



Beijing Jingneng Clean Energy Co., Limited
北京京能清潔能源電力股份有限公司

(A joint stock company incorporated in the People's Republic of China with limited liability)

Stock Code: 00579

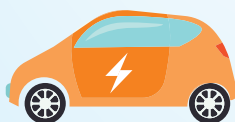
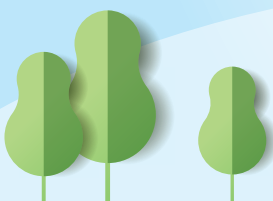


2019

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Contents

2	GLOSSARY
4	ABOUT THE REPORT
4	Scope of the Report
4	Reporting Standard
4	Opinion and Feedback
5	ABOUT THE GROUP
5	Overview of the Group
6	Major Awards and Honors
8	Responsibility Management
16	FULFILLMENT OF ENVIRONMENTAL MISSION
16	Focusing on Green Energy
17	Pollution Prevention and Emission Management
19	Resources Consumption and Conservation
21	Energy Conservation Improvement
22	Green Office
24	Ecological Conservation
26	Dealing with Climate Change
27	CONCERNING EMPLOYEE BENEFITS
27	Employment Policy and Labour Practices
30	Talent Development
32	Occupational Health and Safety
33	Caring for Employee
36	IMPROVING PRODUCTION AND OPERATION
36	Supply Chain Management
37	Safe and Stable Power Supply
40	Innovation and Invention
41	Privacy Protection
41	Anti-corruption
43	CONTRIBUTING TO COMMUNITY HARMONY
43	Charity and Public Welfare
46	Targeted Poverty Alleviation
46	Overseas Contribution
48	APPENDIX: CONTENT INDEX OF ESG REPORTING GUIDE



GLOSSARY

“ESG”	Environmental, Social and Governance
“ESG Report” or “The Report”	The Environmental, Social and Governance Report
“The Company”	Beijing Jingneng Clean Energy Co., Limited
“The Group” or “We”	The Company and its subsidiaries
“The Year”	The period between 1 January 2019 and 31 December 2019
“The PRC”	The People’s Republic of China
“Hong Kong Stock Exchange”	The Stock Exchange of Hong Kong Limited
“BEH”	Beijing Energy Holding Co., Ltd.
“Jingxi Power”	Beijing Jingxi Gas-fired Power Co., Ltd.
“Gaoantun Power”	Beijing Jingneng Gaoantun Gas-fired Power Co., Ltd.
“Jingqiao Power”	Beijing Jingqiao Thermal Power Co., Ltd.
“Jingyang Power”	Beijing Taiyanggong Gas-fired Power Co., Ltd.
“Jingfeng Gas”	Beijing Jingfeng Natural Gas-fired Power Co., Ltd.
“Weilai Power”	Beijing Jingneng Weilai Gas-fired Power Co., Ltd.
“Shangzhuang Power”	Beijing Shangzhuang Gas-fired Power Co., Ltd.
“Beijing Branch”	Beijing Jingneng Clean Energy Co., Limited Beijing Branch
“Southern China Branch”	Beijing Jingneng Clean Energy Co., Limited Southern China Branch
“Southwest Branch”	Beijing Jingneng Clean Energy Co., Limited Southwest Branch
“Northwest Branch”	Beijing Jingneng Clean Energy Co., Limited Northwest Branch
“Northeast Branch”	Beijing Jingneng Clean Energy Co., Limited Northeast Branch
“Inner Mongolia Branch”	Beijing Jingneng Clean Energy Co., Limited Inner Mongolia Branch
“Australia Branch”	Beijing Jingneng Clean Energy Co., Limited Australia Branch



“Huolinhe Wind Power Station”	Inner Mongolia Jingneng Hologole Wind Power Co., Ltd.
“Dachuan Power Station”	Sichuan Dachuan Power Co., Ltd.
“Yanfeng Power Station”	Sichuan Zhongneng Electric Power Co., Ltd. Yanfeng Branch
“Hohhot Racecourse Wind Power Station”	Inner Mongolia Jingneng Wulan Wind Power Co., Ltd.
“Qigan Wind Power Station”	Inner Mongolia Jingneng Qigan Wind Power Co., Ltd.
“Lingwu Wind Power Station”	Ningxia Jingneng Lingwu Wind Power Co., Ltd.
“Dongda Photovoltaic Power Station”	Yiyang Datonghu Dongda Photovoltaic Power Co., Ltd.
“New Gullen Wind Power Station”	New Gullen Range Wind Farm Pty Ltd.



ABOUT THE REPORT

The Group is pleased to publish the ESG Report of the Year. The ESG Report elaborates the principles and various works of the Group's fulfillment in corporate social responsibility during the Year. For details of corporate governance, please refer to the Corporate Governance Report of the Group's Annual Report of the Year.

SCOPE OF THE REPORT

The ESG Report covers the performance of the Group's core business in environmental management and social responsibility of the Year. The key performance indicators ("KPIs") as disclosed in the ESG Report covers the Group's headquarter and all its subsidiaries. In the Year, The Group completed the reform of regional management in its wind power, photovoltaic and hydropower projects and formed seven regional management subsidiaries, including Beijing Branch, Southern China Branch, Southwest Branch, Northwest Branch, Northeast Branch, Inner Mongolia Branch and Australia Branch. Unless otherwise specified, the currency unit used in the Report is presented in RMB.

REPORTING STANDARD

The ESG Report was prepared in accordance with Appendix 27 the "Environmental, Social and Governance Reporting Guide" under The Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited and complies with the "Comply or Explain" requirement set out therein.

OPINION AND FEEDBACK

For details of environment, social and corporate governance of the Group, please refer to the Group's official website (<http://www.jncec.com/>) and the Annual Report. The Group highly values your opinion on the Report. Should you have any opinions and suggestions, please email us via: dongban@jncec.com.



OVERVIEW OF THE GROUP

Established in August 2010, the Company is a subsidiary of BEH and is listed on the Main Board of the Hong Kong Stock Exchange on 22 December 2011. The Group operates in various provinces, municipalities and autonomous regions, such as Beijing, Inner Mongolia, Ningxia, Sichuan, Hunan and Guangdong, with the scope of business including gas-fired power and heating, wind power, photovoltaic power, small-to-medium-sized hydropower and other clean energy generation businesses. The Group is an internationally eminent clean energy enterprise, an industry-leading clean energy brand, the largest gas-fired heat and power supplier in Beijing and the leading wind power operator in China.

As of 31 December 2019, the total consolidated installed capacity of the Group amounted to 9,621 MW. The Group operates seven gas-fired cogeneration power plants with a consolidated installed capacity of 4,702 MW, and is the leading gas-fired heat and power supplier in Beijing. The consolidated installed capacity of wind power generation segment reached 2,398 MW, while the newly installed capacity accounting for 50 MW and with the majority located in Inner Mongolia region, Shaan-Gan-Ning region and Beijing-Tianjin-Hebei region in China where wind resources are abundant. The Group's photovoltaic power generation segment installed capacity is 2,071 MW, with the newly installed capacity reached 903 MW, which is distributed in northwestern China, northern China and southern China regions with relatively abundant solar resource. Moreover, the hydropower segment accumulates a 450 MW of consolidated installed capacity, which is mainly located in southwestern China where water resources are sufficient. In addition, the Group continually explores overseas projects, while projects in Australia are operating in a stable and orderly manner; the Group further expands overseas business to Bangladesh and Vietnam.

Putting efforts on promoting the co-development of Beijing, Tianjin and Hebei area, the Group roots in Beijing, and covers as far as the whole country as well as focuses on its central mission of "Stable growth, Strong assimilation, Seeking for innovation and Searching for development". An investment management policy of "Consolidating the foundation, Refining control, Optimising layout, Enhancing Innovation for efficiency" is comprehensively implemented. The Group adheres to the development principle of "Innovation, Coordination, Green, Opening-up and Sharing". With economic benefits as centre, we seek efficiency from stock and development on increment. We strive for stability while advancing and actively adapts to new economic development to keep improving competitiveness and the ability of sustainable development of the Group.



ABOUT THE GROUP

MAJOR AWARDS AND HONORS

Awardee	Awarding Organisation	Name of Award
The Company	Chinese Society For Electrical Engineering	The Second Prize of China Electric Power Science and Technology Progress Award
BEH	Beijing Municipal Enterprise Management Modernisation Innovative Achievement Evaluation Committee	The First Prize of the 34th Beijing Municipal Enterprise Management Modernisation Innovative Achievement
Jingxi Power	China Electrical Power Technology Market Association	3-Star Outstanding Innovative Achievement Award for Equipment Management of Electrical Enterprise
	Chinese Society for Electrical Engineering	The Second Prize of China Electric Power Science and Technology Progress Award
	China Association of Work Safety	Demonstration Enterprise of National Safety Culture Construction in 2019
	Joint Office of Beijing Traffic Safety Department	Traffic safety outstanding units in 2019
	Beijing Municipal Enterprise Management Modernisation Innovative Achievement Evaluation Committee	The Second Prize of the 34th Beijing Municipal Enterprise Management Modernisation Innovative Achievement



Awardee	Awarding Organisation	Name of Award
Gaoantun Power	China Enterprise Confederation and China Entrepreneurs Association	The First Prize of National Outstanding Achievements in Corporate Culture 2018-2019
	Chinese Society for Electrical Engineering	The Second Prize of China Electric Power Science and Technology Progress Award
	National Committee of China Energy Chemical Geological Union	The Third Prize for the Technical Innovation Achievements of Outstanding Staff in the National Energy Chemical Geological System
	Beijing Municipal Enterprise Management Modernisation Innovative Achievement Evaluation Committee	The First Prize of the 34th Beijing Municipal Enterprise Management Modernisation Innovative Achievement
Jingqiao Power	Electric Power Informationization Professional Cooperation Committee	The Second Prize for Outstanding Achievements in Information Technology Application and Innovation of Electric Power Enterprises in 2019
	China Electricity Council	The First Prize of 2019 Technological Innovation Award for Electrical Workers
	China Equipment Management Association	The First Prize for Electric Power Industry Equipment Management and Technical Achievements in 2019
	Chinese Society for Electrical Engineering	The Second Prize of China Electric Power Science and Technology Progress Award
	Beijing Municipal Enterprise Management Modernisation Innovative Achievement Evaluation Committee	The First and The Second Prize of the 34th Beijing Municipal Enterprise Management Modernisation Innovative Achievement



ABOUT THE GROUP

Awardee	Awarding Organisation	Name of Award
Jingyang Power	Electric Power Informationization Professional Cooperation Committee	The First Prize for Outstanding Achievements in Information Technology Application and Innovation of Electric Power Enterprises in 2019
	Beijing Water Authority	Beijing Water-saving Unit
Jingfeng Power	China Enterprise Confederation and China Entrepreneurs Association	The First Prize of the 34th Beijing Municipal Enterprise Management Modernisation Innovative Achievement
Shangzhuang Power	Beijing Municipal Enterprise Management Modernisation Innovative Achievement Evaluation Committee	The Second Prize of the 34th Beijing Municipal Enterprise Management Modernisation Innovative Achievement
	Beijing Municipal Commission of Transport	Beijing Municipal Advanced Unit for Traffic Safety

RESPONSIBILITY MANAGEMENT

ESG Governance

In order to effectively implement our sustainable development strategies and bring long-term returns to stakeholders, the Strategy Committee of Group's board of directors (the "**Strategy Committee**") shoulders the responsibilities of ESG governance. The Strategy Committee assists the board of directors (the "**Board**") to oversee the establishment and reporting of the ESG strategies of the Group, assess and determine the ESG risks of the Group and ensure appropriate and effective measures on managing ESG risks, as well as internal control system. The Strategy Committee regularly listens to Gas-fired Power Subsidiaries and Regional Management Branches' reports, so as to understand the implementation of the sustainable development tasks, and to ensure the Group's sustainable development policy and measures are executing effectively in daily business operation. Through the internal review process, the Strategy Committee also arranges independent evaluation and analysis on the effectiveness and completeness of the above systems, so as to enhance the ESG governance of the Group.





Stakeholder Engagement

The Group fully recognises the close relation between stakeholders and corporate business development, therefore it regards stakeholders' opinion and aspirations as the foundation of the Group for formulating and implementing short-term and long-term development strategies. Through communication via various effective channels during daily operations with internal and external stakeholders, the Group is able to understand their expectations and requirements for the Group, and hence the Group makes corresponding responses and actively shares the responsibilities and achievements.



ABOUT THE GROUP

Stakeholders	Expectations and Requirements	Means of Communication and Response
Shareholders and Investors	<ul style="list-style-type: none"> • Ensure the maintenance of value and appreciation of state-owned assets • Avoid operational risks • Enhance exploration of market needs, develop new markets • Information disclosure transparency and efficient communication • Compliant operation • Increase company value • Income return 	<ul style="list-style-type: none"> • Investor meetings • Statements and visits • Regular work reporting • Emails, phone calls and Company's website • Site-visits • Shareholder conferences • Company notice
Government and Regulators	<ul style="list-style-type: none"> • Compliance with national strategies and laws and regulations • Promote industry development • Production safety 	<ul style="list-style-type: none"> • Participate in industrial standard formulation/discussion • Engage in seminars
Users	<ul style="list-style-type: none"> • Safe and stable electricity and heat supply • Effective communication channels • Fine customers service • Health and safety • Compliance with contracts • Integrity in business 	<ul style="list-style-type: none"> • Conference with customers • Customer service center and hotlines • Response to customers' complaints



Stakeholders	Expectations and Requirements	Means of Communication and Response
Business Partners	<ul style="list-style-type: none"> • Integrity in business • Fair competition • Co-development with mutual benefits and win-win situations • Compliance with contracts 	<ul style="list-style-type: none"> • Review and evaluation conference • Business communication • Interactions in seminars • Cooperation negotiations
Non-governmental Organisations (“NGOs”)	<ul style="list-style-type: none"> • Keep close contact and share information 	<ul style="list-style-type: none"> • Participate in industrial communication meetings
Employees	<ul style="list-style-type: none"> • Protect basic rights • Occupational health and safety • Remuneration and benefits • Foster skill enhancement and career development • Care for employees 	<ul style="list-style-type: none"> • Communication meetings with employees • Company magazine • Activities for employees • Ensure reasonable remuneration and benefits system • Management of occupational health and safety • Care for employees
Community and the Public	<ul style="list-style-type: none"> • Focus on people’s livelihood • Engage in public welfare matters • Open and transparent information 	<ul style="list-style-type: none"> • Company’s website



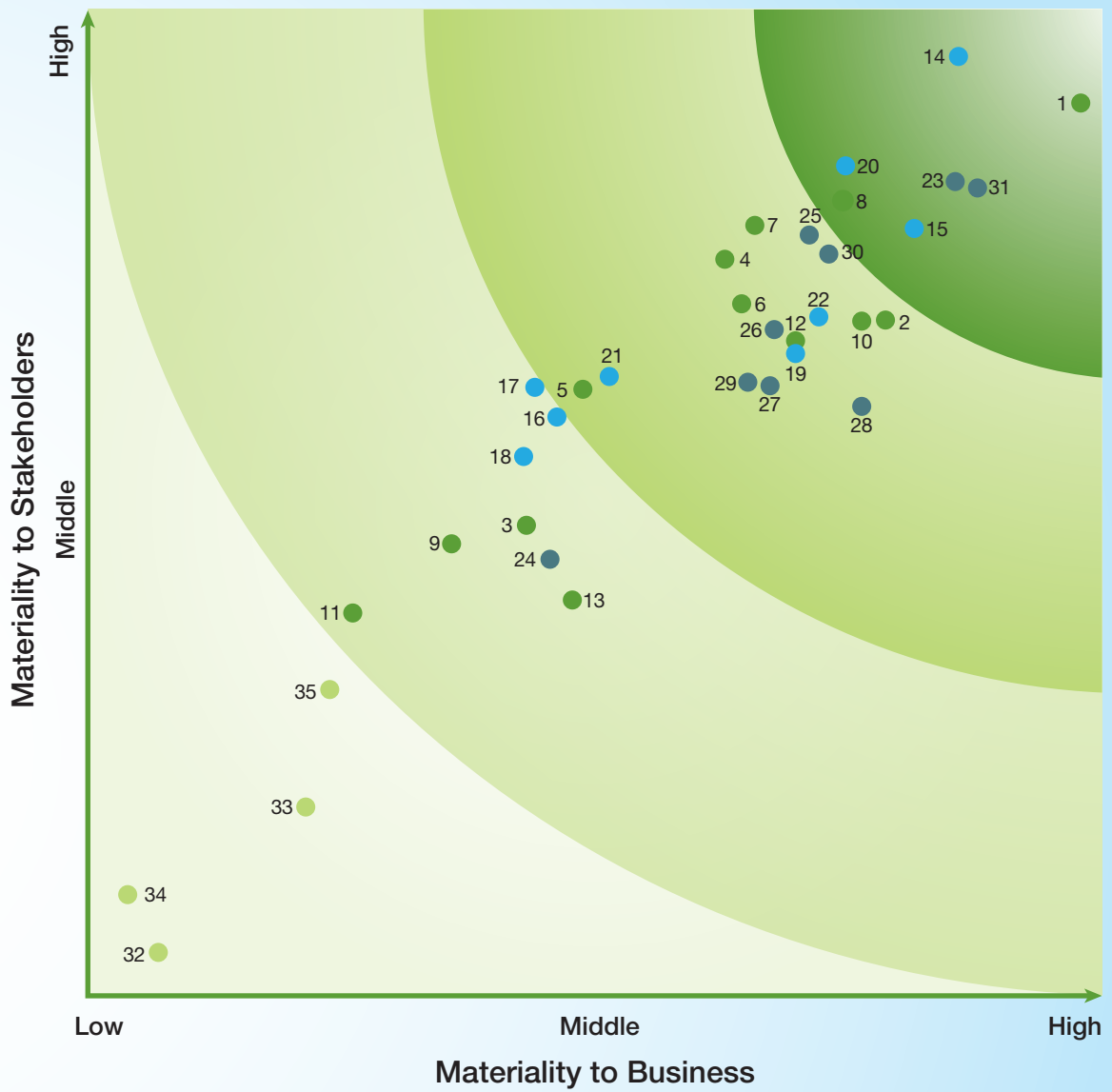
ABOUT THE GROUP

Stakeholders	Expectations and Requirements	Means of Communication and Response
Environment	<ul style="list-style-type: none"> • Achievement of emission standards • Energy conservation and emission reduction • Environmental conservation • Reasonable use of resources 	<ul style="list-style-type: none"> • Communicate with local environmental departments
The industry	<ul style="list-style-type: none"> • Enhance the development of the industry 	<ul style="list-style-type: none"> • Engaging in industry conferences

Materiality Assessment

During the preparation of the ESG Report, the Group has commissioned an independent third-party consultancy to assist in performing a fair and just materiality assessment. The materiality assessment was conducted in three main phases: (i) identification of 35 potential material ESG issues that may affect the Group's business or stakeholders based on relevant national and local standards and policies, industrial characteristics and the Groups' own development; (ii) invitation of both internal and external stakeholders, including directors, the management, employees, customers, suppliers and the community, to complete a set of questionnaires in understanding their concern towards each issue; (iii) analysis of 133 questionnaires collected and identification of the priority of potential material issues by the following materiality matrix. The Group's business including gas-fired power and heating, wind power, photovoltaic power, small-to-medium-sized hydropower and other clean energy generation businesses. As stakeholders' awareness towards climate change is continuously increasing, the Group includes "Dealing with Climate Change" in the Year's materiality assessment, in a bid to better respond to stakeholders' needs.





ABOUT THE GROUP

Environment	Labour Practices	Operation Practices	Community Investment
1. Compliance with environmental protection laws and regulations	14. Compliance with labour laws and regulations	23. Compliance with product and service-related laws and regulations	32. Charity
2. Exhaust gas management	15. Employees' remuneration and benefits	24. Supply chain management	33. Impact on the community
3. Greenhouse gas ("GHG") emission	16. Employees' working hours and holidays	25. Product and service quality	34. Promotion of local employment
4. Waste management	17. Employee diversity and equal opportunity	26. Customer health and safety	35. Community communication
5. Recycling	18. Employee engagement and communication	27. Customer service	
6. Energy management	19. Talent attraction and retention	28. Intellectual property protection	
7. Utilisation of water resources	20. Occupational health and safety	29. Research and development	
8. Clean production	21. Employee training and development	30. Information safety and privacy protection	
9. Green office	22. Prevention of child labour and forced labour	31. Anti-corruption	
10. Green energy project			
11. Green building			
12. Environmental and natural resources management			
13. Dealing with climate change			



Through reviewing the above materiality matrix, the Group has identified 7 material issues which are disclosed in detail in the corresponding sections of the Report.

Material Issues	Corresponding Sections
1. Compliance with environmental protection laws and regulations	Pollution Prevention and Emission Management, Resources Consumption and Conservation
8. Clean production	Focusing on Green Energy, Pollution Prevention and Emission Management
14. Compliance with labour laws and regulations	Employment Policy and Labour Practices, Occupational Health and Safety
15. Employees' remuneration and benefits	Employment Policy and Labour Practices, Talent Development, Caring for Employee
20. Occupational health and safety	Caring for Employee, Occupational Health and Safety, Safe and Stable Power Supply
23. Compliance with product and service-related laws and regulations	Supply Chain Management, Safe and Stable Power Supply, Innovation and Invention, Privacy Protection
31. Anti-corruption	Anti-corruption



FULFILLMENT OF ENVIRONMENTAL MISSION

The Group keeps on shouldering the mission of developing clean and low-carbon energy, continues to advance with stability, and leads the nation towards sustainable development. The Group actively responds to the nation's call and strictly complies with environmental protection laws and regulations such as the Environmental Protection Law of the PRC, Law of the PRC on the Prevention and Control of Atmospheric Pollution, Law of the PRC on the Prevention and Control of Water Pollution, Law of the PRC on Prevention and Control of Environmental Pollution by Solid Wastes and Law of the PRC on Environment Impact Assessment, along with industrial standards and the requirement of ISO14001 Environmental Management System to continually improve and enhance the existing environmental management system, strengthen environmental risk control and raise all employees' environmental awareness and sense of responsibility.

FOCUSING ON GREEN ENERGY

The Group upholds the development strategy of "rooted in Beijing, tapping into Beijing, Tianjin and Hebei area, covering the whole country and expanding to overseas market", and actively utilizes advantages in its main business to support the construction of ecological civilisation. As of the end of the Year, the Group's total installed capacity amounted to 9,622 MW, with the total environmental investment of RMB191.04 million. Standard gas usage for power generation was 4,123.41 million cubic metres, which was equivalent to 5.48 million tons of standard coal usage. The total power generation during the Year was 28.806 billion kWh, representing a 16.55 million tons of reduction in emission of carbon dioxide.

Business Type	Installed Capacity (MW)	Total Power Generation of the Year (billion kWh)	Number of New Projects of the Year
Gas Power and Heat	4,702	19.585	0
Wind Power	2,398	4.955	1
Photovoltaic Power	2,072	1.840	22
Hydropower	450	2.426	0



POLLUTION PREVENTION AND EMISSION MANAGEMENT

The Group's principal business is clean energy supply, which generates exhaust gas, wastewater, solid waste and noise during the production process. The Group continues to strictly comply with environmental protection laws and regulations such as the Environmental Protection Law of the PRC, Law of the PRC on the Prevention and Control of Atmospheric Pollution, Law of the PRC on Prevention and Control of Environmental Pollution by Solid Wastes and Law of the PRC on the Prevention and Control of Water Pollution, and to continually improve environmental performance. The Group's exhaust gas mainly comes from power generation facilities, gas stoves and fuel consumption of vehicles, which emit sulphur oxides (SO_x), nitrogen oxides (NO_x), particulate matter (PM) and smoke. Exhaust gas emitted from power generation facilities is purified by related environmental facilities before emission. Wastewater mainly consists of industrial wastewater and domestic sewage, which are discharged after being treated by relevant wastewater treatment facilities and satisfying prescribed standards. Non-hazardous wastes are mainly domestic garbage, which are transferred and handled by local municipal environmental and hygiene departments or cleaning companies to a designated location after centralized collection, which effectively restrained random discharge of domestic garbage generated during the Group's production and operation. Hazardous wastes mainly include obsolete electric panels, waste oil, discarded resin, waste chemicals, waste batteries and obsolete light tubes, etc. In compliance with relevant laws and regulations such as the Regulations on the Safety Management of Hazardous Chemicals and Standard for Pollution Control on Hazardous Waste Storage (GB 18597-2001), we adopt measures to prevent poisoning, infection and leakage in waste collection, storage and transportation. All hazardous waste is then transferred to a qualified third-party unit or recycled by manufacturers for hazard-free treatment, to reduce pollution caused by hazardous wastes to the surrounding environment. In order to reduce the environmental impact caused by waste disposal, we recycle as much waste as possible, turning waste into resources. In the meantime, noise control facilities have been set up at the main source of noise pollution to ensure the conformity with the requirements of local environmental department.

To strengthen environmental supervision, ensure a safe, stable and economical operation of environmental facilities, and avoid substantial impacts caused by wastewater, exhaust gas, solid waste and noise generated from production processes, the Group continues to improve its environmental conservation-related management system including setting up of emergency plan and internal reporting requirement of statistics, as well as regulations on the daily operation of environmental protection facilities and their repairing procedures. The Group also conducts safety and environmental protection inspections to ensure the normal operation of the facilities and the standardized emission of wastewater and exhaust gas. On the other hand, with compliance to the environmental protection requirement of the national and the local authority, the Group regularly monitors online every environmental protection parameter and commissions to third-party unit every year to conduct the examination. Adjustments to current policy and corrective measures are carried out according to the result of each examination results.



FULFILLMENT OF ENVIRONMENTAL MISSION

At the same time, the Group sets up Environmental Protection and Monitor Committee to implement a 3-Level Network of Environmental Protection Management so as to specify the responsibility of each department. Each department has their person-in-charge in environmental protection to further arouse the sense of environmental protection of all employees. By combining production and environmental protection, the Group aims to encourage all employees to engage in and bear the responsibility of environmental protection. The Group continues to rigorously implement current environmental protection management standards and submits environmental statistical analysis on the conditions of exhaust gas and wastewater treatment to relevant environmental departments on a monthly basis to ensure that the pollutant emissions are compliant with the standard. During the Year, the Group's emission data were as follows:

Emission	2019	2018
Exhaust gas		
Nitrogen oxides ¹ (tons)	1,361	1,237
Sulphur dioxide ² (kg)	13	13
Particulate matter ³ (kg)	314	298
GHG emission		
Total GHG emission (Scope 1, 2 and 3) (ten thousand tons CO ₂ e)	898 ⁴	886
GHG emission intensity (ten thousand tons CO ₂ e/ hundred million kWh)	3.12	3.18
Non-hazardous Waste⁵		
Total non-hazardous waste produced (tons) ⁶	150	582
Intensity of non-hazardous waste (tons/hundred million kWh)	0.52	2.09
Hazardous Waste		
Total hazardous waste produced (tons)	161 ⁷	83
Intensity of hazardous waste (tons/hundred million kWh)	0.56	0.30

¹ The data include nitrogen oxides emitted from power generation equipment and vehicles.

² The data only include sulphur dioxide emitted from vehicles.

³ The data only include particulate matter emitted from vehicles.

⁴ During the Year, GHG emission by scope of the Group was as follow: Scope 1 – Direct emission: 891.83 ten thousand tons CO₂e; Scope 2 – energy indirect emission: 6.11 ten thousand tons CO₂e; and Scope 3 – other indirect emission: 0.22 ten thousand tons CO₂e.

⁵ The Group has disclosed data on non-hazardous waste including the production volume of scrap metal, waste paper, waste glass and waste plastics. Other non-hazardous wastes generated by the Group, such as domestic garbage and food waste, are collected and disposed by third-party cleaning companies, thus such data will not be disclosed.



FULFILLMENT OF ENVIRONMENTAL MISSION

- ⁶ In 2018, power stations under Australia Branch completed the pitch bearing reconstruction, causing a large production of scrap metal, which led to the increase in the Group's total non-hazardous waste produced. During the year, power stations under Australia Branch did not undergo related construction, thus the total non-hazardous waste produced reduced.
- ⁷ During the Year, the Group's total hazardous waste produced increased, the main sources as below: (i) since the operation duration of generator sets of Jingxi Power and Jingqiao Power increased and the quality of lubricating oil lowered, therefore the above power stations replaced the lubricating oil during annual overhaul, and generated 11 tons industrial waste oil; (ii) in order to guarantee the safety of power equipment, power stations require large amount of direct current batteries, while normal battery life is 6 to 8 years, therefore Jingxi Power, Jingqiao Power, Weilai Power and Jingyang Power renewed part of their batteries during the Year, which produced a total of 40 tons waste batteries; moreover (iii) since the performance of some denitration catalyst of No.3 boiler of Jingxi Power reduced, therefore denitration catalyst was renewed during the Year, and generated 25 tons of waste denitration catalyst. The Group will take proactive measures to reduce the production of hazardous waste.

RESOURCES CONSUMPTION AND CONSERVATION

In relation to new energy development and use, increasing the wind and solar resources utilisation rate is the focus of the Group at the initial stages of every project. Therefore, the Group has embedded this core principle into every aspect of project construction and operation. Ranging from the aspects of project's site selection, initiation, electricity generation estimation, equipment's selection to management on power-generating equipment, electricity conservation and improvement of the model of the equipment's operation during the project operation, we have established associated management systems and measures. The Group also welcomes essay submissions on technology and implements reward policies annually to encourage improvements on production technologies and electricity generation rate etc.

In an attempt to enhance the economic efficiency of power-generating equipment, reduce the loss and wastage of resources from production to consumption and to raise effectiveness and appropriateness of resources utilisation, the Group formulates and implements a set of internal energy conservation methods with reference to national laws and industrial regulations, such as the Energy Conservation Law of the PRC and Electric Power Industry Energy Conservation Techniques Supervision Regulation. Our energy conservation methods include:

- Establish a leading group on energy conservation management, lay down regulations on energy conservation regularly, edit details of implementation of energy conservation management, arrange ratings and assessments for energy conservation and emission reduction, as well as include energy conservation as one of the crucial criteria for the assessment of production and operation management level in each company;
- Implement and expand the energy conservation hierarchy management by setting up an energy conservation training system for management and production personnel to build up their overall sense of energy conservation;



FULFILLMENT OF ENVIRONMENTAL MISSION

- Research and combine advanced domestic and international experience on energy conservation to introduce, incorporate and develop advanced energy conservation technology, which will be educated and promoted within the Group;
- Apply new designs, equipment, technologies and materials actively during the design and selection process of new or expanded generator sets so as to lay a solid foundation on the long-term safe, stable, economic and eco-friendly operation environment after the commencement of production;
- Reduce energy and water consumption of generator sets, enhance the design of equipment and increase operational efficiency of generator sets through implementation of numerous measures such as operation optimisation, equipment overhaul and technology transformation.

The Group's direct resources consumption mainly comprises of fuels such as natural gas for the generation of electricity, diesel and gasoline for vehicles, and water. The Group's electricity generation mode is self-generation for self-consumed with excess power fed back to the grid, while extra electricity is purchased from the State Grid to meet production and operation needs. With the joint effort of employees from various departments in environmental protection and adhering to the internal principle of resources conservation, the total water consumption of the Group is similar to last year during the period, while intensity of water consumption showing a trend of decline compared to last year. Besides, there is no issue arisen in sourcing water. As the business of the Group does not consist of product packages, therefore we did not use packaging materials. During the Year, energy and water resources consumption of the Group were as follows:

Use of Resources	2019	2018
Energy		
Total energy consumption (MWh)	45,194,720	44,606,201
Energy consumption intensity (MWh/hundred million kWh)	156,893.43	160,275.24
Direct energy consumption (MWh)	45,121,162	44,536,661
Natural gas (MWh)	44,591,248	44,011,996
Diesel (MWh)	8,219	8,026
Gasoline (MWh)	453	582
Self-generated and self-consumed electricity (MWh)	521,242	516,057
Indirect energy consumption (i.e. purchased electricity) (MWh)	73,558	69,540
Water⁸		
Total water consumption (m ³)	1,751,933	1,720,241
Intensity of water consumption (m ³ /hundred million kWh)	6,081.83	6,181.02

⁸ Data herein only include the amount of tap water, excluding the amount of water used for heating.



ENERGY CONSERVATION IMPROVEMENT

Being a responsible clean energy supplier, the Group upholds the philosophy of environmental protection and puts energy conservation, energy efficiency enhancement and environmental pollution reduction as the core motivation in the pursuit for the sustainable and healthy development of the enterprise. To further eliminate pollutant emission, reduce resources depletion and improve the surrounding ecological environment, each subsidiary of the Group continues to increase its engagement in environmental protection, while upgrading and transforming generators and environmental facilities for energy conservation and emission reduction.

Jingyang Power

- After the completion of transformation of advanced gas path in No. 2 boiler, the function of the boiler is greatly advanced. The base load capacity has improved from 251 MW to 278 MW. Base load power generation is increased for 11% and heat consumption is decreased by 4%.

Future Power

- In order to improve the power generation efficiency and prolong the longevity of components, gas turbines are technically transformed so that the original reactionary and stationary type blades are replaced with the most advanced 3D turbine blades, extending the Equivalent Operating Hours from 33,000 to 41,000 hours. This has reduced the frequency of repair and increased the maximum power of gas turbines for 5 MW as well as the efficiency by 0.7%.

Northeast Branch

- Huolinhe Wind Power Station has undergone high voltage ride-through transformation of wind turbines to satisfy the requirement of the local grid company to reduce power limit for 9.1 million kWh; and
- Keyouzhong Wind Power Station optimizes the wind turbines which increased power generation by 12.1 million kWh.
- The above two transformations have increased power generation by 21.2 million kWh.

Gaoantun Power

- Transformation is conducted in the denitration system of the two waste heat boilers. By multiplying the filling amount of the denitration catalyst, ammonia spray system is upgraded to regional automatic control mode. It lowers the NO_x concentration and ammonia emissions and at the same time heightens the efficiency of denitration.

Jingqiao Power

- The power station has replaced two ammonia pumps with higher power machinery. The ammonia discharge pipe inlet and outlet diameters are increased to $\varnothing 80$ to solve the problem of ammonia tanker's slow ammonia discharge speed;
- Replacement of analyser of Continuous Emission Monitoring System of No. 1 and No. 2 waste heat boiler in the entrance of denitration to solve the problem of zero point drift of equipment, large measurement deviation, low nitrogen oxide measurement value under low load, etc while increasing the accuracy of statistics; and
- Completion and putting into use of the installation of automatic monitoring equipment for water pollutant discharge and to achieve full monitoring of wastewater discharge.



FULFILLMENT OF ENVIRONMENTAL MISSION

GREEN OFFICE

The Group advocates the concept of low-carbon and eco-friendly office and encourages all employees to conserve resources bit by bit by reducing the consumption of water, electricity, paper, and office supplies during daily operation in order to reduce energy consumption, pollutants and GHG emission. For reducing greenhouse gases emission and to comply with the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the Group advocates and encourages a low carbon and environmentally friendly lifestyle. In the Year, the Group has organised energy conservation training for employees, such as National Energy Conservation Promotion Week, Exhibition on Environmental Protection Facilities Knowledge and Environmental Protection Day, etc. The Group has effectively improved the employees' ability on environmental protection missions, the awareness of compliance to law and their responsibility on environmental protection by educating them with basic concepts of energy conservation and the new requirements of environmental protection.



Business trainings on energy conservation



Talks on environmental protection



FULFILLMENT OF ENVIRONMENTAL MISSION

Measures that the Group has implemented to conserve water, electricity, paper and office supplies so as to reduce greenhouse gases emission are as follows:

Water Conservation

- Set up targets on water consumption and management methods every year and rigorously monitor with reference to technical agreement;
- Adopt multi-tower watering method in winter, and avoid turning on tower fans to reduce the amount of reclaimed water evaporation;
- Enforce daily maintenance on water meters, water pipes and water appliances to prevent water leakage and dripping; and
- Put up water conservation slogans in toilets.

Electricity Conservation

- Put up electricity conservation slogans in office areas;
- Remind staff to turn off electric appliances and office equipment when not in use and reduce the standby time of office equipments;
- Fully utilize natural lighting and wind to reduce the use of lighting equipments and air-conditioners;
- Promptly adjust air-conditioners' temperature according to seasonal changes, and maintain the office temperature around 26°C in summer;
- Carry out maintenance and cleaning of air-conditioners regularly to ensure they are in proper functioning; and
- Use energy saving luminaire, avoid overuse or misuse of lighting, and adjust lights according to weather and seasonal conditions.

Paper and Office Supplies Conservation

- Put up paper conservation slogans in office area;
- Advocate double-sided printing, store up single-sided printed papers for future reuse;
- Set up quota on paper usage of each department;
- Use refillable toner cartridges whenever possible to reduce the frequency of buying new toner cartridge;
- Accelerate e-business development and advocate paperless office;
- Fully utilize email, intranet, communication software etc. to deliver messages and circulate documents in order to reduce copying and printing of documents; and
- Reduce the use of disposable products such as paper cups, prioritize the purchase of recyclable or energy efficient office supplies.

Business Trips

- Put up promotion slogans about green office in the office bulletin board;
- Adopt video conferences to reduce unnecessary business trips;
- Encourage staff to use eco-friendly travelling methods; and
- Reduce the use of vehicles, carry out vehicle maintenance regularly to maintain vehicle performance and reduce oil consumptions.

FULFILLMENT OF ENVIRONMENTAL MISSION

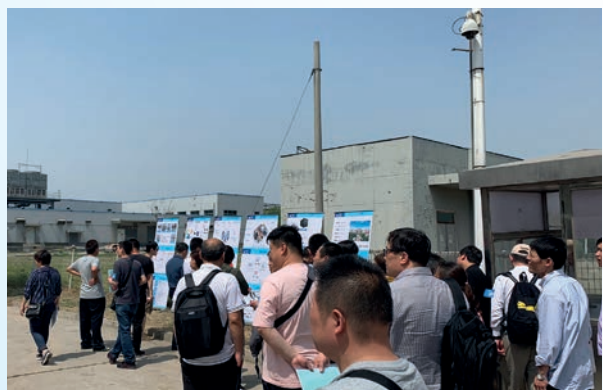
ECOLOGICAL CONSERVATION

Waste and greenhouse gases emission generated by the Group during its production and operation process pose potential risks to the ecological environment. In a bid to reduce potential risks and create a healthy and harmonious ecological environment, during the process of project development, construction and operation, the Group attaches great importance to biodiversity and animal habitat protection through environment monitoring and the protection and recovery work of, land, vegetation and ecology. For instance, Australia Branch halts its operations of four wind turbines from November to March every year for the migration of large owls. The aspiration of the Group on bird protection has been highly appreciated by the local government.

In addition, the Group promotes volunteerism on environmental protection by encouraging staff to participate in environmental charity activities, such as community garbage cleaning and tree planting to contribute to environmental protection.

Jingxi Power, Jingqiao Power, Gaoantun Power – World Environment Day

As a response to the World Environment Day, Jingxi Power, Jingqiao Power and Gaoantun Power actively organised environmental protection themed promotion activities on 5 June 2019. Through environmental protection trainings, the knowledge and awareness towards environmental protection management are improved among the employees. They actively engaged in environmental protection activities in the community like cleaning up rubbish piled up and scattered in the community. Moreover, Gaoantun Power has organised multiple exhibitions on environmental protection facilities to educate the employees with the new technologies and products for environmental protection. Gaoantun Power has also actively responded to the regional air pollution emergency alarm and strengthened environmental protection management of the unit to alleviate the emission of pollutants. Gaoantun Power also encourages employees to use public transportation for business travel to reduce greenhouse gases emission.



FULFILLMENT OF ENVIRONMENTAL MISSION

Southwest Branch – Tree Planting

Southwest Branch led their employees to join the volunteering tree planting event organised by Chengdu Qingyang Industrial Area on 12 March 2019. Employees actively participated in the event by shoveling soil, and planting and watering trees. The professional technicians on site taught the participants about different kinds of sapling, a tree's lifecycle, and conditions of planting, etc. Through participation in the tree planting, the awareness of the employees towards the idea of "planting green, loving green and protecting green" has been enhanced and are more devoted to the building of green home.



Inner Mongolia Branch – "Low Carbon Walk for Green Environmental Protection"

8 March 2019 was International Women's Day and Inner Mongolia Branch organised a cleaning activity called "Low Carbon Walk for Green Environmental Protection" in Halaqin Ecological Park, Hohhot for all 40 female employees. They utilized cleaning tools and cleared away the rubbish along the route for the activity while also delicately picked away some rubbish hidden in bushes as a contribution towards environmental cleanliness.



FULFILLMENT OF ENVIRONMENTAL MISSION

DEALING WITH CLIMATE CHANGE

Climate change is a current challenge faced by the globe. With the aim to counter the extreme weather and natural disasters brought by climate change, the Group has complied with law and regulations and industrial standards, such as, Emergency Response Law of the People's Republic of China, Flood Control Law of the People's Republic of China, Law of the People's Republic of China on Protecting Against and Mitigating Earthquake Disasters and Measures for the Management of Emergency Plan of Electric Power Enterprises, to set up emergency plans to counter different extreme weather and natural disasters. The Group has set up a special task force and implemented advanced monitoring alarms and emergency processing systems to ensure the safety of employees and reduce property loss. We have clearly listed the responsibilities of each department in the emergency plan and incorporated emergency professional training into the year plan for employee training. According to the emergency plan, we are required to organise at least one emergency drill per year, while evaluating on the drills to maintain production and operation safety of the power station. It can also ensure the ability to deal with emergency issues by controlling, alleviating and eliminating the loss and effects brought by the emergency issues.

Southwest Branch – Encountering floods

On 20 August 2019, Dachuan Power Station and Yanfeng Power Station of Southwest Branch had experienced the largest flood ever from 1965 and were greatly affected by the disaster. Southwest Branch organised emergency staff deployment by setting up a Flood Disaster Relief Site Emergency Treatment Headquarters and initiating emergency measures and deployment of resources. The branch employed professional rescuing teams to rescue trapped employees. Rescuing teams rapidly and successfully saved and evacuated all employees and their relatives trapped in the power station. After the rescuing missions, Southwest Branch established two post-disaster recovery production teams to lead emergency repairment of affected stations and division of labour. The teams strictly followed the operation guidelines and repaired under the premise of ensuring safety. Eventually the power station resumed in operation after the flooding.





CONCERNING EMPLOYEE BENEFITS

Upholding the management philosophy of “people-oriented and pursuit of excellence”, the Group endeavors to create a comfortable and healthy working environment as well as a harmonious and excellence-driven working atmosphere and strives to build a talent team with outstanding competency. The Group strictly complies with the relevant labour laws and regulations such as the Labour Law of the People’s Republic of China, Labour Contract Law of the People’s Republic of China, Company Law of the People’s Republic of China, Social Insurance Law of the People’s Republic of China and Law of the People’s Republic of China on the Prevention and Control of Occupational Diseases. We care for both the physical and mental health of our employees by protecting their legitimate interests and rights. Through constantly improving the human resources management system, employee allocation, training, assessments and reward system as a whole, we aim to fully develop our talents’ potential, utilize their individual values, optimize the talent structure and facilitate the growth of our employees together with the enterprise.

EMPLOYMENT POLICY AND LABOUR PRACTICES

The Group adopts a fair and non-discriminative employment policy and strictly conforms to the Labour Law of the People’s Republic of China, Labour Contract Law of the People’s Republic of China, the Group’s employment management measures and a series of internal management measures and systems related to recruitment, hire, resignation, remuneration, employee assessment and training. Hence, we employ, assess, train and manage employees with no discrimination on grounds of gender, age, disability, race or religion. In the Year, the Group employed 18 physically challenged employees. The Group has mainly adopted an open recruitment method to the public and is complemented by internal recommendations as its recruitment method. During the recruitment process, the Group selects suitable talents who meet job or work requirements based on the criteria including academic background, moral, ability, experience and physique while upholding the principle of professionalism, integrity, transparency and fairness. This ensures that the Group can appoint people with merit, use their strengths and appropriately employ the right people for the right position so as to foster a diversified talent team formation with different ages, education, genders and experiences. As of the end of the Year, the Group had 2,763 employees in total. The age of employees shows a rejuvenation tendency, with 45% of employees aged below 35 years old. The education level of employees is generally high, with almost 60% of employees holding a bachelor’s degree or above; ratio of female management at mid-level and above remains stable with 12.5%, a total of 41 employees.



CONCERNING EMPLOYEE BENEFITS

Indicators	2019		2018	
Age Demographic				
Age	Number	Ratio	Number	Ratio
35 or below	1,319	47.74%	1,342	49.16%
36 to 45	689	24.94%	623	21.89%
46 to 55	662	23.96%	717	26.24%
56 or above	93	3.37%	82	2.71%
Total	2,763	100.00%	2,764	100.00%
Education Level Demographic				
Education Level	Number	Ratio	Number	Ratio
Doctoral	1	0.04%	2	0.07%
Master	214	7.75%	230	8.41%
Bachelor	1,395	50.49%	1,321	46.02%
College education or below	1,153	41.72%	1,211	45.50%
Total	2,763	100.00%	2,764	100.00%

The Group strictly abides by relevant laws and regulations such as the Provisions on the Prohibition of Using Child Labour and, after verification of personal identity documents, provides labour contracts to ensure legal employment, in order to eliminate child labour and any forms of forced labour. On working hours, the Group adopts a fixed working hour system in which employees are required to work eight hours per day and forty hours per week. Overtime working is not encouraged and any forced labour behaviour is prohibited. Employees are entitled to defer leaves or shift leaves if they are required to work overtime. Upon the receipt of employee resignation notice, the Group not only performs resignation procedures and settles the salary payment according to the regulations, but also arranges an interview to communicate and understand the reasons of leaving, as well as collect their opinion and suggestions, which further helps to improve the Group's business operation.



CONCERNING EMPLOYEE BENEFITS

On the basis of the responsibility system for post targets, the Group has established an overall employee performance assessment system to fully implement the reward mechanism. The Group strictly conforms to the Labour Contract Law of the People's Republic of China and the internal remuneration management measures. Remuneration management is conducted in pursuance of the principle of fairness, motivation and legality. Employee remunerations comprise of basic salary and performance bonus, which is calculated based on the employee's monthly attendance, rewards and punishment. Moreover, with the ability-oriented principle, the Group conducts annual employee assessments and gives scores based on working attitude, competence and professional knowledge. The assessment result is used as a significant reference for the annual rewards, and to determine the final amount of the employee remunerations. The implementation of individual performance assessment helps employees to unleash potential and make continuous contribution, which also motivates and disciplines them at the same time.

Indicators	Unit	2019	2018
Number of management at mid-level or above	Person	328	381
Number and ratio of female management at mid-level or above	Person (%)	41 (12.5)	55 (14)
Number and ratio of male management at mid-level or above	Person (%)	287 (87.5)	326 (86)
Number of physically challenged employees	Person	18	17
Signing rate of employment contract	%	100	100
Coverage rate of social insurance	%	100	100
Percentage of employees joining the labour union	%	99	96
Average paid annual leave	Day	10	9

CONCERNING EMPLOYEE BENEFITS

TALENT DEVELOPMENT

Talents are the driving force of enterprise development. The Group has always emphasized on employee training and development to leverage the management degree of the enterprise, improve employees' overall quality and build teams with exceptional talents and abilities. The Group strictly executes employee training management measures, where the training management system covers company level, departmental level and front-line safe production level, forming systemic, professional and diversified training courses. The Group also focuses on the training practicality and provides targeted training for employees according to company development strategies and the professional needs of each position. Meanwhile, the Group also encourages employees to participate in external training on their own, which increases the opportunities for employees to exchange and learn and broaden their horizons. Employees are required to undergo evaluation after training, which lets the company to review their mastery of the training content, explore employees' potential and continually improve the effectiveness of training. In order to strengthen the employees' emphasis on their own skills, the Group includes training as a criterion in their annual performance appraisal by implementing a training assessment mechanism. The Group also implements promotion management systems such as management measures on mid-level management and cadres selection to enhance the selection of outstanding employees, keeping the team's strength and vigor.

During the Year, based on its enterprise features and focusing on the reality, the Group created a series of management training programs to continuously increase professional efficiency and cultural literacy. Position-specialized training, new employee inductions and frontline employee technological skill trainings are also provided based on actual business production and technical characteristics. The training program contains various topics and conducts in different modes. A total of 19 types of training were carried out with training coverage of 97% and training time per capita having reached 155 hours, fostering employees' comprehensive capability remarkably.

Indicators	Unit	2019	2018
Number of employees trained (total number of employees attending training)	Person-time	77,044	88,146
Total investment for employee training	Ten thousand RMB	622	488
Coverage rate of employee training	%	97	100
Total hours of employee training	Hour	420,513	417,205
Training hours per capita	Hour	155	150



Jingqiao Power – Professional Management Training

During the Year, in synergy with the demand of the company's own development, management and personal management ability, Jingqiao Power improved the mode of management training and successfully organised different management-themed training talks and professional-based trainings for the management level staff in each department. The training courses include not only strengthening corporate management principals, but also providing knowledge on financial management for non-financial managers, human resources management for non-human resources managers, safety management, emotional management, team building, etc. Through a series of training, Jingqiao Power has not only bolstered the ability of personnel management, but also boosted its overall management level and professional quality.



Northeast Branch – Professional Techniques and Management Training

During the Year, Hohhot Racecourse Wind Power Station of Northeast Branch has completed 128 professional technique and management trainings with 1,757 of management staff, professional technicians as well as personnel from service and other areas. Through classroom instruction method, content taught by tutors included professional knowledge about management of power stations, operation and repair regulations of wind turbines as well as handling of emergency malfunction of wind turbines. The trainings let employees effectively grasp the skill to monitoring wind turbines, equipment condition maintenance and duties related to preventive test. Employees are equipped with improved technical management skills and improved handling capabilities of dispatching automation and equipment failure, and are able to understand the safety protection requirements of wind power station monitoring systems, which lays a solid foundation for enterprise technology management.



CONCERNING EMPLOYEE BENEFITS

OCCUPATIONAL HEALTH AND SAFETY

The Group strictly implements the internal management systems such as occupational health management measure and labour protective equipment management measure to perform occupational safety supervision, so as to provide a working environment and condition according to the national occupational health and sanitation standards. New employees are required to receive production safety education and technical safety training organised by the production safety department, and to sign relevant documents such as safety protocols and complete pre-job health check. Employees are only allowed to proceed to admission procedures after the training and passing the examination. At the same time, the Group actively conducts engineering technological renovation, strengthens protection for employees with special duties, arranges health check for employees, monitors occupational risk factors at the workplace, formulates emergency plans and performs regular drillings in order to prevent and control occupational hazards. Caring for the mental well-being of our employees, the Group organises mental health training courses and counseling activities. In addition, the Group avoids assigning pregnant or postpartum employees to perform duties that may pose harm to their bodies pursuant to the national Special Rules on the Labour Protection of Female Employees, so as to safeguard female employees' labour rights during pregnancy, maternity and lactation.

Jingxi Power – Mental Health Training



On 21 March 2019, Jingxi Power organised a mental health training talk, “How to improve mental stress resistance”, to take care of the mental health of employees and improve their ability on mental stress resistance in workplace and daily life. Jingxi Power invited Professor Li Yingwu, Associate Professor of Applied Psychology from Renmin University of China to provide training on improving mental stress resistance. The speaker shared how to maintain a good attitude from three aspects including factors leading to anxiety, tiring emotions from workplace and methods to improve stress resistance, while providing detailed answers to questions raised by employees. The training not only has given the employees with correct understanding on mental health issues and skills to cope with stress and solve mental problems while reinforcing their awareness and ability of self-adjustment, but also has accumulated valuable experience on the implementation of principles and policies of employee caring for Jingxi Power.



Northeast Branch – “119” Fire Awareness Promotion Month

In the hope of comprehensively implementing the management requirement of the 29th “119” Fire Awareness Promotion Month activity plan proposed by Beijing Municipal Fire Safety Committee and BEH, Qigan Wind Power Station of Northeast Branch actively organised the “119” Fire Awareness Promotion Month in November 2019. Activities included knowledge contest, educational video clips watching and introduction to fire laws and regulations. They promoted the idea of “Life First, Safety First”. Aiming at the characteristics of wind power stations fires and the weak links in fire safety, Qigan Wind Power Station organised fire emergency drills for employees to raise their awareness on fire safety and enhance the ability of self-rescue, seeking help, dealing with emergency and disaster prevention and mitigation. At the same time, Qigan Wind Power Station carried out comprehensive investigation and management of fire safety hazard with accordance to three aspects including unsafe behaviour of personnel, unsafe condition of objects and defects on management. The power station learned from recent fire accidents, reinforced the set-up of fire safety organisations and system, implemented fire safety subject liability and maintenance of fire equipment, striving for fire safety responsibility scheme implementation and strengthening the foundation of fire prevention and control.

CARING FOR EMPLOYEE

Employee Welfare

In accordance to internal management systems such as social insurance and housing provident fund, regular body checks, enterprise basic medical insurance and labour welfare, the Group offers a number of welfare and settles social insurances and housing provident fund for employees according to laws such as the Regulation on Public Holidays for National Annual Festivals and Memorial Days, the Decision of the State Council on Amending the Regulation on Public Holidays for National Annual Festivals and the Memorial Days and Implementation Measures for Paid Annual Leave for Employees of Enterprises. Employees are entitled to holidays such as national statutory holidays, public holidays, paid annual leave, sick leave, home leave, marriage leave, funeral leave and maternity leave, and allowances including heatstroke prevention subsidy and winter heating allowance. In addition, with building a harmonious labour relationship as the outset, the Group increases welfare benefits such as funds for Children’s Day and reimbursement for children’s medical expense according to its own economic efficiency, which aims to enhance the sense of belonging of employees. For the convenience of physically challenged employees at work, the Group has gradually launched renovations of barrier-free facilities at the workplace to ensure their accessibility, safety and convenience. The Group also communicates with them regularly to understand and help them to overcome difficulties at work and their daily lives.



CONCERNING EMPLOYEE BENEFITS

Employee Activities

To facilitate work-life balance and consolidate the relationships among colleagues, the Group organised multifarious sports and cultural activities regularly, such as the sports cultural festival, festive parties, film watching, fun sports day, Autumn trip, painting and calligraphy exhibition and horticulture fair, etc.



"8 March Women's Day" themed activity



Healthy walking



Chinese New Year party



Fun sports day

By holding skills competition and labour emulations, the Group provides rich rewards to employees with outstanding performances in order to incentivize employees' enthusiasm and innovation towards work, improve their technical operating skills and enhance the formation of talent teams with high quality.



BEH – The 9th “Jingneng Cup” Wind Turbine Operation Skills Competition

The 9th “Jingneng Cup” was held in Lingwu Wind Power Station of Northwest Branch from 16 October 2019 to 18 October 2019. This skills competition was hosted by the BEH Labour Union, co-organised by the Labour Union of the Company and undertaken by Northwest Branch, with over 100 participants consisting of each branch’s contestants and professional judges. The skills competition was composed of theory examination, wind turbines practical operation and box substation practical operation. Questions in the theory examination were proposed by Renewable Energy Sources College of North China Electric Power University. The difficulty of the questions was in accordance to the standard of national industry competition. The questions included topics on controlling of wind power station, calculation of wind resources, structure of wind turbines and theory of electricity generation to comprehensively test the contestants on their knowledge about wind power station and related facilities. Entering into the 9th skills competition, the Group’s principal of “Gathering talents, testing abilities, competing skills and promoting talents” is affirmed. With the high-level of competition to examine employees’ learning achievement, innovative ability and coordination ability, the Group upgrades the overall technical quality of the employees in wind power station.



Helping Employees in Difficulties

Employees create corporate values for the enterprise, but they also need the care and solicitude from the enterprise. Upholding the philosophy of “people-oriented”, the Group strives to create a caring and harmonious big family by concerning employees’ immediate interest and providing assistance to tide over their crisis. Under the assistance mechanism for employees in difficulties, the Group provides assistance to employees in difficulties. Through filing profiles of employees with hardship, we regularly visit them to understand and grasp the living conditions of employees in difficulties. According to the difficulties the employees encountered in medical care, living and children schooling, respective assistance is provided to the employees, achieving targeted poverty alleviation. During the Year, the Group has invested RMB254.3 thousand in assisting employees in difficulties and 77 employees were financially helped.



IMPROVING PRODUCTION AND OPERATION

In the course of development, the Group has been striving for perfection through constantly improving every part in the business operation and conducting scrutiny on the origin and process control, so as to make contributions to the society by continually deliver safe and stable power supplies. Due to the business nature of the Group, it does not involve in advertising or labeling relating to products or services.

SUPPLY CHAIN MANAGEMENT

In relation to suppliers and tendering, the Group has established an internal management system, under which entrance, assessment and improvement of suppliers are formulated, in order to reduce procurement risk and ensure that the procurement supplies can satisfy business competition requirements which in turn optimizes the supply chain management values. We regularly evaluate the performance of current suppliers in terms of their corporate management level, credibility, product quality, delivery and service, with quarter and annual reviews as well as the integration of business and production reviews to achieve centralized management, dynamic assessments, assistance to competent supplier and elimination of incompetent ones. New suppliers will only be added into a list of qualified suppliers after being accredited by the Group. At the same time, in compliance with the Bidding Law of the People's Republic of China and other relevant laws and regulations, the Group strengthens suppliers risk management, advocates fair competition, adopts zero-tolerance to crimes such as fraud, corruption and commercial bribery, and boosts and enhances accountability and ability of suppliers.

In addition, in order to facilitate the business partners to fulfill their social responsibility continually and create a sustainable supply chain, the Group includes social responsibility into supply chain management, imposes requirements regarding the compliance of laws and regulations, environmental protection, labour rights and operation integrity upon suppliers. The Group also sets up social responsibility training mechanism with regards to suppliers, offering training courses on environment, health and safety, which facilitates the fulfillment of suppliers' responsibility. During the Year, the Group's cooperative suppliers had no significant negative news.



SAFE AND STABLE POWER SUPPLY

Production safety is the foundation and security of enterprise development. Pursuant to the Production Safety Law of the People's Republic of China and Regulations of Beijing Municipality on Production Safety and other relevant laws and regulations, the Group persists in the management approach of “safety first, prevention as principle, and governance as whole”, and improves and implements a series of production safety related internal systems, such as production safety responsibility system and investigation and governance of accidents and uncertainties, under which production safety duties of employees at all levels are specified. The Group also enhances management and supervision on fire control, stipulates transport, storage and use of flammable and explosive products, organises production safety training extensively, initiates “Production Safety Month” regularly, improves reporting and investigation procedures of production safety incidents, and strengthens the inspection and management of potential safety risks, so as to secure a safe and stable power supply. The Group formulates emergency plans for natural disasters in accordance with industry characteristics, so as to ensure when encounter disasters, all segments and power stations will follow the emergency plan and set up an on-site emergency task force immediately. Staff will then handles on-site emergencies, and seeks support from superiors, local government or rescue agencies when needed in a bid to mitigate and reduce the impact of the incidents.

To implement the production safety approach, the Group has further raised the production safety monitoring quality and initiated quarterly safety and environmental protection management inspections. In addition to on-site inspections, the Group is able to fully understand the implementation of the production safety and production safety responsibility system by exchanges, questions and answers with employees. Furthermore, the Group has discovered and rectified issues by conducting comprehensive inspections on each business segments such as, “Spring Inspection”, “Autumn Inspection”, license-holder check, Summer peak inspection, annual inspection of wind power station, flood-control inspections, wind-proof inspections, fire-proof inspections, freeze-proof inspections and frost-proof inspections, fire safety hazard inspections etc. to monitor hazards regularly and systematically. At the same time, with reference to the operation characteristics of each business segment, the Group further reinforces facility management, focusing on maintenance, optimisation of operation and repair to improve the healthy operation level of the units. During the Year, the Group did not experience any personal or equipment accidents. The average utilisation hours of wind and photovoltaic power generation were higher than the national level.



IMPROVING PRODUCTION AND OPERATION

Indicators	Unit	2019	2018
Investment for production safety	Ten thousand RMB	6,799	6,699
Number of emergency drills	Times	408	454
Participants of production safety training	Person-times	58,020	48,155
Number of significant equipment accident	Times	0	0
Number of general equipment accident	Times	0	0
Number of casualties and fatalities of employees	%	0	0
Number of unscheduled stoppage	Times	14	12
Equivalent availability factor of unit	%	92.90	93.79

Northeast Branch – Autumn Production Safety Inspection

Aiming to consolidate the basis of production safety, ensure production and logistics safety, as well as to achieve annual production safety and operation targets, Qigan Wind Power Station of Northeast Branch conducted Autumn Production Safety Inspection. By carrying out this inspection, the wind power station was able to timely implement rectifying measures, eliminate hazards and ensure safe and stable operation of facilities. On the other hand, Qigan Wind Power Station conducted emergency drills and simulation exercise regularly which included emergency drill at the scene of a wind turbine fire to let all employees grasp the essential measures to be taken during accidents and emergency situations. Qigan Wind Power Station will constantly uphold the principle of “safety first, prevention as principle, and governance as whole” and the principle of production safety to raise the safety awareness of employees and their qualities as well as to enhance the level of management basis of the wind power station.



IMPROVING PRODUCTION AND OPERATION

Weilai Power – Activities of “Production Safety Month”

To further reinforce promotion of production safety, Weilai Power organised various activities with a theme of “Prevention of risks, elimination of hazards, halt of accidents”, elevating employees’ understanding on production safety. Production safety themed activities included talks, production safety trainings, troubleshooting, emergency drills and observations, so as to promote safety culture among employees, create a strong atmosphere of production safety and achieve production safety with zero accidents. Weilai Power specially arranged the 5th “Safe and Sound Cup”, a safety knowledge competition during the “Production Safety Month”. There were a total of 18 contestants from 6 teams of each department participating and more than 70 employees and department leaders as audience to cheer for the contestants. This activity effectively intensified employees’ knowledge on safety management and created an atmosphere of learning safety management related knowledge. By holding a series of activities during the “Production Safety Month”, Weilai Power was capable to raise the awareness of employees on responsibility of production safety and put more effort on monitoring production safety to halt accidents, creating a safe and stable social environment.



Southern China Branch – Promotion Week of “Production Safety Law”

During the Year, in order to broadly and deeply launch the learnings from Production Safety Law of the People’s Republic of China, Dongda Photovoltaic Power Station of Southern China Branch initiated a promotion week to promote the related laws and regulations on production safety, creating an atmosphere of law compliance and law learning. In the promotion week, employees learned about the laws and regulations of Production Safety Law of the People’s Republic of China and watched educational video clips to deepen their understandings on production safety. At the same time, Dongda Photovoltaic Power Station arranged self-inspections events, including the safety inspections on the power generation facilities within the power station and key inspections and examinations of fire facilities in fire-prone areas, to ensure all facilities within the station were in safe operation. Through the promotion week, Southern China Branch consolidates their safety development principle of “people-oriented” and their production safety principle of “safety first, prevention as principle, and governance as whole”. The branch highly values on troubleshooting by implementing production safety to ensure all facilities in the station are operated safely.



IMPROVING PRODUCTION AND OPERATION

INNOVATION AND INVENTION

With the deep development of the reform in electrical systems, the Group is dedicated to seeking development opportunities by promoting its technological innovation to consolidate its overall technological level, bolster its market competitiveness and further unleash corporate developing potential. Established thorough technological management systems and strictly complied with relevant laws and regulations, such as the Patent Law of the People's Republic of China and Confidentiality Provisions on Science and Technology, the Group implements several internal management systems such as technological improvement incentive system and key technology project management measures, under which technological project management is stipulated to raise the safety, operating economic efficiency, equipment proper functioning level and management level of generator set so as to initiate self-innovation and development. Emphasizing the importance of technological talents training, the Group enhances employees' technological training, establishes internal technological exchange platform and encourages employees' participation in technological innovation sharing to broaden their industrial knowledge and strengthen their technological and innovative ability. The Group also sets up Technology Progress Award to appreciate and reward outstanding technological achievements and encourages employees' improvements and perfection in technology of the enterprise. During the Year, the Group has obtained 10 patents.

Jingqiao Power – Research Projects on Technology

During the Year, Jingqiao Power invented and implemented the first set of “Siemens 9F Class Two-to-One Combined Cycle Generator Set – Flexible Start-Stop of Peak-Shaping Technology in Extract-Condensation Mode and Back Pressure Mode of Gas-Steam Heating” among the country. It automatically and flexibly starts and stops peaking operations in all working circumstances. This significantly enhances the safety, flexibility and efficiency of the units. The technology successfully reduces the time for start-stop of peaking operations from 6 hours to 45 minutes, upgrading around RMB5 million of efficiency for Jingqiao Power every year. Jingqiao Power is now applying for National Invention Patent at the moment with academic paper being published on a journal named Energy Conservation Technology and 2019 Annual Journal of Gas Power Generation Branch of Chinese Society for Electrical Engineering. The research and development project have been awarded with The First Prize of 2019 Technological Innovation Award for Electrical Workers by China Electricity Council and The First Prize of China Electric Power Science and Technology Progress Award by Chinese Society for Electrical Engineering which has greatly encouraged Jingqiao Power and their teams on research and development of technology.



PRIVACY PROTECTION

The Group has implemented employee behaviour standard and code of morality, which stipulate that employees must abide by every internal privacy mechanism and shall not disclose any exclusive data to third party unless upon approval. The Group also requests that all employees whose duties involve in internal confidential documents and intellectual property must sign the confidential agreement. With respect to key technological project, technological researchers and other relevant personnel who know or access to the confidential technological contents are subject to confidentiality obligations of the development of technological project in accordance to the agreement. Employees with intellectual property achievements shall not disclose any core technology via dissertations, journals, books or sharing without the consent of department heads during the confidentiality term. Employees shall abide by the “non-competition principle” to keep the commercial secret confidential after resignation, given that their positions involved confidential information and contents. The Group shall reserve the right to pursue legal actions under the condition of divulging secrets leading to great loss to the enterprise or the country.

ANTI-CORRUPTION

To maintain the honesty and integrity in corporate operation, the Group strictly conforms to relevant national laws and regulations such as Criminal Law of the People’s Republic of China and Anti-money Laundering Law of the People’s Republic of China, and implements internal anti-corruption systems such as employee behaviour standard and code of morality to restrict and regulate the behaviours of employees. With the aim to prevent corruptive behaviours during tendering and material procurement, the Group has established stringent procurement management system and reduced the impacts arising from human factors by carrying out procurement through internal e-communication system. To prevent corruption in procurement process, we adopt online public price inquiries on material procurement so as to prohibit splitting of bills and acts that avoid bidding. During tendering process, accepting bribery and kickback or using illegal ways such as bribing to win the tendering from relevant staff are strictly prohibited as it undermines fair competition. Discussions, talks, anti-corruption educational video clips broadcast and on-site visit to anti-corruption educational institution are arranged to instill a sense of integrity to employees and to enhance the education of integrity for the personnel at key positions, so that the employees will stay alert at all time to tackle corruption. We also strengthen internal supervision by conducting regular auditing and internal inspection to ensure that employees are law-abiding and disciplined.

On the other hand, the Group continually strengthens the integrity within the party through executing internal systems such as management and regulations on party integrity construction and implementing accountability for party integrity construction to regulate conducts of party members. Letters of responsibility on party integrity construction are required to be signed at each level to fully implement responsibilities of exercising party self-governance and supervision. The Group has also established the prevention, punishments and anti-corruption system which emphasizes on education, systems and supervision. During the Year, the Group did not have any illegal cases or litigation cases related to corruption, bribery, extortion, fraud and money laundering.



IMPROVING PRODUCTION AND OPERATION

Gaoantun Power – Anti-corruption Training

With the aim to deepen the education of party style and clean government and bolster the ability of anti-corruption of the party members, Gaoantun Power arranged four anti-corruption training sessions in the year. The four training sessions were the management-level staff educational conference, party members learning the eight requirements of mental supervision and inspection adopted by the Central Government, all employees watching Beijing Municipal discipline educational video clips, and participating in knowledge competition of anti-corruption regulations respectively. Gaoantun Power executed varied trainings for different targets, alerting the employees to be clear-minded, honest and strictly self-discipline in the course of duties. The Beijing Municipal educational video clip, “Alarm keeps ringing, anti-corruption is coming”, analysed the factors contributing to corruptions of some party members from typical cases to warn that all party members should not lose their beliefs, stance and principles in anytime. The training allows all employees of Gaoantun Power to reinforce their study of anti-corruption and sense of probity. They learn to cherish the integrity of the company and co-advocate a good developing environment in the corporate.



CONTRIBUTING TO COMMUNITY HARMONY

Since its establishment, the Group has attached great importance to the welfare of the community where it operates and proactively fulfills its social responsibility as a state-owned enterprise to achieve harmonious development between the enterprise and community. On one hand, the Group espouses various charitable activities such as donations for schools, earthquake relief work and volunteer services to provide continual assistance to the needy in the community. On the other hand, the Group actively responds to the call of the national government by launching targeted poverty alleviation in many less prosperous regions to enhance their productivity and living standards and help the poor achieve self-reliance.

CHARITY AND PUBLIC WELFARE

The Group extensively organises and encourages employees to engage in public welfare events, such as donation for schools, donation of second-hand goods and voluntary services to express our care and support towards the local community.

The Company – Participation in Mingxi Charity Foundation Association

During the Year, as one of the members of Mingxi Charity Foundation Association (the “**Foundation**”), the Company strongly supported the Foundation’s aim of “Serving Hong Kong and Serving the Youth”, and helped carry out cross-regional activities targeting on youth students in Hong Kong, such as youth exchange, innovation and entrepreneurship and academic scholarships, by following the nation’s guiding principles for Hong Kong. In the Year, the Foundation established “Mingxi Bursary” to subsidize secondary students from poor family backgrounds to promote to universities. In addition, the Foundation held an exchange conference named “Spring breezing Mingxi, meeting and building future” in the company, inviting over 30 university students from Beijing and Hong Kong to take part in. In the talk, we introduced basic information of the company and analyzed the development of sustainable energy in China. We brought students to visit a panoramic sand table model and a unit dynamic demonstration model of the company after the talk to let them understand the company and the operating units. While visiting the production factories, students comprehended the advancement and high automation of the units, the characteristics of environmental protection and energy efficiency of clean energy power companies. Through the on-site visit, students experienced the rapid development of the state-owned enterprise in the capital.



CONTRIBUTING TO COMMUNITY HARMONY

Jingqiao Power – “Capital State-owned Enterprise Open Day” Event

On 2 June 2019, the 4th “Capital State-owned Enterprise Open Day” was held in Beijing. Jingqiao Power welcomed 40 Beijing citizens. Through the visits and interactions at the exhibition hall, the main control room and the factory, visitors learned about the efforts and contributions of Jingqiao Power, as a green energy enterprise, in creating a blue sky dream for the people. Visitors were impressed by the garden-styled factory of Jingqiao Power. As the first power generation enterprise nationally in Class I area that meets the standard of integrated noise management, visitors realised Jianqiao Power as an environmentally friendly and energy-intensive modern enterprise and appreciated the environmental protection technology adopted by Jingqiao Power. Through the “Capital State-owned Enterprise Open Day” event, Jingqiao Power not only popularized the knowledge of gas-fired power generation and the advanced management methods of industries to the general public, but also showed the enormous changes and substantial achievement made and demonstrated the efforts and contributions of capital state-owned enterprise since the reform and opening up, which enabled the public to feel the spirituality of state-owned enterprises.



Inner Mongolia Branch – Campus rooftop photovoltaic panel power generation project

Inner Mongolia Branch has continuously put effort on the wind power and photovoltaic power generation business in recent years. In terms of energy conservation and emission reduction, the branch provides green energy with high quality to the society, creating a green corporate culture. The rooftop photovoltaic panel project donated by Inner Mongolia Branch to Hohhot No. 4 Middle School started generating electricity on 30 September 2019. This is the first campus project to install rooftop photovoltaic panels for power generation, providing with 85kW total installed capacity of photovoltaic power generation equipment and about 116,000 kWh of annual average power generation in Inner Mongolia Autonomous Region, where all electricity generated is for the school. Through constructing the photovoltaic power generation facilities, Inner Mongolia Branch helps the school save about 39 tons of standard coal and reduce 10 kg of smoke and dust, 10,700 kg of carbon dioxide and 64 kg of sulfur dioxide every year, taking a big step forward on the road to energy saving and emission reduction. The photovoltaic project reflects the corporate responsibility of Inner Mongolia Branch which is leading of campus energy consumption to the road of green and clean energy and fostering of teenagers to the knowledge of new energy and renewable energy. The branch aims to raise the environmental protection awareness and help establish an energy conservation lifestyle of the teens.



CONTRIBUTING TO COMMUNITY HARMONY

TARGETED POVERTY ALLEVIATION

Other than engaging in public charity affairs, the Group also pays close attention to the people in difficulties in the community where it operates. We offer assistance to the needy through targeted poverty alleviation to help them overcome obstacles.

BEH – Helping Shixia Village

With the aims of expanding the income sources and enhancing the living quality of Shixia villagers, BEH's aid team set the goal of assisting Shixia Village to develop distributed photovoltaic power in 2016. Up to now, the photovoltaic power generation project with the installed capacity of 5.4 kW on the roof of Shixia Village Committee has been completed. BEH helped the Shixia Village collective increase income to become rich by self-sufficiency and providing surplus electricity to the central grid. At the same time, BEH assisted Shixia Village to finish constructing aids provided by the Party by building party member activity rooms for the party's daily activities and educational activities. BEH also organised medical examinations within the village and expressed sympathy to the party members in difficulties and lonely elderlies during traditional festivals, such as Chinese New Year and Mid-Autumn Festival. The volunteer service team of BEH also regularly visits the Shixiaguan Great Wall in Shixia Village to carry out activities to protect the Great Wall.

OVERSEAS CONTRIBUTION

The Group continues to focus on sustainable development in Australia. Since the business extension to Australia, the Group has always been attaching high importance to community relations in the project locations, and striving to promote harmonious economic, social and environmental development on project sites, hence creating a responsible overseas corporate image. Every year, Australia Branch engages in a variety of exchange events with the local communities, such as inviting them to visit power station facilities and communicating face to face with the staff in the power stations.



Australia Branch – Open day of wind power station

Every year, New Gullen Wind Power Station of Australia Branch organises occasional site visits of its wind power and photovoltaic power station facilities for local groups for free to enhance community relationship between the company and locals. Through the explanation by the staff from the power stations and close observation of the wind turbines and photovoltaic modules, the public not only can know more about New Gullen Wind Power Station and the sustainability development advantage of renewable energy, but also understand the operation and technology of wind power and photovoltaic power generation, hence raising their awareness of renewable energy. New Gullen Wind Power Station provides social funds and clean energy support plans to the residents living within five kilometres of the wind power station every year, thus aiding them to utilize renewable energy by installing roof-mounted photovoltaic panels and solar water heaters. During the Year, the representatives of New Gullen Wind Power Station visited 5 local households to introduce the wind power station and answer their questions. The social contribution of Australia Branch helps the Group assimilate into the local society and paves the way to overseas development in the future.



At the same time, Australia Branch is actively involved in locally-organised sports activities, such as participating in the Crooksville football finals and the Rose Bowling Tour, to integrate actively into the community. The Group believes that the relationship between the operation of the power plants and local communities is the basis for enterprises to go global. The Group will continue to pay attention to the needs of the community, and enhance the sense of corporate responsibility while increasing its market share.



APPENDIX: CONTENT INDEX OF ESG REPORTING GUIDE

ESG Indicators	Description	Section	Page Number
Environment			
A1 Emissions			
General Disclosure	Information on: (a) the policies; and (b) compliance with the relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	Pollution Prevention and Emission Management	17
		Energy Conservation Improvement	21
A2 Use of Resources			
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	Resources Consumption and Conservation	19
		Green Office	22
A3 The Environment and Natural Resources			
General Disclosure	Policies on minimizing the issuer's significant impact on the environment and natural resources	Ecological Conservation	24
Social			
Employment and Labour Practices			
B1 Employment			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination and other benefits and welfare.	Employment Policies and Labour Practices	27
		Caring for Employees	33



APPENDIX: CONTENT INDEX OF ESG REPORTING GUIDE

ESG Indicators	Description	Section	Page Number
B2 Health and Safety			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	Occupational Health and Safety	32
B3 Development and Training			
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	Talent Development	30
B4 Labour Standards			
General Disclosure	(a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	Employment Policies and Labour Practices	27
Operating Practices			
B5 Supply Chain Management			
General Disclosure	Policies on managing environmental and social risks of supply chain.	Supply Chain Management	36
B6 Product Responsibility			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labeling and privacy matters relating to products and services provided and methods of redress.	Safe and Stable Power Supply	37
		Innovation and Invention	40
		Privacy Protection	41

APPENDIX: CONTENT INDEX OF ESG REPORTING GUIDE

ESG Indicators	Description	Section	Page Number
B7 Anti-corruption			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering	Anti-corruption	41
Community			
B8 Community Investment			
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Charity and Public Welfare	43
		Targeted Poverty Alleviation	46
		Overseas Contribution	46



