarding Basic Rights and Interests of Employees

Only with full protection of and respect for employees' rights and interests, can a business become prosperous. In support of Universal Declaration of Human Rights and International Covenants of Human Rights, we strictly abide by laws and regulations like the Labor Law of the People's Republic of China, Labor Contract Law of the People's Republic of China, Social Insurance Law of the People's Republic of China, Regulations on Paid Annual Leave for Employees, Regulations on Worker's Compensation Insurance, and Law on Protection of Women's Rights and Interests. We have eliminated all forms of employment discrimination, opposed forced labor and prohibited the employment of child labor, and have implemented an employment policy with no difference in gender, ethnicity, religion and age. In 2018, CR Power had no major labor disputes and did not receive complaints about human rights issues.

Labor Contract Signing Rate

100 %

Per Capita Annual Paid Vacation Days

8 Days

Guaranteeing Employees' Remuneration and Benefits

We strictly implemented the "equal pay for equal work" and adhered to the concept of "pay for jobs, pay for performance and pay for ability", built a high-performance culture and diversified evaluation and incentive scheme and stimulated employees' enthusiasm and initiative. We implemented a universal social security policy on pension paying, medical care, unemployment, work injury and maternity insurance, and housing provident fund for all employees, and provide additional commercial insurance and supplementary pension insurance (i.e. enterprise annuities); we prepared social insurance and commercial insurance and provided training for employees who are dispatched for labor services. In order to encourage and protect employees' taking vacations, we introduced the policy of Standards for Vacation Management, which clearly stipulates the requirements for leave applications for vacations; we specially prepared gynaecological examinations for married female employees in the annual physical examination package. Last but not least, we organized birthday parties for employees whose birthdays fall within that month, set up special funds to carry out group building activities and held marathon activities and parent-child fun activities as well.

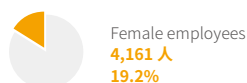
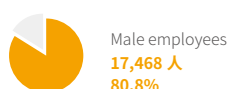
Safeguarding Employees' Rights and Interests

We followed the principles of law, fairness, equality, consensus, honesty and credibility, signed labor contracts with employees in a timely manner, and clarified the rights and obligations of the parties in the labor contract to protect the legitimate rights and interests of laborers. In recruitment, assessment, remuneration and other aspects, we kept personal resume and information on family, salaries, health highly confidential. We carried forward the democratic management in the employees' group, listened to their opinions or suggestions during the interviews, symposiums, leadership mailboxes, and actively gave feedbacks to improve employees' loyalty.

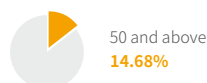
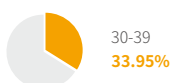
We conducted annual engagement surveys to understand and concentrate on the needs from the employees' perspective. In 2017-2018, CR Power Engagement Survey scored 83%, in the high performance / best employer zone.

The total number of employees in 2018 is **21,629**

Gender Distribution



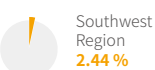
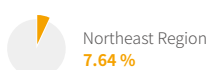
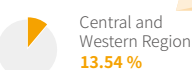
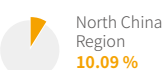
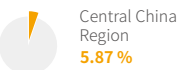
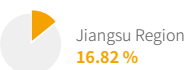
Age Distribution



Level Distribution



Region Distribution



High performance/
best employer
100%

CR Power 2017-2018
83%

Market Average 65% Stable Zone
72%

Energy Industry 63%

Danger Zone
46%

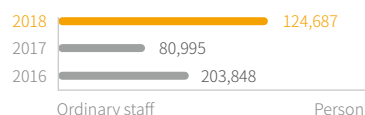
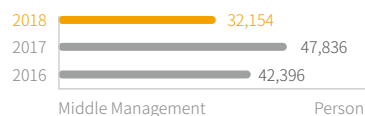
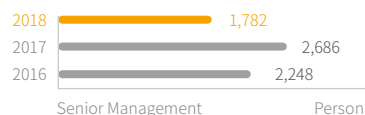
Supporting the Development of Employees

We have established a two-channel career development path of "professional line" and "management line". By analyzing the current situation of professional sequencers, combined with the Company's talent development plan, we promoted professional qualification review and smoothened the promotion channel for employees. We continuously strengthen and improve the staff training system, improve the staff's ability in all aspects, support employees to obtain various professional qualifications, and form a good team development atmosphere.

Managers' Training

Senior managers were mainly trained by ways of leadership training programmes such as "China Resources Road" and "Management Road" led by China Resources University, and carried out training programmes such as "General Managers' Seminar", "Construction Project Chief Commanders' Seminar" and "Young Managers' Seminar" in due course. Mid-level managers were mainly trained by ways of training programmes organized by major regions, such as training named "Run Zhuo Yue" for mid-high management in the Northern region, the "three shifts" training in South China Region, the "Huangshan Seminar" and "Taishan Seminar" in East China Region, and the talent training programmes in Central and Western Region for high-potential talents.

Total Training Hours for Employees:
712,567

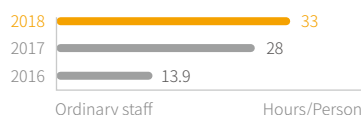
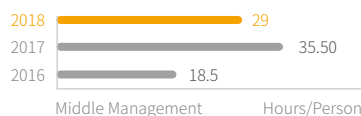
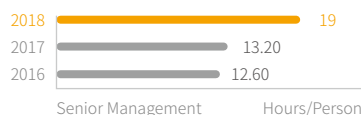


New Employees' Training

As arranged by the CR Group, we organized the Future Star Training Camp for Fresh Graduates to help them quickly adapt to the new career environment and become qualified CR staff. In 2018, the East China Camp III was held in Zhengzhou lasting for 32 days, and 500 trainees participated. Mr. Li Ru Ge, our Chairman, visited the Future Star Camp participants and delivered a message; Mr. Hu Min, our President, gave an lecture to the participants.

Specialized Training

We highly value professional talents in the industry, and held various job training programmes, such as the Demonstration Project of International Power Plant Demonstration Base, the Training of Operation and Standardization System Construction, the "100 craftsmen" Plan of South China Region.



Training Resources

5 training bases:

Thermal Power Demonstration Base - Haifeng Power Plant; Wind Farm Demonstration Base -Shandong Pingdu Longxin; Power Plant Simulator Training Base - Jiangsu Xuzhou & Henan Dengfeng; Hebei Caofeidian Power Plant; New Employee Operational Talent Training Base- Jiangsu Nantong Wind Farm New Energy Talent Training Base;

264 internal mentors:

Gave lectures on leadership, primary level management, general skills, industry specializations and corporate culture

114 online courses:

An online learning system and a question pool with about 60,000 test questions

116 micro-courses:

micro-courses with our own patent were released via the CR University App for flexible learning

Employees' Training Coverage Rate

100%

Management Skill Training Coverage Rate

95%

Total Training Investment: RMB

12.80 million

Building a Happy Working Environment for Employees

We encourage our employees to maintain a balance between work and life, and to create a dynamic and warm working environment by actively carrying out a variety of cultural and sports activities. We care for female employees, retired employees, as well as employees encountering difficulties in life and we would take the initiative to help and support them to fight through these challenges. We strive to create a happy working environment for employees.

Enriching Recreational Activities

We encourage the work-life balance style of our employees by organizing a wide range of activities including sports games, themed lectures and gatherings for them.

Southeast Region

Quanhui Project held a Healthy Run activity in celebration of the 80th anniversary of CR in January 2018



Caring for Employees

In particular, we have established the "CR Power Caring Fund" to help employees solve various difficulties in their lives. In 2018, we funded about RMB 975,000 to help the hard-working employees to solve their urgent problems, and strive to build a happy working environment for them.



South China Region

Hosted a Spring Festival Gala named Chasing Dreams in celebration of the 80th anniversary of CR on February 2nd, 2018



Central China Region

Held an employee birthday party

Type	2015		2016		2017		2018	
	Households	Amount (RMB thousands)	Households	Amount (RMB thousands)	Households	Amount (RMB thousands)	Households	Amount (RMB thousands)
Supporting Financially-disadvantaged Employees	467	1,062.7	586	811.1	542	687.3	216	337.1
Visiting Financially-disadvantaged Employees	367	160.1	337	402.8	324	364.3	73	84.8
Child Educational Supporting for Financially-disadvantaged Employees	50	76.7	68	93.6	75	123.0	10	12.6
Medical Support for Sick Employees (including immediate relatives)	63	147.9	266	573.0	367	1,365.3	289	540.2

Northern Region

The Ningxia Regional Company organized an employee and family outdoor activity on August 25th, 2018



North China Region

Fengrun Project Company hosted a singing competition in celebration of the 80th anniversary of CR on September 29th, 2018



Northeast Region

Held a "Healthy Walk" hiking tour on October 26th, 2018



Jiangsu Region

On April 10, 2018, China Resources 80th Anniversary Calligraphy, Painting and Photography Competition was successfully held.



East China Region

Held the 2nd Employee Sports Meeting named Taishan Cup on November 10th, 2018



Southwest Region

Held a reading activity in celebration of the 80th anniversary of CR on May 24th, 2018
Central China



Central and Western Region

Hosted the 2nd Yuxie Cup Badminton Friendship Competition on September 5th, 2018



Coal Branch Companies

Held the 3rd Shanxi Regional Company Sports Meeting on May 26th, 2018.



Chapter V Building a Wonderful Life with Consistent Efforts



The rapid development of CR Power is inseparable from the trust and support of all sectors of society. Maintaining a sense of gratitude and staying true to our mission, we have been persistently devoted to community inclusion and poverty alleviation programmes, giving back to the community to build a better life for people.



P77 Targeted Poverty Alleviation

P78 Charitable Responsibilities



P80 A Wonderful Community Life



Key Issues and Performance

Key Issues

- Targeted poverty alleviation
- Support social welfare

Our Challenges

The growth of CR Power depends fully upon the community. Many groups in the community and the country at large require all sorts of support and assistance. As a first-growing member of the community, CR Power has the responsibility, obligation and capability to make contributions.

Our Strategy

- Supporting targeted poverty alleviation in response to the call of state and CR Group
- Actively launching charity programmes to fulfill responsibility
- Active involvement in community development, employing experts to promote development



Our Regulations

- Management Standards for Charity Activities
- Management Standards for Social Responsibility Work

Our Performance

Total Tax Payment: RMB

7.04 billion

Newly Recruited Employees

1,639

Fresh Graduates Employed

489

Total Charity Donation: RMB

6.07 million

Volunteer Activities

6,109

SDG Goals





Targeted Poverty Alleviation

China's poverty alleviation work is standing at a crucial point. In response to the strategic plan of the State's Decision on Winning the Poverty Alleviation and the State Council's 13th Five-Year Plan for Poverty Alleviation, CR Power is taking full advantage of its funds, technology, talents and management to help the poor. By means of industry poverty alleviation, development of special poverty alleviation projects according to local conditions and participation in the construction of Hope Town of China Resources Group, CR Power has contributed to the poverty alleviation work in various places, and the special fund for poverty alleviation donation for the whole year was about RMB 3,657,800.

We use our own advantages to invest in photovoltaic power generation and wind farm projects in poverty-stricken areas, and take advantage of industrial development as the internal driving force for local poverty alleviation, so that the people in poverty-stricken areas can participate in the construction of the industry and eventually truly eliminate poverty. We have adapted to local conditions to support local characteristic industries with capital and talents to help the development of local characteristic industries.



Poverty Alleviation by Wind Projects

CR Power has successively carried out poverty alleviation work in Zaoyang (Hubei), Qingyuan (Guangdong) and Cangwu (Guangxi). By the end of 2018, the capacity of poverty alleviation wind power projects has amounted to 1,290MW.



Poverty Alleviation by Photovoltaic Projects

The China Resources Heishui 30MW Photovoltaic Project for Poverty Alleviation is located in the eastern part of the Qinghai-Tibet Plateau. It is a cooperation project between CR Power and Heshui County of Aba Tibetan and Qiang Autonomous Prefecture in Sichuan Province. The project is located in Ruoduo Village, Zhawo Township, Heishui County. It assists 4,032 people in poverty and provides poverty-free funds of RMB 4.032 million per year.



Poverty Alleviation By Charitable Activities

Each time a wind farm is built in Haiyuan City, CR Power will fund RMB 2 million to build a "China Resources Ecological Public Welfare Forest" locally.

Charitable Responsibilities

We have long been committed to charitable causes, and have formulated and implemented the CR Power Charity and Public Welfare Activities Management Standards in accordance with the Laws and Regulations of the People's Republic of China on Public Welfare Donation Law and the Ministry of Finance on Strengthening the Financial Management of Enterprises' External Donations. The approval and operation management of the Company's charitable activities ensures that all funds are implemented and the activities are carried out smoothly. In 2018, we actively carried out and participated in public welfare projects such as helping students and caring for special groups. We donated a total of about RMB6,066,900 to the society, accounting for 0.15% of our net profit attributable to shareholders, and 6,109 people participated in volunteer activities.

Educational Subsidies

CR Power participated in the "Zhihang Project" of the China Automation Society and donated 4 laptops to the Wushan Township Central Primary School in the city of Mi'le, Yunnan Province for teachers to teach and students to learn.

Haifeng Power Plant launched a programme called "Reading the World • Passing Love" and donated more than 300 books to the Xiaomo Middle School Library in the Cooperation Zone.

CR Power held a charity event for the Luofu School in Jinggangshan Hope Town, donated laptops to the school, overhauled the campus power facilities and brought a unique "power classroom" to the students.

Hubei Power Plant Volunteer Service Team participated in public welfare activities of the poor and abandoned children organized by the Municipal Youth League Committee of the Chibi City, and they went to Shadui Town Primary School in Tongcheng County, Xianning City to give the children safe electricity-usage and self-saving lessons.

Henan Shouyangshan Power Plant donated RMB 100,000 to 15 village schools in Shouyangshan Town, Yanshi City for 15 consecutive years on Children's Day.

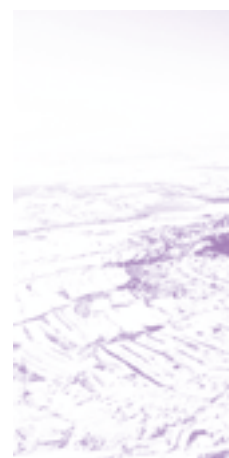
Staff of Rundian Technology gave a refreshing power-themed drawing lesson to the hearing-impaired children.



Hebei Caofeidian Power Plant organized the clothing donation with the theme of "CR Group Supporting Qinghai-Tibet Region".



Central China Region worked with China Resources Land to launch nursing home activities.



Volunteers of Guangzhou Thermal Power Plant visited the Nansha School for Children of Migrant Workers.



Care for Special Groups

CR Power organized employees to participate in "Hong Kong & Kowloon Walk" event and more than 200 employees and their families completed the 10km walk. The fund-raising event will fully fund 24 welfare agencies in Hong Kong.

Hebei Tangshan Fengrun Power Plant Volunteer Service Team cooperated with Tangshan Blue Phoenix Mentally Retarded Persons Help Center to carry out the "CR Power & Blue Phoenix Happy Camp" public welfare assistance activities. Volunteers made baked food with autistic children from blue phoenix, and gave stationery and dolls to them.

Staff of Rundian Energy Science and Technology Co., Ltd. went to the Zhengzhou Kangyuan Hearing and Speech Rehabilitation Center in Henan Province to bring a special public welfare class for hearing-impaired children – "How electricity is generated".

Hunan Division of South China Region held a "Let's walk with love" charity event, and 20 volunteers went to the special education school in Zixing City, Hunan Province, spending the Mid-Autumn Festival with more than 40 disabled children.



Haifeng Power Plant launched the activity of "Reading the World and Transforming Love" to donate books to Xiaomo Middle School Library in Shenzhen-Shantou Cooperation Zone.



Staff of Hunan Division of South China Region visited a special school to celebrate the Mid-autumn Festival with children.

Staff of Sichuan Yazui River Hydropower celebrated the Children's Day with students and teachers from Simaocao Primary School.



A Wonderful Community Life

The continuous development of CR Power is inseparable from the support of the community. As a corporate citizen, we actively participate in community communication, development and construction, and strive to become a bright light on the road of community development, adding colour to the beautiful lives of the people.

Caring about Community Livelihood

Valuing good relationships with communities surrounding projects, we have actively given back to society by investing in community construction and ensuring thermal power supply in emergency situations. In the event of a fire in the community, multiple fire brigades from project companies helped local governments and villagers from danger.

Warming the Hearts of the Community

We care about the senior citizens in the community by participating volunteer activities such as "You and I are willing to pass on the heart and respect the old feelings", we often visit those in the welfare homes, and we often have employees donate blood for local community medical care service.

Supporting Community Science and Education

The Company worked with schools to launch Study Tours and Production Internships providing opportunities for students at different ages to learn about CR Power and the industry, offering practice opportunities for young students both home and abroad. We have created further job opportunities for the community by forecasting of corporate talent demands in advance.





Major Awards on Social Responsibility

Title	Conferred by	Recipient	Date
Ranked 131st in Top 250 Global Energy Companies	Platts	China Resources Power Holdings Company Limited	September
Ranked 977 th in Forbes Global 2000 for Largest Listed Companies	Forbes	China Resources Power Holdings Company Limited	September
Asia's Best Environmental Reporting; Asia's Most Transparent Report; Asia's Best Sustainability Report (Stand-alone)	CSRWorks	China Resources Power Holdings Company Limited	February 6 th
Top 20 Hang Seng Index Corporation of Hong Kong Business Sustainability Index	The Sustainability Management Research Center (SMRC) of Hong Kong Polytechnic University, Hong Kong Council of Social Service, Hong Kong Productivity Council	China Resources Power Holdings Company Limited	April 18 th
QuamIR Awards	Oceanwind IR Limited	China Resources Power Holdings Company Limited	May 30 th
Corporate Green Governance Award -Management System Award; Environmental, Health and Safety Award-Platinum;; Green Management Award (Corporate)-Gold; Sustained Performance 3 Years +	Hong Kong Green Council	China Resources Power Holdings Company Limited	December 14 th
Green Award for Environmental Protection	The 6 th Responsibility Sharing Annual Conference of China Social Responsibility 100 Forum	China Resources Power Holdings Company Limited	January 25 th
Poverty Alleviation Social Responsibility Award for the China Energy Industry	2018 China Energy Industry Poverty Alleviation Summit Forum	China Resources Power Holdings Company Limited	September 8 th
"ai Social Value Co-creation" Enterprise Targeted Alleviation Case Model Award	School of Management Fudan University, CCM CSR Promotion Centre, CIIC Guanaitong, ai Award	China Resources Power Holdings Company Limited	November 12 th
Hong Kong Green Awards 2018 Environmental, Health and Safety Award- Silver Award	Hong Kong Green Council	China Resources Power (Wenzhou) Co., Ltd.; China Resources Power Hunan Co., Ltd.	January 12 th
First Prize of the Typical Case of Green Development of State-owned Enterprises in China	State-owned Assets Supervision and Administration Commission of the State Council, Innovation World Weekly	China Resources Power (Hezhou) Co., Ltd.	January 28 th
First Prize of the 6 th National Power Industry Equipment Management Innovation Awards	China Electric Power Equipment Management Association	China Resources Power (Haifeng) Co., Ltd., Cangzhou China Resources Thermal Power Co., Ltd.	February 1 st
Second Prize of 6 th National Power Industry Equipment Management Innovation Awards (Technology Category)	China Electrical Equipment Management Association	China Resources Power (Xilin Gol) Co., Ltd.; China Resources (Xuzhou) Electric Power Co., Ltd.; China Resources (Tongshan) Electric Power Co., Ltd.	February 4 th
AAAA Level Standardization Well-behaved Enterprise Certification	China Electricity Council	China Resources (Xuzhou) Electric Power Co., Ltd.; China Resources (Tongshan) Electric Power Co., Ltd.; China Resources Power Henan Shouyangshan Co., Ltd.	March 1 st
Second Prize of Intelligent Innovation Achievements in Thermal Power Fuel Management	China Electricity Technology Market Association	China Resources Power Hubei Co., Ltd.; China Resources Power (Panjin) Co., Ltd.	March 20 th
First Prize of Water Treatment Technology Innovation Achievements	China Electricity Technology Market Association	China Resources Power Jiangsu Region	April 18 th



Hong Kong Green Awards



Green Award for Environmental Protection



ai Social Value Co-creation Enterprise Targeted Alleviation Case Model Award

Title	Conferred by	Recipient	Date
2018 Power Industry Quality Project	China Electric Power Construction Association	China Resources Wind Power (Haiyuan) Co., Ltd.; China Resources New Energy (Anda) Co. Ltd.; China Resources Power (Haifeng) Co., Ltd.	May 1 st
National Wind Farm Production and Operation Statistical Indicators Benchmark AAAA Level	China Electricity Council, National Wind Power Technology Collaboration Network	China Resources Wind Power (Huilai) Co., Ltd.; China Resources New Energy (Dongying) Wind Power Co., Ltd.; China Resources New Energy (Huanxian) Wind Power Co., Ltd.; China Resources Wind Power (Shantou) Co., Ltd.; China Resources New Energy (Fuxin) Wind Power Co., Ltd.; China Resources Wind Power (Yantai) Co., Ltd.; China Resources Wind Power (Yantai Penglai) Co., Ltd.	August 1 st
BOC (Hong Kong) Enterprise Environmental Leadership Award	Federation of Hong Kong Industries, Bank of China (Hong Kong)	China Resources Power (Hezhou) Co., Ltd.	June 4 th
Power Industry Benchmark Laboratory	China Electricity Technology Market Association, Power Industry Chemistry Expertise Committee	China Resources Power (Xilin Gol) Co., Ltd.; Fuyang China Resources Power Co., Ltd.; China Resources Power (Hezhou) Co., Ltd.; Cangzhou China Resources Thermal Power Co., Ltd.; China Resources Power (Bohaixinqu) Co., Ltd.	July 2 nd
TnPM Group Excellence Team Award of 2018 China Equipment Management Conference & 16 th China TnPM Conference	China Electricity Council	China Resources Power (Haifeng) Power Plant; China Resources Power Dengfeng Co., Ltd.	September 13 th
Asian Power Awards - Environmental Upgrade of the Year-China	Asian Power	China Resources Power (Haifeng) Power Plant	September 19 th
Asian Power Awards—Innovative Power Technology of the Year-China	Asian Power	China Resources Power (Panjin) Co., Ltd.	September 19 th
Asian Power Awards—Smart Grid Project of the Year-China	Asian Power	China Resources New Energy (Fuqing) Co., Ltd.	September 19 th
The "China-Germany Key Energy-saving Units Energy-saving Diagnostic Demonstration Projects"	Resources Conservation and Environmental Protection Department of the National Development and Reform Commission	Henan China Resources Power Shouyangshan Co., Ltd.	September 19 th
National Prime-quality Project	China Association of Construction Enterprise Management	China Resources Wind Power (Haiyuan) Co., Ltd.	November 16 th
2018 Power Industry Chemical Supervision Advanced Power Plant	China Electricity Technology Market Association	China Resources (Tongshan) Electric Power Co., Ltd.	November 1 st
Second Prize of 2018 Power Innovation Awards (Management Category)	China Electricity Council	China Resources Power (Panjin) Co., Ltd.	November 1 st
2018 Performance Improvement, ISPI-China	International Society for Performance Improvement	China Resources Power North China Region	November 2 nd
National Excellent Equipment Management Unit	China Association of Plant Engineering	China Resources Power (Haifeng) Power Plant	November 9 th

Future Outlook

Looking forward into 2019, opportunities will come with challenges.

We will further increase and prioritize investments in wind power in areas with strong wind resources to realize the extensive development and efficient utilization of renewable energy resources. We will actively incorporate the national development strategy for the Guangdong-Hong Kong-Macau Greater Bay Area, respond to the Initiative of "Building a Global Energy Internet" and give further play to our strengths in new energy development, smart cities and smart energy development as well as distributed energy. We will make active efforts to develop offshore wind power, uphold our innovation-driven strategy, and fully utilize internationally advanced technology and equipment to realize large capacity offshore wind power project construction, operation and development. We will also increase the intensity of thermal power technology transformation to further reduce consumption and emissions and enhance operational efficiency. We will actively develop the comprehensive utilization of sludge, rubbish waste and other wastes to achieve green recycling and sustainable development of thermal power enterprises. We will accelerate the pace of CR Power's transformation and innovation, quality development and continue to advance to the public's vision of a world-class clean energy company trusted by customers.

Key Performance Indicators

Development performance

	Unit	2014	2015	2016	2017	2018
Total assets	HKD bn	225.648	208.086	200.111	220.972	208.223
Gross generation volume (subsidiary power plants)	TWh	140.07	151.28	160.57	168.85	166.34
Total heat supply	kgJ	52,119.99	59,025.68	65,190.50	73,831.28	92,044.29
Attributable operational generation capacity	GW	31.33	34.73	36.18	36.08	37.44
Raw coal production volume (subsidiary and associate mines)	kt	11,646	13,897	14,735	15,023	15,108

Economic performance

	Unit	2014	2015	2016	2017	2018
Turnover	HKD bn	70.68	71.44	66.21	73.31	76.94
Operating profit	HKD bn	15.22	20.01	16.36	12.48	11.35
Net profit Attributable to owners of the Company ^①	HKD bn	9.22	10.03	7.71	4.62	3.95
Return on invested capital (ROIC)	%	9.3	10.4	7.3	5.3	6.0
Return on equity (ROE)	%	13.6	14.2	11.0	7.7	9.5
Asset-liability ratio	%	62.0	59.8	62.7	63.5	62.9
Debt to capitalization ratio	%	53.9	51.4	55.1	55.7	55.6
Value appreciation of state-owned assets	%	108.9	100.2	97.3	109.0	103.6
Operating net cash flow	HKD bn	26.50	31.99	22.30	18.56	18.10
New patents	Patents	13	31	50	51	198

Environmental performance

	Unit	2014	2015	2016	2017	2018
Purchased electricity ^②	MWh	152,255.3	123,821.5	126,339.7	106,343.6	92,117.6*
Proportion of installed clean energy attributable generation capacity	%	12.48	13.28	14.15	17.36	20.36
Net generation coal consumption rate (Subsidiary power plant) ^③	g/kWh	310.53	306.98	305.00	303.16	299.54*
Power consumption rate of power plants	%	5.04	5.00	4.95	4.99	4.97
Power consumption rate of factories	%	5.86	5.79	5.75	5.67	5.82
Installation rate of desulphurization devices in coal-fired thermal power plants ^{④⑤}	%	100	100	100	100	100*
Installation rate of denitrification devices in coal-fired thermal power plants ^{④⑤}	%	100	100	100	100	100*
Total investment in environmental protection	RMB bn	0.763	1.706	1.798	1.957	1.518
Investment in energy conservation, emission	RMB bn	0.728	1.586	1.776	1.697	1.283
Wastewater discharge	kt	N.A.	N.A.	N.A.	3,324.0	4,854.9
Wastewater discharge rate	g/kWh	22.66	31.88	24.79	19.3	28.82
Chemical oxygen demand (COD)	t	42.97	63.26	89.8	153.79	138.03
Nitrogen oxide emissions ^⑤	kt	N.A.	42.6	32.2	28.6	22.6*
Nitrogen oxide emission rate ^{④⑤}	g/kWh	0.51	0.26	0.20	0.17	0.13*

Notes | ① Net profit attributable to owners of the company.

② The number for 2017 and 2018 is calculated according to the Accounting and Reporting Requirements for Greenhouse Gas Emissions Part I: Power Generation Enterprises (GB/T32151.1 — 2015, effective from June 1, 2016) issued by the General Administration of Quality Supervision, Inspection of the People's Republic of China and Quarantine and Standardization Administration of the People's Republic of China. "N.A." indicates that the index system has not been included in the corresponding annual report. With the introduction of relevant new standards in recent years, new statistics have been added.

③ Installation rate of desulphurization device in coal-fired thermal power plants (%): The capacity of installed desulphurization devices in coal-fired power plants over the total number of coal-fired power plants.

Installation rate of denitrification device in coal-fired thermal power plants (%): The number of installed denitration devices in coal-fired power plants over the total number of coal-fired power plants.

	Unit	2014	2015	2016	2017	2018
Sulphur dioxide emissions ^④	kt	N.A.	33.7	21.1	17.2	13.6*
Sulphur dioxide emission rate ^{④⑤}	g/kWh	0.32	0.22	0.13	0.10	0.08*
Particulate emissions ^⑤	kt	N.A.	7.0	3.4	2.3	1.8*
Particulate emission rate ^{④⑤}	g/kWh	0.07	0.04	0.02	0.01	0.01*
Carbon dioxide emissions	kt	N.A.	N.A.	N.A.	137,292.7	133,304.8
Carbon emission intensity in thermal power generation ^⑤	t/MWh	N.A.	N.A.	N.A.	0.844	0.834
Natural gas consumption ^⑤	Mm ³	168.52	162.58	193.59	198.21	193.64*
Diesel consumption ^⑤	kt	12.1	14.8	15.7	14.9	11.0*
Coal consumption ^⑤	kt	70,220.0	71,580.0	74,766.5	78,150.3	77,589.1*
Comprehensive water consumption for power generation	kt	284,221.6	285,186.6	252,598.8	275,161.6	238,433.9
Comprehensive water consumption rate for power generation	kg/kWh	1.84	1.78	1.51	1.60	1.42
Energy consumption per RMB 10,000 industrial added value	tce	10.79	9.81	11.61	15.12	16.99
Water consumption per RMB 10,000 industrial added value	t	128.68	96.51	108.25	159.38	139.40
Total integrated utilization of ash	kt	N.A.	N.A.	N.A.	15,653.2	17,589.7
Total integrated utilization rate of ash	%	97.60	96.55	97.39	94.55	95.91
Comprehensive energy consumption	k · tce	29,743.1	30,647.2	29,553.8	30,051.5	29,064.1
Total amount of hazardous waste generated	kt	N.A.	N.A.	N.A.	4.2	3.1
Density of hazardous waste generated	g/MWh	N.A.	N.A.	N.A.	24	18
Total amount of non-hazardous waste generated	kt	N.A.	N.A.	N.A.	20,055.3	19,544.7
Density of non-hazardous waste generated	kg/kWh	N.A.	N.A.	N.A.	0.12	0.12

Social Performance

	Unit	2014	2015	2016	2017	2018
Total tax paid	RMB bn	9.13	9.91	9.31	7.72	7.04
Major equipment accident(s)	Accident(s)	0	0	0	0	0
General equipment accident(s)	Accident(s)	0	0	0	0	0
Personal injury and death accident(s)	Accident(s)	6	5	3	5	1
Unplanned outage	Times	21	29	20	25	20
Equivalent availability factor	%	92.08	91.35	90.54	92.77	91.62
Safety management personnel with certificates ^⑥	Person	1,634	1,771	1,831	1,866	477
Certified safety engineers ^⑥	Person	132	170	200	209	173
Total headcounts (excluding associated companies)	Person	43,235	39,728	33,604	29,827	21,629
Female employees	Person	6,413	6,550	5,673	5,277	4,161
Employees with disabilities	Person	10	10	10	10	10
Ethnic minority employees	Person	999	1,001	949	934	909
Social security coverage	%	100	100	100	100	100
Total investment in employee training	RMB mn	14.02	7.17	9.82	11.16	12.80
Training coverage	%	91	89	82	100	100
Health check coverage	%	100	100	100	100	100
Paid holidays per person	Days	8	8	8	8	8
Fresh graduates employed	Person	662	523	411	297	489
Newly added employees	Person	10,628	4,866	2,283	2,252	1,639
Charitable donations	RMB mn	41.06	11.82	95.52	4.69	6.07
Volunteer activities	Participants	4,873	5,100	5,328	3,787	6,109

Notes | ④ Sulphur dioxide emission rate (g/kWh): Sulphur dioxide emission per unit power generation Nitrogen oxides emission rate (g/kWh): Nitrogen oxides emission per unit power generation
Particulates emission rate (g/kWh): Particulates emission per unit power generation Formula for calculating emission rate: emission rate = total emission / total electricity generated

⑤ Third party performed an independent limited assurance of performance index marked with "*" and the emission rate is calculated based on the data recorded in Continuous Emission Monitoring System which is installed and used in the thermal power plants (as identified by △ that are wholly-owned, controlled and managed by CR Power Holding Co., Ltd. (see P.16 and P.17 for details). For the third-party assurance report, please refer to P.4 and P.5. The emission rates of nitrogen oxides, sulphur dioxide and particulates from 2015 to 2018 are calculated based on Continuous Emission Monitoring System, while 2014 are based on the internal N31 system of the Company.

⑥ Due to the disposal of coal assets by the Company, the number of safety certificates related to the coal industry has dropped sharply.

Comments by Stakeholders

Government

Wang Yixin
Vice Governor of
Shanxi Province

At present, Shanxi is focusing on the overall idea of "building a resource-based economic transformation and development demonstration zone, building an energy revolutionary leader, and building a new highland for inland areas to open up to the outside world", and vigorously promote the province's economic and social high-quality development. China Resources is a diversified SOE with excellent management and operation capabilities. The concept of "transformation and innovation, quality development" of China Resources is highly compatible with Shanxi. The Shanxi Provincial Government will create a good investment environment and promote the healthy development of China Resources' business in Shanxi.



Wang Shujian
Vice Governor of
Shandong Province

Shandong Province is accelerating the transformation of new and old kinetic energy as a major project to guide economic development. At present, it is at the key point of accelerating the strategic transformation from large to strong and achieving high-quality development. China Resources has extensive investment in power, medical and real estate sectors. The scale is large, and we hope that China Resources will continue to exert its advantages and help Shandong's economic construction.



Tian Jinchun
Vice Governor of
Qinghai Province

Qinghai Province is a large province in terms of territory, number of ethnicities, resources, ecology and places of interest, but in the meantime it is also small with respect of population and economy. We welcome negotiations on cooperation with CR. Qinghai will provide good services and a strong support to UHV channel delivery and renewable energy base construction to support CR's further business development in Qinghai Province.



Zhang Shaochun
Vice Chairman of
Inner Mongolia
Autonomous Region

CR Group has made outstanding contributions to the economic, social and environmental development of Inner Mongolia Autonomous Region. In the alliance cities of Xilin Gol, Bayannaoer and Wulanchabu, several wind power, thermal power and coal mine projects have been developed, which fully guarantees the energy supply of the autonomous region.



Chen Ping
Mayor of Heze City,
Shandong Province

CR Power has made outstanding contributions to the economic development of Shandong Province and that of Heze City in particular. Therefore, Heze City will provide quality services to facilitate the implementation of CR Power's strategic planning projects in the city as soon as possible. We further hope that CR Power can make use of its strength in expanding investments, contributing more to the sound and sustainable development of economy, society and environment of the city.



Media's Comments



people.cn

In recent years, CR Power has actively responded to the national energy strategy, accelerated the development of clean energy, optimized the structure of coal and coal assets, distributed electricity sales and integrated energy business and steadily promoted overseas businesses, pursuing "the international integrated energy source that is trusted by the public and appreciated by customers. The service provider's vision is constantly improving.



China Environmental News

With the completion of ultra-low emission upgrades, coal-fired power plants have actively explored how to better harmoniously co-exist with cities and undertaken greater responsibility while delivering more green power to cities. CR Power (Changshu) Co., Ltd. receives about 800 tons of municipal sludge every day. After desiccation, the sludge is combined with coal at a certain proportion and combusted. This supercritical unit sludge sanitary disposal project was recently included in the first 29 National Coal Power/Sludge Pilot Projects jointly released by the National Energy Administration and Ministry of Ecology and Environment.



China Energy News

In recent years, CR Power has adhered to the concept of "Green Energy, Moist and Living" and has done a lot of effective work in environmental, economic and social responsibilities. It has achieved good results and won the Hong Kong Green Enterprise Award, Green Environmental Award, and Society. A number of domestic and foreign honours such as the Care for Business Excellence Awards demonstrate outstanding accountability.



www.xinhuanet.com

Recently, a public welfare short film entitled "Safeguarding the Lights of Everyone" was officially launched. The video truly recorded the history of CR Power workers helping the poverty-stricken areas of the Aba Heishui County. CR Power has built a photovoltaic power station there, with a unique poverty alleviation project to help more than 4,000 poor people in Heishui County to live a happily.



CPNN.com.cn

"Clean, neat and comfortable factories, white water vapour from the chimneys, no air pollution or dust...our perception of old thermal power plants has been changed." The environmental results of CR Power (Lianyuan) Co., Ltd. left a good impression on the environmental volunteers, students and villagers at the Clean Energy Public Open Day themed Green Development, Beautiful Life.



Hong Kong Commercial Daily

In recent years, CR Power has always adhered to the concept of green development, actively responded to the national energy policy, actively adapted to the new situation of power reform and market changes, innovated development ideas, optimized business layout, actively fulfilled social responsibilities and explored green low-carbon energy technologies.

Employee's Comments

Assistant Electrical Engineer
China Resources New Energy
(Zhongyang) Co., Ltd.

Tian Hua

In 2006, when the central government issued energy conservation and emission reduction policy, CR Power built its first wind farm, opening up a new chapter of its new energy development. I have witnessed the wind projects rising one after another in the mountainous areas. As a member of CR Group, I am proud of its development; as a member of Jinzhongnan New Energy Company, I am aspired to fly in the vast sky and start a new journey.



Deputy Controller of Central Control, Power Generation Department
CR Power (Changshu) Co., Ltd.

Yang Lusheng

In July 2013, I joined the CR Power family as I wished and started as a patrol inspector. All policies of Changshu Power Plant over the years, from ultra-low emission to sludge co-combustion and from promoting lean management to building a benchmark plant, have been guided by the state's requirements of green and eco-friendly development for energy enterprises. My strong career ambition and sense of mission have driven me to cherish my job, love the plant and remain loyal to my career.



Expansion Management Manager
CR Power (Haifeng) Co., Ltd.

Yan Bao

Since I started from the post of power management, the word I hear every day and most is "safety", and all supervisors would ask us to put safety as our top priority through our daily worktime. It's not an empty talk, but a principle always upheld: Always wear a safety helmet! Always follow the rules! All efforts are for the protection of individual and equipment safety, for the safe and stable supply of power and for the power supply to all households, which is a heavy responsibility that we always bear in mind.



Assistant to Department Head of Engineering Department
Central China New Energy Gannan
Regional Company

Jiang Weizhen

I have been a member of CR Power for 12 years, and have rotated around different posts not only dealing with equipment and coordinating management. The growth of a team needs collaboration, patience and role model. I have learned to share the growth skills with new employees as my mentors have. I am grateful for the training opportunities offered by CR Power. I feel quite happy to have made the decision of joining the Company at the best time of my life, I would like to say "Thank you, CR Power" sincerely.



Deputy Controller of Chemical Operation
Xuzhou Huaxin Power Generation
Co., Ltd.

Wang Dan

I often find my superiors and co-workers playing an exemplary role in dedication to work and perfection. To ensure the smooth operation of units and stable functioning of the equipment, they usually give up leisure time, and work overtime for continuous power supply to all households. They who are always keeping low-profile are the backbone of the enterprise in my eyes. I am proud to be their colleague!



Patrol Inspector of Central Control, Power Generation Department
Luoyang CR Power Clean Energy Co.,
Ltd.

Wu Haowei

After working for six years in CR Power, I have grown from a fresh graduate to a skilled worker, and have witnessed the transformational and innovative development of this enterprise. There have been wonderful memories of patient guidance from superiors and mutual assistance of co-workers. In the future, I will stay true to my ambition, and work harder and more pragmatically to make my due contribution to the growth of CR Power as a world-class enterprise!



Rating Report

"Sustainability Report 2018 of China Resources Power Holdings Co., Ltd."

Upon the request of China Resources Power Holdings Co., Ltd., the Chinese Expert Committee on CSR Report Rating invited experts to form rating team to rate the "Sustainability Report 2018 of China Resources Power Holdings Co., Ltd." (hereinafter referred to as "the Report").

I. Rating Criteria

"Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 4.0)" of the Chinese Academy of Social Sciences & the "Rating Standards for Corporate Social Responsibility Report of Chinese Enterprises (2019)" of "Chinese Expert Committee on Corporate Social Responsibility Report Rating".

II. Rating Process

1. The rating team reviews and confirms the "Process Data Confirmation of Corporate Social Responsibility Report" submitted by the "Report" writing group and relevant supporting materials;
2. The rating team conducts evaluation on the preparation process and the content disclosed by the "Report", and then drafts the rating report;
3. The Vice Chairman of the Rating Expert Committee, the leader of the rating team, and the experts of the rating team jointly sign the rating report.

III. Rating Results

Process (★★★★★)

The company establishes an organization for the preparation of sustainability report, which consists of a "leading group" and a "compilation team." The company's senior leadership takes the lead in control of the report's key content and is responsible for the review; the company positions the report as a tool to improve and enhance accountability management, as well as a communication channel for enhancing the understanding and cognition of the masses and the capital market, and establish a relatively complete reporting system; the company identifies the substantive issues according to company strategy and major issues, relevant national policies, industry benchmarking analysis, stakeholder questionnaires, internal interviews and expert training seminars; plans to publish reports through media meetings, etc., and will present reports in electronic format, print, Chinese and English, WeChat, special pages, etc., with excellent process performance.

Materiality (★★★★★)

The Report systematically discloses key industrial issues in the power production industry such as guarantee of power supply,

development of green power, safe production, occupational health management, saving energy resources, development of circular economy, reduction of "three wastes" emissions, and environmental management of the surrounding area of the plant and surrounding environment, with excellent substantive performance.

Integrity (★★★★☆)

The main contents of the "Report" systematically disclose 85.12% of the core indicators of the industry it operates within from the perspectives of "responsible for defending the territory and building a solid security line", "implement sound operation and enhance stable management", "make reasonable utilization of natural resources to maintain blue sky and green water", "work with employees to achieve healthy development of the company", "create a beautiful life with unbreakable will", with excellent performance of its integrity.

Balance (★★★★★)

The "Report" discloses "number of major accidents of equipment", "number of general accidents of equipment", "number of accidents of injury and death", "mortality rate of employees", "number of deaths of related party" and other negative data information, and elaborates on the specific condition of "safety accident of related party" and handling measures by cases, with excellent balance performance.

Comparability (★★★★★)

The "Report" discloses data of 84 key indicators for more than 3 consecutive years, including "total assets", "generating capacity", "clean energy operation rights and benefits and installed capacity ratio", "total investment in environmental protection", "total number of employees" and "total donation in public charity", and compares horizontally with the same industry with respect to such data as the "annual utilization hours of full-load units of affiliated coal-fired power plants", "average utilization hours of wind turbine" and "domestic wind farm production and operation index competition in 2017" and other data, with excellent comparability performance.

Readability (★★★★★)

The "Report" continues "green energy and colorful life" as the theme and sets up two responsibility stories such as "wind blows happiness" and "solution of difficulties faced by the city" to vividly demonstrate the performance characteristics of the company in the "three major fights" issues such as precise poverty alleviation and ecological civilization and embeds two-dimensional code in multiple places for extended reading, improving the dissemination and communication of the report; the important performance data is highlighted in the side column

of relevant chapters to enhance the legibility of the Report; the Report adopts creative cover and chapter, and the inner page design adopts the large-scale photos of the industry and the photos of the employees of the company, which not only enhances the recognition of the report, but also shows the humanistic care of the enterprise; the overall style is concise and the expressions are rich, with proper combination of images and texts, with excellent readability performance.

Innovation (★★★★★)

Main chapters of the "Report" have set up the main line of "assumption" to run through the text, presenting the frame structure of "responsibility, method, reasonableness, rationality and eternity" and demonstrating the enterprise's value positioning and responsibility assumption; actively respond to United Nations Sustainable Development Goals (SDGs) and combine the corporate strategy and operational setting goals to continuously improve the social responsibility management system, highlighting the company's global vision and responsibility leadership; each section has set up "topics we concern and performance", focusing on presenting key topics, challenges, strategies, systems and performances of relevant chapters and sections, and responding to the goals of SDGs; systematically demonstrate the practice and effectiveness of the company in relevant chapters; innovate the dissemination method of reports, develop report dissemination plans, give full play to media influence, expand scope of report dissemination, enhance the communication value of the Report, and shape the brand image of the "green development" of the company, with outstanding innovative performance.

Overall Rating (★★★★★)

According to the rating team's assessment, "Sustainable Development Report 2018 of China Resources Power Holdings Co., Ltd." is of five-star rating, and it is an excellent corporate social responsibility (CSR) report.



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

"Sustainable Development Report of China Resources Power" has received the five-star rating for the fourth consecutive year.

IV. Improvement Suggestions

Enhance the disclosure of the core indicators of the industry and improve the integrity of the Report.



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View Enterprise
Rating Files

魏紫川

Vice President of Chinese
Expert Committee on CSR
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Issuance date: May 24, 2019

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Note				A2.5 This KPI is not applicable to power plant

Readers' Feedback

Dear reader,

Thank you for taking the time to read the Sustainable Development Report 2018 of CR Power Holdings Company Limited. To improve our work on social responsibility and preparation of the report, we would like to hear your valuable comments and suggestions.

Please answer the following questions and submit it to us via emails: crp-ir@crc.com.hk or cr-power@crpower.com.cn

Readers' Feedback Form of Sustainable Development Report 2018 of CR Power Holdings Company Limited

Name _____

Company _____

Title _____

Tel _____ E-mail _____

Your comments: (Please mark ✓ at the appropriate location)

Very Good Good Average Poor Very Poor

Do you think this report reflects the material impact that CR Power has on the economy, environment and society?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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What's your overall evaluation of the information disclosure of this report?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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What's your overall evaluation of the format and design of this report?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Which part of the report are you most interested in?

What other information do you think is required but not reflected in this report?

What comments and suggestions do you have for CR Power in terms of its work on social responsibility and this report?

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Fuel Management Department	Gao Zongshan	Guo Yan		Central and Western Region	Miao Weiping	Wei Yan	
International Business Department	Ji Qiang			Central China Region	Zhou Lei	Xie Qianqian	
Finance and Accounting Department	Ning Meiquan	Chen Liyong		East China Region	Zhang Haijun	Zhang Xiao	
Human Resources Department	Wang Linhu	Chen Wensi		North China Region	Yan Hongxiao	Wang Yan	
Environment, Health and Safety Department	Ma Wei	Zeng Qingjun		Northeast Region	Xing Qiang	Song Longhan	
Procurement Management Department	Wan Jingjiang	Xu Lei		Southeast Region	Ding Hu	Zhang Qian	
Audit Department	Peng Huawu			Northern Region	Chen Guangchao	Wang Lei	
	Zhang Chi	Zhang Anruo		Southwest Region	Huang Wei	Liu Lulu	
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				Technical Research Institute	Pan Chenzhong	Yang Yunjia	
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