



中国能源建设股份有限公司 CHINA ENERGY ENGINEERING CORPORATION LIMITED

Environmental, Social & **Governance Report 2018**

(A joint stock company incorporated in the People's Republic of China with limited liability) Stock Code: 3996



SCOPE

This report is applicable to China Energy Engineering Corporation Limited and its subsidiaries (hereinafter referred to as the "Company", "we", "us" or "China Energy") and states the overall performance of two major aspects (representing the environmental and social and community) during the operation of its or their principal businesses, comprising of survey, design and consulting services, construction and contracting, industrial manufacturing, clean energy, environmental protection and water utilities, investment and others.

REPORTING PERIOD

This report covers a period from 1 January 2018 to 31 December 2018, and part of this report may be beyond the period.

PREPARATION PRINCIPLE

This report is prepared pursuant to the Environmental, Social and Governance Reporting Guide ("ESG Reporting Guide") in Appendix 27 to the Rules of Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the "Listing Rules").

DATA DESCRIPTION

The financial data is abstracted from the annual report of 2018 of the Company, in case of any discrepancies, the annual report shall prevail. Unless otherwise specified, the terms used in this report shall have the same meanings defined in the annual report. Other data are mainly based on the statistics of internal systems of the Company and its subsidiaries. The amounts reported in this report are denominated in Renminbi unless otherwise specified.

PLACE OF MAINTENANCE OF THIS REPORT

This report is published in electronic copy, which could be downloaded at the HKExnews website (www.hkexnews.hk) and the Company's website (www.ceec.net.cn).

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CHAIRMAN'S STATEMENT

Under the background of global population expansion and rapid social development, how to satisfy the human's soaring demand for energy with sustainable manner has become an arduous challenge against the society. As one of the largest integrated solution providers in the energy and power industry both at home and abroad, and with the vision of "bringing the energy to the world", the Company always take providing reliable energy support for social development as its most important responsibility. The Company seeks opportunities while satisfying social needs and solving common challenges, and fully exerts its own advantages to positively make response to the evolving industrial environment. In addition to obtain stable operating performance, the Company earnestly performs the obligation as a corporate citizen, creating common values for customers, shareholders, employees and the society.

Developing green energy for protecting lucid waters and blue skies. To promote the transformation of the energy system to a green and low carbon way is currently the priority among priorities for the development of the energy industry. The Company upholds the concept of "share the same homeland and build a beautiful home together", vigorously leads the industry to create a new energy system with multiple energies complementing and in a flexible, clean and low-carbon, safe and high efficient way. The Company actively develops the clean energy and environmental sectors, and put great effort in promoting the clean production, to establish a resource conservation and environmental-friendly green and low carbon enterprise. The Company commits to maximizing the integrate value of economy, society and environment, to make contribution to build beauty China and set a good example with this regard.

Strengthening safety, quality and environment management as well as improving development quality. We always uphold the concept of "safety and quality oriented development", continuously improve the safety and quality and environmental level. We actively built a safe production and management system, pushed ahead the safety work prevention mechanism, performed the safety production responsibility at all levels, ensuring the safety production of the Company maintaining stable. We commit to creating a safety and healthy working environment for employees, constantly perfect the safety education and training system, enhancing the employees' safety conscientiousness. We continue to improve the quality and environment management system, expand investments in quality and environment management resources aiming at setting up our quality and environmental brand.

Developing with community and promoting social harmony. We paid high attention on the development of communities at home and abroad where we operate. We assist education and teaching, drive employment and help and supporting the poor, to feedback the local communities. We initiatively carried out target poverty alleviation and providing aid for Xinjiang and Tibet, to become a responsible and accountable enterprise. Employees are encouraged to participate in social welfare activities, establish the conscientiousness of serving the community, actively immerse into the community and being identified with the public, to make contribution to build a harmonious society.

Upholding the people-oriented philosophy and assisting the employees' development. We deem the employees as the organic driver of the Company's sustainable development. We implement the equal and diversify employment. We respect and fairly treat the employees regardless of nationality, ethnicity and religion, and value the protection of employees' interest. Employees are motivated and their health and safety are protected, with an aim to devoting to enhance their sense of happiness and belonging.

Dreams will be realized via practice and success will be achieved via hard work. In the future, we will continuously adhere to and execute the concept of innovation, coordinateness, green, openness and sharing development, move ahead and devote ourselves into promoting the sustainable development of economy, society, environment and ours, fulfill our greater responsibility and accountability.

ABOUT US

The Company, which was established on 19 December 2014, is a joint stock limited company co-sponsored by China Energy Engineering Group Co., Ltd. and its wholly-owned subsidiary, Electric Power Planning Institute Co., Ltd. On 10 December 2015, the initial public offering of H shares of the Company was listed on the main board of The Stock Exchange of Hong Kong Limited (Stock Code: 3996.HK).

The Company is a large comprehensive conglomerate providing integrated solutions and whole industrial chain services for energy and power, infrastructure and real estate industries in China and the world. The main businesses cover the fields of energy and power, water conservancy and supply, railway and highway, port and sea-routes, civil engineering, municipal transit, ecological environment protection, property and buildings, etc. as well as have a complete industrial chain cover from planning and consultancy, appraisal and review, survey and design, construction and management, operation and maintenance, investment and operating, technology and services, equipment manufacturing to building materials. The Company is aimed to become a "scientific, managerial, international, and diversified" engineering company with international competitiveness. The Company has ranked among the world's top 500 companies for five consecutive years. In 2018, the Company was ranked 333rd on Fortune Global 500 list, 76th on China Enterprise Top 500 list issued by China Enterprise Confederation, 12th among ENR 2018 Top 250 Global Contractors, 21th among ENR 2018 Top 250 International Contractors, 4th among ENR 2018 Top 150 Global Design Firms, 18th among ENR 2018 Top 225 International Design Firms, and has obtained internationally authoritative rating agencies such as Fitch A- and Moody's A3 credit rating.

The Company will promote the development of high quality throughout the entire workflow. Upholding the vision of "undertaking global energy projects as a Chinese partner" and the corporate objective of "lean creates value, quality leads the future", the Company will capitalize on new opportunities under the new era and constantly enhance the Company's development vitality, control, influence, international competitiveness, and risk resistance capabilities, striving to contribute world-class quality projects to China and the world, thus creating and maximizing the value for customers, shareholders, employees and the society.

1 OBJECTIVES OF SOCIAL RESPONSIBILITIES

The Company attaches great importance on social responsibility work, strictly complies with the social responsibility views of "innovation, contribution to the society, scientific development and harmonious community" while pursuing high quality development. The Company persistently push ahead the ecological civilization construction, focuses on business transformation, to accelerate forming a resource saving and environment-friendly industrial structure, production methods and lifestyle behaviors. The Company follows up the stakeholders' expectation and requirement on the Company at all time, deeply cares about the employees, performs innovative practice, fair operation, and vigorously conduct target poverty alleviation and providing assistance to Xinjiang and Tibet, committing to achieving development in a win-win manner. The Company commits to building a harmonious and sustainable enterprise with with social recognition, investor acceptance, owner satisfaction, employee happiness and green environmental protection.

2 MANAGEMENT MECHANISM

The Company always adheres to the sustainable development strategies, and incorporates the concept of corporate social responsibility into the general development strategies, major decision-makings, daily production and operation, supply chain management of the Company. While maintaining corporate governance, the Company strives to achieve sustainable development in environmental, social and economic respects by virtue of sound business capabilities. The Company regulates its own conduct with high standards and endeavors to continuously promote its performance of environmental, social and governance and establish a responsible corporate brand image.

The Company strictly complies with the Environmental, Social and Governance Reporting Guide (hereinafter referred to as "ESG Reporting Guidelines") in Appendix 27 to the Listing Rules of the Stock Exchange, attaches high importance to ESG governance works. The Board considers and determines major ESG issues. According to the Management Measures of Social Responsibilities, the Company established an organizational system on social responsibilities, which is led by the Social Responsibility Committee. Under the leadership of the Social Responsibility Committee, the Company discussed the performance of its operations and ESG with contacts of social responsible departments to analyze the performance of the Company's substantive issues and assessed its relevant performance and implications. A long-term mechanism of Plan – Do – Check – Act (PDCA) social responsibility management and practice was established. In order to further fulfill the requirement of the ESG Reporting Guide, the Company set up an ESG indicator system applicable to itself, summarized the reporting procedures of ESG performance which further improve the professional ability in ESG management.



With the authority of the Board, the management of the Company collected and made disclosures of ESG information of 2018, and included relevant environmental, social and governance issues in this report in accordance with the requirements set out in Appendix 27 to the Listing Rules (the ESG Reporting Guide). This report is issued after consideration and approval by the Board.



Collaborative organizational system on social responsibilities

3 COMMUNICATION WITH STAKEHOLDERS

The Company constantly keeps communication with stakeholders including governments, shareholders, customers, partners, employees, communities and environment during the course of operation. Via developing a diversity of communication channels, the Company perfects communication and feedback mechanism, promotes management of the stakeholders, balances the interests among the stakeholders, to gain the respect and recognition of the stakeholders, to mitigate the social risk of the Company's operation.

Stakeholders	Communication mechanism	Stakeholders' requisition	The Company's response
Government	Policy guidanceReport at the special meeting	Response to national strategiesLegal and compliance operationPay taxes according to laws	Service national strategiesUphold steady operationCompliance with laws and regulations
Shareholder	General meetingBoard meetingDaily communication	 Continuous and reasonable returns of investments Regulate corporate governance Keep information communication 	Good operating resultsEnhance corporate governanceRegular written communication
Customers	HotlineSatisfaction investigationVisitingCompany website	Continuing technology innovationGuarantee project qualityProvide satisfactory service	 Motivate employees' innovation Enhance quality management Perfect service system
Partners	Regular communicationBusiness communication and cooperation	Mutual benefitCommon development	Strategic cooperationSet up comprehensive coordinate mechanism
Employees	 Employee representative meeting Daily communication Corporate culture activities 	 Reasonable remuneration and welfare Healthy and safety working environment Smooth occupational development Care for employees 	 Basic interest protection Ensure safety production Employee training Care for employees' lifestyle
Community	Care for disadvantaged groupsSocial welfare activities	 Community development at home and abroad Harmonious community relationship 	 Assist poverty alleviation Devote in assistance for construction in Xinjiang and Tibet Help local community development
Environment	 Environmental protection activities Environmental protection advertising 	 Compliance with environmental protection laws and regulations Energy conservation and emission and carbon reduction Protecting ecological environment 	 Carry out clean production Develop environmental industry Enhance environment management Conduct green welfare

4 IDENTIFYING MATERIAL ISSUES

The Company actively assumes the social responsibility, enhances the communication with stakeholders, energetically replies the requisition of stakeholders, continuously improve the sustainable development abilities. Under the requirement of the ESG Reporting Guide of the Stock Exchange and with reference to the domestic and international leading enterprises, the Company summarized, classified, screened, sorted the issues which reflect the significant influence on the economy, environment and society of the Company and have substantial impact on the appraisals and decisions of the stakeholders, so as to accurately and completely disclose the information of operation and management as possible as practicable.



1. Industrial technology development 2. Project quality 3. Advance safety production 4. Occupational health 5. Employee training and development 6. Equal employment 7. Compliance employment 8. Prohibition of child labor and forced labor 9. Employee remuneration and welfare 10. Employee care 11. Overseas employee safety 12. Anti-corruption management 13. Anti-corruption training 14. Pay attention to corruption and bribery in overseas operation 15. Responsible procurement 16. Promote supply chain accountability 17. Customer privacy protection 18. Overseas operation, international cooperation and exchange 19. Community charity 20. Overseas community development 21. Energy saving and emission reduction 22. Emissions management 23. Green office 24. Develop environmental industry 25. Environmental technology application 26. Ecological environment and natural resources protection

1 DEVELOPING ENVIRONMENTAL INDUSTRY

The Company commits to effectively promote the sustainable development of the environment while achieving business development. The Company deeply performed the development concept "lucid water and lush mountains are invaluable assets", continued to expand the technology and business areas such as environmental and energy saving. The Company focused on environment treatment, recycle and economic, clean energy development, and built a green industry chain. By using advance technology, the Company designed and constructed coal-fired power plant with near zero emission, as well as initiatively involved in the investment, design and construction of wind, solar, water-related clean energy projects, with an aim to minimize the pollutants and carbon emission and improve the environment.

Environment protection business

The Company's environmental treatment business mainly involves the construction of environmental protection projects such as sewage treatment, river improvement, sludge treatment, sea mud treatment, and landscape renovation. Via the establishment of academician expert workstations, water research institutes, technical research centers, etc. the Company strengthened the technical research and development. The Company has mastered the comprehensive watershed management technology, municipal sewage upgrading and renovation, municipal sludge disposal, centralized contiguous treatment of rural diverted sewage, brackish water and seawater desalination, as well as relevant advanced technologies such as comprehensive treatment of water environment. It has the technologies and processing capabilities of soil solidification treatment, sludge pollution control and solid waste treatment, and the technical achievements are widely used in environmental treatment projects. During the Reporting Period, the PPP project of Wenling Wastewater Treatment Plant of our subsidiary China Gezhouba Group Waterworks Operation Co., Ltd. passed the environmental protection acceptance, and the sewage treatment reached Level IV of the surface water standard, achieving stable compliance.

Circular economy business

The Company actively explored a recycle and economic development way, positively promoted the recycling of renewable resources, and basically formed a relatively comprehensive recycling network of renewable resources. China Gezhouba Group Stock Company Limited, a subsidiary of the Company, became the leading enterprise in

China in recycling of renewable resources. It successively invested and constructed the recycling and economic demonstration industrial parks in Huai'an, Laohekou, Huaiyuan, Qixian and Guangping. Among them, the recycled PET bottle chips production line in Huai'an recycling and economic demonstration industrial park is the world's single line with highest production capacity, which has become the environmental protection demonstration park of the Company which leads the standardized, highend and high-quality development of the industry.



Food-grade waste plastics processing and production park – the operation of clean kettle of Gezhouba Huai'an Recycling and Economic Demonstration Park

Clean energy business

The Company actively develops clean energy projects such as wind power, photovoltaics, and biomass power generation to help build a clean, low-carbon, safe and high efficient energy system. In 2018, the Company focused on pushing ahead a number of wind power projects in Ximeng, Inner Mongolia and Xinfeng, Guangdong, the acquaculture-solar hybrid project in Qingyuan, Guangdong, the greenhouse-roof solar power generation in Yongjia, Zhejiang, and other photovoltaic projects, the comprehensive use of straw in Suihua, Helongjiang and the biomass combined heat and power generation project in Ye County, Henan. The PV project in Kangping, Liaoning, the Baiyunxian Phase II wind farm in Rucheng, Hunan and the Zishanao wind power farm in Nanxiong, Guangdong, invested by the Company were put into power production.



Liaoning Kangping Photovoltaic Station



Phases I and II of Guangdong Nanxiong Wind Power Field

2 ENHANCING ENVIRONMENT MANAGEMENT

The Company adheres to the concept of green development, strictly abides by relevant laws and regulations such as the Environmental Protection Law of the People's Republic of China, the Energy Conservation Law of the People's Republic of China, the Law of the PRC on the Prevention and Control of Environmental Pollution of Solid Waste, the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the Law of the PRC on the Prevention and Control of Atmospheric Pollution, the PRC on the Prevention and Control of Water Pollution, and the Extended Manufacturer Responsibility Plan. In order to strengthen the implemental Protection, Energy Conservation and Emission Reduction", the "Assessment Management Practices of Environmental Protection, Energy Conservation and Emission Reduction", the "Contingency Plans for Environmental Contingencies", the "Management Measures for Environmental Incident Reporting and Investigation" and other environmental management systems, and enacted the "Guidance on Strengthening the Special Fund Management for Energy Conservation and Emission Reduction" and the "Guidelines for Creating the Green Construction Demonstration Projects", to guide the implementation of key environmental protection works.

During the Reporting Period:

- The Company further summarized the environmental laws and regulation and management requirements at three levels of the state, industry and the Company, published a list of energy saving environmental laws and regulations and management requirements currently in force;
- The Company convened a meeting of environmental protection and energy saving and emission reduction leadership team for arranging works for the year, and issued the the work plan of annual environmental protection and energy saving and emission reduction, clarified the working concept, objectives, key works and measures;
- By signing the Special Target Responsibility Document of Energy Conservation and Emission Reduction layer upon layer, the Company has implemented responsibilities to all entities and work posts, made comprehensive check and evaluation to the annual responsibility targets as well as energy conservation and emission reduction.

2018 witnessed neither a single environment pollution event nor other environmental non-compliance incidents. Anhui No. 2 Electric Power Construction Co., Ltd. (安徽電力建設第二工程有限公司), the subsidiary of the Company, was awarded as the Excellent Enterprise in Environment Protection Industry of Anhui province. Four projects undertaken by the subsidiaries including Jiangsu No. 3 Electric Power Construction Co., Ltd. (江蘇省電 力建設第三工程有限公司) and Anhui No. 2 Electric Power Construction Co., Ltd. (安徽電力建設第二工程有限 公司) were granted the green site awards by provincial ministries of housing and urban-rural development, and China Gezhouba Group Cement Co., Ltd. (中國葛洲壩集團水泥有限公司), the subsidiary of the Company, was awarded the Green Environmental Enterprise of Hubei province. The Laohekou cement plant in Hubei province of China Gezhouba Group Cement Co., Ltd. (中國葛洲壩集團水泥有限公司) was granted the first prize of industrial technology innovation by Hubei Construct Material Association. Six subsidiaries of China Gezhouba Group Cement Co., Ltd. (中國葛洲壩集團水泥有限公司), namely Songzi Company, Laohekou Company, Jiayu Company, Xingshan Company, Yicheng Company and Dangyang Company, were awarded the Green Environmental Enterprises of 2018 of Hubei province.



• Emissions

The Company's emissions mainly include greenhouse gases, sulfur dioxide, nitrogen oxides, chemical oxygen demand, ammonia nitrogen generated in the production and operation, and hazardous civil explosives wastes and construction and other nonhazardous wastes. In 2018, the Company further adjusted the procedure, enhanced fine management, committed to reduce the production of hazardous and non-hazardous wastes, as well as continuously optimize the treatment way of emissions.

During the Reporting Period:

- The key pollutant discharging entities have formulated environmental self-inspection plans, strengthened the execution of construction, operation and monitoring of pollutant treatment facilities, and monitored various important pollutants by fully utilizing online monitoring method;
- The pollutant discharging units of our subsidiary, China Gezhouba Group Cement Co., Ltd. (中國葛洲壩集 團水泥有限公司) have installed low-NOx staged combustion and SNCR flue gas denitrification systems, and introduced complex desulfurization technology on a trial basis, and the operation ratio of environmental facilities was 100%;
- The construction units have actively adopted the design for protecting the land resources in priority, reasonably determined to give up land sites, to optimize temporary land usage and land usage volume, together with applying the manners under which more slags were used and with good drainage, to reduce the generation of construction wastes;
- The industrial production units have vigorously carried out renovation, equipment upgrading and technology innovation, to effectively control the pollutant discharge. The hazardous wastes generated were delivered to qualified professional agencies for non-hazardous treatment.

The Company's emissions during the Reporting Period are summarized as follows:

Currency unit: RMB

Name of indicator	Unit of indicator	2018 (1)	2017
Total greenhouse gas emissions	tonnes CO ₂ e	5,971,716	6,845,395
Direct greenhouse gas emissions	tonnes CO ₂ e	2,989,029	3,946,292
Indirect greenhouse gas emissions	tonnes CO ₂ e	2,982,687	2,899,103
Unit greenhouse gas emissions for operating revenue	tonnes CO ₂ e/RMB thousand	0.028	0.030
Total sulfur dioxide emissions	tonnes	8,248	9,012
Total nitrogen oxides emissions	tonnes	17,678	17,867
Chemical Oxygen Demand (COD)	tonnes	7,180	7,203
Total ammonia nitrogen emissions	tonnes	1,081	1,084
Total hazardous wastes (2)	tonnes	4.1	3.57
Unit total hazardous wastes generated for operating revenue	tonnes /RMB billion	0.019	0.015
Total non-hazardous wastes (3)	tonnes	77,981,748	1,852,275
Unit total non-hazardous wastes generated for operating revenue	tonnes /RMB thousand	0.362	0.0078

Notes:

- (1) As the Company is a comprehensive solutions provider for the power industry, wastes statistics covers its core business including survey, design and consultancy, construction and contracting, etc.
- (2) Hazardous wastes include harmful civil explosives wastes.
- (3) Non-hazardous wastes include construction waste and sludge generated by sewage treatment plant under the environmental protection segment. In 2018, the size of tunnel construction projects and sewage treatment business of the Company significantly increased as compared with 2017. Thus, the volume of slag production and sludge production from construction increased to a larger extent as compared with last year.

• Use of energy and resources

The main energy and resource consumption involved in the Company is coal, electricity, diesel, gasoline, natural gas and water resources consumed during our production and operation. Adhering to the concept of sustainable use of resources, the Company is committed to improving the use efficiency of all energy and water. During the Reporting Period, the Company was not questioned, notified or punished by any relevant regulatory authorities regarding water sourcing issues.

During the Reporting Period:

- The Company vigorously carry out recycling and recycling of waste materials such as scrap steel, plastic, paper, glass and non-ferrous metals. In 2018, the renewable resources utilization business recovered a total of 5,377,400 tons of scrap steel, 75,700 tons of waste paper, 148,000 tons of waste plastics, and 372,300 tons of waste non-ferrous metals;
- Based on comprehensive utilization of resources, through technological innovation, China Gezhouba Group Cement Co., Ltd., the subsidiary of the Company, precisely optimized control ratio, and made full use of wet fly ash, desulfurization gypsum, limestone tailings and other wastes instead of high-priced traditional mixed materials in its cement production process; and actively researched the application of various solid wastes such as steel slag, phosphorus slag, phosphogypsum and tailings in its cement production, turning waste into treasure, and comprehensively utilized solid waste up to 9 million tons/year;
- Certain of our subsidiaries, such as China Gezhouba Group Explosive Stock Co., Ltd. strengthened the use of water recycling. They treat the wastewater from production plants and ground stations, then use the treated water for greening, equipment cleaning and fire fighting, which reduced costs and also reduced water consumption;
- Laiwu Water Plant and Xuanhua Water Plant of China Gezhouba Group Water Operation Co., Ltd., the subsidiary of the Company, provide approximately 60,000 tons/day of recycled water for local steel mills and thermal power plants as cooling water, which improved water efficiency;
- We participated in the formulation of the economic operation of air-conditioning systems, the economic operation of electric boiler heat storage systems, cold storage equipment and the evaluation of energy consumption assessment standards for public buildings in Zhejiang Province, and obtained 12 patents such as electrode boiler technology in the field of building energy conservation.

During the Reporting Period, the main resource utilization of the Company is summarized as follows:

Currency unit: RMB

Item of indicator	Unit of indicator	2018 ⁽¹⁾	2017
Electricity consumption	GWh	4,317.74	4,227.33
Gasoline consumption	tonnes	56,867	57,843
Diesel consumption	tonnes	739,668	735,277
Natural gas consumption	ten thousand cubic meters	1,510	1,626
Fuel oil consumption	tonnes of standard coal	45	
Purchased heat consumption	GJ	196,193	_
Other energy consumption ⁽²⁾	tonnes of standard coal	169,888	22,600
Comprehensive energy consumption	tonnes of standard coal	1,842,914	1,713,798
Unit comprehensive energy consumption for operating revenue	tonnes of standard coal/ RMB thousand	0.0086	0.0075
Total production water consumption ⁽²⁾	tonnes	3,742,799	252,004
Unit water consumption for operating revenue	tonnes/RMB thousand	0.017	0.0011

Notes:

- (1) As the Company is a comprehensive solutions provider for the power industry, the statistical scope of resource consumption covers its core businesses such as survey, design and consultancy, construction and contracting, etc. Indicators on packaging materials did not constitute material ESG related issues of the Company and therefore have not been disclosed.
- (2) With the continuous optimization of the Company's ESG information collection mechanism, the coverage of ESG indicators has been further improved, and some of the indicators in 2018 have changed significantly from that of 2017.

3 ECOLOGICAL ENVIRONMENT AND NATURAL RESOURCES PROTECTION

Reduce environmental impact of projects

The Company strictly abides by the relevant provisions of the Environmental Protection Law of the People's Republic of China and taking full consideration of impacts on the environment and natural resources during the operational process, the Company pays attention to the protection of natural environment and biodiversity of the area covered by the project and is committed to the coordinated development with the natural environment. The Company formulated "Management Regulations on Environmental Protection and Emission Reduction" and the "Guidelines for Creating the Green Construction Demonstration Projects", requiring affiliates at all levels to closely monitor the environmental impacts of business activities throughout the entire cycle of the project on the basis of strict integration with production and operation activities.

Investment operation	-	The Company carried out environmental impact assessment and energy conservation assessment for our projects in accordance with laws, and strictly implemented the "three simultaneous" system as well as other administrative regulations and rules concerning energy conservation and environmental protection management of construction projects in China.
Planning and design	-	Pay attention to the development and application of new technologies, new materials, new processes and new products in the field of energy conservation and environmental protection;
	-	Follow the ecological environmental protection principles of "avoidance, less occupation, recovery, compensation", rationally planed construction land. Our project chooses to occupy wasteland and waste land, and minimize the occupation of farmland, cultivated land, forests.
Equipment manufacturing	_	Optimize production processes and processes; eliminate backward production technologies, processes and equipment with high pollution and high energy consumption; promote the application of new technologies, new processes, new materials and new equipment for energy conservation and emission reduction so as to control pollutant emissions.
Construction	-	Actively carry out treatment for dust, noise, waste residue, domestic sewage and construction wastewater to reduce pollutant emissions;
	-	Strengthen excavation and slope treatment; prevent soil erosion; protect natural habitats, wetlands, forests, wildlife corridors, agricultural land; prohibit indiscriminate logging, over-hunting and killing; and maintain original topography;
	-	Temporary roads, abandonment of soil sites, and gravel yards for completed projects shall be promptly rehabilitated, and artificial proliferation measures such as transplanting turf and sowing grass seeds shall be adopted.

Participate in ecological governance

With advanced technology advantages in the field of pollution prevention and control, the Company actively participates in the ecological environment management by promoting the development of technical services such as water treatment, waste solid waste treatment and resource utilization, decentralized energy equipment production, and environmental ecological management. We have also restored contaminated and damaged land and water sources to protect biodiversity.

Case: Participated in the ecological management of Xinhe River in Jiaozuo City, Henan Province	Case: Participated in mine ecological restoration in Wuxue City, Hubei Province	Case: Participated in Dalat Desert Photovoltaic Project to carry out "industrial sand control" ecological management
In December 2018, China Gezhouba Group Foundation Engineering Co., Ltd., the subsidiary of the Company, entered into a PPP project for Xinhe Ecological Management with Jiaozuo City, Henan Province. The project covers three parts: water environment management project, water conservancy project and landscape project. Upon completion, it will have many functions such as artificial wetland purification treatment and wetland science popularization education.	In October 2018, the PPP project for the mine geological environment ecological restoration project in Wuxue City, Hubei Province, which was undertaken by the Company, was officially started. In the project, the Company carried out comprehensive ecological restoration management for many mines within the scope of Wuxue City, and further promoted local ecological construction and sustainable economic development.	In November 2018, Jiangsu No. 1 Electric Power Construction Engineering Co., Ltd., the subsidiary of the Company, undertook the Dalat Desert Photovoltaic Project in Inner Mongolia. The company planted the sand jujube trees and sand willows in the open space of the project area, and carried out ecological management to achieve greening of the desert, increase of farmers' income, and enterprise efficiency.

• Promote environmental protection

The Company is committed to conveying the concept of green development to all sectors of the society. It organizes various forms of public welfare activities on the environmental protection around the theme of "Building beautiful China and promoting green development", promoted the environmental awareness of employees and the public, and contributed to the protection of the ecological environment.

Case: Conducting environmental public welfare activities

Shanxi Electric Power Construction Co., Ltd., the subsidiary of the Company, carried out the theme activity of "Keeping in mind the mission and building youth", and organized employees to go to the poverty-stricken village of Beixiaodian Village, Yangqu County for voluntary tree planting. A total of more than 100 employees participated in the activity and planted more than 150 pine seedlings.



Case: In-depth activities on environmental protection and energy conservation and emission reduction

In 2018, the Company deployed environmental awareness campaigns such as "World Environment Day", "Energy Conservation Week" and "Low Carbon Day" around the Company's theme of "Building Beautiful China and Promoting Green Development." Through various channels, such as websites, social software discussion groups, posters, and electronic bulletins, all subsidiaries carried out in-depth study on the ecological civilization spirit and the development concept of innovation, coordination, green, openness and sharing, and popularized the application of energy-saving and environmental protection technology. While carrying out the theme publicity activities, we also adopted different ways to publicize and learn energy conservation and environmental protection laws, regulations, systems and management requirements, carried out business technology exchanges, and promoted advanced experience.

1 BUILDING A DIVERSE TEAM

The Company always strictly abides by the laws and regulations related to labor and employment in the place where it is operated, such as the Labor Law of the People's Republic of China, the Labor Contract Law of the People's Republic of China, and the Prohibition of Child Labour Provisions, and adheres to legal and standardized employment. Labor contracts are signed with employees in accordance with the law, and dispatched labor management is strictly implemented in accordance with the law, so to protect the basic rights and interests of employees. The Company adheres to the "people-oriented" philosophy and adheres to equal employment. When recruiting staff, we treat all employees equally, regardless of race, color, nationality, religion, age, gender, academic qualifications, etc.; we respect and treat foreign employees equally; we promise to treat foreigners without discrimination or double standards (except for language, culture, national conditions, etc.), and respect their culture, customs and personality; we carefully establish and abide by the agreement; organize business activities in accordance with the same working conditions, the same work and assessment criteria as other employees, sharing tasks and collaborating.

The Company strictly abides by relevant guidelines, rules and regulations for preventing child labor or forced labor in international, national and operating locations, such as the Labor Law of the People's Republic of China and the Prohibition of Child Labour Provisions. In accordance with the relevant legal provisions, the necessary personnel recruitment information collection and approval process was established to ensure the implementation and implementation of the labor standards. During the Reporting Period, the Company did not have any violations of the standards, rules and regulations concerning child labor and compulsory labor in the international, national and operating areas.

During the Reporting Period, the Company had a total of 124,503 employees, including 3,856 new employees.



Number of employees by education level and percentage (Unit: number/percent)





Number of employees by gender and percentage (Unit: number/percent)



Number of employees by positions and percentage (Unit: number/percent)





Number of employees by working geographical locations and percentage (Unit: number/percent)

2 PROTECTING THE LEGITIMATE RIGHTS AND INTERESTS OF EMPLOYEES

The Company has followed the Labor Law of the People's Republic of China, Labor Contract Law of the People's Republic of China, Social Insurance Law of the People's Republic of China and other laws and regulations of the locations where it operates, and formulated the "Management Measures of Labor Contract", "Labor Contract Management and Implementing Regulations", "Labor Management Regulations", "Wage Income Management Regulations", "Enterprise Annuity Management Measures", "Interim Measures for the Administration of Housing Provident Fund Deposit Base and Payment Ratio", "Retirement Management Regulations", "Employee Representative Conference Management Regulation" and "Administrative Measures for Enterprise Labor Dispute Negotiation and Mediation", to protect the legitimate rights and interests of employees.

Major measures include:

- Implemented the wage payment regulations and effectively protect employees' rights of obtaining labor compensation;
- Implemented national regulations on employee working hours, national annual and anniversary holidays as well as paid annual leave, so to effectively protect employees' right to rest and vacation;
- Implemented the welfare system, pay various social insurance premiums for employees, and establish supplementary benefits for employees, such as medical insurance and health checkup, so to effectively protect the rights of employees to enjoy social insurance;
- Implemented of the employee representative assembly system, revised the "Management Measures for Employees' Representatives Congress", re-elected the Company's employee supervisors, and selected employee representatives to participate in the Company's annual work meeting. Strengthen the supervision of the subsidiaries and require that the major matters concerning the interests of the employees be implemented after the deliberation and approval of the employee representative of the enterprise, and effectively protect the rights of democratic management of the employees.

3 HEALTH AND SAFETY

The Company attaches great importance to the safety and health of employees, and strictly abides by the Trade Union Law of the People's Republic of China, the Law on the Protection of Women's Rights and Interests of the People's Republic of China, the Occupational Disease Prevention Law of the People's Republic of China and the Production Safety Law of the People's Republic of China, constantly improve the safety and health system, and improve safety and health management.

• Promote safe production

The Company thoroughly implemented the decision-making arrangements and requirements of Government department on safety production; and adopted multiple measures to enhance safety production in all aspects to ensure safe, healthy and sustainable operation with the focus on the reform and development of the safe production, the implementation of safety production responsibility, the management of the contract (sub-) and the new business, the management of safety risks, the management of hidden dangers, and the management of safety production.

During the Reporting Period:

- Formulated and issued three systems including the "Emergency Management Measures", the "Safety Production Supervision and Management Measures", and the "Safety Production Awards and Punishment Measures";
- Organized and carried out the performance assessment of the "one post with two responsibilities" for the safety production of the headquarters department, and directly examined the annual safety production responsibility system of the enterprise;
- Strengthened inspection and supervision of new business projects such as EPC, PPP, and overseas projects, and the inspection and supervision work covers 15 domestic and overseas engineering projects;
- Organized and carried out typical experience promotion exchange of the contract (sub-) package "safety +" management;
- The Company conducted comprehensive training for principal responsible person and safety production supervisor of the second and third-level subsidiaries.

Guarantee occupational health

The Company has always adhered to the principle of "prevention first, prevention and control", earnestly implemented national occupational health related laws and regulations, constantly improving occupational disease hazard prevention measures, improving occupational hazard prevention and management standards, and ensuring employees' occupational health.

Major measures include:

- Propagandized and implemented relevant laws and regulations related to occupational disease prevention, industry standards, and organized relevant management personnel to conduct research and discussion;
- Organized the review of the occupational health and safety management system and conduct inspections to ensure the effectiveness of the system;
- Conducted occupational hazard identification work, entrusted professional institutions to carry out
 occupational hazard assessment, set warning signs in conspicuous positions, and installed monitoring and
 alarm equipment;
- Equipped with personal protective equipment and emergency rescue equipment, and detailed the types, consequences, prevention and emergency treatment measures for occupational hazards to relevant personnel;
- Established and improved occupational health records and employee health records. Entrusted institutions
 with occupational health testing qualifications to carry out occupational health examinations for those
 engaged in occupational disease hazards.

Case: Conducting occupational disease prevention and treatment training, strive to do better in occupational health management

In order to strengthen the occupational health management work, Xuanhua Water Plant of China Gezhouba Group Water Operation Co., Ltd., the subsidiary of the Company, invited experts from local government departments to interpret the requirements of occupational disease prevention and control regulations, and teach us the relevant occupational disease prevention and control priorities and measures based on the characteristics of the sewage treatment industry and guide enterprises to do a good job in occupational health management. China Gezhouba Group Cement Co., Ltd., the subsidiary of the Company, included occupational disease prevention and control into the key content of training when carrying out safety education training for new employees. The training of the factory focuses on occupational health knowledge and laws and regulations; the training of the workshop focuses on the system, occupational hazards and prevention measures; and the training of the team focuses on the position operation rules, occupational hazards, prevention and emergency.



• Focus on the safety of overseas employees

The Company strictly abides by the Regulations on the Safety Management of Overseas Chinese-funded Enterprises and Personnel issued by the seven ministries and commissions such as the Ministry of Commerce, and has formulated the "Administrative Measures for the Safety of Overseas Institutions and Personnel" to continuously improve the safety management of life and property of overseas institutions and personnel.

Major measures include:

- According to the Company's "Contingency Plan for Overseas Emergencies", the corresponding level of emergency plans and on-site emergency disposal plans were formulated;
- Based on the "Management System for Overseas Business Trip", the overseas security reminder will be issued at any time. When sensitive countries are involved, sensitive country alarms will be set up through the Management System for Overseas Business Trip;
- To provide employees with insurance such as employer liability insurance and group traffic accident insurance, and to strengthen the awareness of security risks of expatriate employees;
- Carry out health checkups and vaccination for employees in the health and epidemic prevention departments in accordance with the relevant regulations of the Company and in accordance with the requirements of the country where the project is located;
- Establish a mobile information interaction system to instantly grasp the actual dynamics and footsteps of each overseas personnel. The system integrates functions such as going abroad, foreign affairs policy, trip signing, global positioning system, and emergency alarm.

Case: Developing a mobile phone program terminal system to achieve "one-click call for help"

In order to protect the personal safety of overseas employees, China Gezhouba Group Stock Company Limited, the subsidiary of the Company, further increased its investment, built and operated an international emergency management system, and developed a mobile terminal system during the Reporting Period. Utilize mobile phone network technology, electronic maps and information technology to realize instant communication and two-way interaction between the Company's headquarter and overseas employees. When an overseas employee encounters an emergency, just press the mobile phone "one button for help" for three seconds, then can immediately take and send the live voice. The security officer and the headquarters emergency command center of the country can receive "one-click call for help" signal, and make timely response and make precision assistance, so to ensure emergencies can get quick and efficient responses.

4 DEVELOPMENT AND TRAINING

The Company attaches great importance to the development and cultivation of talents. In order to help the development of employees, promote the growth of enterprises and employees, and accelerate the development goals of "becoming an engineering company with international competitiveness", the Company has formulated the "Interim Measures for the Management of Education and Training", "Qualification Measures for Training Projects", and "Management Method for Internal Trainers", the "Training System Construction Plan" and the annual training in multi-form, multi-channel and all-round, assisting employees in learning professional knowledge, accumulating time experience, cultivating management skills, and developing good work habits in work practice so that employees can maximize their personal value.

During the Reporting Period:

- Completed the establishment of five training bases and built a regional training service platform covering the whole Company;
- Organized the selection of company-level internal trainers in 2018, established an internal trainer talent pool, and shared it within the Company;
- Organized key training projects such as international business and project managers;
- The Company held a training course for directors and supervisors, and provided training for more than 40 directors, supervisors and heads of directors and supervisors department of the Company and its subsidiaries;
- The Company held the fourth training course for young cadres, and provided training for 33 young cadres with department-level and above of the Company and its subsidiaries;
- Each department completed 26 internal training courses, including safety production training, overseas risk training, and general contracting project manager training; and participated in 20 external trainings organized by higher authorities and industry units, with a total of more than 6,500 person-time trainings;
- A total of 480,110 person-time training were completed by the Company, including: job training of 328,300 person-time, continuing education training of 36,100 person-time, and other training sessions of 115,700 person-time; the total training time was 2,761,889 hours, and the average number of training hours per employee was 22.18 hours.

			20	18		
		Job Trainings				
Indicators	Qualification trainings	Job adaptability trainings	Technical level trainings	Continuing Education	Other trainings	Total
Number of employees participated in the training by training content	36,174	265,148	26,959	36,139	115,690	480,110



5 CARING FOR EMPLOYEES

The Company regards employee happiness as a source of strong centripetal force and cohesion. Attaching importance to humanistic care, we have actively organized initiatives and activities covering a wide range of caring employees, including hardship assistance and cultural and sports activities.

Case: Help for employees with financial difficulties

In 2018, after several rounds of investigations, the labor union of our subsidiary China Gezhouba Group Stock Company Limited issued the "Measures for the Administration of Student Assistance for Children of Employees with Financial Difficulties", expanded the scope of student assistance and improved the standard of student assistance. Throughout the year, labor union and leaders from both levels assisted and funded a total of 654 children of difficult employees and allocated student aid grants of RMB1.82 million. Among them, 73 children of difficult employees met the funding conditions of our labor union and a total of RMB1.17 million was allocated to them as student aid grants.

Case: Organizing cultural and sports activities

In order to promote sports culture, promote sportsmanship and promote vitality, the Company held the third "China Energy Cup" Men's Basketball Tournament for its employees in Yichang in October to November 2018. 19 teams from all affiliates participated in the tournament to enhance exchanges. They have demonstrated the entrepreneurial spirit of "win-win, peace and stability" while being physically and mentally improved.

SUPPLY CHAIN MANAGEMENT

The Company complies with the fair principle of procurement and strictly controls the fairness of supplier selection process. The Company has formulated procurement management systems such as the "Procurement Management Regulations", "Provisional Measures for Centralized Purchasing Management", "Measures for the Supervision and Administration of Procurement", "Redline Prohibition for Procurement Management", and "Redline Prohibition for Contract (Subcontract) Management", continuously strengthened legal compliance construction of procurement and promoted standardization and informatization of procurement, to ensure that the procurement process is compliant, transparent, fair and equitable. For the qualified suppliers that have been selected, the Company has also established a scientific supplier management system, which regularly conducts examination and assessment, and supervises suppliers' management and practical performance of in all aspects. The Company has formulated "Supplier Blacklist Management Measures" and blacklists non-compliant suppliers to control environmental and social risks in the supply chain.

During the Reporting Period, the Company:

- Vigorously carried out laws and regulations learning and system publicity activities to help employees of subsidiaries master and understand the management requirements of the Company's system;
- Achieved "unified platform, unified management" for the Company's procurement management;
- Organized and prepared the "Procurement Standardization Model (Equipment)" to further standardize procurement behavior;
- Conducted on-site supervision and inspection, and organized internal procurement experts to conduct onsite supervision and inspection;
- Strengthened daily supervision on procurement activities, and intensified daily supervision on legal compliance procurement activities by the mean of online supervision of e-procurement platform;
- Used external supervision such as auditing and inspection to discover problems, supervise and guide the subsidiaries to rectify problems and standardize management behavior;
- Strengthened the assessment and evaluation of suppliers, and issue the assessment indicators and assessment criteria for procurement management in 2018.

1 STRICTLY CONTROL OF ENGINEERING QUALITY

The Company strictly abides by the Product Quality Law of the People's Republic of China, Regulations on Quality Control of Construction Projects, Regulations on the Administration of Survey and Design of Construction Projects and other national and industry-related regulations and standards, and has formulated quality control rules and regulations, such as the "Quality Control Regulations", "Measures for the Administration of Quality Work Assessment" and "Management Method of Quality Accident Report and Investigation and Management", and constantly improve quality control from the system, professional management, inspection and assessment, special activities and other aspects to strictly control the quality of projects.

In 2018, the Company further enhanced quality control, effectively prevented quality accidents and ensured the quality of projects by signing quality work responsibility statement, organizing quality work assessment, identifying and evaluating quality risks, strengthening major risk prevention and control, monitoring key projects, and compiling and distributing special issues on quality improvement. During the Reporting Period, the Company did not have any major or above quality accidents; the qualified rate of engineering surveyed design, consultancy, supervision finished products, the acceptance rate of projects under construction (subitem) and of general contracting projects, and the qualified rate of finished equipment products and industrial products all reached 100%; the Company has received 1,191 provincial and above quality awards, including 69 national awards, among which:

- 32 National Quality Construction Awards, including 7 projects such as 4×300 MW pumped-storage power station in Hongping, Jiangxi undertaken by China Gezhouba Group Three Gorges Construction Engineering Co., Ltd., the subsidiary of the Company, and Banji coal-electricity integrated power projects of China Coal Xinji Lixin undertaken by Anhui No. 1 Electric Power Construction Engineering Co., Ltd. and other enterprises, having won the first batch of National Quality Project Gold Awards in 2018-2019;
- Jinping I Hydropower Station on the Yalong River participated in construction by China Gezhouba Group Stock Company Limited, the subsidiary of the Company, won the Fidic Outstanding Project of the Year 2018 Awards, and National Wind and Solar Power Storage and Transmission Demonstration Project in Zhangjiakou, Hebei undertaken by North China Power Engineering Co., Ltd. of China Power Engineering Consulting Group and Tianjin Electric Power Construction Co., Ltd of China Energy Engineering Group has received the "FIDIC Award of Merit";
- In addition, 41 China's Quality Electric Power Construction Awards, 5 China Installation Construction Quality Awards (the Chinese Star of Installation), 141 Outstanding Survey and Design Awards in the Power Industry (thermal power, power transmission and transformation), 11 Outstanding Design Awards for Engineering Construction Project, 195 Outstanding Consulting Achievements Awards in the Power Industry, 17 Awards of Outstanding Engineering Project Management and Outstanding EPC Contracting Project in the Power Survey and Design Industry.

2 PROMOTING TECHNOLOGICAL INNOVATION

The Company continues to promote technological innovation, relying on academician workstations and existing expert talents to establish a diversified technology resource sharing mechanism, build a three-level technology research and development system, namely major science and technology project, crowdfunding technology project and self-developed science and technology project of subsidiaries. The Company has formulated "Measures for the Administration of Science and Technology Projects", "Measures for the Administration of Science and Technology Projects", "Measures for the Administration of Science and Technology Projects", "Measures for the Administration of science and technology Awards", "Guidance on Legal Protection of Intellectual Property Rights (Interim)" and other scientific and technological innovation system. In 2018, the Company deeply promoted the implementation of its "13th Five-Year Plan for Science and Technology Development", further improved the incentive and restraint mechanism for science and technology innovation, and established an evaluation index system for scientific and technological innovation.

During the Reporting Period:

- The Company compiled four major scientific and technological special implementation plans such as "Research and Application of Concrete Smart Construction Technology", completed project determination for 9 crowdfunding science and technology projects, and independently developed 496 scientific and technological projects;
- 2 provincial enterprise research centers were newly identified, 2 post-doctoral workstations were newly established, and 2 academicians were introduced into the academician and expert workstations;
- The Company participated in the completion of China's first "Belt and Road" national power planning;
- The Company has received the second prize of National Technology Invention Award for 1 scientific and technological achievement, the second prize of State Science and Technology Improvement Award for 1 achievement, provincial Science and Technology Awards for 11 achievements, China Electric Power Technology Invention for 18 achievements, Chinese Association of Construction Enterprises Science and Technology Awards for 18 achievements, and Power Construction Science and Technology Progress Awards for 111 achievements;
- The Company amended 3 IEEE international standards and 86 national and industry standards.

Name of indicator	Unit of indicator	2018
Total number of patents	Unit	8,787
Number of new patents	Unit	1,280
Number of new invention patents	Unit	229
Patent enforcement rate	%	91.6%
Number of software copyright	Unit	106
Research and development expenses	RMB million	4,003.6
Technical research and development projects	Unit	509

3 EXPANDING OVERSEAS MARKET

The Company is committed to the organisational mission of "World Energy, China Energy" and the enterprise spirit of "Achieving Harmonious Collaboration and Solid Development", guided by planning and consultancy, serving national energy cooperation. The Company actively innovates business models, strengthens cooperation with financial institutions, and promotes continuous upgrading of business. The Company strengthens risk prevention and control and complies with local laws and regulations, to ensure the sustainable and healthy development of international business. When implementing the "Belt and Road" initiative, the Company contributes the "China plan", interprets win-win cooperation, and injects new vitality into the global economic development, shining on the world stage.

In 2018, the amount of contracts of the Company with the traditional countries along "Belt and Road" was RMB106.673 billion, a year-on-year increase of 37.97%, which means the Company integrated into "Belt and Road" construction more deeply; the Company successfully signed a series of major projects, such as the Nigeria Mambilla Hydropower Station Project, the Nam Dinh Phase I Coal-fired Power Plant in Vietnam, wind power project in Ukraine and the United States Rice solar thermal power generation project, which further highlighted international competitiveness of the Company. The Company was awarded AAA Credit Grade enterprise of China's overseas contracting projects in 2018.

During the Reporting Period, major overseas projects implemented by the Company include but not limited to:

- 257 MW photovoltaic project in Phu Yen, Vietnam, which will effectively mitigate the tense situation of electricity demand in Vietnam and boost local economic and social development after completion;
- Investment project of Suki Kinari (SK) Hydropower Project in Pakistan, which is one of the three hydropower projects in the energy early harvest projects list for China-Pakistan Economic Corridor;
- 2X600 MW coal-fired power plant BOT project in Hai Duong, Vietnam, which will greatly promote local economic development in Vietnam and improve people's livelihood after completion;
- Neelum-Jhelum (N-J) hydropower project in Pakistan, which will have a positive impact on mitigating power shortage in Pakistan, stabilizing electricity prices, and improving people's livelihood.

Case: Signing the contract of the Kaliwa Dam Project of the Philippines

On 20 November 2018, under the joint witness of the heads of state of China and the Philippines, the Company and the Metropolitan Waterworks and Sewerage System in Manila, the Philippines entered into the contract for the Kaliwa Dam Project. The Kaliwa Dam Project is an important part of the Philippines' Water Resource Programme for hundreds of years. After completion, the project can supply 600 million liters of domestic water per day to the Greater Manila area, which is of great significance for solving the basic living needs of local residents and improving their quality of life. The signing of the project contract is an important achievement for China and the Philippines to promote mutually beneficial cooperation in the field of infrastructure construction within the framework of the "Belt and Road" and to help the Philippines implement more livelihood projects.

4 INTERNATIONAL COOPERATION AND EXCHANGE

The Company actively carried out international cooperation and exchanges, participated in the formulation of the "One Belt and One Road" energy cooperation special plan, Power Interconnection Planning between China and neighboring countries and other international energy cooperation plans. We participated in multi-country energy cooperation planning research, "One Belt, One Road" key countries' electricity market research and other regional energy cooperation planning research, power market and networking potential research, power interconnection and cooperation research. We also participated in international exchange meetings such as the China-Africa Cooperation Forum Beijing Summit and the 3rd "One Belt, One Road" Summit Forum and High-level round table on "Connect the "One Belt, One Road" to expand development opportunities".

Case: CEEC made a keynote speech at the round-table forum of the "Belt and Road" Energy Ministers Meeting

In October 2018, the National Energy Administration of China hosted the "Belt and Road" Energy Ministers Meeting. The meeting focused on the theme of "building a "One Belt, One Road" energy partnership", discussed on topics such as partnerships, future energy, strengthening energy investment facilitation, and promoting the smooth flow of energy commodities. It has received a lot of attention in the global energy field. 29 energy ministers and senior officials of 7 international organizations and 53 leaders of well-known Chinese and foreign energy companies attended the conference.

Wang Jianping, Chairman of the Company, was invited to give a keynote speech at the roundtable of the conference. He also emphasized that the Company will strongly support the construction of the "One Belt, One Road" energy partnership and will continue to adhere to the principal of "joint operation, joint construction, and sharing", give full play to its own capabilities, use power, energy and infrastructure projects as carriers, and cooperate with national energy companies in standards, technology, equipment, capital and construction management modes to promote the "One Belt, One Road" energy cooperation is stable and far-reaching.

5 PROTECTING CUSTOMER RIGHTS

The Company adheres to the customer-oriented concept, and provides services that make customers satisfied while constructing quality projects. The Company strictly abides by the laws and regulations of the place where it operates, fully respects customer rights. According to the Company's "Measures for the Management of Customer Relations in the Domestic Market", the Company establishes and improves customer information management mechanism, clearly defines the functions, divides the work to improve customer information, strictly manages customer information access and use rights, and ensures customer information safety. During the Reporting Period, the Company was not aware of any complaints for violation of customer privacy. Meanwhile, the Company has established a comprehensive complaint handling mechanism to continuously improve customer satisfaction and build sustainable and win-win reciprocal relationship.



The Company advocates that all employees shall strictly comply with the laws and regulations in various production and operation activities, continues to strengthen the establishment of integrity system, adheres to compliance governance and operations according to law, and firmly resists commercial bribery and corruption. The Company strictly abides by the laws and regulations such as the Company Law of the PRC, the PRC Criminal Law, Anti-Money Laundering Law of the PRC, Anti-Unfair Competition Law of the PRC and the Provisional Regulations on the Prohibition of Commercial Bribery promulgated by the State Administration for Industry and Commerce, and thoroughly implements anti-corruption requirements. The Company developed management systems on areas such as clean construction accountability system, assessment and investigation based on accountability system, anti-corruption education for leaders, disciplinary actions for employees' violation of rules. The Company pays special attention to the risks of commercial bribery and corruption arisen from international projects, and has prepared and issued the "Notice on Regulating the Management of Intermediary Advisory Services for International Business Agents".

During the Reporting Period:

- The Company actively implemented the main responsibility of honest construction and supervision, and conducted supervision activities such as inspections, audits and special inspections on subsidiaries;
- The Company set up management red lines and bans to restrict and regulate production and management practices, and irregularly educated all cadres and employees with internal violations;
- A subsidiary signed the "Undertaking of Incorruptible Business Cooperation", and the implementation of the "Undertaking" is subject to inspection and assessment;
- Responsible agencies and personnel were implemented for the subsidiaries, the management permission
 was clarified, the internal decision-making process was standardized, and the management responsibility
 was implemented;
- The Company established whistle-blowing channels, such as online platform, hotline, mailing address and e-mail address, to develop a convenient and effective supervision network;
- The Company carried out 2,072 anti-corruption education and publicity with 122,172 participants.

1 CARRYING OUT TARGET POVERTY ALLEVIATION

The Company thoroughly implements the "Guiding Opinions on Winning the Three Years of Fighting Against Poverty" and the relevant requirements and deployment of the State-owned Assets Supervision and Administration Commission of the State Council, promulgated and implemented the "Detailed Rules for Investigation and Research of Targeted Poverty Alleviation", the "Working Rules for the Reporting of Targeted Poverty Alleviation Information" and the "Measures for the Assessment of Targeted Poverty Alleviation Work" and other systems. Considering the actual needs of targeted counties for poverty alleviation, the Company makes scientific planning, focuses on infrastructure, industrial poverty alleviation, consumption poverty alleviation, education poverty alleviation and etc. The Company gives full play to its advantages and strengths, gathers all the strengths to carry out poverty alleviation, established a leading group for poverty alleviation work led by the chairman of the Board, and arranges special funds, increased human and material resources to lead the people in poverty-stricken areas to a better life. The incidence of poverty in Zhenba County and Xilin County decreased from 19.41% and 9.6% at the end of 2017 to 8.9% and 2.38% at the end of 2018.

Case: Carrying out targeted poverty alleviation in Xilin County of Guangxi and Zhenba County of Shaanxi

In 2018, the Company actively carried out targeted poverty alleviation work in Xilin County of Guangxi and Zhenba County of Shaanxi. The main leaders and sub-leaders went to the targeted counties for poverty alleviation to carry out research on poverty alleviation work for three times; 4 cadres for poverty alleviation were assigned and the funds invested for poverty alleviation for the year amounted to RMB11.2119 million. The Company implemented infrastructure construction in targeted poverty alleviation areas and improved transportation to promote local economic and social development, invested RMB4.5 million to support a 5 MW centralized photovoltaic power station project in Zhenba County, proceeds of which were all used to drive 2,864 people out of poverty in 10 deep poverty villages; actively promoted consumption poverty alleviation, carried out targeted agricultural product procurement assistance activities, completing the purchase amount of RMB12.3057 million; actively carried out education poverty alleviation, organized 2 poverty-stricken students from the targeted county to visit Beijing to boarden their horizons, increase knowledge, and organized technical training for operation and maintenance personnel of photovoltaic power stations for povert stations for poverty alleviation in Zhenba County.

2 DEVOTING TO SOCIAL PUBLIC WELFARE

The Company adheres to the philosophy of "keeping in mind its mission and giving back to society" and actively fulfills its social responsibilities. The Company extensively carries out various forms of social cooperation, and works with the community to build a friendly relationship of mutual love, mutual trust and win-win cooperation, and work together to build a better future. At the same time of the operation and development, the Company actively carries out public welfare activities in various fields such as Youth education, community building and volunteering, to win social respect and recognition and promote social harmony.

Case: Case: Supporting youth education

Zhenba County of Shaanxi Province and Xilin County of Guangxi Province belong to the national poverty alleviation and development key counties, and they are the targeted poverty alleviation places of the Company. In order to help students in these poverty areas to use knowledge to get rid of poverty, in August 2018, the Company organized representatives of 10 outstanding poor students from Zhenba County of Shaanxi Province and Xilin County of Guangxi Province to come to Beijing to participate in a five-day study tour.

During the event, employee representatives of the Company presented books and stationery to the students and led them to visit Beijing. By visiting the Gaobeidian Power Plant of Beijing Northeast Thermal Power Center, People's University, and the China Science and Technology Museum, the students learned the power knowledge and realized the scientific spirit.



Case: Community Building

On the eve of the Dragon Boat Festival in 2018, the young volunteers of our subsidiary Heilongjiang Electric Power Design Institute Co., Ltd. held a Dragon Boat Festival Folk Culture propaganda activity at the Jinhe Cultural Square in Harbin to send festive blessings to the masses and to promote and inherit the excellent traditional culture of the Chinese nation.

Case: Volunteer service

In 2018, Guangdong Thermal Power Engineering Co., Ltd., the subsidiary of the Company, and Huangpu thermal power community jointly organized the "Co-Governance, Co-Construction and Sharing" campaign to provide free lunch venues for the elderly in the Yinian Garden community of Huangpu Living Area, conducted 24 health lectures and caring activities for community residents, and organized a series of activities such as "Caring for Live-Alone and Empty Nest Elderly".

3 FACILITATING OVERSEAS COMMUNITY DEVELOPMENT

The Company understands and respects the local culture and customs in which it operates overseas, and continues to be concerned about the development of communities. The Company actively organizes various activities such as teaching assistants, infrastructure construction, disaster rescue relief, employment promotion, and holiday greetings. The Company helps community residents improve their living and education standards, promotes people-to-people exchanges, and drive common development of local communities, so that the project results can truly benefit the local people.

Case: Teaching assistants

On 7 August 2018, the Pakistani Hubu project jointly contracted by Tianjin Electric Power Construction Co., Ltd, the subsidiary of the Company, and Northwest Electric Power Design Institute Co., Ltd. of China Power Engineering Consulting Group held Pakistani children's drawing competition "Painting Beautiful Hometown" in Hubu Town Primary School in Balochistan Province. During the period, more than 100 local children in Pakistan used brushes to record the changes brought about by the construction of power station, and portrayed the beautiful vision of the "Belt and Road" cooperation.



Case: Improving infrastructure construction

For the purpose of promoting local economic development, enhancing mutual understanding and friendship between the two peoples, and actively fulfilling the local social responsibility, the Attarat oil shale-fuelled power plant in Jordan of Guangdong Electric Power Design Institute Co., Ltd., the subsidiary of the Company, conducted a series of performance activities since its commencement, and donated 800 square meters of gardens and a number of books for local community schools together with the owner, Atalat Power Company (APCO). Also, the project organized special voluntary repair activities in July and November 2018 respectively, which won the honorary certificate issued by the local education department.



Case: Participating in disaster rescue and relief

In November 2018, due to the unexpected extreme weather of thunderstorms, people in some cities in Kuwait suffered serious casualties and economic losses. From 13 and 14 November, Kuwait South Mutra Project Department of China Gezhouba Group Company Limited, the subsidiary of the Company, dispatched more than 20 technicians to form a rescue commando team with 10,000 gallons of pump trucks, loaders, trailers, rescue vehicles and other equipment, driving more than 100 kilometers to the affected area, Wafra, and urgently involving in disaster rescue and relief, which was appreciated by the local affected residents.



Kuwait South Mutra Project Department of China Gezhouba Group Company Limited, the subsidiary of the Company, offered emergency assistance for storm disaster rescue and relief

Case: Driving local employment

In 2018, Hengyi (Brunei) Project Department of Anhui No.1 Electric Power Construction Co., Ltd., the subsidiary of the Company, actively responded to the call of Brunei government to increase the employment rate, and received 22 (including 7 female) territorial trainees trained by the training institute of the Brunei National Energy Administration, working as driving, painting, rigging and being engaged in wiring and insulation other field operation. The project department also designated high-skilled employees and Brunei employees to conduct mentoring activities to help them improve their working skills.



Making every effort to prepare for next spring. 2019 is the 70th anniversary of the founding of the PRC. It is a crucial year for building a moderately prosperous society and achieving the goal for the first century. Under the new historical orientation and times background, the Company will continue to unswervingly implement the new development concept of "innovation, coordination, green, openness, sharing", practice benign interaction between enterprise development and fulfilling social responsibility, and deepen management, transform and innovate, strive for stable progress, and take new efforts in the new era to promote new development.

Deeply develop core business and continue to create value. We will continue to leverage our brand influence and integration advantages in the industry, and actively create an industrial ecosystem, rooted in the soil of China's power industry development. By promoting new technologies and new energy, we will achieve the growth of corporate performance, and meanwhile promote the coordinated development of industry, create greater value for the society and environment, growing stronger with the care and support of all sectors of society.

Pay close attention to safe operations and promote safe energy supply. We will, as always, place "safe operation" at the most important position of enterprise development, deepen the construction of safety management system, strengthen the management of key hidden dangers, and build a new pattern of enterprise operation safety management.

Strengthen energy conservation and emission reduction, contributing to green development. We will continue to adhere to green development strategy, strengthen energy conservation and emission reduction management, actively formulate plans to reduce energy consumption and manage carbon emissions, and strive to reduce the impact of the Company's business development on the ecological environment, and minimize waste water, waste gas, and solid waste emissions, to realize the harmony between economic growth and environmental protection.

Adhere to people-oriented and develop innovative talents. We will continue to pay attention to the occupational health and safety of our employees, and improve health and safety management standards and reduce the probability of occurrence of health and safety accidents. We will also review and adjust internal management structure, balance resource allocation between R&D and other businesses, actively protect intellectual property rights, promote the application of intellectual property rights to our business, build a platform for growth of enterprises and employees, stimulate value and promote common development.

Being enthusiastic about public welfare and sincerely give back to the society. We will consistently carry out charitable activities such as donation for education and poverty alleviation. Based on the national strategy, we will keep in mind the mission as a state-owned enterprise, work with the community to enhance communication and understanding, always integrate social responsibility fulfillment into sustainable development, take responsibility to increase development momentum, develop sustainably to shoulder the responsibility, continuously enhance consciousness of social responsibility, innovate social responsibility management and deepen social responsibility practices, to contribute to create a harmonious society and create beautiful homes.

Aggregate power under clean and upright environment, set sail when the wind is positive. In 2019, we will firmly establish and implement the corporate value of "world-class, industrial top leader", focus on improving the core competitiveness of electric power construction, strive to be the pacesetter of China's energy construction, and dedicate to provide first-class quality projects for China and the world. Riding the tide of the times, we will keep our mission firmly in mind at every rugged intersection, bring together the wisdom of all parties, unite the strength of all staff, deepen technological innovation, promote the harmonious and sustainable development of economy, society and environment, to achieve long term and solid development.

ESG INDEX

Aspects,	Contents	Section of the Disclosure
A1 Emissions	General Disclosure	Enhancing environment management
	(a) the policies; and	
	(b) compliance with relevant laws and regulations that have a significant impact on the issuer	
	relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	
	 Note: ① Air emissions include NOx, SOx, and other pollutants regulated under national laws and regulations. ② Greenhouse gases include carbon dioxide, methane, nitrousoxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. ③ Hazardous wastes are those defined by national regulations. 	
	A1.1 The types of emissions and respective emissions data.	Enhancing environment management
	A1.2 Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Enhancing environment management
	A1.3 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Enhancing environment management
	A1.4 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Enhancing environment management
	A1.5 Description of measures to mitigate emissions and results achieved.	Enhancing environment management
	A1.6 Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	Enhancing environment management



Aspects,	Contents	Section of the Disclosure
A2 Use of Resources	General Disclosure Policies on the efficient use of resources, including energy, water and other raw materials.	Enhancing environment management
	Note: Resources may be used in production, in storage, transportation, in buildings, electronic equipment, etc.	
	A2.1 Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Enhancing environment management
	A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Enhancing environment management
	A2.3 Description of energy use efficiency initiatives and results achieved.	Enhancing environment management
	A2.4 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	Enhancing environment management
	A2.5 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	N/A
A3 The Environment and Natural Resources	General Disclosure Policies on minimising the issuer's significant impact on the environment and natural resources.	Enhancing environment management
	A3.1 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Developing environmental industry
		Ecological environment and natural resources protection
B1 Employment	General Disclosure	Building a diverse team
	Information on:	Protecting the legitimate rights and interests of
	(a) the policies; and(b) compliance with relevant laws and regulations that have a significant impact on the issuer	employees
	relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	
	B1.1 Total workforce by gender, employment type, age group and geographical region.	Building a diverse team
	B1.2 Employee turnover rate by gender, age group and geographical region.	Planning for future disclosure

Aspects,	Contents	Section of the Disclosure
B2 Health and	General Disclosure	Health and safety
Safety	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.	
	B2.1 Number and rate of work-related fatalities.	Planning for future disclosur
	B2.2 Lost days due to work injury.	Planning for future disclosur
	B2.3 Description of occupational health and safety measures adopted, how they are implemented and monitored.	Health and safety
B3 Development and Training	General Disclosure	Development and training
	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	
	Note: Training refers to vocational training. It may include internal and external courses paid by the employer.	
	B3.1 The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	Planning for future disclosur
	B3.2 The average training hours completed per employee by gender and employee category.	Planning for future disclosur
B4 Labour Standards	General Disclosure	Building a diverse team
	Information on:	
	(a) the policies; and	
	(b) compliance with relevant laws and regulations that have a significant impact on the issuer	
	relating to preventing child and forced labour.	
	B4.1 Description of measures to review employment practices to avoid child and forced labour.	Building a diverse team
	B4.2 Description of steps taken to eliminate such practices when discovered.	Planning for future disclosur
B5 Supply Chain Management	General Disclosure	Supply Chain Management
	Policies on managing environmental and social risks of the supply chain.	
	B5.1 Number of suppliers by geographical region.	Planning for future disclosur
	B5.2 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	Supply Chain Management



Aspects,	Contents	Section of the Disclosure
B6 Product Responsibility	General Disclosure	Strictly control of engineering quality
	Information on:	Protecting customer rights
	(a) the policies; and	
	(b) compliance with relevant laws and regulations that have a significant impact on the issuer	
	relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	
	B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons.	N/A
	B6.2 Number of products and service related complaints received and how they are dealt with.	Protecting customer rights
	B6.3 Description of practices relating to observing and protecting intellectual property rights.	Promoting technological innovation
	B6.4 Description of quality assurance process and recall procedures.	Strictly control of engineering quality
	B6.5 Description of consumer data protection and privacy policies, how they are implemented and monitored.	Protecting customer rights
B7 Anticorruption	General Disclosure	Anti-corruption
	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.	
	B7.1 Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	Planning for future disclosure
	B7.2 Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	Anti-corruption
B8 Community Investment	General Disclosure	Devoting to social public welfare
	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.	
	B8.1 Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	Devoting to social public welfare
		Facilitating Overseas Community Development
	B8.2 Resources contributed (e.g. money or time) to the focus area.	Devoting to social public welfare
		Facilitating Overseas Community Development





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