



中国能源建设股份有限公司 CHINA ENERGY ENGINEERING CO., LTD. Environmental, Social & Governance Report 2016

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

About this Report

This report is applicable to China Energy Engineering Corporation Limited and its subsidiaries (Hereinafter referred to as "the Company" or "China Energy").

Reporting Period

This report covers a period from 1 January 2016 to 31 December 2016, and part of this report can be retrospected to the past years, as the case may be.

Preparation Principle

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

Data Description

All data are based on the PDF format of Chinese and English versions of this report which are publicly available on the China Energy Engineering Corporation Limited's official website http://www.ceec.net.cn.

This report is published in both Chinese and English. In case of any discrepancies between the two versions, the Chinese version shall prevail.



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The Company adheres to the concept of "innovation, contribution to the society, scientific development and harmonious community" towards social responsibility by clearly putting forward a harmonious development strategy. While the Company strives to maintain a high level of corporate governance, it is also committed to incorporating corporate social responsibility into daily operations with its strong operational capability, so as to create a high level of sustainable value in environmental, social and governance respects. In 2016, the Company has regulated its own conduct with high standards and endeavored to continuously promote its performance of environmental, social and governance.

According to its Management Measures of Social Responsibilities, the Company established a 3-level organizational system on social responsibilities¹, which is led by the Social Responsibility Committee, and built a social responsibility indicator system covering the listed entity. As a result, it preliminarily improved the long-term mechanism of social responsibility management and practice which covers the organization, planning, implementation, communication and performance of social responsibilities. In 2016, under the leadership of the Social Responsibility Committee, the Company discussed the performance of its operations and social responsibilities with its leaders of social responsibilities, responsible departments and other employees to identify major issues in environmental, social and governance respects and assessed its relevant performance and implications. The Company rationalized and concluded its annual efforts on social responsibility management by including relevant environmental, social and governance with the requirements set out in Appendix 27 to the Listing Rules (the Environmental, Social and Governance Reporting Guide).

The table below shows the environmental, social and governance issues which are considered to be material to the Company based on the assessment on the social responsibility organizational structure of the Company as well as the subject areas of the environmental, social and governance reporting guide involved therein. This report covers the period from 1 January 2016 to 31 December 2016 and includes the headquarter and subsidiaries of China Energy Engineering Corporation Limited.

Categories set out in the Environmental, Social and Governance Reporting Guide	Major environmental, social and governance issues of the Company ²	
1 Environmental		
1.1 Emissions	Management system for energy saving and emission reduction, environmental protection business, emissions management	
1.2 Use of resources	Use of energy resources	
1.3 The environmental and natural resources	Ecological environment and natural resources	
2 Social		
2.1 Employment	Labor practices	
2.2 Health and safety	Occupational health, production safety and overseas employee safety	
2.3 Development and training	Staff development and training	
2.4 Labor standards	Prohibition of child labor and forced labor	
2.5 Supply chain management	Responsible procurement	
2.6 Product responsibility	Product quality, industrial technologies, overseas operation, customer privacy	
2.7 Anti-corruption	Anti-commercial bribery and corruption	
2.8 Community Investment	Community charity and overseas community	

Notes:

^{1.} The social responsibilities stated by the Company covers the "environmental, social and governance" issues as required by the Stock Exchange.

^{2.} As the Company is a comprehensive solutions provider for the power industry, its core business covers survey, design and consultancy, construction and contracting, etc. During the reporting period, indicators on packaging materials, did not constitute major ESG related issues of the Company and therefore have not been disclosed.



1 Environmental

The Company complies with the Environmental Protection Law of the People's Republic of China and other relevant environmental protection requirements. The Company always performs its environmental responsibilities in accordance with the environmental regulations and industry rules of locations where it operates, and considers providing the industry and society with quality energy saving and emission reduction services as its responsibilities. Not only does it improve the environmental management organizational system and environmental protection system, but also implements emission reduction measures and develops the environmental protection business based on the actual condition of the Company. By reducing emissions from operational processes and conserving resources, the Company promotes the environmental protection of locations where it operates and strives to achieve better performance of environmental protection. During the reporting period, the Company did not have any non-compliance with relevant environmental laws and regulations.

1.1 Emissions

Management system for energy saving and emission reduction

The Company established an environmental protection and emission reduction leading team, and formulated the Management Regulations on Environmental Protection and Emission Reduction, the Assessment Methods for Environmental Protection and Emission Reduction and other regulations. It also issued the Guidance on Strengthening the Management of Energy Saving and Emission Reduction specific Funds and other specific opinions to instruct and regulate energy saving and emission reduction efforts of its subsidiaries. During the reporting period, the Company developed an energy saving and emission reduction plan and signed letters of responsibilities on energy saving and emission reduction targets to finalize the responsible units and positions. Besides, the Company also conducted annual inspection and evaluation on annual targets.

The Company continuously updates and improves the methodologies for emission statistics and monitoring by implementing informatization of emissions and building a planning and statistical system platform which covers the Company as a whole. During the reporting period, the Company collected, analyzed and monitored environmental statistics by way of line reporting and third-party inspection.

The Company also values promotion and trainings in relation to energy saving and emission reduction. During the reporting period, the Company organized special events such as World Environment Day and Energy Saving Week to promote the concept of environmental protection and energy saving and offer trainings to over 50,000 employees.

Developing the environmental protection business

The environmental protection segment is one of the new business segments of the Company under development. Leveraging the integration and collaboration effect of its subsidiaries, the Company developed the new business of "large-scale environmental protection" and commenced technical service businesses such as water treatment, solid waste treatment and recycling, production of distributed energy equipment as well as environmental and ecological governance.

Emission management

The Company regulates the production and operational activities of all units and reduces emissions by management and technical means, such as renovating equipment and technical processes and eliminating backward production capacity. The Company also initiated the integrated utilization of construction waste, implemented the project of co-disposal of waste in cement kilns and achieved the integrated resources utilization such as urban waste disposal. With the development of contingency plans for environmental incidents, the Company timely engages professional disposal agencies to conduct safe and regulated treatment of hazardous waste. Given its business nature, emissions from the operation of the Company mainly consists of non-hazardous waste such as sulfur dioxide, nitrogen oxides, chemical oxygen demand, ammonia nitrogen, greenhouse gases and construction slag, as well as hazardous waste such as waste mechanical oil.

1.2 Use of resources

Energy saving and emission reduction services

The Company effectively promotes the sustainable development of the environment while striving to achieve its business development. By giving full play to the complete industrial chain advantage of its construction, the Company promotes the research and development and application of technologies and equipment, such as the efficient power generation, and cogeneration, use of surplus heat and pressure, new energy, reusable energy, waste power generation, distributed energy, and smart grid, in power engineering planning, design, consultancy, construction and commissioning services. In addition, it committed to the development of green projects to provide the industry and society with quality energy saving and emission reduction services.

Energy saving operation

The Company also proposes the concept of "low-carbon energy saving and green operation". It enhances the environmental protection concept of staff through trainings and promotes resources saving in the operational process by means of water and electricity saving and paperless operation. During the reporting period, the Company did not receive any inquiries, notice or penalty from any relevant regulatory authorities in relation to water problems. The major resources usage of the Company during the reporting period is summarized as follows:

Name of indicator	Unit of indicator ³	2016
Power consumption	million kilowatt hours	5,742.89
Coal consumption	million tonnes of standard coal	1.87
Gasoline consumption	tonnes	57,235.45
Diesel consumption	tonnes	736,590.71
Natural gas consumption	tonnes	1,683.95
Total amount of purchased heat	million kJ	109,554.41
Unit power consumption for operating revenue	kilowatt hours/RMB million	2.58

Note:

3. The statistical units for energy-saving operational indicators are expressed in original statistical units.

1.3 Environmental and natural resources

Taking full consideration of possible pollutants to the environment arisen from operational process and its resulting pollution, such as air pollution, water pollution, noise pollution and solid waste pollution, the Company conducts an all-rounded and all-process identification and assessment with respect to environmental implications. The Company also fully ensures the minimization of environmental impact on locations where it operates through the monitoring, maintenance, storage, placement and treatment of sources of pollutants.



The Company considers ensuring the sustainable coordination between investment project and local society and environment as its priority for the projects. For the selection and implementation of investment projects, the Company adopts various measures to protect the ecological environment and natural resources of the region at which the projects are located, primary measures of which include:

- (i) For project determination and assessment, it ensures projects are in line with the requirements of social and environmental development by evaluation;
- (ii) For feasibility study and demonstration, it engages professional consulting agencies to ensure the compliance with requirements of local policies and development in relation to professionalism;
- (iii) For implementation of projects, it defines the responsibilities of each functional departments and monitors the implementation process of projects to avoid and control discordant incidents;
- (iv) For project audit and post-project evaluation, its evaluation covers environmental and social impacts, and project teams are rewarded and held accountable in connection with the evaluation results of the projects.

2 Society

The Company values the needs of its interested parties, such as its employees, customers, suppliers and the community, in the process of its own quality development. It legally commences its operation and is committed to boosting staff's happiness and owners' satisfaction as well as securing social recognition by endeavoring to maximize the benefits of all interested parties and to seek a harmonious development.

2.1 Employment

The Company regards employees as its important assets. Therefore, it always focuses on people in its operation. In particular, it employs labor in accordance with the requirements of laws and regulations of locations where it operates, including the Labor Law of the People's Republic of China and the Labor Contract Law of the People's Republic of China to ensure the staff are being treated fairly and equally in terms of their interests. The Company also formulated the Labor Management Regulations, the Management Measures of Labor Contract and the Interim Provisions on Administration of Wages to set requirements for establishing equal labor relation and safeguarding staff's benefits. Staff recruitment and dismissal are also strictly in compliance with the regulations of locations where the Company operates and company policies. The Company guarantees that the number of working hours of its staff meets the relevant requirements and ensures staff have the right to be promoted. Meanwhile, the Company also adheres to the concept of "equal pay for equal work" by implementing consistent remuneration and welfare system for all staff who have entered into labor contract and established relationship. Apart from strictly complying with the national and local requirements on minimum wages, the Company and all of its subsidiaries participated in social security programmes (including 5 kinds of insurance and 1 kind of funds) and comply with the requirements on statutory holidays of location where it operates. The Company also ensures female staff are being treated fairly and have their interests of housing provident fund being protected by signing the Collective Contract on Protection of Female Employees and strictly implementing protection system for female staff.

The Company adheres to the staff representative congress system and established the Transparent Management Measures of Corporate Affairs to enhance the transparency of corporate information and improve the internal communication channel while ensuring employee's concerns are valued and addressed. The Company also adopts various measures in terms of staff diversity. In particular, it determines the employment for different positions based on the characteristics of industry competition and the requirements of corporate strategic development and in accordance with the relevant laws and regulations on labor. By recruiting fresh graduates and introducing experienced personnel, the Company is able to attract talents and promote staff diversity. The employment statistics for the reporting period are summarized as follows:

Name of indicator	Unit of indicator	2016
Total number of staff	person	133,625
Of which: (by working geographical locations)		
Domestic	person	126,830
Overseas	person	6,795
Of which: (by gender)		
Male	person	104,742
Female	person	28,883

2.2 Health and safety

Occupational health

The Company and its subsidiaries established an occupational disease prevention and management system to open occupational health management files for employees. In particular, it conducts daily monitoring and regular inspection in respect of occupational hazards and ensures staff are aware of occupational hazards by management training, signing contracts with working level, working level trainings and on-site warnings.

Production Safety

Based on industry characteristics, the Company always considers performing health and safety responsibilities as the top priority which relates to the survival and development of the Company. The Company is committed to comply with the Safe Production Law of the People's Republic of China and the safety regulations of locations where it operates by continuously improving the safety and health management system. It strive to implements the production safety accountability system and explores to its largest extent in safety trainings and education to ensure safe production is in place.

The Company has a dedicated safety controller and has established expert database for production safety and formulating the safety management policies such as the Management Measures of Production Safety, the Management Measures for Investigation and Administration of Hidden Danger in Production Safety, the Measures of Production Safety Assessment and Evaluation, the Management Measures of Contingency Plans and the Management Measures for Safety Monitoring of Major Hazards. The Company also continuously promotes the standardization of production safety and has established an organization for the standardization of production. During the reporting period, staff at all levels of the Company signed letters of responsibilities on production safety and the Company organized to carry out inspection and assessment with the production safety accountability system. In addition, it implemented the monitoring management on key projects and organized a large-scale inspection with respect to production safety or outsourcing teams.

With respect to safety management, the Company focuses on promotion and trainings of production safety. During the reporting period, the Company compiled the Selected Cases of Production Safety Incidents (2012-2015) and organized the "Production Safety Month". To effectively enhance the safety awareness and safe production skills of all staff, the Company organized trainings on enhancement of safety management, operation safety and contingency management. During the reporting period, the Company offered safety trainings to a total of 384,000 participants.

Overseas employee safety

Given its strong overseas business presence, the Company attaches great importance to safety protection for overseas employees. During the reporting period, the Company issued the Management Measures of Safety of Overseas Institutions and Personnel, and adopted the following major measures to ensure the safety of overseas employees:

- (i) To supervise and instruct its subsidiaries, overseas institutions and construction projects in the preparation of contingency plans and onsite contingency plans of the respective level according to the Contingency Plan for Overseas Emergencies;
- (ii) To establish a business travel management system which covers all of its staff. In particular, the Company reinforces its approval and review with respect to the identification of staff's business travels. The review covers the compliance, feasibility and rationality of staff composition of business travels, political conditions of the proposed destination and personal safety risks.

2.3 Development and trainings

The Company considers staff development as one of the major drivers of its development. Apart from improving staff development channel based on industry characteristics together with the existing human resources structure, it also designs career paths covering various levels such as functional management, project management, engineering technologies, business management and production technologies. Furthermore, the Company also improves the staff assessment mechanism to promote the healthy development of staff structure.

The Company issued the Management Measures of Education and Trainings, pursuant to which staff trainings are regulated. By improving the training system and establishing a training platform, the Company is able to engage in tiered and classified business trainings with multi-forms and multi-channels and in all directions. During the reporting period, the Company organized 3-level education and trainings covering "company level", "headquarter level" and "subsidiary level". A total of 551,100 participants have participated in various qualification trainings, job adaptability trainings, technical level trainings, continuing education trainings and other trainings and the training expenses amounted to RMB156.37 million. The statistics of the training performance of the Company for the reporting period are summarized as follows:

Name of indicator	Unit of indicator	2016
Total number of training hours	hour	3,276,474
Average number of hours of trainings received by each participating staff	hour	24.13

2.4 Labor standards

The Company strictly complies with the Labor Law of the People's Republic of China, and other the management policies set out in the relevant standards, rules and regulations prevailing across the world as well as of the country and locations of operation with respect to the prevention of child labor or forced labor. On top of regulating employment according to the law, the Company has established a necessary data collection and approval process for staff recruitment to ensure the implementation and execution of labor standards. During the reporting period, the Company did not have any non-compliance with the relevant standards rules and regulations prevailing across the world as well as of the country and locations of operation in connection with child labor and forced labor.

2.5 Supply chain management

The Company has established a regulated supply chain management mechanism and has been adhering to fair and impartial principles in respect of procurement process. Through the electronic procurement platform, it conducts qualification reviews and information maintenance on registered suppliers. Furthermore, it also conducts rigorous assessment and monitoring on suppliers and regulates the procurement of international projects based on the procurement management system. During the reporting period, the Company was not aware of any material and actual or negative impact by any major suppliers on business ethics, environmental protection, human rights and labor measures. As of the date of this report, the Company had a total of 63,757 suppliers.

2.6 Product responsibility

Product quality

The Company treats customer satisfaction as its primary mission and is committed to comply with relevant national standards and regulations during project construction by assuring customers with a comprehensive quality management system and premium services. With engineering optimization and technological innovation, the Company strives to build first-class quality projects and is committed to providing customers with quality and responsible products and services by building the "ENERGY CHINA" brand. During the reporting period, the Company issued the Special Issue on Quality Risk Management and defined the initiatives and requirements of quality risk management. It also carried out quality inspection on a number of projects, including Guangxi Nanxiong Wind Power Project and Datang Shenfu project, and rectified quality problems identified in the inspection. During the reporting period, the Company offered all-level quality trainings to 306,700 participants. Subsidiaries under the Company were granted a total of over 600 quality awards at provincial and ministerial levels (including Outstanding Enterprises, Quality Construction, Outstanding Survey and Design, Outstanding Consultation Results, Outstanding Quality Control (QC) Team and etc.). 31 constructions were included on the List of the First Batch of National Outstanding Constructions 2016-2017 (7 of which were selected for the Golden Award), while another one was granted the Luban Award.



Unit 1 of Guangxi Fangchenggang Nuclear Power Station, the first nuclear power station in western China, which several subsidiaries were involved in, satisfactorily completed trial operations



The largest ship elevator of the world, which was constructed by Gezhouba Sanxia Construction Company (葛洲壩三峽建設公司), passed the acceptance check





China Power Engineering Consulting Group Co., LTD. (中國電力工程顧問集 團有限公司) successfully commenced marine cone penetration test with the deepest depth in China



The construction of main structure of the world's first "Eye of Heaven", which China Power Engineering Consulting Group Co., LTD. (中國電力工程顧問集團有限公司) has participated in, was fully completed



Industrial technologies

Leveraging the advantages of the complete industrial chain of the electric energy construction sector and the full life-cycle services, the Company brings its industry-leading business strength into full play and brings together all the employees and industry experts to strive to innovate and develop technologies, transform scientific achievements, enhance product quality and continuously promote the development of the industry. During the reporting period, the Company won 1 national science and technology award, 126 scientific improvement awards in provincial and industrial level and 9 CEC science and technology awards. The relevant performance statistics are set out as follows:

Name of indicator	Unit of indicator	2016
Total number of patents	unit	6,766
Number of new patents	unit	1,456
Number of new software copyright	unit	119
Amount of R&D investment in technologies	RMB million	4,066.24





Overseas operation

The Company continues to closely follow the national strategies of "One Belt and One Road" and leverages the advantage of integration of the complete industrial chain to promote the development of international constructions by bringing the high-end momentum of electric power planning into full play. With the full technical advantage, the Company adapts to locations of operation and therefore provides quality services to overseas regions. To instruct and regulate subsidiaries to satisfactorily fulfill the social responsibilities of international construction projects, the Company issued the Guidelines on Social Responsibilities of International Construction Projects of China Energy Engineering Group Co., Ltd. to propose guidelines on the establishment of management system for social responsibilities of international construction projects and the selection of core topics of social responsibilities. It is reported that these guidelines are the first guide on social responsibilities of international projects issued by construction enterprises. During the reporting period, the Company contracted 329 projects in countries targeted by "One Belt and One Road" initiative, representing a contract value of RMB79.067 billion. In particular, large-scale projects include Phase I and II of Water Conveyance Project in Kerman, Iran, which was contracted by China Gezhouba (Group) Corporation Group (CGGC), EPC Turnkey Project of Vietnam Haiyang Coal-fired Power Plant, which was contracted between CLP Engineering Southwest Institute (中電工程國際公司), and Pakistan Hubu Coal-fired Power Plant Project, which was contracted between CLP Engineering Power Construction.

Customer privacy

The Company considers customer information security as the assurance for corporate production and operation safety and healthy development of customer relationship. Apart from strengthening the management system on confidentiality, the Company established a mandatory mechanism to operate the customer management system according to different grades and authority. The Company also developed a secured customer information database to ensure customers' information is protected. The Company strictly complies with the laws of locations where it operates by protecting customer privacy. During the reporting period, the Company was not aware of any violation of customer privacy or any relevant complaints which were accepted or proved.



2.7 Anti-corruption

The Company strictly complies with the Company Law of the People's Republic of China and other laws and regulations by promoting compliance governance and operations, strengthening the establishment of integrity system and firmly resisting commercial bribery and corruption. 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 and inspections. In addition to carrying out anti-corruption education and trainings, the Company improves various whistle-blowing channels, such as online platform, hotline, mailing address and e-mail address, to develop a convenient and effective supervision network for serious inspection and handling of commercial bribery and corruption cases. During the reporting period, the Company was not aware of any inquiries, notice or penalty in relation to the violation of anti-corruption, anti-blackmail, anti-fraud and anti-money laundering laws and regulations of locations where it operates.

The Company conducts discipline inspection and supervision trainings to enhance the professional capability of monitoring and auditing. With mergers and acquisitions, tendering and international operation as its focuses, the Company carries out supervision and inspection and rectifies the problems identified.

The Company also pays special attention to the risks of commercial bribery and corruption arisen from international projects. In particular, the Company implements the commitment system to prevent commercial bribery and corruption for international projects by requesting counterparties to sign the Undertaking of Incorruptible Business Cooperation. Besides, the implementation of the Undertaking is subject to inspection and assessment.

2.8 Community investment

The objective of the Company's community investment shall achieve harmonious development with the locations of operation. In addition to boosting community charity, the Company also brings the advantages of internationalization into full play and makes contribution to the community development of locations where it operates.



Community charity

During the reporting period, the Company introduced the Interim Measures on Administration of External Donations of the Company to regulate the management of external donations, and encouraged the Company and its subsidiaries to carry out diversified charity activities for the community. During the reporting period, all subsidiaries of the Company, in aggregate, carried out 39 donation activities in terms of poverty relief, assistance for students and the disabled as well as public relief, which involved an external donation amounting to RMB8.13 million. During the reporting period, the major charity activities of the Company and its subsidiaries include:

- (i) promotion of electricity safety in locations of operation
- (ii) participating in flood disaster relief
- (iii) assisting Xinjiang and Tibet in their development
- (iv) participating in targeted poverty relief to help the poor
- (v) staff volunteer service
- (vi) voluntary tree planting



Flood rescue scene



Staff volunteer service



Overseas community

With regard to international operation, the Company always considers harmonious development with the environment and society of the local community as its important goal. The Company finalizes operational policies of locations where it operates based on international standards and norms and actively supports the local development. International projects undertaken by the Company are well in line with international standards and norms, and are therefore widely recognized by project owners and consulting engineers. The Company fully understands and respects the local culture and customs of locations where it operates and values the protection of local environment. While the Company offers job opportunities to locations of operation, it also promotes the healthy development of the local community by various means, such as participation in community development, community charity, financial assistance and volunteer activities.

During the reporting period, the charity activities carried out by the Company for major overseas operation included but not limited to:

- (i) disaster relief and donation for the Ecuador earthquake
- (ii) supporting education in Ethiopia
- (iii) donations to flood disaster areas of Pakistan



Supporting education in Ethiopia







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