



SIIC Environment Holdings Ltd. Sustainability Report 2020



上海实业环境控股有限公司
SIIC ENVIRONMENT HOLDINGS LTD.

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1. About this Report

This Sustainability Report (“**Report**”) aims to provide investors and related stakeholders with disclosures pertaining to the environmental, social, and governance (“**ESG**”) performance of SIIC Environment Holdings Ltd. (together with its subsidiaries, collectively “**SIIC Environment**”, the “**Company**” or “**we**”).

1.1 Reporting Scope

Reporting Period: Unless otherwise specified, this Report covers the period from 1 January 2020 to 31 December 2020 (“**Reporting Period**”).

Business Scope: This Report covers the Company’s headquarters, as well as projects that were in operation during the Reporting Period at the Company’s major business units, including SIIC Environment Holdings (Wuhan) Co., Ltd. (“**Central BU**”), Nanfang Water Co., Ltd. (“**South BU**”), SIIC Environment Holdings (Weifang) Co., Ltd. (“**North BU**”), Longjiang Environmental Protection Group Co., Ltd. (“**Northeast BU**”), Fudan Water Engineering and Technology Co., Ltd. (“**East BU**”), **Waste Incineration Division**, and Ranhill Water (Hong Kong) Ltd. (“**Ranhill Water**”).

1.2 Reporting Guideline

This Report is prepared in accordance with the “Comply or Explain” provisions and the Materiality, Quantitative, Balance, and Consistency principles of the *ESG Reporting Guide* set out in Appendix 27 to the *Rules Governing the Listing of Securities* (the “**Hong Kong Listing Rules**”) on *The Stock Exchange of Hong Kong Limited* (“**SEHK**”). In addition, this report is prepared by taking reference from the guidance under the Sustainability Reporting Guide set out as Practice Note 7.6 of the Listing Manual of the Singapore Exchange Securities Trading Limited (“**SGX**”), and is prepared with reference to the internationally recognised *Global Reporting Initiative (GRI) Standards*, which represents the global best practices for reporting on a range of economic, environmental, and social impacts. We seek to adhere to the above reporting frameworks’ generic sustainability considerations, general principles and indicators, and applied them to report our sustainability policies, practices, performance, and targets on our activities. In order to fully understand the Company’s ESG performance, this Report should be read in conjunction with the *Corporate Governance Report* within the Company’s Annual Report for the financial year ended 31 December 2020.

1.3 Disclaimer of the Report

This Report presents the Company’s sustainability philosophy, actions, and achievements during the Reporting Period. The Company’s Board (“**Board**”) of Directors (“**Directors**”) is responsible for the reliability, truthfulness, objectivity, and completeness of the content of this Report. We recorded the ESG data in an online ESG data collection system and have verified the data internally before external reporting.

This Report is published in both English and Traditional Chinese. Should there be any discrepancy between the two versions, the English version shall prevail.

1.4 Access and Feedback

This Report is available at the HKEx News website of the Hong Kong Exchanges and Clearing Limited (www.hkexnews.hk), the website of the SGX-ST (www.sgx.com) and the official website of the Company (www.siicenv.com).

We welcome all stakeholders to provide valuable comments and suggestions in

relation to this Report by contacting us at: info@siicenv.com.

2. About SIIC Environment

2.1 Overview

SIIC Environment is one of the leading investors and operators in the environmental industry in the People's Republic of China ("PRC"). We engage in wastewater treatment, water supply, sludge treatment, solid waste incineration, and other environmental related businesses.

As of the end of 2020, the Company holds over 200 wastewater treatment and water supply projects with a total design capacity of around 13 million tonnes/day, as well as 8 waste incineration power generation projects and 10 sludge treatment projects, across 19 provinces and municipalities in China. Our water projects and sludge treatment services are offered and managed through the Central BU, South BU, North BU, Northeast BU, and East BU. Our waste incineration power generation business is managed by the Waste Incineration Division. Ranhill Water mainly carries out industrial wastewater treatment and other public utility services.

2.2 Business Outlook

2021 is the opening year of China's 14th Five-Year Plan, which emphasises the importance of actions against climate change. The country has also announced its goal of achieving peak carbon dioxide ("CO₂") emissions by 2030 and carbon neutrality by 2060. We fully support these goals by encouraging the use of renewable energy across our operations and further developing the waste incineration power generation business, which helps reduce the amount of carbon emissions generated from fossil fuel usage.

Following the Yangtze River Delta Regional Integrated Development Plan set out in the 14th Five-Year Plan, the Company will focus on the wastewater and waste incineration business in the Yangtze River Economic Belt, seizing the development trends of the environmental protection industry. Our benchmark waste incineration power plant in the Yangtze River Delta region – Shanghai Baoshan Renewable Energy Utilisation Centre Project, is expected to commence operation in 2022, with a total design capacity of up to 3,800 tonnes/day.

The Company's businesses have fully recovered from the impacts of the COVID-19 pandemic. Under the new normal formed to prevent and monitor the pandemic, we will continue to explore new business models, increase R&D activities and proactively search for new opportunities in the field of environmental protection in the future.

3. Corporate Governance

At SIIC Environment, we fully recognise the importance of good corporate governance in protecting shareholders' interests and enhancing corporate performance and accountability. We are committed to establishing corporate governance practices in line with the principles, provisions, and recommendations of the *Code of Corporate Governance 2018* issued by the Monetary Authority of Singapore under Singapore's Ministry of Finance and the applicable provisions of the *Corporate Governance Code* set out in Appendix 14 to the Hong Kong Listing Rules.

3.1 Sustainability Governance Structure

The Board is the top governance body for SIIC Environment's sustainable development and is responsible for determining the Company's ESG-related risks, ensuring the effectiveness of ESG risk management and internal control systems, periodically reviewing the Company's sustainability performance, and continuing to improve the Company's sustainability related work.

The Board delegates to its Risk and Investment Management Committee ("**RIMC**") to participate in the development of ESG management approach and policies and oversee the implementation of ESG-related work plans. The RIMC provides strategic advice to the Board on identifying key stakeholder groups, managing any material ESG issues, setting ESG targets, and tracking progress against the targets. The Risk Committee and senior management regularly review the Company's operations to identify areas with significant risks, including ESG-related risks, and develop appropriate measures to control and mitigate those risks. Our internal auditors assist the RIMC in assessing whether the Company's internal controls are adequate, effective, and performing as intended.

The Company's ESG working group ("**ESG Working Group**") forms the next level of our sustainability governance structure. The ESG Working Group comprises senior management and employees from various departments who possess good understanding of the Company's operations and relevant ESG matters. The ESG Working Group is responsible for preparing the Company's annual sustainability reports, including coordinating stakeholder engagement in materiality assessments of the ESG issues, and liaising with designated personnel in charge of ESG-related matters from the business units within the reporting scope to collect and validate ESG data within the Reporting Period.

3.2 Board Statement

The Board considers ESG issues as part of its strategic formulation and takes overall responsibility for the Company's ESG strategy and reporting. The Board has identified and evaluated material ESG factors, oversees the management and monitoring of these factors, and continues to actively seek sustainable development opportunities for the Company.

During the Reporting Period, the Company's Directors actively participated in the materiality assessment of relevant ESG issues, prioritising the issues based on their level of impact to the Company's business. The assessment results were combined with opinions from other stakeholder groups to identify issues with high level of materiality, which will be the focus of our future ESG work.

The Board manages ESG risks and opportunities in line with the Company's business strategy, regulatory changes, and industry trends, and continues to improve the ESG

target setting and tracking mechanism to enhance the Company's ESG performance.

3.3 Stakeholder Engagement

The Company recognises the importance of establishing and maintaining effective communication with external stakeholders to understand and address their needs and concerns in a timely manner. We have identified eight external stakeholder groups that are key to the Company's business and operations, and have developed engagement channels tailored to each group.

Stakeholders	Methods of Communication
Shareholders and Investors	Annual reports, quarterly results, interim reports, public announcements, circulars, press releases, annual and extraordinary general meetings, non-deal roadshows, individual and group meetings
Employees	Company meetings and departmental meetings, annual staff meetings, questionnaires, internal emails
Customers	Customer meetings, customer satisfaction surveys, on-site visits
Business Partners and Suppliers	Partner meetings, questionnaires, seminars, on-site visits
Industry Associations and NGOs	Industry conferences, company website, official reports, online communication, offline surveys
Local Communities and the Public	Volunteer activities, public hearings, open houses, on-site visits
Media	Press releases, interviews, and announcements
Government and Regulators	Government meetings, supervision, assessments, questionnaires, on-site visits

3.4 Materiality Assessment

To perform a more comprehensive assessment of the material ESG issues that different stakeholder groups of the Company are concerned with, we invited internal and external stakeholders to participate in the 2020 materiality assessment online survey. An independent sustainability consultant was engaged to assist us in conducting the assessment. The assessment process and results are shown in the diagram and matrix below. The Board has reviewed and noted the materiality assessment results, and this Report will focus on disclosing and discussing relevant and material ESG issues.

1. Identify key stakeholder groups: We identified ten stakeholder groups that have medium/high influence and medium/high dependence on the Company, who are invited to participate in the materiality assessment.



2. Establish material ESG issue database: Based on the requirements of SEHK and SGX, GRI Standards, the Company's business characteristics, and practices of peer companies, we compiled a list of material ESG issues to be included in the stakeholder survey.



3. Conduct online stakeholder survey: We invited the stakeholder groups, including the Directors and senior management of the Company and the external stakeholder groups to assess the materiality of each ESG issue through an online questionnaire survey.

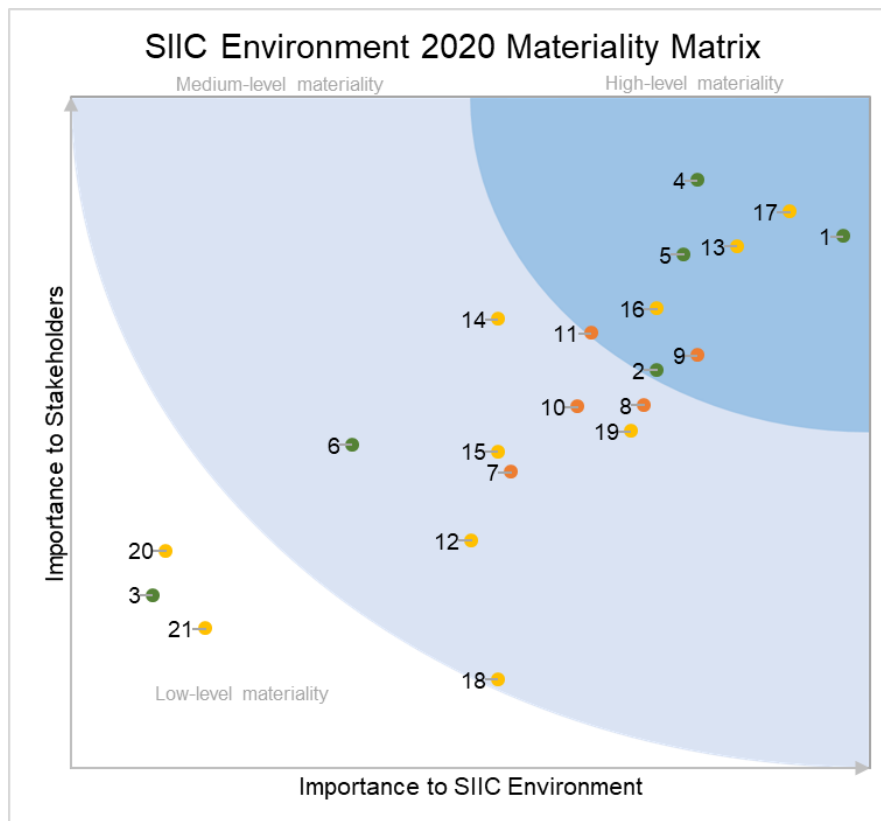


4. Survey result analysis: A materiality matrix was formed based on quantitative analysis of the survey results. The two-dimensional matrix maps the material ESG issues based on the perceived importance to stakeholders and the significance to the Company.



5. Board's confirmation: The Board confirms the materiality assessment results, where a total of nine ESG issues were identified as having the highest importance to stakeholders and to the Company, and will be the focus of this Report's disclosure.

A total of 450 stakeholders participated in the survey and the results were shown in the matrix and table below, where the ESG issues are categorised based on levels of materiality.



Subject Area	High-level Materiality	Medium-level Materiality	Low-level Materiality
Environment	1. Emissions, discharges and waste management 2. Resource efficiency 4. Clean water and sanitation 5. Environmental impact management	6. Promotion of environmental protection concepts	3. Greenhouse gas emission management and climate change action
Employment and Labour Practices	9. Occupational health and safety 11. Labour standards	7. Equal opportunity and employee rights 8. Employee compensation and benefits 10. Employee training and development	-
Operating Practices	13. Service quality and standards 16. Anti-corruption 17. Compliance management	12. Supply chain sustainability management 14. Consumer rights and privacy protection 15. Intellectual property rights protection 18. R&D and innovation 19. Economic performance	20. Community engagement and investment 21. Rights of indigenous peoples

As shown in the table below, for issues newly identified as highly material in the 2020 assessment, we have set respective long-term targets; for issues that remain highly material from past assessments, such as clean water and sanitation, service quality and standards, and occupational health and safety, we have reviewed and updated the previously set targets based on the Company's actual operation and growth strategy, so that these targets can continue to apply for the forthcoming year.

In 2019, we developed short- and medium-term targets related to environmental, social, and governance aspects, including providing customers with high-quality municipal services related to water supply and treatment, sludge treatment, and waste incineration under the premise of meeting relevant laws and regulations, and further enhancing cooperation with local governments. In 2020, our project companies maintained high quality in the municipal services they provide, and further utilised technical expertise and scale advantages to actively engage in and support local government's municipal wastewater treatment efforts.

Subject Area	Issues with High-level of Materiality	Corresponding Chapter	Long-Term Targets	2020 Progress	Overachievements/ Shortfalls
Environment	Emissions, discharges, and waste management	4.2 Wastewater and Air Emissions Management 4.3 Hazardous and Non-Hazardous Waste Management	Actively and continuously exploring opportunities to minimise our adverse impact on the environment.	Improving treatment processes and upgrading facilities to ensure full compliance with relevant environmental laws and regulations.	Progress steadily towards the target.
	Resource efficiency*	4.4 Resource Consumption Management	Enhancing consumption efficiency for water, energy, chemical, and other resources during production and office activities; promote intelligent management system and support the development of urban smart water infrastructure.	Setting qualitative and quantitative targets regarding water, electricity, and chemical consumption at project companies; incorporating resource efficiency considerations into project companies' performance review and developing reward	Through effective resource management measures, some project companies surpassed the targets and generated considerable amount of resource savings.

				systems.	
	Clean water and sanitation	4.4.2 Water Consumption 5.1.1 Safeguarding Water Quality and Sanitation	Meeting public demand for high-quality water through the adherence to higher treatment requirements.	Implementing comprehensive water quality monitoring mechanism and enhancing emergency preparedness for water quality incidents.	Some water supply projects may experience seasonal fluctuations in water supply, and some may face safety concerns regarding single pipeline water transmission. The projects have developed mechanisms to manage these challenges.
	Environmental impact management	4. Environment	Standardising our approach to environmental management, refining our environmental management systems, implementing our environmental management strategy, and ensuring full compliance with regulatory requirements.	Continuously improving management of air and water emissions, hazardous and non-hazardous waste, and resource consumption; setting qualitative and quantitative environmental targets at project companies.	Progress steadily towards the target.
Employment and Labour Practices	Occupational health and safety	5.3 Occupational Health and Safety	Providing our employees with a safe working environment which includes, among other things, providing adequate protective clothing and gear, providing safety	Conducting safety training and emergency drills targeted at employees of different job functions; providing occupational health check-ups for employees.	Number of lost days due to work injury significantly decreased in 2020. There were one production safety accident and one other accident in 2020. The business units involved promptly

			education and training, and having dedicated safety management personnel.		investigated the accidents and implemented preventive measures, while working with the family members of the deceased employees to handle the aftermath of the accidents.
	Labour standards*	5.4.1 Employment and Labour Practices	Maintaining zero forced labour and child labour case in compliance with Chinese laws; ensuring thorough protection of employees' rights and interests related to labour practices and employment.	Strictly adhering to labour laws and regulations and maintaining comprehensive labour management systems.	The Company maintained zero cases of forced labour and child labour in 2020 in compliance with Chinese laws.
Operating Practices	Service quality and standards	5.1 Service Quality and Standards	Delivering outstanding product and service quality as a commitment to our customers.	Ensuring quality water supply; promptly handling customer complaints; investing in R&D to help improve service quality.	Progress steadily towards the target.
	Anti-corruption*	3.5 Compliance Management and Anti-Corruption	Maintaining zero case regarding corrupt practices brought against the Company and its employees; fostering a culture of integrity among employees.	Implementing comprehensive whistleblowing policy; organising anti-corruption training for staff and management personnel.	There were no concluded legal cases regarding corrupt practices brought against the Company and its employees in 2020.
	Compliance management	3.5 Compliance Management and Anti-Corruption	Tightening internal control management, enhancing relevant training we	Business units and project companies implementing internal	Progress steadily towards the target.

		4. Environment 5. Social	provide to our employees, and strengthening our audits and inspections.	policies to ensure compliance with ESG-related laws and regulations; the Company's Audit Committee and RIMC effectively carrying out risk evaluation and management activities.	
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*Issues newly identified as highly material in the 2020 materiality assessment.

3.5 Compliance Management and Anti-Corruption

The Company attaches great importance to conducting business operations in accordance with the relevant laws and regulations, and diligently manages the impact of our operations on the environment and society.

The operation of the Company's projects strictly adheres to the applicable environmental protection standards and requirements. The business units and their project companies have developed internal policies on managing wastewater discharge, air emissions, resource consumption, and other environmental impacts. We strive to comply with the laws and regulations associated with our social responsibilities by implementing policies and standards on anti-corruption, service quality, supply chain management, health and safety, employment and labour practices, and community investment.

The Company's Audit Committee and RIMC oversee regular inspections, evaluate and manage risks arising from our operations, and ensure the effectiveness of key internal controls. The two committees report findings to the Board for review. Through these processes, we monitor implementation of our policies and compliance with regulatory requirements or applicable laws.

The Company places a strong emphasis on corporate integrity and honesty. We abide by laws and regulations related to bribery, extortion, fraud, and money laundering such as the *Criminal Law of the PRC*, *Anti-Money Laundering Law of the PRC*, *Anti-Unfair Competition Law of the PRC*, and *Prevention of Corruption Act of Singapore*. During the Reporting Period, there were no legal cases regarding corrupt practices brought against the Company or its employees, and no reported incidents of non-compliance with laws and regulations related to bribery, extortion, fraud, and money laundering.

The Company has implemented the internal *Fraud and Whistleblowing Policy* to facilitate the development of controls that aid in the detection and prevention of fraud, and this policy provides a framework by which directors, officers, employees, and external parties may raise concerns in confidence about wrongdoing, malpractice or possible irregularity within the Company. The policy specifies the actions constituting fraud, reporting procedures, complaint handling process, investigation responsibilities, and terms on confidentiality and whistle-blower protection. The policy applies to all of the Company's stakeholders as well as new and existing business partners.

Upon discovering or suspecting fraudulent activity, employees will immediately contact the Audit Committee, Executive Directors, or the management. The Company conducts investigation to determine if the reported irregularity constitutes fraud. If the investigation substantiates that fraudulent activities have occurred, the case will be reported to designated personnel according to different conditions, and if appropriate, to the Board through the Audit Committee.

When noticing acts of wrongdoing and malpractice, employees can report in writing to the Audit Committee, Executive Directors, or the management of the Company and deliver the report in person, by mail or by email. Upon receiving a report, the Company will coordinate relevant resources to investigate and handle the reported case in accordance with the *Fraud and Whistleblowing Policy*, and report the investigation results to the Board as appropriate. We take proper measures to protect whistle-blowers from reprisals; retaliation against the whistle-blowers for raising concerns over alleged wrongful act will not be tolerated.

Our business units have also implemented policies and measures to prevent and handle corrupt practices and established internal reporting system for such behaviour. Some business units regard employee integrity as one of the key evaluation criteria when selecting essential management personnel, while others conduct regular internal and external audits, as well as audits targeted at key management personnel. During the Reporting Period, the business units organised various training events to cultivate an ethical workplace culture and instil integrity into our business practices. In addition, in October 2020, senior management of the Company participated in the Listed Entity Director Core Programme organised by the Singapore Institute of Directors. The attendees received systematic training on topics including directors' duties and legal obligations, risk management, and corporate governance, and enhanced the awareness of maintaining business integrity and legal compliance.



Figure 1 The East BU launched the "Integrity Education" theme month event and organised employees to participate in systematic learning programmes to develop better understanding of the importance of integrity education.



Figure 2 The South BU invited legal experts to provide anti-corruption training for management personnel and staff.

4. Environment

4.1 Environmental Management Overview

As a leading investor and operator in the environmental industry in China, SIIC Environment is committed to protecting the planet, conserving the environment, and preserving natural resources. We have developed and implemented relevant internal policies to properly manage the potential impacts of our operational activities on the environment, in accordance with the *Environmental Protection Law of the PRC*, *Atmospheric Pollution Prevention and Control Law of the PRC*, *Water Pollution Prevention and Control Law of the PRC*, *Law of the PRC on the Prevention and Control of Environment Pollution Caused by Solid Wastes*, and other laws and regulations related to air emissions such as waste gas and greenhouse gas (“GHG”) emissions, wastewater discharge, and hazardous and non-hazardous solid waste disposal.

Our business units and their project companies have respectively adopted measures for environmental impact prevention and mitigation, to avoid imposing negative impacts on the environment and the local community during business operations.

The business units have established internal policies such as the *Environmental Protection Management System in Project Operation* and the *Management System for Environmental Factor Identification and Evaluation*. The *Environmental Protection Management System in Project Operation* details the management and control of waste generation and resource consumption during production activities, including responsibilities of designated personnel and departments and standard work procedures; it also stipulates that the project companies should have response plans in place for equipment malfunction, hazardous materials incident, and other emergencies. The *Management System for Environmental Factor Identification and Evaluation* outlines procedures to identify, evaluate, and update major environmental factors relevant to business operations, such as air emissions and wastewater discharge, and develop corresponding measures to control their environmental and social impacts; each project company updates the environmental factor list at the beginning of each year.

Each business unit’s project companies have also taken proactive actions to minimise daily impacts on the environment and natural resources and some have set both qualitative and quantitative emission, waste reduction, and resource efficiency targets that are particular to the projects. Through regular environmental sampling and testing, continuous advancement in treatment techniques, equipment maintenance and upgrade, resource recycling, and other measures, the project companies manage their emissions in accordance with the national or local emission standards.

4.2 Wastewater and Air Emissions Management

When managing wastewater discharge and air emissions during business operations, our project companies strictly follow relevant discharge standards such as the *Emission Standards for Odour Pollutants* (GB14554-1993), *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plants* (GB18918-2002), *Environmental Quality Standards for Surface Water* (GB3838-2002), and *Standard for Pollution Control on the Municipal Solid Waste Incineration* (GB18485-2014) to safeguard environmental health and sanitation. During the Reporting Period, there were no cases of non-compliance with the above-mentioned standards and laws and regulations related to discharge into water and land and air emissions.

4.2.1 Wastewater Management

The majority of wastewater produced as a result of the Company's business operations comes from our wastewater treatment business, with main pollutants including chemical oxygen demand (“**COD**”), biochemical oxygen demand (“**BOD**”), ammonia nitrogen, total nitrogen, total phosphorus, and suspended solids. To improve the removal rate of COD, BOD, ammonia nitrogen, and total nitrogen, we optimise the process parameters of the biochemical treatment system, such as dissolved oxygen content, sludge age, return flow, and other key parameters. In addition, to increase the removal rate of hard COD, we have also adopted advanced treatment technologies such as ozone catalytic oxidation, third-generation Fenton catalytic oxidation, and activated carbon adsorption. In particular, the third-generation Fenton catalytic oxidation process possesses the advantages of stable output, low operating cost, and high system stability. We also effectively reduce the total phosphorus and suspended solids content of the effluent through treatment processes such as coagulation, dissolved air flotation, and filtration. For effluent with stricter denitrification requirements, we utilise nitrification and denitrification filtration processes to effectively improve the total nitrogen removal rate. As a result, compared to the 2019 level, our wastewater treatment projects have collectively reduced the concentration of COD and ammonia nitrogen in the wastewater discharged by 4.60% and 16.99%, respectively.

In 2020, some of our wastewater treatment plants (“**WWTPs**”) have been upgraded and have a more stringent effluent quality that meet higher standards, such as the superior Class I Standard A and Quasi Grade IV.



Figure 3 During the Reporting Period, our Yongxin County Industry Development Zone Comprehensive WWTP Project engaged the Fenton treatment system, further increasing COD removal rate.

Case study: To increase pollutant removal efficiency, the Jiangxi Province Yihuang Industrial Park WWTP Project 1st Phase engaged in the denitrification deep-bed filtration process, which combines physical filtration and biological denitrification and exhibits high reaction efficiency and strong adaptability to changes in water quality and quantity while achieving high land efficiency. It was estimated that the addition of this

treatment process helped increase total nitrogen removal by 5mg/L, further reducing the wastewater's environmental impact.



Figure 4 Denitrification deep-bed filtration unit at our Jiangxi Province Yihuang Industrial Park WWTP Project.

In order to meet national and local standards at all times, the business units have formulated internal control metrics and corresponding measures for the project companies to follow, such as quantitative emission targets and pollutant concentration in the effluent. To achieve these targets, the project companies conduct daily water quality sampling and monitoring at each treatment stage and promptly adjust treatment process based on the sampling results, and carry out regular equipment maintenance and upgrade to optimise treatment efficiency. In addition, some project companies have established quantitative emission reduction targets based on their own business operations along with actions plans, to ensure compliance with the national and local standards.

Case study: The Company's Wuhan Economy and Technology Development Zone WWTP Project 1st Phase set the target of reducing the concentration of major pollutants such as COD and ammonia nitrogen in discharged water by 5% compared to 2019. Through measures such as adjusting process parameters, enhancing equipment maintenance, strengthening staff training, and clearly defining roles and responsibilities, the project company was able to surpass its targets and achieved more than 10% reduction in the concentration of major pollutants in 2020.

For wastewater generated during waste incineration, we apply treatment processes including pre-treatment for large debris removal, anaerobic digestion, external membrane bioreactor (MBR) treatment, ultrafiltration, and nanofiltration to effectively remove COD, ammonia nitrogen, and other pollutants from the wastewater. During the Reporting Period, all treated water met the Class I Standard B specified in the *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plants* (GB18918-2002).

4.2.2 Air Pollutant Emission Management

Major air pollutants produced from our business operations include odorous gas such as hydrogen sulphide and ammonia gas from wastewater and sludge treatment, as well as sulphur oxides, nitrogen oxides, dioxins, carbon monoxide, and smoke from the waste incineration process. These emissions, if not adequately managed, could pollute the air and endanger human health.

To reduce air emissions and mitigate the impact of odorous gas on the environment, we apply covers to key treatment units where odorous gas tends to concentrate, collect

the gas, and utilise biological, chemical, and physical treatment methods to remove odour before the gas is released into the atmosphere. Some of the treatment techniques adopted by the project companies include biofiltration, plasma deodorisation, and activated carbon adsorption. We also plant air-purifying plants around the facilities to help mitigate impacts of odorous gas on the surrounding community.

Case study: To prevent the environmental impact of odorous gas generated from the wastewater treatment process, the Qingpu Second WWTP Project applies covers to seal the treatment units with odour generation, such as the screening unit, grit chamber, primary settling tank, anaerobic tank, anoxic tank, and sludge dewatering unit. The odorous gas is then collected and pumped to nearby deodorisation tower for further treatment.



Figure 5 The coarse screening unit, and sludge dewatering unit at Qingpu Second WWTP Project.

Case study: To reduce the emission of odorous gas, the project companies have installed odour treatment systems, which utilise microbial deodorisation technology to remove ammonia, hydrogen sulphide, mercaptan, thioether, and other odorous substances from the gas. The gas is released into the atmosphere after the concentration of odorous substances drops below relevant standards, effectively lowering its impact to the surrounding environment. In addition, the project companies regularly monitor the pollutant concentration at the inlets and outlets of the odour treatment systems. The monitoring results suggest that the concentration or discharged quantity of the pollutants is much lower than the relevant national standards, and the odour treatment systems exhibit ammonia and hydrogen sulphide removal rates of approximately 60% and 80%, respectively.



Figure 6 Odour treatment systems at our Hanxi WWTP (left) and Fengxian West WWTP (right).

Case study: To fulfil the purpose of air purification, the Harbin City Hulan District Old Town Second WWTP Project utilises plasma deodorisation process to oxidise and degrade ammonia, hydrogen sulphide, and other pollutants, as well as effectively remove suspended colloids in the air.



Figure 7 Fine-screen deodorisation facility at our Harbin City Hulan District Old Town Second WWTP Project.

To achieve full compliance with emission standards in the *Standard for Pollution Control on the Municipal Solid Waste Incineration* (GB18485-2014) for our waste incineration business, we treat flue gas with a combination of chemical and physical techniques such as semi-dry desulphurisation, activated carbon adsorption for heavy metal and organics removal, bag filtration for dust removal, and selective non-catalytic reduction (SNCR) for the removal of nitrogen oxides.

In addition, our water supply projects that use liquid chlorine in the disinfecting process run the risk of leaking chlorine gas, which could bring negative impact towards air

quality and human health. To prevent such accidents, the project companies have installed alarm systems for leakage detection at the chlorination room and conduct weekly tests to ensure the alarm functions properly. The projects have also installed chlorine gas absorption devices to mitigate impacts in case of a leak incident and perform regular maintenance to ensure the devices function effectively. In 2020, there was no leakage incident in the Company's water supply business.

4.2.3 Greenhouse Gas Emission Management and Climate Change Action

During the Reporting Period, our direct (scope 1) GHG emissions mainly came from waste incineration, and indirect (scope 2) GHG emissions primarily resulted from purchased electricity consumption. To promote green, low-carbon development and take actions against climate change, besides adopting energy saving measures during production activities, we have also installed solar panels and planted trees at the project sites in order to offset our GHG emissions. In 2020, we used 1,713,670 kWh of electricity produced from the solar panels, reducing CO₂ emission by 1,436.06 tonnes compared to coal-fired power generation¹. We have also planted a total of 26,733 trees at the project sites, which helps offset 614.86 tonnes of CO₂ per year².

4.3 Hazardous and Non-Hazardous Waste Management

With respect to managing and disposing of hazardous and non-hazardous waste, our project companies strictly follow the requirements of the *Disposal of Sludge from Municipal Wastewater Treatment Plant - Quality of Sludge Used in Land Improvement* (GB/T24600-2009), *Disposal of Sludge from Municipal Wastewater Treatment Plant - Quality of Sludge Used in Gardens or Parks* (GB/T23486-2009), *Control Standards of Pollutants in Sludge for Agricultural Use* (GB4284-2018), *Disposal of Sludge from Municipal Wastewater Treatment Plant - Quality of Sludge Used in Separate Incineration* (GB/T24602-2009) and other applicable standards. During the Reporting Period, there were no non-compliance cases regarding these standards and relevant laws and regulations.

4.3.1 Hazardous Waste Management

During the Reporting Period, the hazardous waste generated from our wastewater treatment, water supply, and sludge treatment businesses mainly include small amounts of hazardous sludge, laboratory waste liquids, waste motor oil, and empty reagent container. All hazardous waste was stored at designated areas before being collected and handled by certified third-party waste handlers. To reduce generation of hazardous waste such as laboratory waste liquids, the project companies strictly followed standard laboratory procedures and adopted advanced technologies to increase process efficiency and minimise waste generation. We also recycle and reuse waste motor oil as lubricant for valves, nuts and bolts, and other parts.

Case study: Our Jiutai District Yingcheng WWTP and Jiutai Development District Kalun WWTP in Changchun City, Jilin Province use laboratory robots to carry out laboratory work, which decreases the volume of laboratory utensils required, improves operation accuracy, and reduces the amount of samples and chemicals needed,

¹ Calculation for CO₂ offsets referenced coefficients from the *China Power Industry Annual Development Report* issued by the China Electricity Council in 2020.

² CO₂ offsets were calculated using the methodology outlined in the *Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings (Commercial, Residential or Institutional Purposes)* in Hong Kong (2010 Edition) published by the Environmental Protection Department and the Electrical and Mechanical Services Department.

resulting in a reduction of laboratory waste liquid generation.



Figure 8 Laboratory robots used at our WWTPs.

Fly ash and used activated carbon are two major types of hazardous waste generated in our waste incineration business. Fly ash produced from domestic waste incineration is solidified with cement and chelating agents before being transported to landfills for disposal while the used activated carbon from flue gas treatment is handled by certified waste handlers or fed back into the waste incinerator for processing in accordance with local environmental regulations. Certified third party companies are in charge of handling small volumes of waste mineral oil, laboratory waste liquids, and waste batteries.

4.3.2 Non-Hazardous Waste Management

The main non-hazardous waste includes regular sludge³ generated from our wastewater treatment, water supply, and sludge treatment businesses, as well as slag produced from waste incineration. To reduce sludge generation, we apply mechanical dewatering process such as filter pressing and centrifuging to reduce the sludge's water content and therefore its volume. Some project companies engage an additional low temperature drying or similar desiccation process after dewatering to further reduce the sludge's water content. A portion of the regular sludge produced is disposed at local landfills, while the rest is recycled and reused on-site for landscaping, or collected by third-party companies, where the sludge is repurposed into fertilisers and construction materials, used for mining pits restoration, or incinerated for power and heat generation.

³ In this Report, regular sludge is defined as the sludge that is not listed in the *Directory of National Hazardous Wastes (2016 Revision)* published by the Ministry of Ecology and Environment of the PRC, the National Development and Reform Commission of the PRC and the Ministry of Public Security of the PRC.



Figure 9 At the Wuhan City Huangpi District Panlongcheng WWTP Project 1st Phase, the sludge is fermented at high temperature and digested by earthworms to form earthworm manure and earthworm products, which are sold to the local agriculture bureau and community.

To improve the utilization rate of the slag recycling generated from our waste incineration business, the slag undergoes crushing and screening processes before realising integrated use. In 2020, a total of 79,583 tonnes of slag was reused by our waste incineration projects, a 3% increase from 2019.

Other non-hazardous waste such as domestic waste, packaging materials, and screening waste and grits from wastewater treatment are mainly collected and handled by local environmental sanitation departments. To reduce domestic waste generation, we promote efficient use of office supplies and work on reducing food waste at our canteens.

4.4 Resource Consumption Management

To promote efficient use of energy, water, chemicals, and other resources during our production activities, the business units have established internal policies and best practices to help project companies improve resource efficiency. For example, the *Production and Operation Cost Management System* specifies that under the premise of guaranteeing the quality of production activities, project companies should set annual targets regarding unit of electricity, chemical, and water consumption, regularly track resource consumption status to ensure target fulfilment, and learn from the best practices from national and international peer companies regarding resource efficiency. The business units also include resource efficiency as one of the evaluation criteria in the project companies' seasonal and annual performance review, where the best-performing companies are rewarded, further incentivising the project companies to develop innovative resource conservation measures. Based on the policies set by the business units, the project companies develop their own systems and standards for chemical, energy, and water consumption management, depending on the nature and needs of individual projects.

4.4.1 Chemical and Energy Consumption

To improve chemical use efficiency, our wastewater treatment and water supply projects closely monitor influent and effluent quality to promptly adjust chemical addition and minimise waste. For example, we adjust coagulant addition based on factors such as total phosphorous content and suspended solids concentration in the effluent, and disinfectant addition based on residual chlorine concentration in the effluent.

The project companies have also adopted measures to improve energy efficiency of

equipment and facilities, such as installing frequency converter on water pumps and air blowers, conducting regular maintenance for energy-intensive equipment, adjusting the number of operating equipment based on real-time water quality monitoring results. Through these measures, along with activities on fostering energy saving behaviours among employees, our project companies were able to fulfil or surpass the energy consumption targets established for the Reporting Period.

Case study: During the Reporting Period, our Zhejiang Province Chemical Raw Material Site Linhai Park WWTP Project 1st Phase and Supporting Pipeline Network Project set a target of reducing electricity consumption per tonne of water treated by 10%, compared to the 2019 level. The project subsequently took series of steps to achieve this target, including implementing energy metering for individual equipment for key systems and equipment, maintaining or upgrading energy-intensive equipment, developing specialised forms to track actual electricity consumption against the target, and holding regular meetings to identify energy efficiency issues and establishing corrective measures. As a result, the project company reduced electricity consumption per tonne of water treated by 13.5% in 2020, outperforming the previously set target.

We also promote the use of renewable energy among our project companies. Our Jiamusi City WWTP Sludge Disposal Project and Mudanjiang City WWTP Sludge Disposal Project use biogas produced from anaerobic digestion during the sludge treatment process to supply energy for daily operations, helping conserve natural gas and other non-renewable energy resources. A total of 1,912,544 m³ of biogas was used during the Reporting Period. In addition, we convert waste into energy through domestic waste incineration power generation, an integrated resource utilisation method encouraged by the state. A portion of the electricity generated by incineration supplements our Waste Incineration Division's daily energy consumption, and the rest is exported to the power grid. During the Reporting Period, we used 22,210,133 kWh of electricity produced from waste incineration.

4.4.2 Water Consumption

Our project companies establish annual water consumption targets and develop corresponding measures to improve water efficiency and reduce freshwater consumption. Used water from plant operations and effluent from the wastewater treatment process are mainly reused for landscaping, equipment cooling, facility cleaning, and chemical preparation purposes. We further enhance water efficiency by regularly inspecting pipelines for water leakage, conducting equipment maintenance and upgrades, adopting water-efficient faucets and toilets, installing flow metres on main pipelines, and through employee education. During the Reporting Period, our project companies recycled and reused a total of 32,820,187 tonnes of water, a close to 9% increase from the 2019 level.



Figure 10 Nanyang City Baihenan WWTP Project uses recycled water for on-site landscaping.



Figure 11 Pudixia WWTP Project uses recycled water for street cleaning.

Case study: During the Reporting Period, our Chenzhou City WWTP Project took systematic actions to realise its goal of reducing 10% of purchased freshwater usage compared to the 2019 level. For landscaping purposes, the project prohibited freshwater use while promoting the use of rainwater and reclaimed water, and adopted water-efficient irrigation methods such as drip irrigation. To minimise water waste due to equipment or facility issues, the project conducted regular inspection and maintenance of water supply facilities and the pipe network, especially the pre-buried pipes, and promptly resolved the problems identified to prevent resource waste resulted from dripping and leaking.

While the majority of our projects do not have issue in sourcing water fit for production and operation purposes, a few of our water supply projects may experience fluctuations in water supply due to seasonal variations and drought-related issues and have developed countermeasures should such issues arise. For example, projects that source water from nearby rivers relocate the water inlet from the riverbank to the centre of the channel during dry seasons; projects that source water from groundwater wells enhance well maintenance and increase well cleaning depth to meet water use demands from our clients during drought seasons. In addition, for our water diversion project, the sheer distance of water transportation and the single pipeline transmission system may pose safety concerns. To guarantee the quantity and quality of water supply, the project maintains close contact with source water provider to ensure the timeliness of water transfer, and has established a pipeline inspection and management system to minimise safety risks associated with single pipeline water delivery.

4.4.3 Green Office

In daily office activities, we follow the principles of green operation and encourage employees to save water, electricity, paper, and other resources, implement waste sorting and recycling, and use environmentally friendly office supplies. For example, we display resource conservation signage in office spaces and restrooms, promote paperless solutions to office tasks, standardise procurement procedure for office supplies to minimise unnecessary purchase, and remind employees to switch off lights, computers, and air conditioning upon leaving the office. Through these actions, we hope to increase resource efficiency and reduce our environmental footprint during daily office activities while generating cost savings.

4.5 Environmental Performance Data ¹

4.5.1 Wastewater Treatment Business Line

Emissions					
Emission Type	Indicator	Unit	2020	2019	2018
Air Pollutants	Ammonia gas	/	In compliance	In compliance	In compliance
	Hydrogen sulphide	/	In compliance	In compliance	In compliance
Greenhouse gases	Indirect emissions (Scope 2) ²	tonnes CO ₂ e	462,574.93	406,119.08	372,838.86
Wastewater	Wastewater	tonnes	2,376,508,851.82	2,371,773,168.72	1,941,010,660.44
	COD	tonnes	49,697.03	51,992.19	48,984.42
	BOD	tonnes	12,602.84	12,581.52	Not reported
	Total suspended solids	tonnes	16,868.23	15,514.21	15,407.80
	Ammonia nitrogen	tonnes	1,862.43	2,239.06	2,438.65
Hazardous wastes ³	Hazardous sludge ⁴	tonnes	3,163.53	1,729.83	1,318.82

¹ Due to the characteristics of the Company's business operations, air pollutant emissions and direct greenhouse gas emissions (Scope 1) are not material to the wastewater treatment, sludge treatment and water supply business lines. Therefore, these emissions are only disclosed for the waste incineration business line.

² Scope 2 emissions were calculated using the *2011–2012 Regional Power Grid Average CO₂ Emission Factors in China* guideline published by the National Development and Reform Commission of the PRC. Scope 2 emissions were from purchased electricity consumption during the Reporting Period.

³ Hazardous wastes were defined according to the *Directory of National Hazardous Wastes (2016 Revision)* published by the Ministry of Ecology and Environment of the PRC.

⁴ The project company's downstream hazardous waste disposal unit temporarily halted operation between September 2019 and April 2020, resulting in a backlog of hazardous sludge in the project company's system without external discharge. After the hazardous waste disposal unit resumed operation in April 2020, a portion of backlogged hazardous sludge from 2019 was discharged and disposed. Therefore hazardous sludge discharge increased in 2020 compared to 2019.

	Other hazardous wastes ⁵	tonnes	71.22	54.65	18.33
Non-hazardous wastes	Regular sludge	tonnes	1,375,615.88	1,332,828.95	1,231,067.12
	Other non-hazardous wastes ⁶	tonnes	33,827.00	32,811.08	7,960.29
Initiatives and processes to reduce emissions/discharges					
Initiatives and processes	Indicator	Unit	2020	2019	2018
Trees	Number of trees able to reach at least five metres in height	trees	21,352	19,410	15,493
	Amount of CO ₂ offset ⁷	tonnes CO ₂	491.10	446.43	356.34
Wastewater treatment	COD reduced after treatment	tonnes	456,736.07	462,068.12	420,543.34
	BOD reduced after treatment	tonnes	199,400.50	207,316.00	164,218.72
	Ammonia nitrogen reduced after treatment	tonnes	47,917.17	61,734.51	39,629.93
Water recycling	Recycled water used	tonnes	32,123,475.00	29,358,613.80	86,783,725.00
Reclaimed water supply	Reclaimed water produced	tonnes	23,614,106.13	25,459,359.00	Not reported
Sludge recycling	Regular sludge reused	tonnes	838,375.04	792,519.45	412,110.66

⁵ Other hazardous wastes mainly include laboratory waste liquids, waste motor oil, and a small quantity of waste reagent bottles and other hazardous waste.

⁶ Other non-hazardous wastes mainly include screening waste and grit, domestic waste, packaging cardboard box, and a small quantity of chemical packaging and other non-hazardous wastes.

⁷ CO₂ offsets were calculated using the methodology outlined in the *Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings (Commercial, Residential or Institutional Purposes) in Hong Kong (2010 Edition)* published by the Environmental Protection Department and the Electrical and Mechanical Services Department.

Use of Resources						
Resource Type		Indicator	Unit	2020	2019	2018
Energy consumption	Direct energy	Petrol	litres	161,941.35	147,526.07	294,007.94
			litres/tonnes of daily design capacity	0.02	0.02	0.04
		Diesel	litres	41,156.70	53,413.85	83,521.86
			litres/tonnes of daily design capacity	0.005	0.01	0.01
		Natural gas	cubic metres	260,527.54	236,004.09	183,688.00
			cubic metres/tonnes of daily design capacity	0.03	0.03	0.03
	Renewable energy (solar)	kilowatt hours	1,713,670.00	1,816,574.50	943,698.30	
		kilowatt hours/tonnes of daily design capacity	0.22	0.25	0.14	
	Indirect energy	Purchased electricity	kilowatt hours	681,160,652.92	621,803,352.05	536,579,325.09
			kilowatt hours/tonnes of daily design capacity	86.73	85.65	81.52
Water consumption	Purchased freshwater	tonnes	2,008,736.21	1,700,259.74	1,088,317.75	
	Water consumption intensity	tonnes/tonnes of daily design capacity	0.26	0.23	0.17	

Raw materials consumption	Disinfectants ⁸	tonnes	34,570.92	16,386.95	Not reported
	Adsorbents	tonnes	1,951.29	1,967.63	1,092.04
	Carbon sources	tonnes	67,068.03	521,778.67	27,651.81
	Coagulants and flocculants	tonnes	150,330.38	150,914.01	252,072.74
	Acid-base regulators	tonnes	12,284.01	10,006.91	15,556.42
	Other raw materials ⁹	tonnes	25,956.75	24,544.76	Not reported

⁸ During the Reporting Period, disinfectant addition increased significantly due to factors such as COVID-19 impacts and water quality fluctuations.

⁹ Other raw materials mainly include ferrous sulphate, hydrochloric acid, lime, liquid oxygen, PAC, PAFC, and NS-A Reagent.

4.5.2 Water Supply Business Line

Emissions						
Emission Type ¹	Indicator	Unit	2020	2019	2018	
Greenhouse gases	Indirect emissions (Scope 2) ²	tonnes CO ₂ e	92,949.99	79,866.07	78,798.62	
Wastewater	Wastewater	tonnes	16,353,578.99	20,131,104.41	18,524,475.20	
Non-hazardous wastes	Regular sludge	tonnes	17,723.00	15,892.00	17,305.00	
	Other non-hazardous wastes ³	tonnes	55.70	66.80	289.00	
Initiatives and processes to reduce emissions/discharges						
Initiatives and processes	Indicator	Unit	2020	2019	2018	
Trees	Number of trees able to reach at least five metres in height	trees	3,543	3,567	3,448	
	Amount of CO ₂ offset	tonnes CO ₂	81.49	82.04	79.30	
Water recycling	Recycled water used	tonnes	360,000.00	422,000.00	2,018,900.00	
Sludge recycling	Regular sludge reused	tonnes	2,860.00	5,000.00	Not reported	
Use of Resources						
Resource Type	Indicator	Unit	2020	2019	2018	
Energy consumption	Direct energy	Petrol	litres	6,545.50	Not reported	Not reported
			litres/tonnes of daily design capacity	0.004	Not reported	Not reported
		Purchased electricity	kilowatt hours	122,085,123.39	123,100,846.99	116,524,195.00

¹ Hazardous waste is not material to the water supply business line and is therefore not disclosed.

² Scope 2 emissions were calculated using the *2011–2012 Regional Power Grid Average CO₂ Emission Factors in China* guideline published by the National Development and Reform Commission of the PRC. Scope 2 emissions were from purchased electricity consumption during the Reporting Period.

³ Other non-hazardous wastes generated in 2020 mainly include domestic waste and packaging cardboard box.

	Indirect energy		kilowatt hours/tonnes of daily design capacity	70.37	76.70	71.71
Water consumption	Surface water		tonnes	362,798,921.00	323,909,897.42	363,747,118.00
	Groundwater		tonnes	70,318,538.00	67,200,076.00	2,527,707.00
	Water consumption intensity		tonnes/tonnes of daily design capacity	249.64	243.68	225.40
Raw materials consumption	Disinfectants		tonnes	2,875.32	2,895.94	Not reported
	Coagulants and flocculants		tonnes	4,072.28	4,830.91	4,795.17
	Water purification agents ⁴		tonnes	3,875.18	2,383.01*	Not reported

⁴ During the Reporting Period, we refined the collection scope and method for water purification agents. To match this adjustment and to ensure comparability of data collected over the years, we adjusted the 2019 data, as denoted by “*”.

4.5.3 Sludge Treatment Business Line ¹

Emissions					
Emission Type	Indicator	Unit	2020	2019	2018
Air Pollutants ²	Ammonia gas	/	In compliance	In compliance	In compliance
	Hydrogen sulphide	/	In compliance	In compliance	In compliance
Greenhouse gases	Indirect emissions (Scope 2) ³	tonnes CO ₂ e	10,622.54	12,658.03	13,265.23
Hazardous wastes	Other hazardous wastes ⁴	tonnes	3.19	2.85	0.86
Non-hazardous wastes	Regular sludge	tonnes	240,835.05	200,092.88	116,052.21
	Other non-hazardous wastes ⁵	tonnes	234.69	233.00	Not reported
Initiatives and processes to reduce emissions/discharges					
Initiatives and processes	Indicator	Unit	2020	2019	2018
Trees	Number of trees able to reach at least five metres in height	trees	1,720	240	70
	Amount of CO ₂ offset	tonnes CO ₂	39.56	5.52	1.61
Water recycling	Recycled water used	tonnes	116,835.00	116,100.00	35,040.00
Sludge recycling	Regular sludge reused	tonnes	201,037.43	164,925.43	30,047.46
Use of Resources					

¹ Since wastewater generated from the sludge treatment process is treated in-house and reused at the sludge treatment plant or discharged to the WWTP that belongs to the same project company for treatment, the discharge of wastewater is not material to the sludge treatment business line and is therefore not disclosed.

² Since some sludge treatment projects are not equipped with quantitative data monitoring systems, this table discloses the sludge treatment business line's performance on air pollutant emissions by evaluating whether the emissions met the local emission standards.

³ Scope 2 emissions were calculated using the *2011–2012 Regional Power Grid Average CO₂ Emission Factors in China* guideline published by the National Development and Reform Commission of the PRC. Scope 2 emissions were from purchased electricity consumption during the Reporting Period.

⁴ Other hazardous wastes in 2020 mainly include waste motor oil and laboratory waste liquids.

⁵ Other non-hazardous wastes in 2020 mainly include domestic waste and screening waste and grit.

Resource Type		Indicator	Unit	2020	2019	2018
Energy consumption	Direct energy	Diesel	litres	371,457.10	334,103.13	223,719.71
			litres/tonnes of daily design capacity	202.98	182.57	141.59
		Natural gas ⁶	cubic metres	118,520.78	209,017.00	251,533.42
			cubic metres/tonnes of daily design capacity	64.77	114.22	159.20
		Renewable energy (biogas)	cubic metres	1,912,544.00	2,248,032.00	924,974.00
			cubic metres/tonnes of daily design capacity	1,045.11	1,228.43	585.43
	Indirect energy	Purchased electricity	kilowatt hours	13,719,816.00	16,607,310.00	18,920,238.82
			kilowatt hours/tonnes of daily design capacity	7,497.17	9,075.03	11,974.83
Water consumption	Purchased freshwater ⁷	tonnes	12,553.00	19,058.00	88,640.34	
	Water consumption intensity	tonnes/tonnes of daily design capacity	6.86	10.41	56.10	
Raw materials consumption	Straw	tonnes	30,875.17	33,620.77	31,155.90	
	Rice husk	tonnes	26,825.85	25,250.77	23,287.00	

⁶ During the Reporting Period, as a result of enhanced energy efficiency during production activities and higher organic matter content and biogas output of the sludge, natural gas consumption was reduced at the project companies compared to 2019.

⁷ During the Reporting Period, project companies increased the usage of recycled water and therefore purchased freshwater consumption decreased compared to 2019.

	Other raw materials ⁸	tonnes	5,384.15	Not reported	Not reported
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⁸ Other raw materials mainly include corncob and wood chips.

4.5.4 Waste Incineration Business Line

Emissions					
Emission Type	Indicator	Unit	2020	2019	2018
Air pollutants ¹	NO _x	tonnes	250.75	226.29	182.47
	SO _x	tonnes	44.52	43.95	23.06
	CO	tonnes	12.55	15.58	4.85
	Smoke	tonnes	6.09	7.17	7.93
	Dioxins ²	/	In compliance	In compliance	In compliance
Greenhouse gases	Direct emissions (Scope 1) ³	tonnes CO ₂	86,491.26	93,013.65	64,067.22
	Indirect emissions (Scope 2) ⁴	tonnes CO ₂ e	430.95	151.03	19.66
Wastewater	Wastewater	tonnes	254,677.00	166,777.77	125,318.00
	COD	tonnes	14.91	13.92	8.64
	Ammonia nitrogen	tonnes	1.30	1.04	0.56
Hazardous wastes	Used activated carbon from treatment of waste gases generated during waste incineration	tonnes	152.39	156.96	77.51
	Fly ash from domestic waste incineration	tonnes	7,424.64	6,572.72	3,273.30

¹ Air pollutants only include those generated from waste incineration during the Reporting Period.

² During the Reporting Period, dioxins emission did not violate the local emission standards of the project operation site.

³ Scope 1 emissions were calculated using the *Greenhouse Gas Accounting Tool for Chinese Cities (Pilot Version 1.0)* published by the Greenhouse Gas Protocol. Scope 1 emissions were generated from waste incineration during the Reporting Period.

⁴ Scope 2 emissions were calculated using the *2011–2012 Regional Power Grid Average CO₂ Emission Factors in China* guideline published by the National Development and Reform Commission of the PRC. Scope 2 emissions were from purchased electricity consumption during the Reporting Period. As a result of maintenance of equipment such as incinerators and generator sets during the Reporting Period, there was a significant increase in purchased electricity consumption, resulting in an increase in Scope 2 emissions.

	Other hazardous wastes ⁵	tonnes	6.75	2.25	Not reported	
Non-hazardous waste	Slag	tonnes	82,978.00	74,681.00	39,735.00	
Initiatives and processes to reduce emissions/discharges						
Initiatives and processes	Indicator	Unit	2020	2019	2018	
Trees	Number of trees able to reach at least five metres in height	trees	118	17	17	
	Amount of CO ₂ offset	tonnes CO ₂	2.71	0.39	0.39	
Water recycling	Recycled water used	tonnes	219,877.00	216,778.00	332,613.00	
Electricity generation from waste incineration	Electricity generated	kilowatt hours	113,133,332.26	116,624,780.00	82,429,730.00	
Waste recycling/reuse	Slag reused	tonnes	79,583.00	77,335.00	29,738.00	
Use of Resources						
Resource Type	Indicator	Unit	2020	2019	2018	
Energy consumption	Direct Energy	Diesel ⁶	litres	386,647.29	242,320.15	84,939.81
			litres/tonnes of daily design capacity	386.65	242.32	121.34
	Indirect Energy	Purchased electricity ⁷	kilowatt hours	608,741.00	222,800.00	37,400.00
			kilowatt hours/tonnes of daily design capacity	608.74	222.80	53.43

⁵ Other hazardous wastes include waste lead batteries, laboratory waste liquids, waste mineral oil, materials contaminated by waste mineral oil and laboratory waste liquids.

⁶ During the Reporting Period, a portion of the incinerated waste came from stale landfill waste, which had low calorific value. A larger amount of diesel was needed to maintain appropriate environmental temperature.

⁷ During the Reporting Period, there was a significant increase in purchased electricity consumption due to the maintenance of equipment such as incinerators and generator sets.

Water consumption	Purchased freshwater	tonnes	679,588.00	696,814.00	425,959.00
	Water consumption intensity	tonnes/tonnes of daily design capacity	679.59	696.81	608.51

5. Social

5.1 Service Quality and Standards

SIIC Environment strives to deliver high-quality services to our customers. Our business activities strictly comply with relevant laws, regulations, and standards related to product and service health and safety, such as the *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant* (GB18918-2002), *Standards for Drinking Water Quality* (GB5749-2006), *City Water Supply Quality Standard* (CJ/T206-2005), and *Standard for Pollution Control on the Municipal Solid Waste Incineration* (GB18485-2014). We also abide by the *Advertising Law of the PRC*, the *Trademark Law of the PRC*, the *Patent Law of the PRC*, and other laws and regulations on advertising, labelling, and privacy matters related to our products and services, and there were no reported incidents of non-compliance during the Reporting Period.

Based on the characteristics of the Company's governance structure, we require the business units to establish internal management systems and standard operating procedures according to the nature of their operations to ensure safe and quality production at the project companies. For example, for our water projects, the business units have established the *Internal Control Manual for Water Quality Testing and Operation Management* or similar policies, which specifies the process and responsible departments for handling water quality incidents, threshold values for controlled water quality parameters, water quality monitoring approaches and protocols, and water quality-related appraisal system for project companies and its employees. For sludge treatment projects, we designate relevant personnel to conduct regular inspections and surveys with our customers on sludge treated by our sludge treatment plants to ensure the treated sludge meets relevant standards. The Dazhou City Municipal Household Waste Incineration Power Generation Project 1st Phase from our Waste Incineration Division has developed the *Environmental Monitoring Plan*, which specifies the monitoring location, parameter, frequency, and method for waste gas, wastewater, noise, groundwater, soil, solidified fly ash, and slag, guaranteeing that the emissions meet the relevant environmental standards.

5.1.1 Safeguarding Water Quality and Sanitation

To guarantee the quality of drinking water provided to our customers and safeguard public health and sanitation, the project companies follow a comprehensive water quality monitoring mechanism and promptly upgrade facilities and processes in accordance with changes in national and local standards. The water projects follow a three-level water quality monitoring and assurance system, consisting of continuous monitoring of influent and effluent by networked instruments for typical water quality parameters, daily water quality testing by on-site laboratory staff, as well as seasonal sampling and testing of influent, effluent, and sludge by certified third parties.

All water supply and wastewater treatment companies are equipped with water quality warning systems and have established corresponding emergency response plans. In particular, extreme weather events can bring challenges to our water projects, which may be of greater concern over time as climate change increases the intensity and frequency of such events. In response, our project companies have developed coping mechanisms for extreme weather episodes such as flood, typhoon, and extreme cold. During heavy rainfall events, we ensure the WWTPs operate at full capacity to prevent wastewater overflow that may contaminate natural water bodies; for freezing

temperatures, the plants insulate key equipment and pipelines to ensure their normal operation.

5.1.2 Enhancing Customer Satisfaction

SIIC Environment maintains a project management system and operational management procedures applicable to the Company as a whole. We hold quarterly meetings where our business operations report to the headquarters about their operational performance, significant fluctuations of water input and water supply, and material incidents. Interactions at these meetings help us identify opportunities to improve our service quality and enhance customer satisfaction.

Customer feedbacks are crucial in helping the Company to improve service quality. We provide multiple channels for customers to express their questions and concerns regarding our services, such as customer satisfaction survey, email of the Company's headquarter, message box on the project companies' websites, official WeChat accounts, and service hotlines. In the event that a customer files a complaint related to our services, we first determine the nature of the complaint and identify responsible personnel, carry out investigations and promptly resolve the issue, conduct customer service follow-up, and afterwards review the complaint case and update the existing management system if necessary, to prevent recurrence of such issue. During the Reporting Period, we received 9 service-related customer complaints. The complaints were mainly about low water pressure or no water caused by temporary leakage of the pipe network as a result of external construction, and water quality issues caused by temporary increase in turbidity due to pipe network maintenance. The responsible departments promptly carried out maintenance service at the customers' sites to solve the problems and conducted service satisfaction follow-ups in a timely manner, which showed all customers were satisfied with our handling of the complaints.

To ensure the security of customer information and protect customer privacy, at our Central BU, we standardise management procedures for the uploading, transfer, and search of customer data, and utilise password protection and data backup to further enhance information security. From the technical dimension, we strengthen the maintenance of critical hardware and software and reinforce technological solutions to prevent data breach, information theft, and unauthorised access to the system. In addition, we provide relevant training for employees from sales, system maintenance, and other departments that handle customer information, to increase their awareness of customer data protection and information security.

5.1.3 Research and Development

In 2020, despite unprecedented challenges posed by the COVID-19 pandemic, the Company continued to invest in R&D programmes on top of guaranteeing our normal operations, as we believe technological advancement and innovation help improve our service quality and overall competitiveness. During the Reporting Period, our expenditure on research activities amounted to approximately RMB 1.50 million. We actively seek opportunities to partner with educational and research institutions to enhance our research capabilities, and explore new development paths that combine production, research, and education. During research and development activities, we register, maintain, and protect our patents and will seek legal assistance in cases of intellectual property violations. Our business units organise training courses as needed to familiarise employees with the *Trademark Law of the PRC*, the *Patent Law of the PRC*, and other relevant laws and regulations, in order to increase employee awareness of intellectual property rights protection and equip them with legal

knowledge to safeguard the legitimate rights and interests of the Company.

Case study: On July 30, 2020, the Northeast BU held the establishment ceremony for its Cold-Climate Water Environment Technology Academic Committee as well as the opening ceremony of its R&D Centre Phase II. The establishment of the Academic Committee is a milestone event for us to gather academic strength and improve R&D capabilities in cold-climate water environment technology, and help drive the development of water industry in cold climates and quality improvement of China's urban water environment. The successful commissioning of the R&D Centre Phase II will accelerate the application and transformation of our scientific research and industrial technology, better contributing to the development of ecological civilisation.

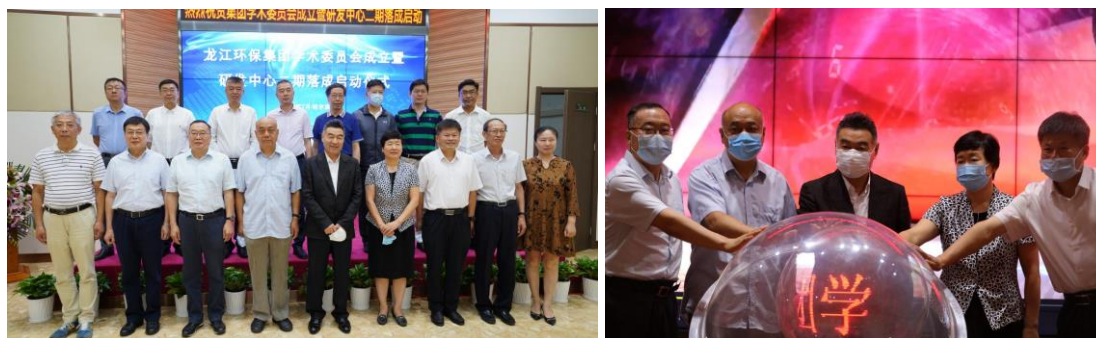


Figure 12 The establishment ceremony for Cold-Climate Water Environment Technology Academic Committee and the opening ceremony of the R&D Centre Phase II held at the Northeast BU.

5.2 Supply Chain Management

In addition to properly managing environmental and social risks during our own business activities, the Company also strives to cascade sustainability into our supply chain. We have formulated internal policies regarding supplier management and evaluation that specify our expectations and requirements towards suppliers' environmental and social performance.

During the procurement stage, the Company adheres to the *Bidding Law of the PRC*, the *Regulation on the Implementation of the Bidding Law of the PRC* and other relevant laws and regulations to maintain a fair, open, and transparent bidding process. Upon assessing all other factors, we prioritise establishing a business partnership with the suppliers demonstrating sustainability in their products and services, thereby communicating values of green and sustainable development to our suppliers.

The business units have established the *Procurement Management System*, *Project Company On-site Procurement Management System*, *Contract Management Protocol*, and similar policies to manage the procurement process. In general, supplier evaluation during the procurement process involves a background check for supplier's qualification and certification documents, on-site assessment at the supplier's production site, comprehensive supplier evaluation by the functional departments, and final review by the management.

To better identify potential environmental and social risks associated with suppliers' operations, the business units have implemented a series of practices when evaluating suppliers' eligibility for establishing business partnership with SIIC Environment, for example, examining the production and operation qualifications of water purification agent manufacturers, especially the safety production licence for hazardous chemicals, so as to prevent pollution incidents resulting from illegal or improper production

activities, gathering publicly available information from the National Enterprise Credits Information Publicity System and other platforms to evaluate suppliers' social risks and requiring suppliers to provide proof of certifications such as ISO 9001 (international standard for quality management system), ISO 14001 (international standard for environmental management system), and other internationally recognised certifications related to occupational health and safety (“OHS”), and requiring new suppliers to provide the *Environmental Impact Assessment Report* and *Environmental Impact Assessment Acceptance Report* as part of the selection criteria.

For existing suppliers, we have included, terms related to the supplier's environmental and social responsibilities in the contracts, such as adhering to relevant safety and environmental protection rules, protecting intellectual property, promptly paying the wages of its employees, and prohibiting bribery. In addition, we conduct routine and spontaneous on-site inspections, ratings, and evaluations of suppliers' performance to ensure they continue to provide high-quality products and services while fulfilling sustainability-related responsibilities.



Figure 13 Supplier distribution by geographical region during the Reporting Period.

5.3 Occupational Health and Safety

SIIC Environment continues to pursue higher safety standards in production activities and business operations, and regards employee health and safety as top priority. We strictly comply with the *Law of the PRC on Work Safety*, *Law of the PRC on the Prevention and Control of Occupational Diseases* and other laws and regulations related to providing a safe working environment and protecting employees from occupational hazards. Projects of our business units have implemented or are in the process of adopting the Occupational Health and Safety Assessment Series (OHSAS 18001).

From a supervisory perspective, the Company adheres to national standards such as the *Measures for the Supervision and Administration of Employers' Occupational Health Surveillance* and *Regulations on the Reporting, Investigation and Disposition of Work Safety Accidents*. We conduct comprehensive due diligence and internal audits for existing and potential projects' entry and exit. The mechanisms of production safety in our workplace are based on three main aspects, as illustrated in the diagram below. Our business units have incorporated these mechanisms when developing safety management systems to ensure safe production at the project companies.



To strengthen safety management systems, the Company has established specialist teams that are responsible for coordinating, planning, organising, developing, and promoting health and safety matters. The Company's headquarter has established a safety production team, which holds regular meetings every quarter to monitor the latest status of production safety at the business units. Meanwhile, the Company appoints relevant board member to oversee the routine and spontaneous production safety inspections carried out every quarter by the Company's headquarter on the project companies from each business unit. In addition, depending on the nature of their production activities, the business units have developed internal policies to standardise and streamline safety management at the project companies. For example, our Ranhill Water business unit has formed a safety committee at the business unit level and requires each project company to establish safety teams; the business unit conducts semi-annual safety assessments of the project companies in accordance with its *Safe Production Management System*, which also details the management of production and equipment safety, the management of safety briefings and meetings, rules on safety inspection, and the handling of safety incidents. For external suppliers or interested parties that need to enter the Company's production area, we provide documents such as the *Stakeholder Safety Management System*, *Safety Risk Notification Card* or *Outside Personnel Safety Notification Letter* for them to observe to ensure our safety management system can be accurately communicated to external parties entering the project area.



Figure 14 The Company's headquarter carried out production safety inspection at the project companies.

In addition, in accordance with the requirements specified in the safety management systems, we provide personal protective equipment to employees in specialist and technical positions and conduct regular quality checks on the equipment. The equipment is required to meet applicable national and industrial standards with respect to their design, manufacturing, installation, and usage. We also conduct routine production safety inspection, seasonal inspection, pre-holiday inspection, and other types of inspection to minimise and eliminate safety risks and prevent the occurrence of occupational diseases.

The Company organises various forms of safety education to enhance safety awareness among employees, foster a culture of workplace safety, and ensure high quality production. The business units have developed safety training management systems. The safety trainings centre around different themes including the "three level" of safety education for new employees, routine safety education for production teams, safety training for employees in specialist positions, the "three new" safety training (new processes, new technologies, and new equipment), safety training in preparation for changes in job function, and safety accident education. Topics covered at these training events include OHS laws and regulations and the Company's policies, knowledge on using safety equipment, emergency response measures, and other relevant information.

To improve employees' emergency preparedness, we organise annual emergency drills to equip employees with necessary knowledge and skills to properly respond to fire, water quality incidents, and other emergencies. For employees whose work may pose potential health threats, we provide annual occupational health check-ups in addition to the general check-ups.

In 2020, a total of 4,636 employees spent a total of 20,833 hours in training that related to occupational health and safety standards.



Figure 15 Fire drill held at our Waste Incineration Division (left) and the East BU (right).



Figure 16 Chlorine leakage drill held at our Central BU (left), and confined space safety training held at our North BU (right).



Figure 17 Employees from Ranhill Water participated in local industrial hygiene training (left). The South BU organised CPR and first aid training (right).



Figure 18 Safety warning signs (left) and lifebuoy rings (right) at the production sites of our North BU.

We have standardised our safety accident reporting procedures to ensure the accidents are reported to supervisory personnel and regulatory authorities in a timely manner. We submit reports to regulatory authorities on a regular basis to disclose results of our self-assessments on OHS hazards. Recommendations provided by regulatory authorities lay a foundation for us to further improve our safety standards.

During the Reporting Period, there were no reported incidents of non-compliance regarding laws and regulations related to occupational health and safety; a total of 23 days were lost due to work injury and there were two incidents of work-related fatality. After the incidents occurred, the business units immediately set up safety accident response team and investigation team to investigate the incidents and carried out comprehensive safety hazard inspections at the project companies to prevent the recurrence of similar incidents. At the same time, the business units promptly coordinated with local hospitals, public security, civil affairs, and other institutions to work with the family members of the deceased employees to properly handle the aftermath of the incidents. Within prescribed time period, the business units filed work injury report to apply for appropriate compensations for the deceased employees.

Table 1 Number and rate of work-related fatalities occurred in each of the past three years.⁴

	2020	2019	2018
Number of work-related fatalities	2	0	0
Rate of work-related fatality (per 100 employees)	0.033	0	0

⁴ Rate of work-related fatality (per 100 employees) = (Number of fatalities as a result of work-related injury / Number of employees) * 100

5.4 Employment Management and Employee Welfare

Our people play a valuable role in driving SIIC Environment's sustainable development. The Company protects employees' legitimate rights and interests, and is committed to laying a solid foundation for the long-term development and happiness of every employee.

5.4.1 Employment and Labour Practices

The Company embraces a people-oriented management philosophy and values the legitimate rights and interests of its employees. We strictly comply with the *Labour Law of the PRC*, *Labour Contract Law of the PRC*, *Regulation on the Implementation of the Labour Contract Law of the PRC*, *Employment Act of Singapore*, *Employment of Foreign Manpower Act of Singapore*, and other laws and regulations related to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare. At the same time, the Company abides by the recognised human rights laws and regulations of the countries and regions where it operates. We respect our employees, listen to their voices, and bear no discriminations towards gender, age, disability, religion, national origin, sexual orientation, etc. The Company encourages the business units to join trade unions, which protect the rights of employees and provide relevant trainings. We actively consider the diversity of the management and Board members, and are committed to creating an equal, harmonious, open, and inclusive work environment for all. During the Reporting Period, we did not receive complaints related to employee rights and interests.

Regarding child labour and forced labour, the Company adopts a zero-tolerance attitude towards these practices, and we abide by relevant laws and regulations such as the *Labour Law of the PRC* and *Provisions on the Prohibition of Using Child Labour*. During the recruitment process, we verify applicants' identity and employment eligibility to prevent child labour. We establish labour relations with employees on an equal and voluntary basis, and do not sign unlawful agreement or contract with employees or retain their identity documents. If forced labour is identified, employees can report directly to local labour supervision groups. If cases of child labour or forced labour do occur, we take immediate action to eliminate such practices, and review and improve our employment management systems to prevent future violations. During the recruitment process, in light of the actual situation, the Company offers appropriate positions for and gives priorities to candidates with special needs. Currently the Company employs four disabled individuals.

We pay close attention to labour issues of potential and existing business partners and conduct due diligence or internal audits as appropriate to ensure the legal rights of our employees. During the Reporting Period, there were no non-compliance cases regarding the above laws and regulations.

The Company has established a comprehensive human resource management system and has implemented associated policies across all business units, to ensure thorough protection of employees' rights and interests related to labour practices and employment. These labour policies have been properly communicated to all employees of the Company, both in and outside Mainland China.

- Compensation: *Remuneration Management System*
- Dismissal and promotion: *Change Management System*
- Recruitment, equal opportunity, diversity, and anti-discrimination: *Recruitment*

Management System, Employee Relations Management Measures

- Working hours: *Attendance Management System*
- Rest periods: *Leave Management System*

As on 31 December 2020, the Company had 6,039 full-time employees, and no part-time employee. A breakdown of our employees by gender, age group, and geographical region is shown below:

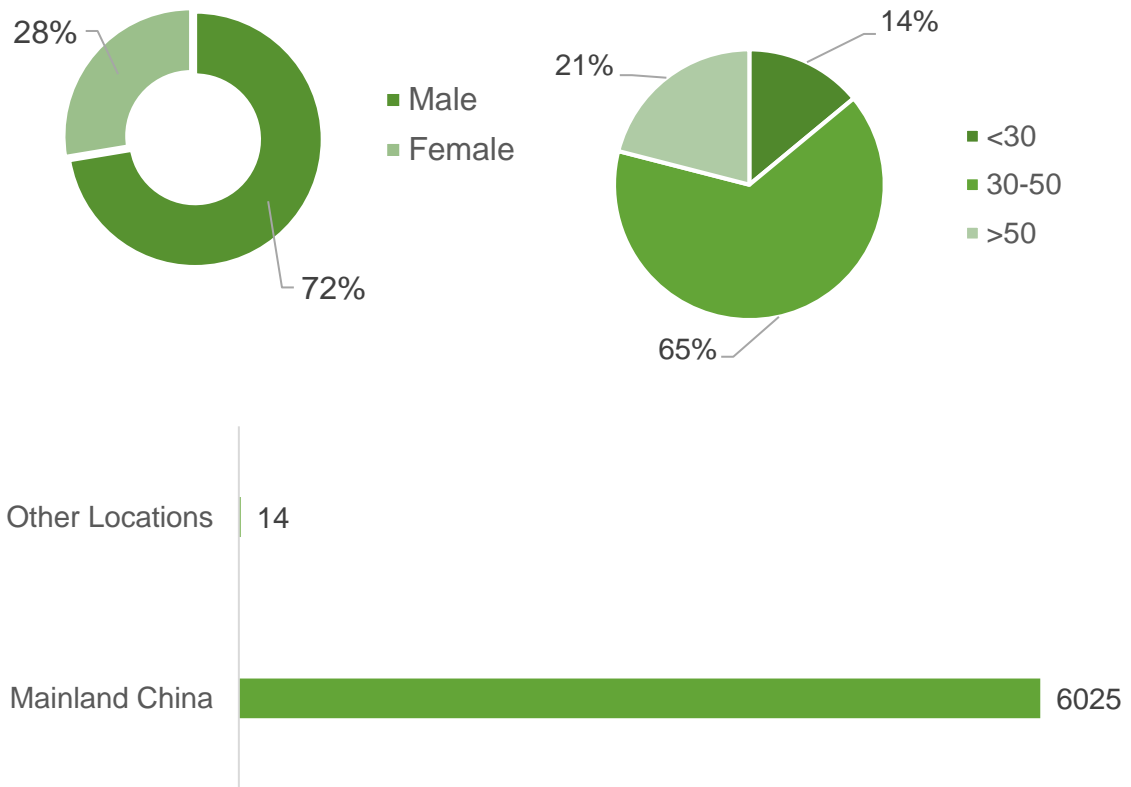


Figure 19 Employee statistics.

A breakdown of our employee turnover rate by gender, age group, and geographical region is shown below:



Figure 20 Employee turnover rate statistics.

5.4.2 Employee Compensation and Benefits

We provide employees with comprehensive and competitive compensation and benefits packages. On the basis of ensuring full compliance with the national and local minimum wage standards, we offer competitive remuneration and bonuses in accordance with the requirements outlined in the *Employee Benefits Management System*, *Leave Management System* and other internal policies, and provide employees with medical allowances, regular physical examinations, paternity and maternity leave, marriage leave, personal accident insurance as well as retirement benefits. Depending on the actual situation, the project companies also provide additional compensation for nightshift employees and distribute employee allowances in summer for coping with the hot weather. Our employee manuals set out clear policies and codes of conduct for office procedures, reporting duty, attendance, performance appraisals, rewards and penalties, compensation and benefits as well as training and employee rights. At the same time, to enable our employees to work with peace of mind, we pay attention to employees' families undergoing hardships and will provide support to those in need.

During the Reporting Period, our business units and project companies organised a variety of sports games and recreational activities to improve employee well-being and help them achieve better work-life balance.



Figure 21 Project companies from Ranhill Water organised various activities for the annual gathering in January 2020 (left), and organised a hiking event in August to improve employee well-being and dedication (right).



Figure 22 The East BU held a large-scale family event themed "Strive to be a young master of environmental protection" in August 2020, to enhance parent-child relationships and foster children's understanding of wastewater treatment process and awareness of environment protection.



Figure 23 In September 2020, the Central BU arranged a patriotic education film viewing event for its employees.

5.4.3 Training and Development

The business units have developed the *Training Management System*, *Training Management Measures*, and similar internal policies regarding employee training management based on the nature and needs of their business operations, and organise diverse training programmes for employees. We offer targeted training for different categories of employees, such as personnel in managerial positions, specialists and technicians, employees transferring to new positions, and new employees, to continue to develop well-rounded talent and facilitate employees' career development. We encourage employees to attend different kinds of education and training programmes, and grant time off for employees who need to prepare for professional examinations. To enhance training effectiveness, our training programmes take on various forms such as inter-departmental exchange programmes, position rotations, lectures, and skillset competitions. We conduct evaluations to assess training efficacy when an employee completes a training programme and we evaluate the evaluation results in the annual employee performance review. During the Reporting Period, 84.6% of the total workforce, or 5,108 employees received 43,900.5 hours of training, as shown in the graphs below. The average training hours per employee were approximately 7.3 hours.

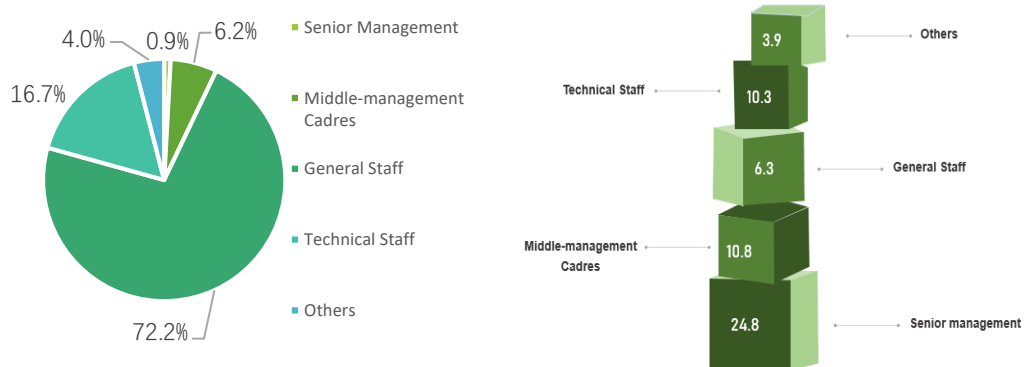


Figure 24 Percentage of employees trained by employee category⁵ and average training hours completed per employee



Figure 25 Percentage of employees trained by gender (male: 69.9%, female: 30.1%)⁵ and average training hours completed per employee. During the Reporting Period, 81.8% of male employees and 91.8% of female employees participated in training activities.

⁵ Percentage of employee trained = No. of employees in the specified category (e.g., employee category, gender etc.) who took part in training / Total No. of employees who took part in training.



Figure 26 During the Reporting Period, projects companies from the South BU organised professional skill competition (left) and annual “Must-Knows” professional skill training (right).



Figure 27 From September to December 2020, the Central BU launched an in-house training programme on reserve talent management; a total of 37 trainees completed nine online courses.

5.5 Giving Back to Community

As a responsible corporate citizen, SIIC Environment is dedicated to solving the most pressing needs of the society and actively engages in public welfare activities in the fields of environmental protection, poverty alleviation, education, and more. During community engagement activities, we abide by the *Charity Law of the PRC* and follow the principles of legality, voluntariness, and honesty, and utilise our industry expertise to help conserve natural resources, prevent and mitigate pollution, and work with the public to create an eco-friendly society. During the Reporting Period, we invested over RMB 0.66 million and 1,511.5 hours of volunteer services in different community engagement activities.

5.5.1 Protecting the Environment

As a company dedicated to water and environmental protection businesses, SIIC Environment has always concentrated on its core mission of promoting concepts of environmental protection and resource conservation. Internally, we work to enhance our employees' environmental awareness by distributing environment and natural resource related publications, conducting corporate culture training, and organising environmental-themed seminars and knowledge contests. For external stakeholders such as our investors and the public, we continue to communicate our corporate philosophy through various channels such as public reports, business open houses, community outreach and public welfare activities, and social media platforms. During the Reporting Period, the Company carried out diverse activities engaging different sectors of the community, including organising field trips for students to our WWTPs, planting trees in the communities we serve, and fostering water conservation awareness among our customers.

Case Study: In 2020, Wuhan City Huangpi District Xinwuhu Water Plant carried out a series of community-wide source water conservation programmes, to actively respond to local government's call of enhancing county-level awareness and action towards water conservation. The plant invited local media to the site to shoot a short water conservation-themed film, which introduces the production process of drinking water to community members, increasing their awareness of the preciousness of water resources and the importance of water conservation. In addition, employees of the plant went into local communities and distributed brochures and flyers on source water protection to the public.



Figure 28 Wuhan City Huangpi District Xinwuhu Water Plant invited local media to shoot water conservation-themed film on-site (left), and distributed flyers on source water protection to community members (right).

Case Study: During the Reporting Period, our South BU's project company organised tree-planting event to further raise employee awareness of creating a greener and better living environment.



Figure 29 Project company from the South BU organised tree-planting event.

5.5.2 Conducting Community Service

Besides environmental protection related events, we also invest in other public welfare activities and direct available corporate resources to help people and communities in need. In 2020, our employees from different business units participated in various volunteering events aiming at providing better services for customers, helping impoverished households, supporting local students, and more.

Case Study: During the Reporting Period, the North BU's "Water for All" volunteer service team carried out a total of 24 community activities, such as customer home visits to provide convenience services, service-related Q&A, water bill inquiries, and water-related business transaction. The team was elected as the "Best Volunteer Service Organisation" in 2020 in the annual citywide volunteer service campaign held in Weifang City, Shandong Province. The business unit also actively engaged in Qingzhou City's poverty alleviation programmes, such as purchasing apples from the City's Huzhai Modern Agricultural Demonstration Park to help increase local farmers' income by means of poverty alleviation through consumption. Our efforts received wide recognition from the public and local government.



Figure 30 The North BU provided convenience services for customers in local communities (left), and engaged in poverty alleviation activities (right).

Case Study: To support local students attending the 2020 National College Entrance Examination, our water supply and wastewater treatment projects in Suiping County, Henan Province organised employees to set up service stations near the test centres. Our employees distributed complimentary bottled water and supplements to students, and provided water and sunshade umbrellas for traffic police on duty to help them cope with the hot weather.

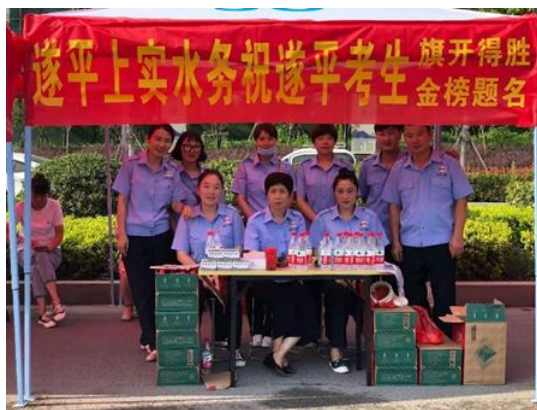


Figure 31 Our projects in Suiping County, Henan Province distributed bottled water and supplements to students attending the National College Entrance Examination.

Case Study: Our Xinxiang City Sludge Treatment and Disposal Project in Henan Province is located next to a livestock farm in the same community. The odour generated from the farm's operations brought negative impacts to local residents' everyday life. In order to foster community harmony, the project utilised its expertise to help the farm retrofit its equipment and improve water quality free of charge, enhancing the quality of life of the residents and helping create a harmonious and pleasant community environment.

6. Featured Chapter: With Solidarity, We Forge Ahead

2020 was an unusual year. Faced with the sudden outbreak of the COVID-19 pandemic and the flooding disaster in Southern China, the Chinese people united as one and responded with solidarity. Every member of the Chinese society had made contributions to coping with the unprecedented challenges. As a responsible company, SIIC Environment was determined to fully fulfil its corporate social responsibility. Facing the pandemic, we quickly established a comprehensive response mechanism to protect the health and safety of our employees and help the community win the battle against the pandemic. In the face of the flooding disaster, we stood firm against the odds and ensured residents' water safety. In the future, with its determined and committed employees, SIIC Environment will continue to leverage its industry expertise and contribute to safeguarding people's livelihood and the environment.

6.1 Swift Response and Employee Protection

During the COVID-19 outbreak, in response to the shortage of pandemic prevention and medical supplies, the Company quickly deployed manpower, financial resources, and material support to help the society in coping with the pandemic. In total, we coordinated the procurement of over 77,500 masks and out of which 25,500 N95 masks, and provided medicines such as chloroquine, live combined bifidobacterium, lactobacillus and enterococcus capsules, and Jingyin solution. In addition, under the coordination of the Embassy of the PRC in Singapore, our employees from the Company's headquarter also actively procured and prepared pandemic prevention supplies through various channels to support the anti-pandemic battle in China. During the Reporting Period, we contributed a total of 3,895 hours and approximately RMB 1.62 million to anti-pandemic activities.

When the pandemic hit, SIIC Environment made it a priority to ensure the health and safety of its employees. We promptly procured pandemic prevention materials and closely monitored the health condition of employees and their families. In the early stage of the pandemic, the Company purchased and deployed pandemic prevention supplies through multiple channels, provided employees with personal protective materials such as masks, disinfectants, protective clothing, and goggles, and adopted measures such as adjusting employees' work schedule and arranging transportation for employee commuting to effectively reduce the risk of cross-infection.

The Company strictly implemented the national and local government's requirements for pandemic prevention and control to ensure normal business operation and create a safe work environment for employees. The Company established emergency response teams at the headquarter, regional office, and project levels, and formulated polices such as the *COVID 19 Prevention and Control Work Plan* and the *COVID 19 Prevention and Control Emergency Plan* which clarified the responsibilities of the prevention and control team and laid out detailed prevention and control measures. We categorised pandemic-related emergencies by level of severity and outlined response processes for each level, therefore ensuring the health and safety of employees and steady business recovery.

Being at the forefront of the anti-pandemic battle, the Central BU had been paying close attention to the pandemic since its onset and strived to protect the health and safety of its employees. At the height of the pandemic, all business units and the Company's headquarter provided unconditional support to the Central BU; employees and their families could report any difficulties to the Company at any time. All members

of the Company stood as one and forged through hardships together. To boost employee morale as they overcame various challenges posed by COVID-19, the North BU held an exhibition themed "Fighting the pandemic with solidarity, maintaining quality production with dedication", to showcase employees' anti-pandemic art works and help keep the workforce engaged and motivated.



Figure 32 Anti-pandemic-themed art exhibition held at our North BU.

6.2 Working Together to Support Local Communities

SIIC Environment's business activities are closely linked to people's everyday life, and we are well aware of the importance of being able to provide reliable and stable water supply, wastewater management, and other services to our customers and community members. During the pandemic outbreak, it became our top priority to promptly resolve water service-related issues encountered by customers. Our water service hotline remained open 24/7, and we launched online services to efficiently process and respond to customer requests. For project companies engaged in frontline anti-pandemic activities, we strengthened water quality testing and adjusted treatment processes as needed to ensure the water quality met relevant standards. At the same time, the Company provided pandemic prevention supplies and support to local communities and other sectors of the society in need to overcome challenges together.

In the early stage of the COVID-19 outbreak, despite facing the challenges of manpower and resource shortage, the project companies of our Central BU participated in and successfully completed the tasks of mobile cabin hospital construction. To guarantee effluent quality, the project companies closely monitored water quality through networked instruments, tested for key water quality indicators on a daily basis, and increased the dosage of disinfectants added. Wastewater from the mobile cabin hospitals was disinfected twice and safely discharged through fixed routes to designated locations. In terms of ensuring local water supply, the business unit arranged for all branch offices to be on standby 24/7, while making sure the customer service hotline remained accessible and effective in processing customer inquiries and repair requests. Customers were also able to pay water bills and submit inquiries through mobile platforms such as WeChat and Alipay, without going outside of their homes which might increase the risk of exposure to the coronavirus. Upon learning some residents were experiencing difficulties in acquiring vegetables and other necessities, the project companies promptly donated vegetables and other

supplies to the local community.



Figure 33 Wuhan Economic and Technological Development Zone WWTP Project 1st Phase donated vegetables and supplies to the local community.

Over the course of the anti-pandemic battle, to relieve the pressure of pandemic prevention and control in surrounding villages and communities, employees from the Ningbo Hangzhouwan New District WWTP Project under our East BU volunteered at the COVID-19 checkpoints at the entrances of villages and communities. Our employees worked with the community staff to implement comprehensive pandemic prevention and control measures such as checking body temperature of residents and visitors, together safeguarding the health and safety of the local community. In addition, upon learning that nearby companies were experiencing disinfectant shortages, our Pinghu City Eastern WWTP Project donated sodium hypochlorite, a commonly used agent at WWTPs to these companies for pandemic prevention and control. The Pinghu Dongpian project learned that surrounding companies lacked disinfectants and provided them with sodium hypochlorite for free.



Figure 34 Volunteering at COVID-19 checkpoints to implement pandemic prevention and control measures and answer residents' inquiries.

As the number of blood donations in Shenzhen City dropped drastically due to the pandemic, the blood stock could no longer meet clinical demand. In response, members of our South BU actively participated in local blood donation drives. In addition, to help out farmers whose product sales were negatively impacted by the pandemic, the business unit purchased fruits from Nanpo Village, Guangxi Province to secure local farmers' source of income in times of difficulty. In addition, the project companies responded to the call of the local communities and organised employees

to carry out voluntary services, such as conducting body temperature checks for local residents in protective clothing.



Figure 35 Employees from the South BU participated in blood donation drive (left) and conducted body temperature checks for local residents (right).

Our Northeast BU closely monitored the quality of the incoming source water, promptly adjusted process parameters and adopted supplementary disinfection measures, and strictly managed the disinfection process to guarantee that the concentration of faecal coliforms in the effluent met relevant standards. In addition, the business unit made the public commitment that in cases of unpaid bills, there would be no pressing for payment or service suspension, to minimise the economic burden customers might already be shouldering due to the pandemic.

On top of guaranteeing water supply for local residents, our North BU focussed particularly on key anti-pandemic groups such as local hospitals, medical equipment manufacturers, and heat and gas suppliers and secured their access to clean water. For local schools, the business unit offered around-the-clock service support, and promptly compiled and distributed the *Advice on Water Safety for Schools* to provide guidance on drinking water precautions, ensuring health and safety of teachers and students as classes resumed. Towards the end of 2020, when a new wave of COVID-19 hit Dalian City, our employees engaged in community volunteer activities, helping implement disease prevention and control measures and distributing groceries to the residents. Their efforts received wide recognition from local communities.



Figure 36 Our employee participating in anti-pandemic volunteer services in local communities (left), and thank you letter from local communities in recognition of our employees' volunteer work (right).

6.3 Combatting Flood and Safeguarding Livelihoods

In July 2020, the middle and lower reaches of the Yangtze River experienced 7 rounds of heavy rainfall, and our projects along the Yangtze River faced serious challenges. The water levels of our Xinwuhu Water Plant and Qianchuan WWTP in Huangpi District of Wuhan City had been rising daily, endangering the safety of our employees on duty, operation safety of the water plant, and drinking water safety of 800,000 people in southern Huangpi.

The project company launched an emergency plan and carried out comprehensive arrangement and preparation in emergency rescue and safe production. On July 11, as the water level of the Yangtze River exceeded the warning threshold, in order to ensure the safety of Wuhan City, the city's flood control headquarter decided to flood the Tianxing Island. Under the unified dispatch of the government, all residents evacuated the island and only three water pump room operators from the Xinwuhu Water Plant stayed. To guarantee employee safety and the stable operation of equipment and facilities, the Company immediately reported the situation to the superior department and held overnight emergency meeting. The water plant successfully implemented measures for safe operation under high water levels the following day with respect to engineering, operation, and maintenance, which ensured the stable operation of the pump room under partially flooded condition.

Disruptions to land transportation brought challenges to the transportation of spare parts for operation activities and necessities for living on the island. After discussing with local water affairs experts and experienced shipping personnel, leveraging on our on-site experience, we worked out a water transportation route from the island to Xinwuhu Water Plant, securing the transportation of personnel and supplies to and from the island. In such a difficult time, we rose to the challenges and strived to protect the drinking water safety of 800,000 people in southern Huangpi, showcasing the dedication and strong sense of responsibility of every member at SIIC Environment.



Figure 37 Transportation of supplies and personnel between Xinwuhu Water Plant and Tianxing Island (left); stable operation of the water pump room in the morning sun amidst the flood (right).

Appendix: Hong Kong Stock Exchange *ESG Reporting Guide* Content Index

General Disclosures and Key Performance Indicators (KPIs)	Description	Relevant Section	Page Number
Environmental			
Aspect A1: Emissions			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	4.1 Environmental Management Overview, 4.2 Wastewater and Air Emissions Management, 4.3 Hazardous and Non-Hazardous Waste Management	13-20
KPI A1.1	The types of emissions and respective emissions data.	4.5 Environmental Performance Data	24-35
KPI A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).		
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).		
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).		
KPI A1.5	Description of measures to mitigate emissions and results achieved.	4.2 Wastewater and Air Emissions Management	13-18
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	4.3 Hazardous and Non-Hazardous Waste Management	18-20
Aspect A2: Use of Resources			

General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	4.4 Resource Consumption Management	20-23
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	4.5 Environmental Performance Data	24-35
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).		
KPI A2.3	Description of energy use efficiency initiatives and results achieved.	4.4.1 Chemical and Energy Consumption	20-21
KPI A2.4	Description of whether there are any issues in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	4.4.2 Water Consumption	21-22
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	Not Applicable (the Company's business activities mainly involve providing services and do not involve products)	
Aspect A3: The Environment and Natural Resources			
General Disclosure	Policies on minimizing the issuer's significant impact on the environment and natural resources.	4.1 Environmental Management Overview	13
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	4.2 Wastewater and Air Emissions Management, 4.3 Hazardous and Non-Hazardous Waste Management, 4.4 Resource Consumption Management	13-23
Social			
Aspect B1: Employment			

General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, antidiscrimination, and other benefits and welfare.	5.4.1 Employment and Labour Practices, 5.4.2 Employee Compensation and Benefits	44-47
KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	5.4.1 Employment and Labour Practices	45
KPI B1.2	Employee turnover rate by gender, age group and geographical region.		46
Aspect B2: Health and Safety			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	5.3 Occupational Health and Safety	39-43
KPI B2.1	Number and rate of work-related fatalities.		43
KPI B2.2	Lost days due to work injury.		43
KPI B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.		39-43
Aspect B3: Development and Training			
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	5.4.3 Training and Development	48-49
KPI B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).		48
KPI B3.2	The average training hours completed per employee by gender and employee category.		
Aspect B4: Labour Standards			

General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	5.4.1 Employment and Labour Practices	44
KPI B4.1	Description of measures to review employment practices to avoid child and forced labour.		
KPI B4.2	Description of steps taken to eliminate such practices when discovered.		
Aspect B5: Supply Chain Management			
General Disclosure	Policies on managing environmental and social risks of the supply chain.	5.2 Supply Chain Management	38-39
KPI B5.1	Number of suppliers by geographical region.		39
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.		38-39
Aspect B6: Product Responsibility			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	5.1 Service Quality and Standards	36-38
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Not Applicable (the Company's business activities mainly involve providing services and do not involve products)	
KPI B6.2	Number of products and service related complaints received and how they are dealt with.	5.1.2 Enhancing Customer Satisfaction	37
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	5.1.3 Research and Development	37-38

KPI B6.4	Description of quality assurance process and recall procedures.	5.1.1 Safeguarding Water Quality and Sanitation	36-37
KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	5.1.2 Enhancing Customer Satisfaction	37
Aspect B7: Anti-corruption			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	3.5 Compliance Management and Anti-Corruption	11-12
KPI 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.		
KPI B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.		
Aspect B8: Community Investment			
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	5.5 Giving Back to Community	50-52
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).		50-52
KPI B8.2	Resources contributed (e.g. money or time) to the focus area.		50