

Capital Environment Holdings Limited 首創環境控股有限公司

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(Incorporated in the Cayman Islands with limited liability) Stock Code : 03989



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About CEHL

Listed in the Hong Kong Stock Exchange (stock code: 3989), Capital Environment Holdings Limited ("CEHL" or the "Company") serves as an investment platform of the solid waste treatment business under Beijing Capital Group Company Limited ("Beijing Capital Group")¹. CEHL and its subsidiaries (together the "Group") is a provider of waste management solutions and services, focusing on the technology development, design, system integration, project investment, consulting, operations and maintenance of waste treatment facilities, especially the waste-to-energy project. By providing integrated waste treatment solutions and environmental protection infrastructure construction services in China and overseas, the Group is committed to promoting marketisation in the solid waste sector.

To better serve the society and local residents, as well as to respond to a more complex market environment, the Group has established a regional investment centre (the Central China Investment Centre, the Eastern China Investment Centre and the Jingjinji Investment Centre) to explore new investment models to satisfy the demands and expectations of each region. At the same time, the Group is experimenting with multiple models such as the 'build-operate-transfer' (BOT), the 'transfer-operate-transfer' (TOT), the 'build-own-operate' (BOO), entrusted operations as well as mergers and acquisitions, to seek new opportunities of business development to complement and promote the Group's core competencies in technological innovation.

In 2018, government departments of all levels deepened their emphasis on development of ecological civilisation and elevate the green environmental issue to a strategic level, making it as important as livelihood social issues, which helps facilitate the process of 'stabilising growth, adjusting structure, and enhancing social welfare', while following the direction of 'deepening the supply-side reform'. Under this policy environment and influx of supporting fund, CEHL will face a broader market together with unprecedented challenges and opportunities as a pioneer in environmental protection industry in China. Currently, the Group's customers and projects in operation are across 18 major provinces and cities in China including Beijing, Shanghai, Guangzhou and Shenzhen, with a target capacity of treating 12,000 tonnes of municipal solid waste per day to contribute to the green development of urban living.

CEHL will continue to fulfil its responsibilities and missions as a state-owned listed company and engage in multiple forms of partnerships with the government at all levels and different sectors of society while upholding the shared value built by CEHL and its employees, to achieve a win-win development and to create a green future for the environment.

¹ Beijing Capital Group is a state-owned group company supervised by the Stated-owned Assets Supervision and Administration Commission of Beijing.

About CEHL

CEHL VALUES

Passion:

CEHL undertakes to provide the best services to our customers and contribute to the future of China's waste treatment industry.

Sustainability:

CEHL believes that corporate development should be coordinated with the economy, society and the environment to achieve a harmonious whole.

Technology enhancement:

CEHL is dedicated to scientific research and development; working closely with the world's top waste treatment technology suppliers to ensure the leading position of CEHL's expertise and service quality.

Teamwork:

CEHL has established a strong partnership with a number of internationally renowned waste management companies, which enables it to create synergies when looking for the most appropriate waste treatment solution.

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Sustainability Report 2018



In 2018, CEHL launched the "Ecology+" strategy for the environmental protection industry, and is committed to integrating the technical expertise of CEHL in water, solid waste, air and energy. CEHL hopes to provide the government with a comprehensive and effective environment-resource-energy solution through the development of the "Ecology+" strategy to achieve healthy ecology.

The "Ecology+" strategy will focus on three major themes, namely technological innovation, business model innovation and management innovation, with building enterprise platform advantages, enterprise ecology and industrial ecology as the current strategic focus, medium-term strategic focus and long-term strategic focus respectively. This strategy will shape Beijing Capital Group's environmental protection businesses into a technological, intelligent and service-oriented industrial ecosystem.

This year in Huainan City, Beijing Capital Group has initially completed the integration arrangement of sewage plant network, rectification of informal landfills and the air pollution prevention and control in urban areas and industrial parks. Built upon Beijing Capital Group's integration of "water, solid waste, air and energy" environmental services, CEHL will implement the "Ecology+" strategy of Beijing Capital Group to achieve strategic upgrades and to provide local governments with a wider and improved range of integrated services, value-added services and collaborative services.

In future, CEHL will adhere to the requirements of the "Ecology+" strategy and adopt the Environmentally-Oriented Development as the core model to actively achieve industrial advantages, to build new ecology and era together with various industrial partners. CEHL will provide the optimal solutions and best professional services in the field of ecological and environmental protection, and acting as an important builder and guardian of a "Beautiful China".

About this Report

This is the second Sustainability Report (the "report") published by CEHL, and the third report compiled in accordance with the Environmental, Social and Governance Reporting Guide (the "ESG Guide") promulgated by the Stock Exchange of Hong Kong ("SEHK"). By further improving the depth and breadth of reporting, it reports on the Group's management approach and performance regarding environmental and social issues in a more comprehensive way, to enable stakeholders' better understanding of the Group's progress and development direction in sustainability. Available in both Chinese and English, the report has been uploaded to the websites of SEHK and the Group www.cehl.com.hk.

REPORTING BOUNDARY

The report covers the Group's operation between January 2018 and December 2018 (the "year"), which is the same as the financial year of CEHL. The report focuses on the 24 projects in Mainland China that are completed and have entered into production (referred to hereafter as "all reporting projects"). Taking into consideration the traceability of data, the report has not yet covered the joint ventures of the Group and projects located in New Zealand. Invested projects in reserves which have not entered into operation are also excluded². The Group will continuously improve the internal data collection system to further expand the scope of disclosure.

Project name and location ³	Project abbreviation	Business nature	Region	Project count
Nanchang Quanling Domestic Waste Incineration Power Plant, Jiangxi Province*	Quanling Power Plant	Waste-to-energy	East China	8
Guangchang County Township Waste Integrated Processing Project, Jiangxi Province	Guangchang Processing Project	Waste collection, storage and transfer		
Shicheng County Township Integrated Processing Project, Jiangxi Province	Shicheng Processing Project			
Shangrao City Domestic Waste Sanitary Landfill, Jiangxi Province	Shangrao City Landfill	Landfill		
Huaian Waste Vehicles and Household Appliances Dismantling and Recycling Project, Jiangsu Province*	Huaian Dismantling Plant	Waste electrical appliance dismantling		
Maanshan Household Appliances Dismantling and Recycling Project, Anhui Province*	Maanshan Dismantling Plant			
Yangzhou Kitchen Waste Collection, Transfer and Processing BOT Project, Jiangsu Province*	Yangzhou Kitchen Waste Project	Anaerobic treatment		
Hangzhou Xiaoshan Kitchen Waste Anaerobic Treatment Project (Phase I), Zhejiang Province	Hangzhou Anaerobic Treatment Project			
Nanyang Waste Collection, Transfer and Processing Project, Henan Province*	Nanyang Collection, Transfer and Processing Project	Waste collection, storage and transfer	Central China	8
Xihua County Domestic Waste Collection and Transfer Project in Zhoukou City, Henan Province	Zhoukou Collection and Transfer Project			
Sui County Township Domestic Waste Collection and Transfer Project, Henan Province	Sui County Collection and Transfer Project			
Lushan County Circulatory Industrial Park Project and Lushan County Township Domestic Waste Collection and Transfer Integration Project, Henan Province	Lushan Collection and Transfer Project			
Qi County Rural Domestic Waste Collection Project, Henan Province	Qi County Collection and Transfer Project			
Zhengyang County Townership Domestic Waste Collection and Transfer Project, Henan Province	Zhengyang Collection and Transfer Project			
Qianjiang Waste Collection and Transfer Project, Hubei Province	Qianjiang Collection and Transfer Project			
Suiping County Urban and Rural Sanitation Integration Project, Henan Province	Suiping Sanitation Project	Waste cleaning		

² During the year, the Group's project reserves in China mainland reached a total of 63 projects (including 20 waste-to-energy projects, 7 landfill projects, 7 anaerobic treatment projects, 17 waste cleaning, collection, storage and transfer projects, 6 hazardous waste treatment projects, 2 waste appliances dismantling projects and 4 biomass power generation projects).

³ Project names marked with asterisk (*) are projects covered in the reporting boundary of the last report.

About this Report

Project name and location ³	Project abbreviation	Business nature	Region	Project count
Weng'an Domestic Waste Landfill, Guizhou Province*	Weng'an Landfill	Landfill	Southwest	4
Duyun Domestic Waste Landfill, Guizhou Province*	Duyun Landfill		China	
Duyun Municipal Solid Waste Incineration Power Plant, Guizhou Province	Duyun Power Plant	Waste-to-energy		
Duyun Township Waste Collection and Transfer Project, Guizhou Province	Duyun Waste Collection and Transfer Project	Waste collection, storage and transfer		
Beijing Road Cleaning Project (Second Section) for Chaoyang District Environmental Health Service Center	Beijing Cleaning Project	Waste cleaning	North China	2
Linyi Domestic Waste Collection and Transfer Project, Shanxi Province*	Linyi Collection and Transfer Project	Waste collection, storage and transfer		
Yingde Laohuyan Domestic Waste Innocuous Treatment Landfill Site, Guangdong Province	Yingde Landfill	Landfill	South China	1
Huludao Domestic Waste Sanitary Landfill Site, Liaoning Province $\!\!\!\!\!\!*$	Huludao Landfill	Landfill	Northeast China	1

REPORTING STANDARDS

The report is prepared based on the 'comply or explain' provisions of the ESG Guide. In view of the actual situation of the Group, selected social key performance indicators ("KPIs") from the 'recommended disclosures' were disclosed to provide more comprehensive reporting. At the same time, the report references the GRI Standards⁴ published by the Global Reporting Initiative to further improve the report quality and operational transparency. A complete index which indicates all selected GRI Standards is inserted in the last section of this report for reference.

On the basis of an expanded reporting boundary this year, the Group is further enhancing the data collection system of environmental, social and governance data. It also plans to carry out reporting in accordance with the Core option of GRI Standards to cover material issues identified in a more comprehensive manner.

DATA PREPARATION

Information contained herein is sourced from the official documents and statistical data of the CEHL and its subsidiaries, and is aggregated from the management, operational and monitoring information in accordance with the policies of the Group. CEHL commissioned an independent sustainability consultant Carbon Care Asia Limited ("CCA") to conduct a carbon assessment to ensure the data accuracy in reporting on environmental KPIs.

The report was approved by the Board of Directors in March 2019.

OPINIONS AND FEEDBACK

CEHL welcomes your feedback on the information disclosed by the Group. Whether you are customers, business partners, members of the public, the media or community groups, your comments and opinions can help define and strengthen the Group's future sustainability strategy. The Group will reply to your comment in a timely manner so that the report can serve as a platform for information exchange. Please contact us through the following channels:

Address: 1613–1618, 16/F Bank of America Tower, 12 Harcourt Road, Central Telephone: (852) 2526 3438 Fax: (852) 2816 0008 Email: esg@cehl.hk

⁴ With reference to selected topic-specific disclosures in GRI Standards, including GRI 302: Energy, GRI 303: Water and Effluents, GRI 305: Emissions, GRI 306: Effluents and Waste, GRI 401: Employment, GRI 403: Occupational Health and Safety, GRI 404: Training and Education, GRI 405: Diversity and Equal Opportunity, GRI 406: Non-discrimination, GRI 408: Child Labour, GRI 409: Forced or Compulsory Labour, as well as GRI 103: Management Approach.



Chairlady's Statement



The concept of sustainability is taking deeper root in modern corporate strategic development. As a leading provider of integrated waste treatment solutions and environmental infrastructure construction services, CEHL has always endeavoured to deliver our commitment to sustainability by enhancing our technological capability and management standards. We actively respond to Beijing Capital Group's "Ecology+" strategy of the environmental protection sector, by integrating all segments of environmental business and adopting an environment-oriented development model. Thereby the Group can fulfil its corporate citizenship for sustainability, while exploring new opportunities for ecological development and auxiliary technology development.

As a leading environmental protection enterprise in the country, the Group's Quanling Power Plant project located in Nanchang City was approved by the National Development and Reform Commission to be an environmental protection exemplar centre. With regard to new projects, the Group obtained 11 waste treatment facility projects in the year, with a total investment of approximately RMB2.12 billion, increasing the Group's annual domestic waste treatment capacity by 2.24 million tonnes. Currently the Group has expanded its business to 16 provinces and direct-administered municipalities across China and entered the New Zealand market. While global economic development is subject to various impacts, CEHL believes that green economy will be a new boost to domestic economic development.

Chairlady's Statement

Apart from environmental protection, product responsibility and employee health are also the Group's focuses. The Group has engaged in technological innovations in anaerobic treatment, disposal of hazardous waste and smart power plant, and has filed for 23 patents during the year. In addition, the Group has established a regionalised management system for engineering projects to prioritise employee safety and to ensure zero incidents.

Looking ahead, the overall ecological development framework based on the vision of "Beautiful China" is maturing gradually and the government continues to lend its support to the environmental sector by broadening development opportunities for environmental companies through the Belt and Road Initiative. In this political context, the Group will continue to fulfill its mission by joining various sectors of society to contribute to the sustainability of society as a whole.

Zhang Meng Chairlady Capital Environment Holdings Limited



Message from Chief Executive Officer



The National Development and Reform Commission promulgated the Opinions on Innovation and Improvement of the Pricing Mechanism for Promoting Green Development in mid-2018. This policy proposed to improve the charging mechanism for solid waste treatment, and to implement by the end of 2020 a system of disposal fee on domestic waste in cities and towns with administrative status across China. This measure echoes the vision of the UN Sustainable Development Goal in relation to sustainable cities and communities. It coincides with the operational objectives of CEHL to help the city prosper while improving resource utilisation and reducing pollution by improving the utilisation of solid waste and clean energy development.

During the year, a number of landfill and collection, transfer and processing projects entered into operation to improve the local environmental health and standard of living to benefit more members of the community. The Group adopts a proactive and innovative attitude towards sustainability with the belief of 'Keeping our homes away from garbage', and invests in power generation from kitchen waste and waste incineration together with biodiesel projects, with a commitment to increasing the efficiency of use of resources. The Group believes that improving the environment, reducing pollution and building a better community are the most effective community investment.



Message from Chief Executive Officer

Issues related to sustainability bring risks and opportunities to the Group. Although the Group has not yet established a specialised committee to monitor environmental and social performances, the Group's Board of Directors has always been concerned about the environmental and social impact of its business on the communities where it operates. During the year, the Group commissioned a sustainability consultant to conduct on-site investigations at selected project companies to identify different social and environmental risks in the operations. This measure helps enhance the Group's capability in internal risk control to prevent and solve issues in relation to economy, product responsibility, law, operational efficiency and safety.

Stakeholder engagement helps the Group pay attention to stakeholders' needs and stay close with changes in society and the market. The Group commissioned a consultant to conduct stakeholder engagement activities to collect opinions about the Group's sustainability directions to help it enhance its performance and update the relevant policies and measures. The report serves as an important platform for stakeholder engagement. Based on stakeholders' opinion, the Group conducted a materiality assessment to select important sustainability issues to focus on and respond to in the report.

In future, the Group will maintain its competitive edges by focusing on waste processing businesses, to continuously improve the urban environment. CEHL will maintain close communication with all stakeholders and cooperate with them to further improve society and national urban development given the current business structure.

CAO Guoxian Chief Executive Officer Capital Environment Holdings Limited



Sustainability Governance

CEHL pays attention to the formulation of a sustainability governance structure and an internal control system to manage and coordinate the Group's economic, environmental and social matters and policies. The Board Office and the Board of Directors are directly responsible for the Group's sustainability roadmap. CEHL has set up a risk governance structure, specifying the relevant functions of the Board of Directors, the management, the Internal Audit Department and the Corporate Management Department in identifying and determining the Group's risk categories, corresponding risk tolerance level, and risk priorities. As a board committee, the Company's Audit Committee is responsible for discussing with the management regarding the effectiveness of the overall risk management and internal control system (such as environmental and social compliance control).

Looking ahead, the Group will establish the Sustainability Committee, confirming the authorities and resources delegated to members of the Committee. The Group also plans to include the identification and determination of environmental and social risks in the governance structure to increase the priority level of such risks.

ECONOMY

CEHL (businesses in China) economic performance of the year

Handled 3127.5 thousand tonnes domestic waste

Provided 238 million kilowatt-hours of on-grid energy

Dismantled 2140.8 thousand pieces of electrical appliances and equipment and recorded a revenue of 284 million renminbi ("RMB")

Total yearly investment of 15.8 billion RMB in project reserves

Today, mitigating the impact of climate change has become an important issue that various enterprises must face in their development process. As a socially responsible corporation, CEHL has been integrating climate change mitigation into its business philosophy. At the same time, as national environmental protection requirements continue to tighten, pollution incidents once occurred would cause legal risks to the Group, which would also affect the Group's operation. On the other hand, as a waste treatment service provider, improvement of its waste treatment technology and pollution reduction during the operation can bring opportunities for the Group's future development.

ENVIRONMENT

The Group has established the Environment, Health and Safety Committee (the "EHS Committee"), which is mainly responsible for coordinating the Group's internal tasks related to environmental management. In addition, it is also responsible for investigating, analysing and handling of environmental accidents, and formulating relevant preventive measures. In terms of all reporting projects, they should each be equipped with professional environmental protection management personnel to implement environmental management measures that are aligned with that of the Group.

SOCIAL

CEHL understands that sustainability is not only about environmental issues, but that social issues are also critical components of sustainability, which include labour rights, operational standards and community investment. The Group undertakes to incorporate social performance into the Group's business development strategy. To this end, the Group has established relatively sound management measures to enhance the social performance of the Group and achieve the Group's sustainable development targets.

SUSTAINABILITY RISK MANAGEMENT

The Group values a sound risk management framework to manage risks inherent in day-to-day operations. To enhance the effectiveness of risk management, the Board of Directors is fully responsible for tasks related to risk management. In addition, the Group also established the Audit Committee to oversee the operation of the Group's risk management and internal control systems.

Sustainability Governance

During the year, the Board of Directors commissioned a consultancy to conduct an on-site investigation to the Group's Hangzhou Anaerobic Treatment Project to identify the sustainability risks in its operation. The relevant risks are:

Risks	Definition	Description	Responses
Economic performance	Possibility of economic losses due to factors such as management, pricing and changes in consumer demands.	If the amount of food collected from the canteens and restaurants is insufficient, the production of biodiesel may be affected.	On the basis of ensuring product quality, to expand the scope of supplier selection to solve the problem of insufficient kitchen waste.
Product responsibility	Damage to the company's reputation, customer's health and safety and other legal risks due to unqualified product quality.	The Hangzhou Anaerobic Treatment Project occasionally purchases gutter oil from other companies to stabilise the generation of biofuel, but there is quality risk.	To strengthen the qualification review of the gutter oil suppliers and the quality control to prevent the Group from using harmful materials for production.
		When biodiesel production is reduced, the project's by-products will be resold; if it is used by restaurants, it will endanger public health.	To strengthen the monitoring of reselling of by-products and conduct qualification examinations for potential buyers.
Occupational safety	Damage to employee's health and safety at the workplace due to improper operation or equipment failure.	Sensors are installed in the production equipment of each production workshop to provide real- time information such as temperature, pressure and liquid level to ensure safety in production. Yet if waste residues affect the function of sensors, it may lead to misreading of production safety situation.	To communicate with equipment suppliers, improve production equipment monitoring system, and ensure safe production in the production workshop; To provide training for the use of monitoring systems to ensure that employees are familiar with the use of the system.
Accelerating climate change	Biogas partially leaked during operation process can result in an increase in atmospheric greenhouse gas ("GHG") concentrations.	Biogas is generated during the resource utilisation process of kitchen waste. It will further accelerate climate change if lacking accurate meter monitoring biogas emissions.	To introduce additional equipment to the relevant projects to measure the amount of biogas transported for combustion in real time.

In future, the Group will consider extending the sustainability risk assessment to other projects and incorporating it into the Group's risk management and internal control systems to systematically manage the relevant risks.

Sustainability Governance

SUSTAINABILITY OPPORTUNITIES

At present, the Group has obtained the quality management system of the International Standards Organization and many other environmental protection qualifications, and has become the top ten influential enterprises in the solid waste industry for several consecutive years. In December of this year, the Company was named as one of the "Most Socially Responsible Listed Companies" in the "Golden Lion Award" evaluation of SEHK listed companies sponsored by Sina Finance, recognizing the Group's endeavours in achieving social responsibility.

This year, the CEHL further explored development in green bonds and built up a bond framework, to embrace opportunities in green finance and to collaborate on the transformation of a green economy.

CEHL GREEN BOND

In September and October 2018, CEHL successfully issued a three-year green bond with a total value of US\$300 million. The green bond issued adopts the green bond framework of Beijing Capital Group. Funds raised will be used for new or existing waste management projects that satisfy the framework requirements. The bond received oversubscription from nearly 100 investors in Asia and Europe.

There are strong policy implications focusing on the development of the green bond market and the rapid transition to a green economy coming from various departments of the Chinese government, including the People's Bank of China and the National Development and Reform Commission. CEHL's green bond issuance takes the lead in grasping the opportunity provided by the national green finance promotion, at the same time developing the company's overseas bond investor base. The company will disclose information about this green bond project to its stakeholders on its official website each year, such as bond distribution and the sharing of bond project cases. In terms of future planning, CEHL has hired an independent consultancy to develop standards that are specific to the green bond framework of the solid waste treatment industry, in order to provide the best guidance for project bond financing and attract more green investors.

The Group emphasises stakeholder engagement. Stakeholders include groups or individuals who have a significant impact on the Group's business or are impacted by the Group. They include internal stakeholders (such as members of the Board of Directors, management and executive staff, and general staff) and external stakeholders. The Group's key external stakeholders include: shareholders, customers, investors, partners, suppliers, contractors, local governments of projects locations and governmental institutions at various administrative levels, academic and research institutions, banks, the media, etc.

CEHL values constant communication with stakeholders and responds promptly to the concerns of stakeholders on sustainability issues in a timely manner. During the year, the Group communicated with stakeholders mainly through mail, telephone, conference, site visits, suggestion boxes, lectures, internships and other large-scale events.



COMMUNICATION ON SUSTAINABILITY

Based on constant communication with stakeholders, CEHL has commissioned CCA to assist in in-depth exchanges with stakeholders on relevant sustainability issues since 2016. The Group conducts stakeholder engagement activities in a fair, open and transparent manner to understand key stakeholders' views and expectations of the Group on sustainability.

During the year, stakeholder engagement activities in relation to sustainability were carried out through the following steps:





Identify key stakeholders

To identify the key stakeholders of the Group and to plan stakeholder activities matched with stakeholders' expectations, the Group conducted analysis of different stakeholder groups. The key internal stakeholders include the project managers from different regions and management staff of strategic departments (such as Board of Director's office and Operation Centre). Key external stakeholders include: clients, contractors, partners, suppliers, government regulators, trade associations, banks, media and non-governmental community organisations.

Identify relevant issues

During the year, CCA assisted CEHL to comprehensively review and amend its list of relevant sustainability issues to ensure that they fully reflect the business nature of the Group and results of previous stakeholder engagement. At the same time, CCA engaged the senior management of the Group in an in-depth interview and included the results of the discussion into the list of issues so that stakeholders can participate in planning the sustainability blueprint of the Group.

The Group identified 33 issues that are the most closely related to the Group's business and its impact, covering areas of Economic Performance, Environmental Protection, Employment and Labour Practice, Operating Practice and Community Investment, which served as the basis of internal and external stakeholder engagement.

Plan and carry out stakeholder engagement

In order to better understand the views and expectations of stakeholders on CEHL's sustainability performance, CCA designed different communication activities for stakeholders in different sectors to understand their sustainability awareness and their willingness to participate. The activities include project site visit, sustainability awareness training, focus group and questionnaire survey. The survey was conducted anonymously to ensure that participants can freely express their views and expectations of the Group.



Project site visit and training

 In September during the year, the consultant conducted a site visit to Hangzhou Anaerobic Treatment Project. During the visit, the consultant had in-depth communication and exchanges with the representatives of the project, and made recommendations on issues identified in the production workshop operation monitoring system, vehicle GPS positioning monitoring system, biogas measurement system, and the use of by-products.

Focus group

During the year, in order to understand CEHL's views on sustainability, environmental performance, climate change and corporate response strategies, the consultant exchanged views with 28 staff of CEHL, including those working in the Board Office, Operation Center and 22 regional project managers, by conducting a focus group.

Questionnaire surveys

- In addition to on-site stakeholder survey, the Group conducted an online stakeholder survey enabling stakeholders from various sectors to score on the importance of various sustainability issues.
- A total of 561 valid questionnaires were collected, of which 83% were from external stakeholders.

Conduct materiality analysis

Based on the results of the questionnaire survey, the consultant conducted a materiality analysis to summarise the mean scores provided by stakeholders and generated the Group's materiality matrix (as shown below). The 17 topics marked in red in the top right hand corner of the matrix are important sustainability issues for the Group.



Materiality matrix of CEHL

Impact of CEHL on economy, environment and society



Validation of important issues

The relevant issues identified by the Group are listed in the table below, and the 17 important sustainability issues identified by the materiality matrix are marked in blue shade. Issues within each area are arranged in descending order of importance.

Area	Number	Relevant issue
Economic performance	1	Economic performance
	3	Indirect economic impacts of the operation on the local community
	2	Contribution to the economic development of local community by the operation
	4	Procurement practices and their economic impacts on the supply chain
Employment and Labour Practices	17	Healthy and safe working environment
Practices	15	Employment management system
	22	Child labour or forced labour
	18	Training and development
	16	Labour-management relations
	24	Human rights protection for security personnel
	19	Employee diversity and equal opportunities
	20	Elimination of discrimination
	21	Freedom of assembly and collective bargaining
Environmental protection	11	Sewage discharge, treatment and minimum discharge standards
	12	Handling and transport of waste
	13	Environmental compliance
	9	GHG and air emissions
	7	Use of water resources and focuses on water-scarce areas
	8	Protection of biodiversity
	14	Environmental risks assessment and impact management of supply chain
	10	Adopt climate adaptation actions to respond to climate change
	5	Resource use
Operating Practices	30	Anti-corruption
	28	Protection of customer information
	29	Protection of intellectual property rights
	27	Customer health and safety
	31	Anti-competitive behaviour
	23	Identify and prevent direct or indirect negative human rights impact by operation
	25	Respect for indigenous rights
	26	Social risks and impact of supply chain
Community investment	32	Understand the needs of the community and manage community impact
	33	Participate in public policy

Despite that stakeholders did not select Economic Performance and Community Investment within the topics they are particularly concerned about, as a responsible company, the Group pays attention to the impact of its operations on economy and the community. Therefore, it added 'Economic Performance (including managing the financial risks and opportunities brought by climate change)' and 'Understand the needs of the community and manage community impact' to the reporting.

In-depth analysis and response

The Group conducted an in-depth analysis to the five major aspects above. The table below summarises the opinion and concerns expressed by stakeholders. CEHL will respond to stakeholders' demands in a timely manner.

Areas of Concern	Stakeholder's concerns	CEHL's responses
Economic performance	Managing the financial risks and opportunities brought by climate change	The Group is confident in facing the financial risks brought to the Group due to climate change. At the same time, in response to the opportunities created, the Group will enhance internal governance and technological upgrade to enable greater development in the future.
Environmental protection	Sewage discharge, treatment and minimum discharge standards	The Group requires that sewage discharge at each project should be in compliance with relevant national and local laws, regulations and technical specifications. In addition, the principle of recycling should be followed to recycle and reuse waste water where possible, and direct discharge is prohibited.
	Treatment and transfer of waste (including hazardous and non-hazardous waste)	Through the formulation of environmental management related systems, the Group is committed to the regulation and management of waste generated by the Group's operations. All emissions must comply with national or regional emission standards and sewage charges must be paid in accordance with the law. At the same time, the transfer of waste must be carried out in accordance with relevant national regulations. For wastes that need to be dismantled, the Group will improve the dismantling technology to improve efficiency and reduce disassembly costs.
Employment and labour practices	Providing a healthy and safe working environment	The Group has established detailed job responsibilities for each position to avoid potential safety issues. In the event of safety problems, the site should be protected immediately. The cause should be investigated and precautions should be adopted. At the same time, the Group has set up a "Safety Experience Hall" and arranged safety drills and safe use of production equipment.
Operating practices	Anti-corruption	In response to the national call to action, the Group has implemented an anti-corruption management system to achieve sound internal governance of the Group in the policy context of "combating corruption and advocating for integrity".
Community investment	Understanding the need of the community and manage the impact of the operation of the community	The Group plans to set up community sharing groups and formulate feedback mechanisms to regularly invite residents of the community where the Group operates to visit projects and exchange opinions, so that projects better serve the interests of local communities can be built or invested.



The Group understands the importance of communicating with stakeholders. It will continue to broaden the channels of communication with stakeholders and expand the scope of communicative activities between internal and external stakeholders to gain a more comprehensive understanding of the view of different stakeholders for the Group with regard to its work and effectiveness in the five areas of sustainability listed above.

BOUNDARIES OF IMPACTS OF MATERIAL ISSUES

The identified material issues not only matter to the Group's operations, but also have different degrees of impact on the internal and external stakeholders of the Group. The Group continues to focus on the impact of different material issues and its relationship with the Group's business. The following table summarises how stakeholders are affected by the material issues and the discussion in this report regarding the Group's involvement in each material issues.

Mat	erial Factors						Boundaries of I	Impacts on St	akeholders				
		Sections in this	Int	ernal Stakehold	er				External St	akeholder			
		report addressing	Project	Strategic	Other staff					Government			
		the impact	managers	management	of CEHL	Customers	Contractors	Partners	Suppliers	regulators	Banks	Media	NGOs
11	Sewage discharge, treatment and minimum discharge standards		V	V			V			1		V	Ą
12	Handling and transport of waste	Protecting the Environment	\checkmark	\checkmark			V			V		\checkmark	V
13	Environmental compliance	Linioniteit	\checkmark	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark		V	V
9	GHG and air emissions		٨	V			V		V			1	\checkmark
17	Healthy and safe working environment		٨	\checkmark	V		V	V		V		\checkmark	\checkmark
15	Employment management system		\checkmark	\checkmark	V					\checkmark			
22	Child labour or forced labour		\checkmark	\checkmark	V					\checkmark		\checkmark	V
18	Training and development		\checkmark	\checkmark	V								
16	Labour-management relations	Caring for Employees	\checkmark	\checkmark	\checkmark					\checkmark		\checkmark	V
24	Human rights protection for security personnel	Linpioyees	V	V	\checkmark		V			1		V	V
19	Employee diversity and equal opportunities		V	V	\checkmark								
20	Elimination of discrimination		\checkmark	V	V					V		\checkmark	V
30	Anti-corruption		V	\checkmark	\checkmark	V	V	V	\checkmark	V	\checkmark	\checkmark	
28	Protection of customer information	Enhancing Operations	\checkmark	\checkmark		\checkmark	\checkmark	V	\checkmark		V		
29	Protection of intellectual property rights		\checkmark	\checkmark		\checkmark	V	\checkmark	\checkmark				
27	Customer health and safety		\checkmark	\checkmark		\checkmark	\checkmark	V	\checkmark	\checkmark		\checkmark	\checkmark
31	Anti-competitive behavior		\checkmark	\checkmark				V		\checkmark			

CEHL emphasises environmental protection and is committed to the goal of 'zero incident, zero harm and zero pollution' in its operation. In the day-to-day environmental management of CEHL, the Chief Executive Officer ("CEO") of the Group serves as the primary responsible person for environmental management. At the same time, employees of all departments and ranks of the Group are responsible for environmental management tasks within their scope of duties. The Group has formulated the CEHL Environmental Management Measures, which stipulate the Group's management approach in environmental protection.

EMISSIONS MANAGEMENT

The Environmental Management Measures prescribe that the Group's emissions management should comply with the requirements of the relevant environmental laws and regulations, and that the generation of waste should be controlled in the following aspects:

Procedures	Description
Prevention	Reduce the generation of waste at the source, such as adoption of different production processes, equipment or raw materials.
Recycling	Recycling and reuse of waste produced during the production.
Handling	Waste that cannot be recycled or reused must be effectively treated to reduce its generation and toxicity.
Disposal	Waste treatment must be environmentally sound.

Generation of solid waste

Subsidiaries of the Group have established the job accountability system, operating procedures and environmental monitoring system and carried out regular maintenance and repair on the relevant equipment. Suspension or removal of environmental equipment requires the permission of the Environmental Management Department. At the same time, the Group has established the Emissions Discharge Management Declaration and Registration

System to ensure that all solid waste treatment complies with the relevant standards and that waste disposal charges are paid.

Projects that produce hazardous waste should formulate a hazardous waste management plan according to the relevant national regulations. Declaration should also be made to the Environmental Department. When handling hazardous waste, stacking and dumping at will are prohibited. The off-site transportation of hazardous waste should be handled with permission of environmental supervisory department, and Joint Inventory System of Hazardous Waste Transfers should be implemented. Transfers of toxic hazardous waste to ungualified handlers or handlers without pollution prevention capacity is prohibited. All reporting projects that involve the use of toxic hazardous substances in the operation should carry out compulsory cleaner production assessment.

JOINT INVENTORY SYSTEM OF HAZARDOUS WASTE TRANSFERS

Before transferring hazardous waste, the hazardous waste production units should report their transfer plan and apply for approval according to the relevant national regulations. Upon approval, the waste production unit should apply for a joint inventory from the environmental protection administrative supervisory department of the site of removal. The waste production unit should notify this department within three days before the transfer. The estimated time of arrival should be reported to the environmental protection administrative supervisory department of the receiving site.

During the year, all reporting projects generated a total of 154,649 tonnes hazardous waste, and the generated hazardous waste such as flying ash, slag and waste engine oil was separately landfilled and handed over to professional contractors for disposal. The total generation of non-hazardous waste such as domestic garbage and recycled products was 212,490 tonnes. Different projects adopt different treatment methods, such as self-use (incineration), recycling and sales.

Maanshan Dismantling Plant produces certain amounts of hazardous wastes during its operation, such as waste activated carbon, waste light tubes and mineral oil. During the year, 3,141.8 tonnes of hazardous waste was generated, among which 3,050 tonnes was handled by qualified units to prevent secondary pollution. In 2019, Maanshan Dismantling Plant will continue to implement the environmental system to prevent environmental incidents.

Wastewater discharges

The wastewater produced by CEHL were mainly production wastewater and domestic wastewater. Wastewater treatment was carried out according to the Environmental Management Measures of the Group.

To reduce the generation of leachate in landfill, the Huludao Landfill has installed interceptor ditch designed according to the geography of the landfill to separate wastewater from rainwater. All leak prevention measures were executed according to the Solid Waste Landfilling Technology Standards and geological survey report. Domestic wastewater produced by employees were delivered to the sewage treatment plant for treatment through the sewage pipe. Once the water quality of the sewage meets the required standard, it will be discharged into the municipal sewage network or reused for gardening at the project sites. Rainwater collected is directly discharged to the rainwater pipeline.

Air emissions

The Group's air emissions are mainly generated from the use of fuel vehicles and operation of landfills. Businesses that have impacts on air emissions include waste collection, landfill, waste-to-energy, and kitchen waste disposal.

	Туре	Emissions (kg)
	Nitrogen Oxides	862,378
Air emissions	Sulphur Oxides	280,978
	Respirable particulate matter	49,164

During the operation of the Huludao Landfill, gases like methane (CH_4), carbon dioxide (CO_2), ammonia (NH_3) and hydrogen sulphide (H_2S) were generated, among which H_2S is a toxic gas with no colour. This project used direct combustion to handle the air emissions produced during the production process. At the same time, the Yangzhou Kitchen Waste Project adopted activated carbon adsorption, combustion and chemical washing to reduce the air emissions generated during its operation.

GHG management

CEHL commissioned CCA to conduct carbon assessments this year to quantify GHG emissions⁶ (or "carbon emissions") generated by the operation of all reporting projects. The quantification process⁷ and emission factors referenced GB/T 32150–2015 General Guideline of the GHG Emissions Accounting and Reporting — Industrial Enterprises, ISO 14064–1, GHG Protocol, and various national and international technical guidelines.

⁶ The assessment covers six types of GHG regulated by the Kyoto Protocol, including CO_2 , CH_4 , nitrogen oxide (N₂O), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs), and sulphur hexafluoride (SF₆); in addition, chlorofluorocarbons (HCFCs) and trifluorobromomethane (Halon 1301) are also covered.

⁷ The quantification process adopts operational control methods to aggregate data.

In the operation of all reporting projects, direct GHG emissions mainly came from gases released from landfills (accounting for about 68% of Scope 1), followed by leachate treatment system (accounting for about 16% of Scope 1). Energy indirect GHG emissions come from purchased electricity, while other indirect GHG emissions come from air business travel. With regard to the major sources of carbon emissions, the Group will continue to assess, record and disclose annually its GHG emissions and other environmental data to review the effectiveness of existing measures and help set emission reduction targets in future.

Scope	Sources	Emissions (tonnes of CO ₂ equivalent)
Scope 1: Direct Emissions	Stationary source fossil fuel combustion, mobile source fossil fuel combustion, waste incineration treatment, solid waste landfill treatment, anaerobic treatment, leachate treatment and fugitive emissions ⁸	568,881
GHG emissions from biomass combustion ⁹		210,313
Scope 2: Energy indirect emissions	Purchased electricity	10,579
Scope 3: Other indirect emissions	Air business travel	53
GHG Emissions in Total (excluding GHG emissions from biomass combustion		579,513
GHG Intensity ¹⁰ (tonnes of CO ₂ equivalent/RMB1,000 ¹¹)		0.83

In addition, the Group's electricity sales at Quanling Power Plant and the Duyun Power Plant were equivalent to avoiding approximately 75,000 tonnes of CO₂ emissions.

- ⁸ Fugitive emissions came from the discharge of refrigerants and fire extinguishing agents from refrigeration and fire-fighting equipment, including HCFC (i.e. R-22) and Halon 1301 (i.e. BTM). Although such emissions are not covered by the Kyoto Protocol, this carbon assessment has included the relevant emissions to enable stakeholders with more complete understanding of the GHG emissions of the Group's all reporting projects.
- ⁹ Biomass includes biodiesel used in vehicles, domestic waste incinerated in waste-to-energy projects, and biogas produced in landfills and anaerobic treatment projects. Carbon dioxide produced by burning biomass has a slightly lower global warming potential (GWP) compared to direct release of such biomass into the atmosphere without treatment, i.e. contributing lesser greenhouse effect.
- ¹⁰ GHG emissions in Scope 1, Scope 2 and Scope 3 are covered in the calculation of GHG intensity.
- ¹¹ The total revenue of 24 projects in the year was 700,365 thousand RMB.

RESOURCE USE MANAGEMENT

The Group's Environmental Management Measures specify the relevant methods of resource use. The managers of all reporting projects should establish corresponding energy conservation and emission reduction systems according to their own conditions. They should survey the environmental protection and pollution control circumstances at the same time. In addition, in order to improve employees' awareness of energy conservation, all reporting projects should regularly organise energy conservation promotion and communicate with employees on environmental laws and regulations, in order to effectively achieve resource management.

Energy

Some projects of the Group have formulated an energy management system to regularly analyse the energy consumption of production equipment. If the energy consumption of the production equipment exceeds the normal level, the operation should be halted immediately and should assess whether replacement or maintenance is required.

The main sources of energy consumption of all reporting projects were consumption of fuel and materials for electricity generation (waste collected), fossil fuel used by machinery, purchased electricity and vehicle fuel.

	Туре	Consumption (kWh)
	Gasoline	2,198
	Diesel ¹²	50,496
	Liquefied petroleum gas	174
	Natural gas	16
	Domestic waste (mineral carbon)	607,150
Energy use	Domestic waste (bio carbon)	824,171
	Biogas	45,661
	Purchased electricity	16,281
	Electricity produced but not yet consumed	438
	Sold electricity ¹³	(-143,245)
	Total energy consumption	1,403,339

¹² Including B5 biodiesel.

¹³ Sold energy came from the waste-to-energy generation of the Quanling Power Plant and the Duyun Power Plant, the biogas generation of the Shangrao City Landfill, and the anaerobic power generation of the Yangzhou Kitchen Waste Project.

To achieve the goal of resources saving, Quanling Power Plant plans to adopt multiple measures to control the use of resources, including:

Туре	Measure		
Treatment system	• Employ energy saving products or other advanced equipment recommended by the government		
	Adopt cooling water recycling system to reduce waste of water resources		
	Make use of computational equipment control operation system		
Electrical system	Implement frequency control in the electric motor to save energy		
	Select energy-saving light tubes		
Water system	• Reuse part of the treated wastewater		

During the year, water consumed by all reporting projects were provided by municipal networks. There were no issues in sourcing water that was fit for purpose.

IMPACTS ON THE ENVIRONMENT AND NATURAL RESOURCES

CEHL emphasises reducing the impact on the environment and natural resources imposed by its business operation. To this end, the Group has established an environmental management system led by the EHS Committee, which is responsible for tasks related to the Group's environmental management.

Department	Responsibilities
Group EHS Committee	 Lead and coordinate environmental efforts of all reporting projects and supervise the implementation of the relevant environmental laws and regulations
	 Review the Group's environmental management and propose rectification requirements
	 Formulate the Group's long-term planning on energy conservation and environmental protection
	• Be fully responsible for the prevention, investigation, processing and conclusion of major environmental accidents of the Group
Project-based EHS Committee	 Implement environmental laws and regulations of the government and those within the group
	• Confirm the long-term environmental protection plan of the project
	 Review emergency response plans for environmental emergencies and coordinate environmental incident response
Project-based Environmental	 Organise environmental impact assessment of construction project and environmental protection acceptance work
Protection Management Department	 Supervise and treat pollution caused by the production process and promote new environmental technologies
	 Coordinate the establishment of ISO 14000 environmental management system and measure environmental data
	Conduct employee environmental training and environmental education



In addition, the Group included environmental management in the project performance evaluation. In case of incidents that seriously impact the environment, such as pollution in the project site, the responsible individuals will be held accountable. Performance bonus for employees at the project concerned will be suspended.

The Group complies with the laws and regulations relevant to environmental pollution controls, such as the Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes, The Regulation on the Administration of the Recovery and Disposal of Waste Electrical and Electronic Products, and other applicable law and regulations. During the year, no reported cases nor cases of non-compliance in relation to emissions or the environment were found among all reporting projects of the Group.

CONTINUOUS IMPROVEMENT

During the year, stakeholders raised the following suggestions in relation to the area of environmental protection in focus group discussion. In future, the Group will consider these suggestions when improving their management and continue to engage stakeholders.

Issue	Stakeholder suggestion							
CEHL's measures and	• To use of renewable energy and carbon emissions transfer;							
plans to mitigate climate change	 To influence upstream and downstream supply chains to address climate change; 							
	 To conduct real-time monitoring of effects and emissions of flying ash treatment, and to reduce the generation of flying ash; and 							
	• To procure advanced equipment and establish a scientific and technological research and development department.							
Treatment of biogas	• To use leachate and biogas generated from landfills to generate electricity; and							
	• To adopt new models of biogas generator to increase efficiency of biogas use and power generation.							
Recycling rate of household	• To plan rationally the dismantling process to improve efficiency and reduce costs;							
appliances (materials	• To improve refined dismantling techniques; and							
containing nickel, non-ferrous materials)	• To increase the value of the dismantled product.							



HEALTH AND SAFETY

CEHL stresses upon the protection of employee health and safety to minimise hazardous incidents. The Group has formulated the relevant regulations including the Safety Management Method and the Occupational Health Management Method to regulate the Group's health and safety management.

CEHL has established the EHS Committee, which is fully responsible for the Group's production safety. At the same time. The Group's all reporting projects should implement the safety management measures of the EHS Committee and organise safety management tasks. Specific duties of the EHS Committee include:

EHS COMMITTEE

The Group's EHS Committee is chaired by the CEO. The heads of CEO Office, operations and project safety serve as the vice-chairpersons of the Committee. Meanwhile, the head of CEO Office serves as the secretary of the committee secretariat.

- Monitor CEHL's compliance with national or regional laws and regulations in all parts of operations and the execution of the Group's internal safety production policies;
- Analyse current production safety of the Group and propose rectification requirements for major safety hazards;
- Be responsible for the investigation and handling of major safety accidents of the Group and propose corrective measures;
- Organise safety production appraisal work.

To implement the annual safety working plan of CEHL, the Group signs the Safety Target Responsibility Declaration with managers of all reporting projects every year. All reporting projects formulate its own safety implementation plans and organise regular safety meeting for evaluation according to the content of this declaration.

The Group implements a safety reporting system to address potential safety management loopholes throughout the production process. Any business units or individuals can report safety hazards or illegal activities related to production safety to higher bodies by letters, emails or telephone. The Group shall enforce confidentiality system in handling the confidential information of the whistleblowing units or individuals to protect their lawful rights and interests from infringement. Once the reported incident is verified, the whistleblowing units or individuals will be rewarded according to the level of harm of the reported incident.

Employee safety training is also key to building a healthy and safe working environment. Safety management systems should be established at all reporting projects to ensure that employees are equipped with the relevant safety skills. Employees of the Group, including new employees, temporary workers or interns, are required to receive the "three-level safety education" and have to pass the examination before taking up their positions. In addition, workers with special skills should possess the relevant national certification before they can engage in the relevant operations and management.

The Group also emphasises the prevention of occupational diseases. The Occupational Health Management Method stipulates that all reporting projects should arrange employees in roles of higher risks of occupational diseases to receive occupational health check according to the Occupational Health Monitoring Technology Standard. If employees are physically unfit for the relevant tasks, they should be removed from the original role with appropriate transfer arrangement. At the same time, an occupational health file should be kept for each employee. All reporting projects should carry out regular maintenance and repair of health protective equipment and ensure proper function.



For example, in Maanshan Dismantling Plant, two fire safety knowledge training sessions and four other production safety sessions were held in 2018 to ensure that all new employees receive at least 24 hours of safety education training and existing employees receive at least 12 hours. In the coming year, Maanshan Dismantling Plant will continue to enhance the safety knowledge training of new and existing employees and strive to finish the certification of occupational health and safety management system. In addition, the Nanyang Collection, Transfer and Processing Project invested RMB580,000 in production safety projects including occupational health check, maintenance and renewal of safety and protective equipment and safety label renewal.

The Group complies with laws and regulations in relation to occupational health and safety, such as the Production Safety Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases, Regulation on Work-Related Injury Insurances and other applicable laws and regulations. During the year, no cases of non-compliance in relation to health and safety were found among all reporting projects of the Group. During the year, there were 17 work accidents but no cases of work-related fatalities occurred. The Group has provided appropriate support and compensation to injured employees in accordance with relevant national and local laws and regulations.

Continuous Improvement

Regarding employee health and safety, stakeholders raised the following views and suggestions in the focus group discussion. The Group will consider improving its management approach in future and continue to engage with stakeholders.

Issue	Employee suggestion					
Health and safety	To provide regular medical examinations for employees; and					
	• To set up a "Safety Experience Hall" at each unit, to improve employee safety awareness (such as emergency medical treatment, regular safety drills, anti-static measures, use of high-voltage equipment, etc.).					
Production site safety management	 To avoid vehicles entering the production site too fast by putting up reminder posters and setting up speed cameras; and To strengthen on-site control and mechanical operation of the operation area. 					

EMPLOYMENT MANAGEMENT SYSTEM

CEHL understands the importance of improving the employment management system to protect the lawful rights and interests of employees. The Group has formulated a series of internal policies including the Employee Management System, the Recruitment and Hiring System, the Remuneration Management System, and the Welfare and Subsidy Management Measures to ensure protection of employees' rights in compensation, equal opportunities, holidays and anti-discrimination and benefits. Internal discussion of diversity policies is underway. The policy is scheduled for completion and implementation in 2019.

The Group's Welfare and Subsidy Management Measures require that the Group's welfare subsidies cover daily allowance (including transport, communication and meal allowances) and non-daily allowance (high-temperature allowance, wedding gift cash, and funeral condolence payments). The Welfare and Subsidy Management Measures are drafted and improved by the Group's Human Resources Department.

In addition, CEHL adjusts the ranks of employees according to their performance and compatibility with the development strategy of the Group. Employees with rank adjustments should go through an announcement period, and upon the end of this announcement period, the Human Resources Department will coordinate the rank adjustments and implement new compensation arrangement and performance standards starting from the next month. This is to ensure an open and fair promotion practice.

In response to the concerns of key stakeholders regarding the human rights protection for security personnel, all reporting projects have signed agreements with qualified security companies and ask them to arrange security personnel who have received training on human rights issues to perform at the sites of all reporting projects.

Total number of employees		
this year of all reporting	Male to female ratio across	Employee turnover rate of the
projects	all reporting projects	year
2,800	3.1:1	6%

The accounting result of the distribution of employees, the proportion of new employees and the employee turnover rate in the year for all reporting projects can be found in the section of "KPIs Summary".

The Group complies with laws and regulations in relation to employment, such as the Labour Law of the People's Republic of China, the Labour Contract Law of the People's Republic of China and other applicable laws and regulations. During the year, no cases of discrimination or non-compliance in relation to employment was found among all reporting projects of the Group.

TRAINING AND DEVELOPMENT OPPORTUNITIES

CEHL understands the importance of training in enhancing the professional skills of employees. The Group has formulated the relevant regulations such as the Education and Training Management Measures and Backup Employee Management Measures, to help employees expand their career path.

The Human Resources Department of CEHL is fully responsible for the Group's talent training, including: orientation training, on-the-job training, senior management training and other types of training.

Training	Training content						
Orientation training	Basic professional knowledge and skills required for the position						
	• The history of development of the Group and various rules and regulations						
On-the-job training	 Management skills training: training for middle and senior management personnel focusing on decision making, coordination and innovation 						
	 Training for backup management focusing on the enhancement of management skills and professional skills 						
Senior management training	 Financial management, human resource management, and industry-related laws and regulations, etc. 						
Other types of training	 Professional qualification, academic education and professional title evaluation, etc. 						

The Group has established training files for each training. The training project leader should submit the training files to the Human Resources Department for record keeping within five working days after the training. Training files should document the training categories, training fees, training materials, and training records. When the training is completed, the Human Resources Department will communicate with the training instructors and participants to evaluate the training results.



Besides, the Group also values the development of backup employees and has formulated the Backup Employee Management Measures. The system requires that the backup employee team should comprise reasonable numbers of members at different ages. At the same time, there should be a certain proportion of female employees. Training measures for backup employees should involve the following aspects:

- Training and learning: Provide backup employees with training in management and leadership conducted by external lecturers in systematic training courses, given the needs of the employees and corporate strategic development;
- Rotation training: Arrange reasonable job rotation for backup employees according to their intention and the overall status of the Group's operation;
- Secondment: Propose a plan for secondment according to the actual situation of different departments. In order to improve training effectiveness, secondment across different projects is allowed.

The overall employee training data for all reporting projects during the year is shown in the following table:

		Percentage of trained employee	Average training hours
Gender	Male	58%	19.3
	Female	45%	16.1
Employment Type	Senior managerial level	93%	24.6
	Managerial level	93%	19.3
	General staff	51%	18.4

The accounting result of employee training in all reporting projects in the year can be found in the section of "KPIs Summary".

LABOUR STANDARDS

The Group is committed to avoiding the risk of child labour in the course of its operations. The Human Resources Department is responsible for reviewing employees' personal information. If child labour is uncovered, the child concerned should be removed from work immediately and escorted to his/her guardian's.

At the same time, the Group prohibits forced labour. The Employee Management System stipulates that, if overtime work is required due to operational needs, the Company should consult employees in advance. The Overtime Work Approval Form should be filled in and approved by the person in charge of each department. For employees who work extra hours, time off in lieu should be should be arranged within the same year. If such arrangement is not possible, economic compensation should be made to the employee.

The Group complies with laws and regulations relating to labour standards, such as Law of the People's Republic of China on the Protection of Minors, Payment of Wages Tentative Provisions and other applicable laws and regulations. During the year, no cases of non-compliance in relation to labour standards was found among all reporting projects of the Group.

Enhancing Operations

PRODUCT RESPONSIBILITY

CEHL values continuous improvement of the quality of its service. To strengthen supervision of the operational process, the Group has formulated the Project Operation Management Measures. At the same time, Quanling Power Plant and Maanshan Dismantling Plant formulated the Production Safety Inspection System and the Production Safety Responsibility System respectively to regulate the management of product responsibility.

The Project Operation Management Measures stipulate that, the Group's Operation Management Centre is responsible for establishing a production safety management system and at the same time carrying out safety production management. At the same time, registered safety engineers should be assigned to all reporting projects and conduct investigations on accidents and hazards, to improve the safety of the Group's services. In addition, all reporting projects are required to submit next-year equipment maintenance plans every year to the Group's Operation Management Centre. The plan should include the type of equipment to undergo maintenance, maintenance plan and estimated budget.

Quanling Power Plant's Production Safety Inspection System specifies the format and content of three safety inspections, including:

Inspection format	Inspection content
Regular safety inspection	Equipment safety and safety activity records
Seasonal safety inspection	Prevention of natural disasters
Routine safety inspection	Implementation of the safety production system

If safety production hazards are identified during the inspection, rectification should be carried out immediately. For potential safety hazards that cannot be rectified immediately, effective preventive measures should be employed, which should also be included in future maintenance plans.

In terms of product recycling or quality assurance procedures, all reporting projects set relevant measures based on the nature of its business. The electronic dismantling of the external sales does not involve any product recall procedure, and if the customer informs that the product is not up to standards, the dismantling project will adjust the production conditions during the disassembling process. In addition, if there are problems with the quality of the by-products produced by the anaerobic treatment project, the relevant projects will gradually improve the product quality on the basis of maintaining high-quality customer relationships. Under normal circumstances, customers should collect dismantled electronic products or by-products of anaerobic treatment projects in person, and conduct on-site quality verification and pricing of the products.

CEHL dedicates itself to protecting its own and its partners' intellectual property rights and complies with all relevant national or local laws and regulations. In case of any unauthorised use of intellectual property rights, the Group will cooperate with the judicial authorities to conduct investigation.

In terms of advertising, CEHL has established Brand Management System to regulate brand positioning, brand planning, media management, brand activities, etc., and the Board Office is responsible for brand strategic planning, market information disclosure and public relations. The Group understands that anti-competition is considered by the stakeholders as one of the important issues in the operation of the Group, while currently all reporting projects have not been involved in any specific anti-competition issues. This is determined by the fact that the product nature of all reporting projects is public service, which cannot be replaced by private market approach. In future, a mechanism for fair competition will be established given the needs of business development. The operation of CEHL involves the management and storage of information of clients, suppliers and important business partners. The Group plans to develop an information management procedure to protect the privacy of related parties.



Enhancing Operations

Due to the nature of the business, the Group has not established an internal policy on product labelling. The Group complies with laws and regulations relating to its product responsibility, such as Company Law of the People's Republic of China, Standards of Pollution Control on Domestic Waste Incineration and other applicable laws and regulations. During the year, no cases of non-compliance in relation to product responsibility (including health and safety, advertising, labelling and privacy matters) were found among all reporting projects of the Group.

ANTI-CORRUPTION

CEHL is committed to creating a fair, compliant and high-quality operating environment. Any forms of bribery, extortion, fraud and money laundering are strictly prohibited. The Group has in place the Employee Responsibility and Penalty Management Measures to establish a sound internal accountability system. At the same time, Yangzhou Kitchen Waste Project has formulated an Anti-corruption Management System.



CEHL has established an Internal Accountability Committee, which is chaired by the CEO of the Group. The Committee will compile a review report on corruption cases and propose suggestions, including notification of criticism, job transfer, demotion, dismissal or termination of contract. If unlawful conducts are suspected, the case will be passed to the relevant judicial authorities. In addition, employees of Yangzhou Kitchen Waste Project are prohibited from requesting any economic benefits during the course of business with constructors, suppliers or other units. At the same time, if the relevant organisation has any improper behaviour, it should communicate with the manager of the project company. Any unauthorised acceptance of economic interests will be regarded as a violation of discipline.

The Group complies with laws and regulations in relation to anti-corruption, such as Anti-Unfair Competition Law of the People's Republic of China, Anti-Money Laundering Law of the People's Republic of China, Regulation on the Implementation of the Bidding Law of the People's Republic of China and other applicable laws and regulations. During the year, no cases of non-compliance in relation to corruption (including bribery, extortion, fraud and money laundering) were found among all reporting projects of the Group.

SUPPLY CHAIN MANAGEMENT

CEHL understands the importance of supply chain management to its businesses. The Group selects suppliers that meet the environmental and social requirements of the Group through supplier screening systems such as the Tender Management Measures and the Procurement Management Measures.

When screening suppliers, the Group not only considers the quality of products provided by suppliers, but also their social performance. In this regard, the Group requires all suppliers to submit supporting documents for their social performance to verify that their operation does not involve any non-compliance with laws and regulations. Suppliers or bidders found to commit bribery or other major incompliance will be disqualified as a partner of the Group for a period of three years. All tender and procurement processes of the Group are handled by the Tender and Procurement Working Committee. The CEO Office is responsible for the approval and review of the relevant systems.

To strengthen environmental risk monitoring of the supply chain, CEHL plans to introduce environmental assessment of suppliers of products and services to the existing Tender and Procurement Management Measures (e.g. inspection of past pollution non-compliance records, on-site inspection with suppliers or contractors of practices in using packaging materials, etc.)

Investing in the Community

CEHL values its undertakings of corporate social responsibilities. It actively pays attention to the actual needs of the communities where it operates especially on community education and charity initiatives, through the way such as establishing foundations.

During the year, CEHL continued to support the charity events of Beijing Charity Foundation with donations. Together with the Beijing Capital Group, the CEHL invested 1 million RMB to build an integrated teaching building at Yanliu Primary school in Shou County in Huainan City, of a land area of 2,500 square metres. The Group hopes to elevate the education level in remote areas of China mainland by supporting the construction of the Project Hope primary schools, which should promote upward social mobility and enhance training and development opportunities for the younger generation. At the same time, this construction support project is an important approach of the Group to fulfil corporate social responsibility.

In addition, in order to improve the environmental knowledge of the general public, the Quanling Power Plant cooperated with the Education Bureau of Nanchang City during the year to jointly organise environmental protection activities for primary and secondary school students. During this scheme, over 1,600 attendants visited the power plant. Meanwhile, in celebration of World Environment Day, the Group also launched a state-owned enterprise open-day event to disseminate environmental protection knowledge to citizens and to promote environmental protection concepts.

In future, the Group will consider formulating policies related to community investment to specify contents such as the scope of the Group's community investment, its management approach and approval process.



ENVIRONMENTAL PERFORMANCE

Environmental KPIs	Quantity	Unit			
Air emissions and type					
Nitrogen Oxides	862,378	kilogram			
Sulphur Oxides	280,978	kilogram			
Respirable suspended particles	49,164	kilogram			
GHG emissions					
Scope 1	568,881	tonnes of CO_2 equivalent			
Scope 2	10,579	tonnes of CO_2 equivalent			
Scope 3	53	tonnes of CO_2 equivalent			
Total GHG emissions (Scope 1, 2 and 3)	579,513	tonnes of \rm{CO}_2 equivalent			
GHG intensity (Scope 1, 2 and 3)	0.83	tonnes of CO ₂ equivalent/RMB1,000 of revenue			
Hazardous waste					
Total amount of hazardous waste	154,649	tonnes			
Hazardous waste intensity (by revenue)	0.22	tonnes/RMB1,000 of revenue			
Non-hazardous waste					
Total amount of non-hazardous waste ¹⁴	212,490	tonnes			
Non-hazardous waste intensity (by revenue)	0.42	tonnes/RMB1,000 of revenue			
Total energy consumption					
Total energy consumption	1,403,339	MW equivalent			
Energy intensity (by revenue)	3.10	MW equivalent/RMB1,000 of revenue			
Total water consumption					
Total water consumption ¹⁵	1,278,494	Cubic metre			
Water intensity (by revenue)	1.91	Cubic metre/RMB1,000 of revenue			
Packaging materials consumption					

¹⁴ Accounting of non-hazardous waste does not include Quanling Power Plant, Duyun Power Plant, Duyun Landfill, Weng'an Landfill, Huludao Landfill and Beijing Cleaning Project.

¹⁵ Accounting of water consumption does not include Beijing Cleaning Project.

SOCIAL PERFORMANCE

Employment

Reporting Items			Central China	South China	East China	Southwest China	North China	Northeast China	Total
Current employees	Gender	Male	488	12	1,233	111	256	21	2,121
		Female	40	7	469	24	133	6	679
	Age	Below 30	117	4	156	40	8	2	327
		30-50	378	8	509	93	125	20	1,133
		Over 50	33	7	1,037	2	256	5	1,340
	Rank	Senior managerial level	10	1	22	5	3	2	43
		Managerial level	32	2	80	7	10	3	135
		General staff	486	16	1,600	123	376	22	2,622
New hires ratio	Gender	Male	18.9%	91.7%	12.7%	31.5%	32.0%	0%	17.7%
		Female	20%	100%	7.2%	20.8%	35.3%	0%	14.9%
	Age	Below 30	24.8%	100%	22.4%	17.5%	50%	0%	24.2%
		30-50	18.8%	87.5%	21.0%	35.5%	36.8%	0%	23.3%
		Over 50	0%	100%	4.6%	0%	30.9%	0%	10.0%
Turnover rate ¹⁶	Gender	Male	10.9%	0%	5.0%	11.7%	5.9%	0%	6.7%
		Female	0%	0%	3.4%	12.5%	6.0%	0%	4.0%
	Age	Below 30	1.7%	0%	10.3%	20%	0%	0%	8.0%
		30-50	13.5%	0%	7.5%	8.6%	4%	0%	9.0%
		Over 50	0%	0%	2.3%	0%	7.0%	0%	3.1%

¹⁶ Accounting of employee turnover rate does not include Qianjiang Collection and Transfer Project



Health and Safety

Reporting Items		Central China	South China	East China	Southwest China	North China	Northeast China	Total
Work-related injuries	Male	3	0	11	0	2	0	16
	Female	0	0	0	0	1	0	1
Work-related fatalities	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
Number of employees	Male	49	0	766	2	0	0	817
performing high risk duties	Female	0	0	331	3	0	0	334
Lost days due to work-related	Male	26	0	90	0	180	0	296
injuries or occupational diseases	Female	0	0	0	0	90	0	90
Days of absence	Male	189	0	298	90	360	0	937
	Female	0	0	248	90	120	0	458

Training

Reporting Items			Central China	South China ¹⁸	East China	Southwest China	North China	Northeast China	Total
Training rate	Gender	Male	83%	0%	38%	95%	84%	100%	58%
		Female	80%	0%	26%	92%	92%	100%	45%
	Rank	Senior managerial level	80%	0%	100%	100%	100%	100%	93%
		Managerial level	78%	0%	100%	100%	100%	100%	93%
		General staff	83%	0%	30%	87%	87%	100%	51%
Average Training	Gender	Male	24.2	0.0	19.9	12.3	12.3	6.9	19.3
hours ¹⁷		Female	25.3	0.0	20.3	10.3	11.4	16.0	16.1
	Rank	Senior managerial level	45.9	0.0	19.1	15.0	15.0	24.0	24.6
		Managerial level	24.8	0.0	18.8	12.9	12.9	32.0	19.3
		General staff	23.9	0.0	20.2	12.0	12.0	4.4	18.4
Percentage of	Gender	Male	81%	0%	90%	93%	97%	0%	88%
employees under review Ra		Female	81%	0%	92%	100%	91%	0%	90%
	Rank	Senior managerial level	60%	0%	59%	100%	67%	0%	60%
		Managerial level	72%	0%	46%	86%	100%	0%	56%
		General staff	82%	0%	93%	94%	95%	0%	90%

¹⁷ Accounting of average training hours does not include Guangchang Processing Project.

¹⁸ As the South China Project (i.e. Yingde Landfill) started operation within this year, its data on employee training and yearly performance review are not available yet.

Operation and Product Responsibility

Reporting items		Central China	South China	East So China	uthwest China	North M China	Northeast China	Central China
Non-compliance in relation to health and safety of products and services	Number of incidents	0	0	0	0	0	0	0
	Percentage of product recall	0%	0%	0%	0%	0%	0%	0%
Proven complaints about breach of customer privacy or loss of customer data	Total number of incidents	0	0	0	0	0	0	0
Litigations regarding inappropriate competition, anti-trust and anti-monopoly practices	Total number of incidents	0	0	0	0	0	0	0

Community Investment

Reporting items		Central China	South China	East China	Southwest China	North China	Northeast China
Total donations	RMB	59,664	0	278,960	49,852	2,000	0
Volunteering	Participation	154	0	10	0	0	0
Volunteering hours	Hours	218	0	40	0	0	0



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		(a) the policies; and	
	_	(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and GHG emissions, discharges into water and land, and generation of hazardous and non-hazardous waste	
GRI 305-7	A1.1	The types of emissions and respective emissions data	20, 32
GRI 305-1 GRI 305-2 GRI 305-3 GRI 305-4 GRI 305-5	A1.2	GHG emissions in total and, where appropriate, intensity	20–21, 32
GRI 306-2	A1.3	Total hazardous waste produced and, where appropriate, intensity	20, 32
GRI 306-2	A1.4	Total non-hazardous waste produced and, where appropriate, intensity	20, 32
GRI 103-2	A1.5	Description of measures to mitigate emissions and results achieved	19–21
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GRI 103-2	A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved	
GRI 301-1	A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced	32

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_	A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them	23–24		
	B1 Employment		26–27		
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GRI 103-2		(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			
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GRI 401-1	B1.2	Employee turnover rate by gender,age group and geographical region	27, 33		
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GRI 406-1	_	Total number of incidents of discrimination and remediation plans that have been implemented	27		
	B2 Health and Sa	fety	25–26		
GRI 103-1	General Disclosure	Information on:			
GRI 103-2 GRI 103-3		(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			
GRI 403-4	_	Where formal joint management–worker health and safety committees exist, a description of their responsibilities (Partial)	25		
GRI 403-5	_	A description of any occupational health and safety training provided to workers, including generic training as well as training on specific work-related hazards, hazardous activities, or hazardous situations	25		
GRI 403-6	_	An explanation of how the organization facilitates workers' access to non-occupational medical and healthcare services, and the scope of access provided	26		
GRI 403-9	B2.1	Number and rate of work-related fatalities	26, 34		

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GRI 103-2 GRI 103-3		(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	35
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		(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering	
GRI 205-3	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	5 30
GRI 102-17 GRI 103-2	B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored	30
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