

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

Environmental, Social & Governance Report 2019

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

Stock Code: 3996

ABOUT THIS REPORT

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 in the environmental, social and governance of its principal businesses (survey, design and consulting, construction and contracting, equipment manufacturing, civil explosion and cement production, investment and others) during the operation.

REPORTING PERIOD

This report covers a period from 1 January 2019 to 31 December 2019, and part of this report may be beyond the period to ensure completeness of the report.

PREPARATION PRINCIPLE

This report is prepared pursuant to the Environmental, Social and Governance (ESG) Reporting Guide (the “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”). The report is prepared in accordance with the principles of materiality, quantitative, balance and consistency.

Materiality: the materiality of ESG matters of the Company shall be determined by the board of directors, and communication with stakeholders and the process of identifying substantive issues and matrix of substantive issues are disclosed in this report.

Quantitative: The statistical standards, methods, assumptions and/or calculation tools for quantitative key performance indicators in this report, as well as the source of the conversion factors, are explained in the definition of the report.

Balance: This report presents the Company’s performance during the Reporting Period impartially and avoids choices, omissions or reporting formats that may improperly influence the decision or judgment of the readers of the report.

Consistency: The statistical methods and calibers used in the information disclosed in this report are consistent with previous years unless otherwise specified.

DATA DESCRIPTION

The financial data is abstracted from the annual report of 2019 of the Company, in case of any discrepancies, the annual report shall prevail. 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.

ABOUT THIS REPORT

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 (<http://www.ceec.net.cn>).

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CHAIRMAN'S STATEMENT

The year 2019 is the 70th anniversary of the founding of the People's Republic of China, and it is also the key year for building a well-off society in an all-round way and achieving the goal of the first century of struggle. In the new historical position and era background, the Company is guided by the organizational mission of "Bringing the Energy to the World", and strives to advance in the transformation and development and achieve coordinated and sustainable development of economy, society and environment while seeking to achieve high-quality development of its own business.

Improving ESG management and practicing sustainable development. The Company integrated the concept of sustainable development into corporate management and decision-making to continuously improve the ESG management system, and has built a joint mode in which the board of directors, management, functional departments and subsidiaries participate together. The Company listens to the voices of stakeholders from the government, shareholders, customers, employees, suppliers and the public, and identifies and evaluates material ESG issues of the Company through communication and interaction with stakeholders, to improve ESG governance, and respond to concern of all sectors of society.

Adhering to green development to build a beautiful world. In recent years, environmental challenges such as environmental pollution and climate change have become increasingly severe. In order to meet these challenges, the Company continues to focus on the clean energy and environmental protection and water utilities, strives to improve the ecological environment, and actively explores corresponding measures such as the construction of low-carbon cities, in response to climate changes with an aim to continuously expand the depth and breadth of environmental protection business to provide more solutions for global environmental issues. Meanwhile, the Company also strives to reduce the environmental impact of its own construction operations, actively implements the green construction concept, vigorously promotes clean production, and is committed to building a resource-saving and environment-friendly green low-carbon enterprise.

Strengthening safety and quality control to build quality projects. The Company always regards safety and quality as the foundation of engineering construction and corporate operation, and continuously improves safety and quality control. In 2019, focusing on "system improvement and perfection, efficient supervision, risks prevention and implementation", the Company steadily promoted systematic management with clear responsibilities and layer-by-layer implementation, while continuously strengthening safety and quality education and training of employees to improve their awareness of responsibility and ability to perform responsibilities, creating a safe and healthy production environment, and high-quality reassuring projects.

CHAIRMAN'S STATEMENT

Devoting to growth of all our staff to build an excellent team. The Company regards employees as the cornerstone of development and the driving force behind its progress. It always adheres to the principle of equal employment, builds a diverse team, provides development opportunities for all types of talents in the society, and spares no effort to protect the health and safety of employees and their rights and interests, and enhance their sense of happiness, so as to implement the "Caring for employees" action and grow together with employees.

Promoting community development and building a harmonious society. For the purpose of promoting the well-being of people's livelihood, the Company pays attention to the development of communities at home and abroad, carries out targeted poverty alleviation, and engages in social welfare, to help community development, improve living standards in backward areas, and share development results with society.

Victory is ensured when people pool their strength; success is secured when people pour their talents together. Entering the new era, the Company will strengthen new responsibilities, show new achievements, accelerate the construction of a world-class engineering company with global competitiveness, and strive to take greater responsibility and play a greater role in advancing economic, social, environmental and sustainable development.

ABOUT US



Founded on 19 December 2014, the Company is a joint stock company with limited liability established and co-sponsored by China Energy Engineering Group Co., Ltd. (a central enterprise supervised and administered by the State-owned Assets Supervision and Administration Commission of the State Council), and its wholly-owned subsidiary, Electric Power Planning and Engineering Institute Co., Ltd. The Company issued H shares under the initial public offering on 10 December 2015 and 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. Its main businesses cover 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 integrating 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 first-class “scientific, managerial, international, and diversified” engineering company with international competitiveness in the world. The Company has ranked among the world’s top 500 companies for six consecutive years. It ranked top among ENR Top 150 Global Engineering Design Firms, Top 225 Engineering Design Firms, Top 250 Global Contractors and Top 250 International Contractors. It has established more than 200 overseas branches in more than 80 countries and regions around the world, and has operations in all provinces and regions in China and over 140 countries and regions in the world.

The Company shoulders the organizational mission of “Bringing the Energy to the World”, adhering to the strategic vision of “industry-leading, world-class”, and the corporate purpose of “lean creation of value, quality leading the future”, and insisting on innovation, coordination, greenness, openness and new development concept sharing, it always promotes the high-quality development of the Company throughout all work, and constantly enhances the Company’s economic competitiveness, innovation, control, influence, and ability to resist risks, dedicating to provide first-class boutique projects for China and the world, creating the greatest value for customers, shareholders, employees and society.

RESPONSIBILITY MANAGEMENT

1 ESG MANAGEMENT MECHANISM

The Company strictly complies with the ESG Reporting Guide in Appendix 27 to the Listing Rules of the Stock Exchange, attaches high importance to ESG governance works. The board of directors is the highest decision-making body of the ESG work of the Company and bears ultimate responsibility for the ESG work of the Company. It is responsible for the review and decision-making of major ESG issues, assessing and determining risks and opportunities relating to ESG of the Company, overseeing the risk management and monitoring system, and regularly reviewing the Company's ESG performance and progress in achieving its goals.

The Company formulated and implemented the *Management Measures of Social Responsibilities*. Under the leadership of the Social Responsibility Committee, a collaborative ESG management organization system was established to discuss the operations and ESG performance of the Company, analyze ESG substantive issues, assess related performance and impact, and a long-term Plan-Do-Check-Act (PDCA), social responsibility management mechanism was built. To further meet the requirements of the ESG Reporting Guide, the Company has established its own ESG indicator system and optimized the ESG performance reporting process, which further improve the professional ability in ESG management.

With the authority of the board of directors, the Social Responsibility Committee of the Company collected and made disclosures of ESG information of 2019, and included relevant ESG 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 of directors.



ESG Management Organization System

RESPONSIBILITY MANAGEMENT

2 COMMUNICATION WITH STAKEHOLDERS

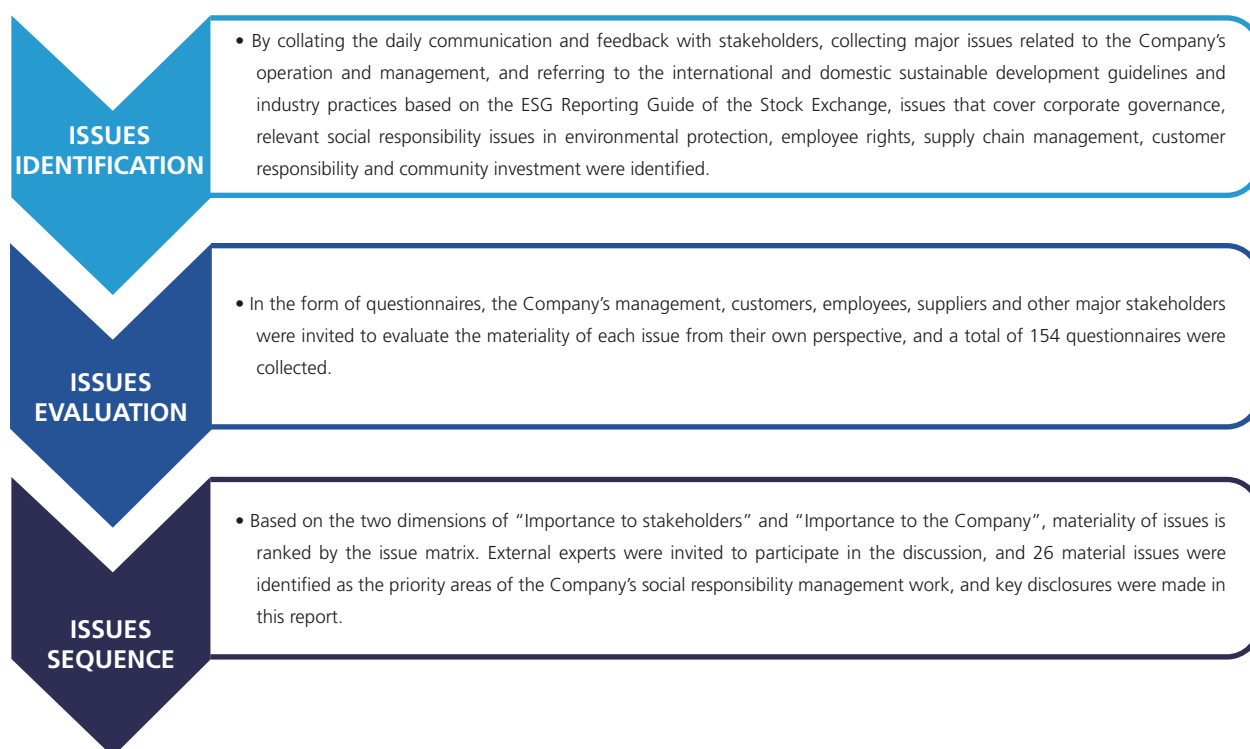
The Company constantly keeps communication with stakeholders including shareholders, customers, partners, employees and communities during the course of operation. Via developing a diversity of communication channels, the Company enhances communication and feedback mechanism, promotes management of the 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	<ul style="list-style-type: none"> Policy guidance Report at the special meeting 	<ul style="list-style-type: none"> Response to national strategies Legal and compliance operation Pay taxes according to laws 	<ul style="list-style-type: none"> Service national strategies Uphold steady operation Compliance with laws and regulations
Shareholders	<ul style="list-style-type: none"> General meeting Board meeting Daily communication 	<ul style="list-style-type: none"> Continuous creating values and return Regulate corporate governance Transparent information disclosure 	<ul style="list-style-type: none"> Good operating results Enhance corporate governance Timely release of information
Customers	<ul style="list-style-type: none"> Customer service hotline Satisfaction investigation Visiting Company website 	<ul style="list-style-type: none"> Promote technology innovation Guarantee project quality Provide satisfactory service 	<ul style="list-style-type: none"> Improve innovation mechanism Enhance quality management Improve service system
Partners	<ul style="list-style-type: none"> Regular communication Business communication and cooperation Industry association participation 	<ul style="list-style-type: none"> Mutual benefit Common development 	<ul style="list-style-type: none"> Carry out strategic cooperation Participate in the development of industry standards
Employees	<ul style="list-style-type: none"> Employee representative meeting Daily communication Corporate culture activities 	<ul style="list-style-type: none"> Reasonable remuneration and welfare Healthy and safe working environment Occupational development and training Care for employees 	<ul style="list-style-type: none"> Protect legitimate rights and interests Ensure safety production Improve training system Organize employee activities
Community	<ul style="list-style-type: none"> Learn of community demand Formulate action plan 	<ul style="list-style-type: none"> Helping to achieve a comprehensive well-off Participate in community construction Care for vulnerable groups 	<ul style="list-style-type: none"> Promote targeted poverty alleviation Promote community development Carry out public welfare activities
Environment	<ul style="list-style-type: none"> Insight into domestic and international trends Master advance technology Improve environmental awareness 	<ul style="list-style-type: none"> Compliance with environmental protection laws and regulations Provide environmental business Energy saving, emission reduction and carbon reduction Protect ecological environment 	<ul style="list-style-type: none"> Reduce pollutants discharge Development of environmental protection industry Improve energy efficiency Construction of green working environment

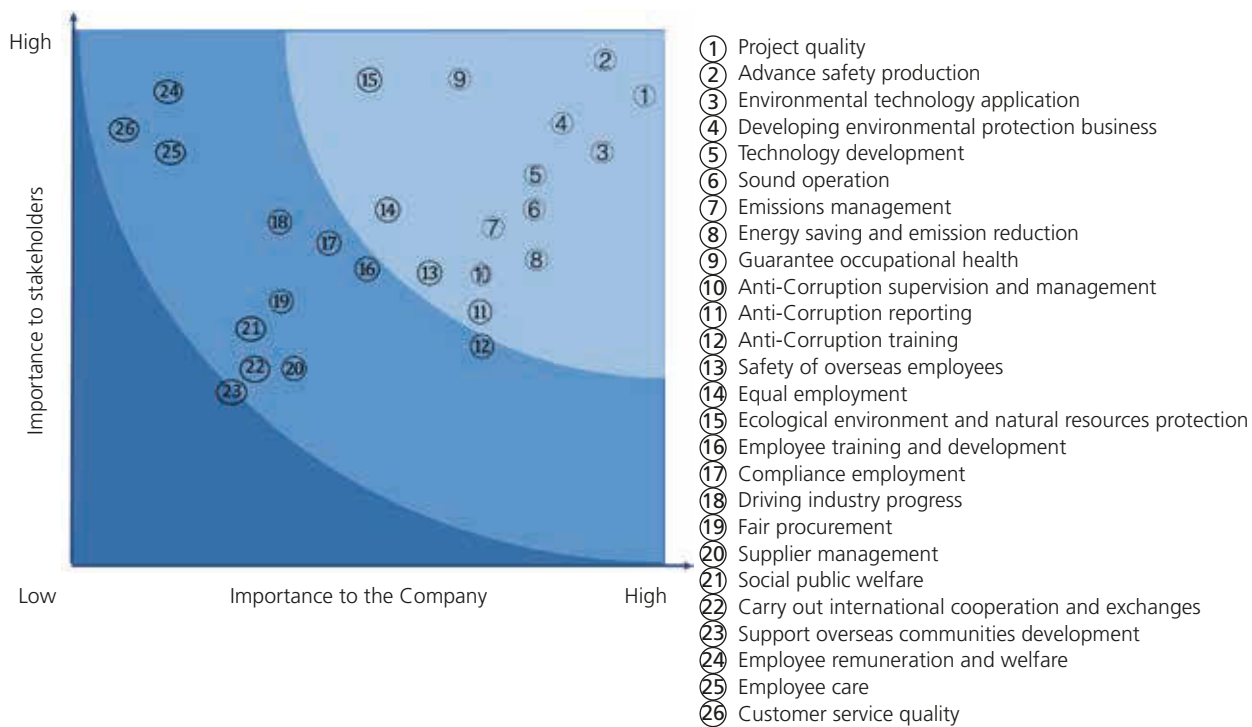
RESPONSIBILITY MANAGEMENT

3 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. Based on the division of responsibilities and contact interfaces of each department, the Company has established a daily communication mechanism that is in line with the communication habits of various stakeholders, and carried out evaluation of important issues during the Reporting Period. Material ESG issues of the Company were identified and evaluated by collecting and recording stakeholder feedback, so as to accurately and completely disclose the information of operation and management as possible as practicable.



RESPONSIBILITY MANAGEMENT



GREEN DEVELOPMENT

1 DEVELOPING ENVIRONMENTAL INDUSTRY

The Company implements the “green” development concept, actively promotes the development of clean energy and environmental protection and water utilities, and builds a green industrial chain, to promote environmentally friendly development and help build ecological civilization through the continuous expansion of its own business. During the Reporting Period, China Gezhouba Group Stock Company Limited, the subsidiary of the Company, obtained the highest social award in the field of environmental protection in China, the “China Environmental Award” for excellence, showing a green business card to the society.

• Clean energy business

The Company actively promotes the transformation and upgrading of the energy structure and continues to increase investment and development of clean energy business. In accordance with the national policy on wind power and photovoltaic power generation, we will expand and optimize the clean and efficient power generation business, and focus on investing in large-scale clean thermal power, hydropower and new energy projects, so as to meet the energy needs of social development in an environmentally friendly manner.

During the Reporting Period, the Company successfully promoted many clean energy projects, including but not limited to:

- The first thermal power project in Xinjiang, Hami 50MW tower thermal power project, was successfully connected to the grid. After completion and operation, it can provide clean, stable and adjustable high-quality electricity to the power grid of approximately 198.3 million kWh per year, saving standard coal of 61,900 tons;
- Kenya Garissa 50MW photovoltaic power station was officially put into operation, with an average annual power output of 76.473 million kWh, which can reduce carbon dioxide emissions by 64,190 tons per year and meet the electricity demand of half of the population in Garissa;
- The first batch of wind turbines of the Zhanjiang Wailuo Offshore Wind Project in Guangdong were successfully connected to the grid for power generation. It is estimated that the annual grid-connected power will be 470 million kWh, which will save approximately 148,100 tons of standard coal per year, reduce emissions of 394,000 tons of carbon dioxide, 155,500 tons of dust and 54.43 tons of sulfur dioxide;
- The first batch of national photovoltaic power generation technology leading bases –Shanxi Changzhi 500MW photovoltaic power generation project started construction;
- Longyuan Jiangsu Dafeng (H7) 200MW offshore wind power project has completed construction and put into commercial operation.



Hami 50MW Tower Thermal Power Project



Zhanjiang Wailuo Offshore Wind Project

GREEN DEVELOPMENT

• Environment protection business

The Company thoroughly implemented the concept of ecological civilization construction and continuously improved the development quality of environmental protection business, so as to further promote the vertical extension of the industrial chain. Environmental protection business was expanded around the subdivided fields of renewable resource utilization, water and soil treatment, solid waste and domestic garbage treatment, to improve the level of environmental protection technology and industrial value.

During the Reporting Period, the construction and technological transformation of the renewable resources utilization industrial park of the Company progressed steadily. The main results achieved included but not limited to:

- Installation and commissioning of three sewage treatment membrane production lines of Rizhao Sainuo Environmental Technology Co., Ltd., a subsidiary of the Company, were completed;
- The Haikou water treatment project was put into operation, and the Fuyang water improvement project was smoothly advanced;
- “Integrated treatment technology for river and lake silt dewatering tailwater” was successfully applied to the Dianchi Caohai project;
- The “steel slag asphalt concrete application” technology was awarded the “Technology Innovation Award” of 2019 new and beneficial waste materials by the China Green Building Materials Industry Development Alliance;
- North China Power Engineering Co., Ltd. of China Energy Engineering Group Planning & Engineering Co., Ltd., a subsidiary of the Company, obtained a five-star evaluation certificate of the soil and water conservation plan preparation unit issued by Soil and Water Conservation Society of China.

GREEN DEVELOPMENT

- **Waterworks business**

The Company is committed to becoming a leading domestic and international first-class professional water environment integrated service provider in investment, construction and operation. In 2019, the Company made full use of the advantages of platforms such as academician expert workstations, strengthened scientific and technological innovation and the application of achievements, accelerated the innovation of business models, vigorously promoted the standardization of operations, to continuously improve the management and service capabilities of water business operations.

During the Reporting Period, the Company's key water projects included but not limited to:

- Signed the municipal sludge deep dehydration project of Xiongxian, Hebei Province, with a total sludge treatment capacity of 20 tons per day, laying a foundation for the continuous implementation of water utilities in Xiong'an New District;
- The San Norrenzo water supply project invested and acquired in Brazil maintained a stable and good operating condition and satisfied the water needs of nearly 2 million local residents;
- Signed a contract with the Ethiopian Addis Water Authority for the operation and maintenance of the Ethiopian KALITY wastewater plant, which adopted a combination of upflow anaerobic sludge biological reaction (UASB) + biological drip filtration technology, with a design capacity of 100,000 cubic meters per day, which is currently the largest sewage treatment project in Ethiopia.

GREEN DEVELOPMENT

2 ENHANCING ENVIRONMENT MANAGEMENT

The Company adheres to the red line of environmental protection 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 Water Pollution, and the "Thirteenth Five-Year" Comprehensive Work Plan for Energy Saving and Emission Reduction. The Company has established a sound environmental protection system, and formulated environmental protection management policies and regulations such as the "Management Regulations on Environmental Protection", the "Assessment, Reward and Punishment Measures on Environmental Protection" and the "Contingency Plans for Environmental Contingencies". The Company adheres to green production, strictly monitors units at all levels to strictly implement resource conservation and compliance with emissions requirements in production operations, and has achieved significant results in environmental governance. 2019 witnessed neither a single environment pollution event nor other environmental non-compliance incidents.

During the Reporting Period, in order to further strengthen environmental management, measures taken by the Company included but not limited to:

- Completed the revision of the three systems, i.e. the "Management Regulations on Environmental Protection", the "Assessment, Reward and Punishment Measures on Environmental Protection" and the "Management Measures for Environmental Incident Reporting and Investigation", to further improve the environmental management system;
- Promoted the classification and hierarchical management of environmental protection to further clarify the environmental protection management responsibilities of enterprise at all levels;
- Differentiated environmental protection management and control points were proposed according to project categories, and environmental protection supervision requirements in key areas such as investment and construction projects and industrial enterprises were strengthened.

GREEN DEVELOPMENT

• 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 wastes generated in equipment and civil explosive segments and waste slag and other non-hazardous wastes during the course of construction. In 2019, 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, in order to further optimize emissions management, the measures taken by the Company included but not limited to:

- 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 major pollutants by fully utilizing online monitoring method;
- Made the reconstruction of coal-fired boilers from "coal-fired boilers" to "gas-fired boilers" at subsidiaries, effectively solving the problems of large noise, excessive dust, large coal consumption, and low comprehensive energy efficiency during boiler operation, reducing generation of atmospheric pollutants and cinder waste;
- The affiliated water affairs company promoted the application of plate and frame dewatering equipment and low-temperature drying dehydration equipment to replace traditional belt filter press equipment. The moisture content of dewatered sludge was reduced from 80% to 60%, and discharge of non-hazardous waste such as sludge was reduced;
- The construction project used low-frequency and low-noise construction machinery to strictly control the noise limit;
- Hazardous waste generated was handled by qualified professional institutions for harmless treatment. Mechanically repaired waste oil was entrusted to qualified units for unified recovery and treatment to reduce discharge of hazardous waste. Domestic waste was recycled through sorting.

GREEN DEVELOPMENT

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

Item of indicator	Unit of indicator	2019	2018
Total greenhouse gas emissions ⁽²⁾	tonnes CO ₂ e	5,325,360	5,971,716
Direct greenhouse gas emissions ⁽²⁾	tonnes CO ₂ e	2,910,979	2,989,029
Indirect greenhouse gas emission ⁽²⁾	tonnes CO ₂ e	2,414,381	2,982,687
Unit greenhouse gas emissions for operating revenue	tonnes CO ₂ e/RMB ten thousand	0.22	0.28
Total sulfur dioxide emissions	tonnes	8,127	8,248
Total nitrogen oxides emissions	tonnes	17,175	17,678
Chemical Oxygen Demand (COD)	tonnes	7,007	7,180
Total ammonia nitrogen emissions	tonnes	1,058	1,081
Total hazardous wastes ⁽³⁾	tonnes	2,107	2,293
Unit total hazardous wastes generated for operating revenue ⁽³⁾	tonnes/RMB00 million	0.89	1.02
Total non-hazardous wastes ⁽⁴⁾	tonnes	21,675,318	77,981,748
Unit total non-hazardous wastes generated for operating revenue	tonnes/RMB ten thousand	0.91	3.62

Notes:

- (1) Wastes statistics covers the core business of the Company in the PRC including survey, design and consultancy, construction and contracting, etc.
- (2) The calculation of greenhouse gas emission is based on the "Greenhouse Gas Protocol – Corporate Accounting and Reporting Standards (2012 revised)" issued by the World Resources Institute and the World Business Council for Sustainable Development and the Fifth Evaluation Report issued by Intergovernmental Panel on Climate Change.
- (3) The Company continuously improves the statistical caliber of environmental data. In 2019, the hazardous waste generated from the equipment sector was included in the statistics of hazardous waste. Based on this, the amount of hazardous waste generated in 2018 is adjusted simultaneously to ensure that the data caliber of this indicator is consistent in different years. The Company's hazardous waste includes hazardous waste in the equipment sector, hazardous waste in the civil explosion sector, and other hazardous waste generated in daily office operations. All hazardous waste generated will be treated by qualified professional institutions for harmless treatment.
- (4) Non-hazardous wastes include construction waste and sludge generated by sewage treatment plant under the environmental protection segment. In particular, in 2019, 21,465,318 tons of waste slags were generated during construction, and 210,000 tons of sludge were generated from sewage treatment plants under the environmental protection sector. In 2018, due to the launch of the tunnel construction project, the Company generated a large amount of waste during construction.

GREEN DEVELOPMENT

• Use of energy and resources

The Company actively responds to the national call for building a conservation-oriented society, continuously strengthens the management of energy and resources use, and improves the utilization of energy and resources through scientific management and scientific utilization. The main energy and resources consumption involved in the Company is electricity, diesel, gasoline, natural gas and water resources consumed during our production and operation.

During the Reporting Period, to further improve the efficiency of energy and resources use, the Company has taken the following major measures, including but not limited to:

- China Gezhouba Group Cement Co., Ltd., the subsidiary of the Company, effectively used the heat generated from the incineration of domestic waste to replace part of the coal combustion, and processed 155,000 tons of domestic waste annually, which can save approximately 16,000 tons of coal for the whole year;
- China Gezhouba Group Cement Co., Ltd., the subsidiary of the Company, established a loop waste water utilization system to introduce waste water discharged during the waste heat power generation into the reclaimed water collection tank. After satisfying the standard treatment, it can be used for plant greening and clean water, which can save a total of approximately 20,000 tons of water throughout the year.

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

Item of indicator	Unit of indicator ⁽¹⁾	2019	2018
Electricity consumption	Ten thousand GWh	376,365	431,774
Gasoline consumption	tonnes	48,255	56,867
Diesel consumption	tonnes	734,925	739,668
Natural gas consumption ⁽³⁾	ten thousand cubic meters	268	1,510
Purchased heat consumption ⁽³⁾	GJ	0	196,193
Other energy consumption	tonnes of standard coal	117,860	169,888
Comprehensive energy consumption ⁽⁴⁾	tonnes of standard coal	1,725,838	1,842,914
Unit comprehensive energy consumption for operating revenue	tonnes of standard coal/ RMB ten thousand	0.073	0.086
Total production water consumption ⁽⁵⁾	tonnes	1,739,556	3,742,799
Unit water consumption for operating revenue	tonnes/RMB ten thousand	0.073	0.17

GREEN DEVELOPMENT

Notes:

- (1) The statistical units of energy-saving operation index data are listed according to the original statistical units.
- (2) As the Company is a comprehensive solution provider for the power industry, the statistical scope of resource consumption covers its core businesses located in the PRC 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.
- (3) As the Company gradually separated the social functions such as water supply, power supply, heating supply and property management in 2019, the natural gas consumption in 2019 was significantly reduced compared to 2018, and no purchased heat consumption was generated in 2019.
- (4) The comprehensive energy consumption is calculated in accordance with the relevant conversion factors provided in the National Standard of the People's Republic of China, General Rules for the Calculation of Comprehensive Energy Consumption (GB/T2589-2008).
- (5) The Company gradually carried out refined management of ESG performance. In 2019, it further standardized the statistical caliber of total production water data, and eliminated the water consumption generated by subcontractors during the project construction process from the total water consumption statistics. The total production water consumption in 2019 has decreased compared with 2018.

GREEN DEVELOPMENT

3 ECOLOGICAL ENVIRONMENT AND NATURAL RESOURCES PROTECTION

The Company attaches great importance to the construction of ecological civilization, actively implements the concept of green construction, and strives to reduce and repair the ecological and environmental impacts such as soil and vegetation damage during the construction. The Company strictly abides the Environmental Protection Law of the People's Republic of China, implements the "three-simultaneity" system and other administrative regulations and rules related to environmental protection management of construction projects. In accordance with the "Management Regulations on Environmental Protection", the "Assessment and Reward and Punishment Measures for Environmental Protection" and the "Guidelines for Creating the Green Construction Demonstration Projects", subsidiaries at all levels are required to scientifically assess the environmental impact of construction projects, take ecological protection and restoration measures according to local conditions, strengthen training and implementation and emergency management, and take multiple measures to protect the ecological environment. During the Reporting Period, the construction project of reservoirs of the Anhui Jinzhai Pumped Storage Power Station undertaken by China Gezhouba Group Construction Engineering Co., Ltd., a subsidiary of the Company, won the honorary title of "Anhui Province AAA Level Environmental Protection Demonstration Construction Site".

Impact assessment	<ul style="list-style-type: none">Environmental protection factors are fully considered during construction planning and scheme design to carry out environmental impact assessment according to law.
Construction management	<ul style="list-style-type: none">reasonably plan temporary construction roads to reduce vegetation damage, use grid protection to improve slope stability, design reasonable interception of drainage channels, avoid soil and water loss, and protect ecologically sensitive areas;protect natural habitats, wetlands, forests, wildlife corridors, and agricultural land. Logging and hunting are strictly prohibited, and the original landforms are maintained;reconstruct the temporary roads, spoil grounds, gravel yards, etc. of the completed projects in a timely manner, and adopt artificial propagation measures such as transplanting turf and sowing grass seeds.
Emergency management	<ul style="list-style-type: none">prepare a targeted, scientific and reasonable environmental emergency response plan and set up a special emergency working group.
Training promotion	<ul style="list-style-type: none">conduct regular education and training on environmental laws and regulations for employees;carry out special, targeted, and educational thematic activities around key and hot topics such as air pollution prevention, pollutant emission reduction, and continuous improvement of environmental quality to create a good environmental cultural atmosphere.

GREEN DEVELOPMENT

Case: Protecting water source environment

The Shaanxi Yanhuang Expressway project passed through the Angou reservoir protection area during construction. In order to ensure the environmental safety of the water source, the project team of Shaanxi Gezhouba Yanhuang Ningshi Expressway Co., Ltd, a subsidiary of the Company, comprehensively investigated natural environment in the vicinity of the Angou reservoir water source. After consulting the water source authority, based on site surveys, data collection, and impact analysis, the “Feasibility of Yanchang to Huanglong Highway Project of the National Expressway Network Yulan Line (G65E) to Pass through the Angou Drinking Water Source Protection Area” was compiled. Scientific and effective protection measures were formulated to ensure the safety of water source protection areas.

The project has reduced permanent land occupation by setting up bridges, interchanges and tunnels, etc.. Temporary land resumption or ecological restoration measures were adopted, and a sound drainage system for roadbeds and pavements was constructed to reduce the ecological damage caused by soil and water loss. From the perspective of construction preparation period, construction period and operation period, environmental protection responsibilities have been strengthened, to achieve all-round supervision and minimize the impact of project construction on water source protection areas.

4 CLIMATE CHANGE ADAPTATION

The impact of global climate change caused by the sharp increase in carbon emission has become increasingly prominent. Relying on the advanced technology advantages in the fields of clean energy, environmental protection and water utilities and infrastructure construction, the Company actively explored the construction of low-carbon cities to cope with the impact of climate change.

Case: Promoting the construction of climate-resilient, low-carbon and healthy cities

On 26 June 2019, Northeast China Electric Power Design Institute Co., Ltd. of China Energy Engineering Group Planning & Engineering Co., Ltd., a subsidiary of the Company, won the bid of survey service for the Yanji Climate Adaptive Low Carbon Healthy City Development Project, which is committed to building Yanji into a climate adaptive low-carbon healthy city. The construction projects include transit-oriented low-carbon urban transportation project integrating urban development and sustainable multi-mode transport, as well as climate-based and ecosystem-based flood management systems and sponge city infrastructure construction, safe and climate-responsive water and wastewater management system construction projects, to reduce urban carbon emissions and improve the ability of infrastructure systems to cope with extreme weather.

GATHERING EMPLOYEES



1 BUILDING A DIVERSE TEAM

The Company strives to build a “people-oriented” diversified team and has established a standardized recruitment process in strict accordance with the requirements of the Labor Law of the People’s Republic of China, the Labor Contract Law of the People’s Republic of China to oppose employment discrimination and provide equal employment opportunities to society. In the process of recruitment, the Company treats employees of different nationalities, races, genders, religious beliefs and cultural backgrounds fairly and impartiality, ensuring that the recruitment information is open, the recruitment process is fair, and the best are selected.

The Company strictly follows the Labor Contract Law of the People’s Republic of China, the Social Insurance Law of the People’s Republic of China and other related laws and regulations, and has formulated and implemented the Measures for the Management of Labor Contracts, Detailed Implementation Rules for the Management of Labor Contracts, Regulations for the Management of Labor Employment, Regulations for the Management of Wage Income, and Administrative Measures for the Workers’ Congress, to safeguard employees’ rights to labor compensation, social security, rest and vacation, labor protection, etc., and establish a standardized remuneration system, continue to improve the welfare system and promote democratic management.

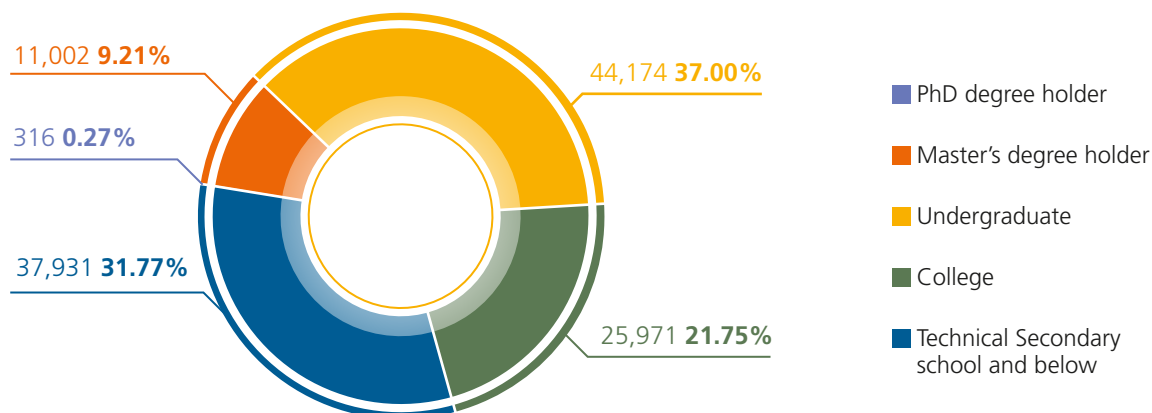
The Company actively implements the strategy of internationalization and localization of talents, respects and treats foreign employees equally, and employees of different nationalities share tasks and cooperate with each other to conduct business activities in accordance with the same working conditions, work content and assessment standards.

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. It has established a standard staff recruitment information collection and approval process, carefully examines the age of candidates, and does not recruit child labor or mandatory employment. 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.

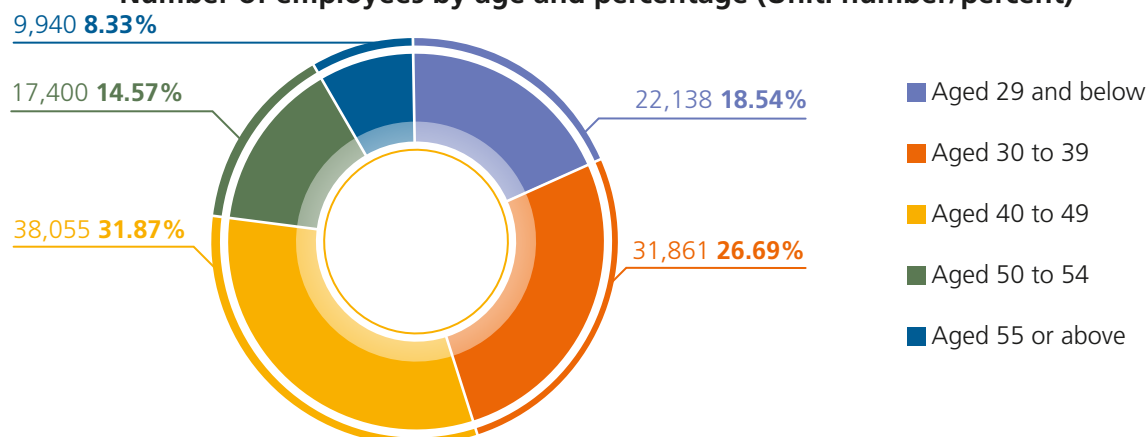
GATHERING EMPLOYEES

During the Reporting Period, the Company had a total of 119,394 employees, including 4,306 new employees.

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

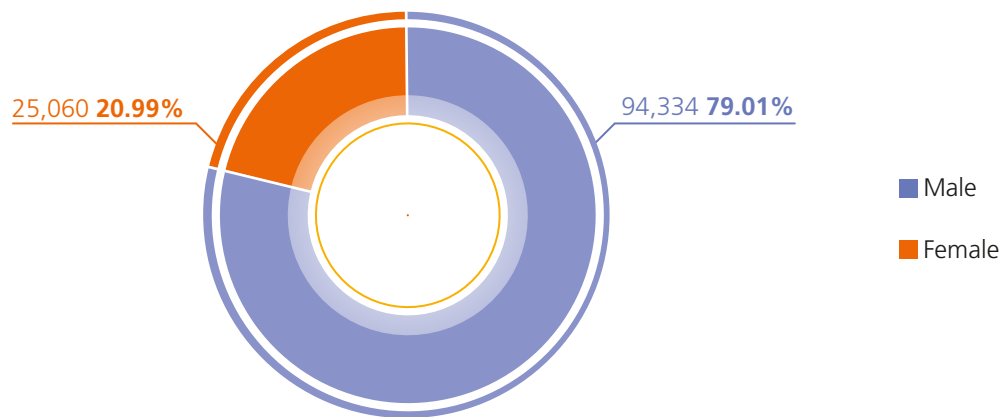


Number of employees by age and percentage (Unit: number/percent)

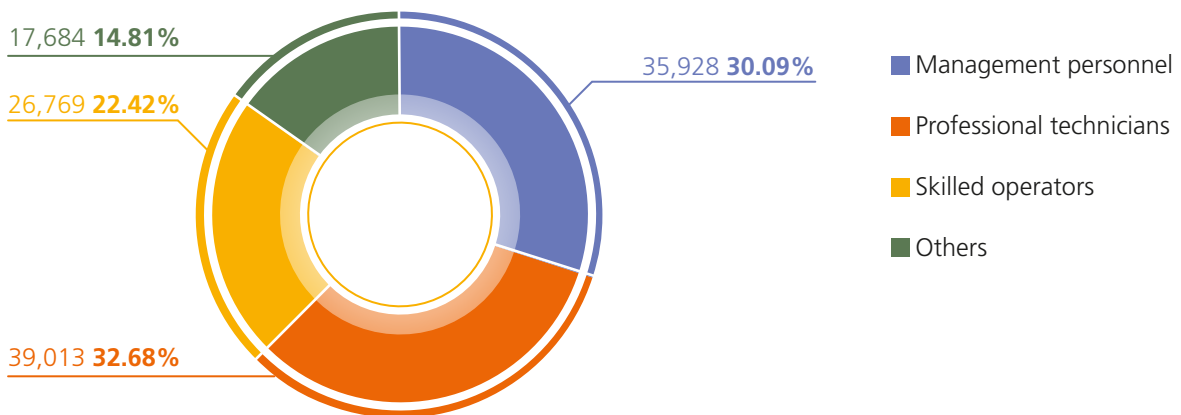


GATHERING EMPLOYEES

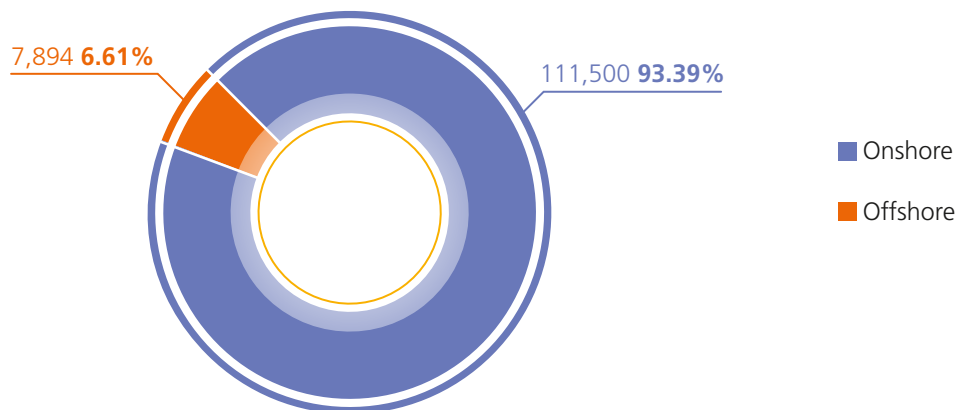
Number of employees by gender and percentage (Unit: number/percent)



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



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



GATHERING EMPLOYEES

2 HEALTH AND SAFETY

The Company attaches great importance to the safety and health of employees, and strictly abides by the Occupational Disease Prevention Law of the People's Republic of China and the Production Safety Law of the People's Republic of China and other laws and regulations, constantly improve the safety and health system, and create a working environment that reassures employees.

- **Promote safe production**

The Company thoroughly implements the concept of safety development, exerts its power with precision, implements strict regulation and the responsibility of the main body of production safety of the Company, to prevent and resolve potential risks of production safety, and has taken various measures to ensure stable and safe production.

During the Reporting Period, to further promote safety production management, the Company has taken following major measures:

- Organize the revision and release of the "Measures for Work Safety Incident Reporting, Investigation and Disposition", and strengthen the working mechanism for accident interviews, special supervision and rectification evaluation;
- Continue to conduct assessments on safety production responsibility system in directly owned subsidiaries, and assess the performance of "one job, two responsibilities" for safety in department of the headquarters;
- Strengthen the supervision and inspection of the safety production of directly undertaking projects and key monitoring projects, and organize inspections of project safety production;
- Introduce third-party safety technology service agencies to strengthen professional safety supervision and inspection, and further deepen project inspections;
- Provide all-round training for the principals of the second- and third-tier enterprises and the main managers of production safety;
- Carry out the sharing of production safety experiences under the title of the "Construction of Work Safety Incentive and Restriction Mechanisms", the "Smart Safety Supervision" and the "Safety Facilities Standardization" to improve the overall level of safety management.

GATHERING EMPLOYEES

- **Guarantee occupational health**

The Company thoroughly implements the requirements for occupational health work, adheres to the working principle of “prevention-oriented, supported by prevention and control”, continuously strengthens the management of occupational hazards, strengthens the protection of the working process, and actively and orderly conducts occupational health management to help occupational health protection.

During the Reporting Period, the Company’s major measures to further strengthen occupational health management include:

- Improved the occupational health organization leadership system, implemented systematic management, clarified occupational health work goals, made specific deployment of work requirements relating to occupational health, decomposed occupational health goals step by step, and extended to contractors of projects under construction;
- Established and improved occupational health management systems such as occupational hazard prevention responsibility systems, occupational health surveillance systems, and occupational disease file management systems, and standardized on-site occupational hazard notifications and warnings, management of occupational protective equipment facilities, and occupational hazard declaration;
- 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;
- Established and improved occupational health records and employee health records, relocated job positions of employees with professional taboos in a timely manner;
- Entrusted institutions with occupational health testing qualifications to carry out occupational health examinations for those engaged in occupational disease hazards.

GATHERING EMPLOYEES

- **Focus on the safety of overseas employees**

The Company strictly abides by the Regulations on the Safety Management of Overseas Chinese Enterprises and Personnel, and has formulated and implemented the “Administrative Measures for the Safety of Overseas Institutions and Personnel” to continuously improve overseas emergency response system and improve the management of life and property safety of overseas institutions and personnel based on the Company’s overseas business condition.

During the Reporting Period, to further enhance the safety management of overseas employees, the Company has primarily taken the following measures:

- According to the “Administrative Measures for the Safety of Overseas Institutions and Personnel” and the “Contingency Plan for Overseas Emergencies”, the corresponding level of emergency plans and on-site emergency response plans were formulated, forming a complete system of the Company’s special emergency plan for foreign-related emergencies;
- 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.

GATHERING EMPLOYEES

3 DEVELOPMENT AND TRAINING

Adhering to the concept of “building a world-class engineering company with global competitiveness”, with the purpose of serving enterprises and employees for common development, focusing on the construction of a high-quality talent team and employee capacity building, the Company has actively established a training system and strived to build a training platform. The Company has formulated and implemented the “Administrative Measures for Education and Training”, the “Administrative Measures for Internal Trainers”, the “Development Plan of Training System” and the annual training plan. The Company made full use of internal and external training resources and organized various training activities based on the business characteristics and training needs of different employees. In 2019, the Company put more on education and training, and actively organized three levels of education and training at the “company level”, “headquarters’ department level” and “subsidiaries level”, with a total of 2,392,467 hours of training and 534,000 person-time trainings. The average training hours per person was 18.06 hours.

Year	Job Trainings (ten thousand)	Continuing Education Trainings (ten thousand)	Other Trainings (ten thousand)	Total (ten thousand)
2017	35.25	3.65	10.74	49.64
2018	32.83	3.61	11.57	48.01
2019	35.96	3.07	14.37	53.40

During the Reporting Period, the Company’s major work to further promote employee training includes:

- Revised the “Administrative Measures on Education and Training” to make further requirements in terms of training time, feedback on training effects, and use of training funds at all levels, highlighting closed-loop management and improving training effectiveness;
- Completed a number of internal and external trainings such as production safety, legal compliance, emergency management, and internal audit in accordance with the 2019 training plan;
- Organized staff training centers and subsidiaries to participate in the Second Session of National Teaching Skills Competition of Young Trainer in Power Industry of China Electricity Council, and won the first prize in the power construction category and the outstanding organization award.

GATHERING EMPLOYEES

4 CARING FOR EMPLOYEES

The Company regards employees as the source of development and implements the “people-oriented” purpose. Attaching importance to humanistic care, we have created harmonious working environment, and increased the happiness of employees by assisting those are difficulties and organizing cultural and sports activities.

Case: Help those with financial difficulties

The labor union of our subsidiary China Gezhouba Group Stock Company Limited regarded the “Golden Autumn Student Aid” activity as an important channel for the labor union to solve problems for employees. In 2019, after rigorous inspections, donations were made for 52 children of employees in need who met the Company’s funding requirements, and a total of RMB0.707 million was granted to them as student grants.

This assistance activity actively sought the support of the Hubei Provincial Federation of Trade Unions, and sought education policies for the children of employees in need who met the conditions for education in Hubei Province. The labor union set up the education sponsorship fund, actively coordinated and raised special funds, using funds and administrative funds to assist and reward the children of employees in need. In addition, the Company also carried out counterpart education assistance for Company leaders and visited 199 families in need.

Case: Organizing cultural and sports activities

In order to fully implement the concept that talents make strong of an enterprise, and to build a harmonious and stable high-quality workforce, in July 2019, during the induction training of new recruits of university graduates, the labor union of China Energy Construction Group Hunan Thermal Power Construction Co., Ltd., a subsidiary of the Company, organized the cultural and sports associations to carry out a series of friendship cultural and sports activities with graduates of newly enrolled universities. The event enriched the amateur cultural life of newly recruited university graduates, and quickly established a strong friendship between new and old employees. At the same time, it also conveyed to the newly recruited university graduates the corporate culture of positive, unity, forge ahead, courageous, pioneering, and happy at work and in life, and promoted the rapid adaptation and integration of new employees into the “Home of Staff”, which added new vitality to the transformation and development of the Company.

SUPPLY CHAIN MANAGEMENT

The Company continues to strengthen supplier management and strictly control environmental and social risks in the supply chain. In order to further standardize various procurement procedures, the Company revised the “Administrative Measures on Tendering” during the Reporting Period to ensure that the procurement procedures are fair, just and open. At the same time, adhering to the concepts of effective competition, mutual benefit and win-win, and resources sharing, the Company revised the “Supplier Management Measures”, carried out hierarchical database construction, classified management for suppliers, strictly controlled supplier access standards, and regularly evaluated suppliers’ management and practice performance, and blacklisted suppliers with major dishonesty in accordance with prescribed procedures. As of the end of 2019, the Company had a total of 104,579 suppliers, of which 104,156 were domestic suppliers and 423 were overseas suppliers.

During the Reporting Period, in order to further strengthen supply chain management, the Company has mainly taken following measures including:

- Started the construction of the subcontractor warehouse, urged the subsidiaries to fully clean up the existing subcontractors, strictly controlled the entry and 8,648 subcontractors were included;
- Organized annual supplier evaluation, and evaluated and scored all suppliers that have business relationships;
- Carried out the group-level supplier blacklist submission and organized experts to review and announce the blacklisted suppliers;
- Strengthened procurement and compliance training, carried out centralized training, on-site training, comprehensive training, and special operation training, etc.; expanded the scope and objects of training, multi-dimensionally improved the level of training audiences; 30 training sessions were held throughout the year with a total of 1,699 person-time trainings;
- In conjunction with the construction of the Company’s oversight system, we carried out on-site supervision and inspection of procurement management, online oversight of the electronic procurement platform, and joint participation of departments in the oversight and inspection activities of the oversight system. In 2019, on-site procurement supervision and inspections were conducted at 11 companies, and overseas procurement management supervision and inspections were conducted at 11 overseas agencies and 3 international engineering project departments.

QUALITY CONSTRUCTION

1 STRICTLY CONTROL OF ENGINEERING QUALITY

In accordance with 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, the Company has established and implemented quality control rules and regulations, such as the "Quality Control Regulations", the "Reward and Punishment Measures for Quality Work Assessment" and the "Administrative Measures for Quality Accident (Event) Reporting, Investigation and Disposition". In 2019, the Company further standardized the work process, classified and supervised inspections, organized special activities such as quality risk identification and assessment, appraisal and evaluation, issue review seminars, and "quality month" publicity and education to improve quality risk prevention and control capabilities overall and improve quality control, so as to ensure the construction of high-quality projects. During the Reporting Period, there were no major quality accidents within the Company.

During the Reporting Period, many projects of the Company won national engineering quality awards, including but not limited to:

- 20 projects won the second batch of national high-quality engineering awards in 2018-2019, in particular, 8 projects including Sichuan Yalongjiang Jinping Class I and II Hydropower Station, Fuqing Nuclear Power Plant Units 3 and 4, Yuheng-Weifang 1000 kV Ultra-high voltage alternating current transmission and transformation project, State Development and Investment Corporation Meizhou Bay 2 × 1000MW green construction demonstration project won gold awards;
- Yichang Miaozi Yangtze River Bridge and Hangzhou Jiufeng Waste Incineration Power Generation Project won the Luban Award for the second batch of Chinese construction projects in 2018-2019;
- Four projects including the Three Gorges Hydropower Project shiplift project and the Suzhou Southern Power Grid 500kV Unified Power Flow Controller (UPFC) project won the excellence prize of Fidic Project of the Year 2019;
- 41 China's Quality Electric Power Construction Awards, 2 Tien-yow Jeme Civil Engineering Prize, and 47 first prizes for Outstanding Survey and Design Awards in the Power Industry.

QUALITY CONSTRUCTION

2 PROMOTION OF TECHNOLOGICAL INNOVATION

Adhering to the management concept of “leading by science and technology, strengthening professionalism, focusing on advancement, and comprehensive improvement”, in accordance with laws and regulations such as the Law of the People’s Republic of China on Scientific and Technological Progress, the Law of the People’s Republic of China on Promoting the Transformation of Scientific and Technological Achievements, and the Patent Law of the People’s Republic of China, the Company has established and implemented scientific and technological innovation systems such as the “Measures for the Management of Scientific and Technological Projects” and the “Guiding Opinions on the Legal Protection of Intellectual Property (Interim)”. In 2019, the Company held a science and technology innovation conference and issued the “2019-2020 Science and Technology Innovation Action Plan of the Company”, which set goals and directions for the Company’s science and technology innovation, created a strong atmosphere of science and technology innovation, and inspired the enthusiasm and vitality of science and technology innovation.

During the Reporting Period, the Company’s main scientific and technological innovation achievements included but not limited to:

- As the main completion unit, the “Three Gorges Project of the Yangtze River” won the special prize of the National Science and Technology Progress Award, 4 achievements won provincial and ministerial science and technology awards, and 152 industry-level science and technology awards;
- Completed the “Research on the key technologies and engineering demonstration applications of high-voltage large-capacity flexible direct current transmission” of a national key research and development project, overcame the key core technologies of ultra-high voltage, large-capacity, long-distance, overhead lines, and hybrid direct current transmission, and promoted the realization of traditional power grid structure upgrade;
- Completed the research on 8 companies’ crowd-funding technology projects including the “Research on Key Technologies for $\pm 1100\text{kV}$ Ultra-high Voltage Direct Current Transmission Design” and passed the acceptance, and obtained a number of key core technologies;
- The national standard “Design Standards for Offshore Wind Farms” (GB/T 51308-2019), edited and published by Guangdong Electric Power Design Institute Co., Ltd. of China Energy Engineering Group Planning & Engineering Co., Ltd., a subsidiary of the Company, came into force on 1 October 2019. As the first national standard for offshore wind farms, it has reached the international advanced level and filled a gap in China’s offshore wind farm design standards;
- Participated in the research on one national natural science foundation project and 12 national key research and development projects;
- The research results of scientific and technological projects have been applied in more than 700 projects undertaken by subsidiaries.

QUALITY CONSTRUCTION

Item of indicator	Unit of indicator	2019	2018	2017
Total number of patents	Unit	9,208	8,787	7,992
Number of new patents	Unit	1,418	1,280	1,226
Number of new invention patents	Unit	201	229	315
Patent enforcement rate	%	92.1	91.6	91
Number of new software copyright	Unit	91	106	65
Research and development expenses	RMB million	5,512	4,004	3,495
Technical research and development projects	Unit	857	509	1,129

3 CONDUCTING INTERNATIONAL COOPERATION

Adhering to the organizational mission of “Bringing the Energy to the World” and the entrepreneurial spirit of “achieving harmonious collaboration and solid development”, the Company implemented the “Belt and Road” cooperation initiative, and established communication bridges in the areas of power interconnection, infrastructure construction, energy resource development, and international capacity cooperation among countries along the route to achieve mutual benefit and win-win results.

During the Reporting Period, the Company’s major overseas projects included but not limited to:

- The first phase of Vietnam Yongxin 2 × 620MW coal-fired power station was completed and put into operation, which eased the shortage of electricity in Southern Vietnam and promoted local economic and social development;
- The Kenya Garissa 50MW photovoltaic power station was completed and put into operation, effectively alleviating power supply of Kenya, and will become a talent training and demonstration base for the photovoltaic power generation industry in East Africa;
- Cooperated with local enterprises in Argentina to build Santa Cruz CC/LB hydropower station, which is the largest hydropower project in the history of Argentina;
- Signed the EPC contract of the San Pedro Water Supply Plant in the Philippines, which will effectively solve the problem of local safe drinking water, meet the local water demand for development, and ensure the sustainable economic and social development of the city;
- The SK hydropower station in Pakistan has achieved dam closure. After completion, it can provide 3.2 billion kWh of clean power, which will help optimize the power structure of Pakistan and effectively alleviate energy shortages.

QUALITY CONSTRUCTION

Case: Multilateral cooperation

On 11 November 2019, under the witness of Chinese President Xi Jinping and Greek Prime Minister Mizotakis, Wang Jianping, the chairman of the Company, on behalf of the project EPC consortium leader, together with the project financier, project developer and territorial partners, signed the multilateral cooperation agreement on the Greece MINOS 50MW tower photothermal project. This is an important achievement of international multilateral cooperation and China-Central and Eastern European “17 + 1” energy cooperation, which will inject new impetus to promote the high-quality development of the joint construction of the “Belt and Road”.



Signing Ceremony of Greece MINOS 50MW Tower Photothermal Multilateral Cooperation Project

4 PROTECTING CUSTOMER RIGHTS

While building high-quality projects, the Company attaches great importance to the needs and feedback of customers by further strengthening customer communication, implementing customer demands, improving customer satisfaction, and establishing sustainable win-win mutually beneficial relationships with customers. The Company has formulated and implemented the “Administrative Measures for Appraisal of Major Domestic Projects Contracts”, established and improved systematic, standardized and normalized customer relationship management mechanisms, and strengthened management of customer information, customer communication and customer needs. In response to project complaints, it strengthened compliance monitoring, timely understood the problems in project management, guided, supervised and coordinated relevant enterprises to formulate countermeasures to ensure that all parties’ concerns are properly responded to. Special provisions were formulated for the confidentiality of customer information to ensure the security of customer information. During the Reporting Period, there was no leakage of any privacy of our customers in the domestic market.

ANTI-CORRUPTION

The Company strictly abides by the PRC Criminal Law, the Anti-Unfair Competition Law of the PRC, the Regulation on the Integrity of State-owned Enterprise Officials, the Interim Provisions on the Prohibition of Commercial Bribery and other laws and regulations, and regards "big supervision" as a key work throughout the year, exploring new ways of supervision with the Company's characteristics, and achieving full coverage of domestic and overseas business supervision. In 2019, the Company has comprehensively improved the level of management and control of commercial bribery, promoted the construction of "non-corruptible" systems and mechanisms, resolutely resisted commercial bribery and commercial corruption, and operated businesses in accordance with regulations and disciplines. Based on the Company's "Measures for Strengthening the Anti-corruption Education for Officials", the "Implementation Measures for Prevention and Control of Integrity Risks", and the "Administrative Measures for Discipline Inspection and Supervision and Petition and Report", the Company carried out anti-corruption management, to give full play to the role of communication, information feedback, supervision and protection, and coordination and guidance in disciplinary inspections and whistle-blowing, and extensively conducted anti-corruption training for employees and directors of the Company to ensure the systematization, concreteness and standardization of integrity risk prevention and control management.

Item of indicator	Unit of indicator	2019	2018
Number of anti-corruption publicity, education and training	Times	3,302	2,072
Total number of employees participating in anti-corruption publicity, education and training	Person-time	128,391	122,172

During the Reporting Period, the Company's main measures to further strengthen anti-corruption efforts include:

- Conducted integrity education through special surveys, special trainings, warning education films, etc., held an annual warning education conference, produced a warning education film namely "Siege of Hunting," and organized approximately 6,800 employees of the Company and its subsidiaries to participate in video warning conferences;
- Established an online whistle-blowing platform, whistle-blowing telephone, communication address and e-mail whistle-blowing channels, forming a convenient and effective supervision network;
- Carried out selective spot checks on key corruption-prone areas such as official vehicles, office buildings, business hospitality, leadership performance, and business expenditures of 40 subsidiaries in the form of unannounced inspections and unannounced visits, and supervised 86 Beijing (foreign) offices and conducted full-coverage surprise inspections and "look back" work;
- Carried out supervision and inspection of integrity risks in international projects, and urged and promoted supervision in 29 functional areas.

COMMUNITY INVESTMENT

1 CARRYING OUT TARGET POVERTY ALLEVIATION

As an important force for poverty alleviation, the Company thoroughly implements the “Guiding Opinions on Winning the Three-Year Fighting Against Poverty”, 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 regulations and policies. With its innovative working model, the Company gives full play to its own advantages and integrate the whole company into targeted poverty alleviation, so as to lead the people in poverty-stricken areas to a better life.

During the Reporting Period, the Company’s main measures to further promote targeted poverty alleviation include:

- Promoted poverty alleviation models such as industrial poverty alleviation, education poverty alleviation, and employment poverty alleviation, focusing on solving the outstanding problems of “two non-worries and three guarantees”;
- Intensified efforts to help designated Xilin County, Guangxi and Zhenba County, Shaanxi, and invest RMB11.5 million;
- Strengthened the training of grassroots cadres. 32 grassroots cadres and 42 technicians participated in training;
- Intensified consumer poverty alleviation. Subsidiaries have purchased more than RMB15 million of agricultural and sideline products in counterpart poverty alleviation counties through the e-commerce platform of the Company.

2 DEVOTING TO SOCIAL PUBLIC WELFARE

The Company strived to give back to the society through its own actions, actively participated in social welfare activities, which has positive impact on the society. In areas such as caring donations and assistance to socially disadvantaged groups, we carried out warmth and caring activities, encouraged and supported employees to actively participate in volunteer actions, passed on the responsibility of caring for the people’s livelihood and pragmatic public welfare, and contributed to building a harmonious society.

COMMUNITY INVESTMENT

Case: "Passing Love" Donation

In March 2019, in preparation for the 109th International Women's Day and Lei Feng Day, the women's professional committee and youth league committee of the labor union of Zhejiang Electric Power Design Institute Co., Ltd. of China Energy Engineering Group Planning and Design Co., Ltd., a subsidiary of the Company, jointly launched the seventh "passing love" donation and book rafting activities. A total of 214 persons participated in the donation and donated 856 pieces of clothing and 196 books to Hangzhou Yiyou Public Welfare Service Center. The donated books are used for public welfare activities such as book rafting.



"Passing Love" Donation Event Site

Case: Welcoming charity activities for children with disabilities in Children's Day

On 1 June 2019, China Energy Engineering Group South China Electric Power Test Research Institute Co., Ltd., a subsidiary of the Company, and a social organization in Guangzhou jointly launched public welfare sympathy to welcome children with disabilities in Children's Day, organizing volunteers to send greetings to autistic children in 20 special families in Guangzhou. At the event site, the volunteers distributed the prepared daily necessities to the children and had a friendly communication with them, so that they felt the warmth of society.



Sympathy Event Site

COMMUNITY INVESTMENT

3 FACILITATING OVERSEAS COMMUNITY DEVELOPMENT

While advancing the business development of international projects, the Company actively promoted territorial operations and mind-to-heart communication, as well as the common development of local communities. It organized activities such as community building, disaster relief donation, education support, and staff localization promotion, actively fulfilling corporate social responsibility and improving local social living standards, so that the project results can truly benefit the local people.

Case: Participating in community building

Guangxi Engineering Bureau Angola Company of China Energy Engineering Group Southern Construction & Investment Co., Ltd. (中國能源建設集團南方建設投資有限公司廣西工程局安哥拉公司), a subsidiary of the Company, has always taken the initiative to fulfill its social responsibilities and actively participated in public welfare and charity activities while strengthening its own development. It repaired the Lobito No. 6 School in Benguela Province for free for the local community; donated clothing and stationery to youths and children at the local shelters; cleaned up the municipal pipelines of Ruanda for free; gave festive food to primary school students in Zhangu District, Ruanda, and was well praised by the local government and residents and contributed to the development of China-Angola friendship.

Nigeria Company of North China Power Engineering Co., Ltd. of China Energy Engineering Group Planning & Engineering Co., Ltd., a subsidiary of the Company, attaches great importance to common development with the community. It provided public fire hydrants and community fire water at the base, ensuring the economic development of the community and the safety of lives and property of local residents. It also provided employment opportunities for local residents, assisted in the construction of local community roads and dispatched excavators and other machinery and equipment to build drainage ditches, which improved traffic conditions.



Assisting Nigerian Community to Build Drainage Ditches

COMMUNITY INVESTMENT

Case: Participation in disaster relief donations

In July 2019, several provinces in Southern Angola experienced severe drought, and local people were severely deprived of their living materials. Guangxi Engineering Bureau Angola Company of China Energy Engineering Group Southern Construction & Investment Co., Ltd., a subsidiary of the Company, actively organized their staff to make donations for disaster relief, provided food, drinking water, clothing and other daily necessities for residents in the disaster area, and helped them to overcome difficulties.



Donation Event Site

Case: Carrying out education supporting activities

The Company attaches great importance to youth education in the operating area of projects, and has carried out various forms of education supporting activities to promote the overall healthy growth of the youth.

North China Power Engineering Co., Ltd. of China Energy Engineering Group Planning & Engineering Co., Ltd., a subsidiary of the Company, regularly organizes employees in Belarus to go to SOS Children's Village in Ballafrynei Village, Minsk to carry out education supporting activities, teaching children Chinese and Chinese songs, making "Chinese knot" and organizing various cultural and sport interactive activities for students, building bridge of friendship with local residents.

The Pakistan SK Project Department of China Gezhouba Group Stock Company Limited, a subsidiary of the Company, hosted the "SK Imagination Cup" English speech contest. Nearly 200 teachers and students, parents and people from all walks of life participated in the contest, which was highly praised by the local people.



"SK Imagination Cup" English Speech Contest

COMMUNITY INVESTMENT

Case: Promoting employee localization

The Company actively promoted the localization of overseas projects, and continuously strengthened the employment and training of local employees to drive local employment.

The Attarat oil shale-fuelled power plant in Jordan undertaken by China Energy Engineering Group Guangdong Thermal Power Engineering Co., Ltd. (中國能源建設集團廣東火電工程有限公司), a subsidiary of the Company, actively recruited local Jordanian employees to participate in the project construction, and organized local employees to carry out welding professional practical training, which improved the power engineering construction capacity and construction skill level of local employees..

While actively hiring local employees, the Congo (King) Diversion Canal Project Department of China Gezhouba Group Stock Company Limited, a subsidiary of the Company, made assessment on local outstanding employees every month, granting them honorary certificates and bonuses, and continuously improving local employees' sense of belonging and corporate identity.



Organizing Jordanian Employees to Conduct Professional Welding Training

FUTURE PROSPECTS

The year 2020 is the final year for the country to build a well-off society in an all-round way and the “Thirteenth Five-Year Plan”, and it is also the year for the Company to achieve the staged objective of building an internationally competitive engineering company. In the new year, adhering to the overall tone of progress in stability and the new development concept, the Company will continue to fully perform ESG responsibilities by taking deepening reform and innovation as the driving force and strict management and supervision as the guarantee, so as to return to shareholders, benefit employees and serve the society.

The Company will further accelerate the improvement of the ESG governance mechanism, clarify the responsibilities at all levels, and ensure the efficient promotion and effective implementation of ESG work from the board of directors, management to every department and subsidiaries. It will continue to pay attention to the communication and interaction with stakeholders, listen carefully to the feedback of all sectors of society, and create a win-win situation for multiple parties.

The Company will continue to improve the level of ESG risk management, continuously strengthen the depth and breadth of the supervision system, prevent the occurrence of corruption and other illegal events, and ensure compliance and sound operation of the Company. It will increase the prevention and management work of high-risk areas such as health, safety, and environmental protection. Through increasing investment in resources, the Company will strengthen training and basic management, and carry out hidden hazard investigation and management and safety management, to ensure the effective implementation of the responsibility of safety and environmental protection and to strictly observe health and safety and environmental protection red line.

The Company will further deepen its transformation and innovation, increase investment in research and development, and continuously improve its innovation capabilities and standards. It will build high-level projects and solve social issues with breakthrough advanced technology. Meanwhile, it will further increase the incentives for talents, optimize the training system, and create a development platform that is more conducive to the growth of employees, thereby stimulating the vitality for development of the Company and enhancing its endogenous motivation.

The Company will continue to uphold the concept of green development, integrate environmental protection responsibilities into its main business, increase efforts to promote the development of the environmental protection industry, continue to provide society with cleaner and more efficient energy sources, solve more complex problems of soil and water pollution control, and promote reuse of resources, and explore more innovative impact mitigation and response measure of climate change to build a sustainable green society.

The Company will persist in giving back to the society. With its own resource advantages, it will provide economic assistance, infrastructure construction, jobs, excellent basic education and vocational education in the form of “blood transfusion + hematopoietic” to cope with a wider range of social needs.

Just fight for the day and night, and live up to the best of years. In 2020, the Company will continue to make every effort to promote economic, environmental and social coordination and sustainable development, so to lay a solid foundation for the smooth start of the “Fourteenth Five-Year Plan” period and build a world-class engineering company with global competitiveness.

APPENDIX

ESG INDEX

Aspects	Contents	Section of the Disclosure
A1 Emissions	<p>General Disclosure</p> <p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer</p> <p>relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.</p> <p>Note: Air emissions include NO_x, SO_x, and other pollutants regulated under national laws and regulations.</p> <p>Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.</p> <p>Hazardous wastes are those defined by national regulations.</p>	14
	A1.1 The types of emissions and respective emissions data.	15-16
	A1.2 Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	16
	A1.3 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	16
	A1.4 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	16
	A1.5 Description of measures to mitigate emissions and results achieved.	15-16
	A1.6 Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	15-16

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Aspects	Contents	Section of the Disclosure
A2 Use of Resources	General Disclosure	14
	Policies on the efficient use of resources, including energy, water and other raw materials.	
	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).	17-18
	A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility).	17-18
	A2.3 Description of energy use efficiency initiatives and results achieved.	17-18
A3 The Environment and Natural Resources	A2.4 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	17-18
	A2.5 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	N/A
	General Disclosure	19
B1 Employment	Policies on minimising the issuer's significant impact on the environment and natural resources.	
	A3.1 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	11-13, 19-20
	General Disclosure	21
	Information on:	
	(a) the policies; and	
	(b) compliance with relevant laws and regulations that have a significant impact on the issuer	
	relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	
	B1.1 Total workforce by gender, employment type, age group and geographical region.	22-23
	B1.2 Employee turnover rate by gender, age group and geographical region.	Planning for future disclosure

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Aspects	Contents	Section of the Disclosure
B2 Health and Safety	General Disclosure	24-26
	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 disclosure
	B2.2 Lost days due to work injury.	Planning for future disclosure
	B2.3 Description of occupational health and safety measures adopted, how they are implemented and monitored.	24-26
B3 Development and Training	General Disclosure	27
	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 disclosure
	B3.2 The average training hours completed per employee by gender and employee category.	Planning for future disclosure

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Aspects	Contents	Section of the Disclosure
B4 Labour Standards	General Disclosure	21
	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.	21
	B4.2 Description of steps taken to eliminate such practices when discovered.	No non-compliance occurred during the Reporting Period
B5 Supply Chain Management	General Disclosure	29
	Policies on managing environmental and social risks of the supply chain.	
	B5.1 Number of suppliers by geographical region.	29
	B5.2 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	29
B6 Product Responsibility	General Disclosure	30, 33
	Information on:	
	(a) the policies; and	
	(b) compliance with relevant laws and regulations that have a significant impact on the issuer	
	relating to health and safety, advertising, 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.	33
	B6.3 Description of practices relating to observing and protecting intellectual property rights	31-32
	B6.4 Description of quality assurance process and recall procedures.	30
	B6.5 Description of consumer data protection and privacy policies, how they are implemented and monitored.	33

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Aspects	Contents	Section of the Disclosure
B7 Anti-corruption	General Disclosure	34
	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.	34
B8 Community Investment	General Disclosure	35
	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).	35-39
	B8.2 Resources contributed (e.g. money or time) to the focus area.	35-39



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