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## **About this Report**

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

#### **Reporting Scope**

Reporting Period: Unless otherwise specified, this Report covers the period from 1 January 2022 to 31 December 2022 ("Reporting Period").

Business Scope: This Report covers the Company's headquarters and the projects operating 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"), Ranhill Water (Hong Kong) Ltd. ("Ranhill Water") and waste incineration projects<sup>1</sup>.

#### **Reporting Guideline**

This Report is prepared in accordance with the Mandatory Disclosure requirement, the "Comply or Explain" provisions, and the Materiality, Quantitative, Balance, and Consistency principles of the *Environmental, Social and Governance 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").



The Company is able to identify material ESG issues by communicating with the internal and external stakeholders and listening to their expectations and concerns. The Company will respond to the most material ESG issues in this Report.

The Company establishes a data collection system for ESG key performance indicators ("KPIs"). This Report contains standards and procedures for accounting emissions, energy consumption, and other aspects.

This Report provides objective facts and discloses both positive and negative indicators.

Consistency

This Report uses a consistent statistical methodology and KPIs as in prior years unless otherwise stated. This Report discloses historical data to ensure a meaningful comparison.

<sup>1</sup>Among the solid waste projects, the Company owns a 50% equity stake in the Pucheng Waste Incineration Thermal Power Generation Project and Wenling Waste Incineration Power Generation Project. However, these projects are not consolidated and therefore are not included in the Reporting Scope.

In addition, this Report is prepared in accordance with rule 711B of the Listing Manual of the Singapore Exchange Securities Trading Limited ("SGX") and by referencing the guidance under the Sustainability Reporting Guide -- set out as Practice Note 7.6 of the Listing Manual of the SGX, and 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. The climate-related disclosures in this Report are guided by the recommendations of the Task Force on Climate-related Financial Disclosures ("TCFD").

We seek to adhere to the above reporting frameworks' generic sustainability considerations, general principles and indicators and apply them to report our sustainability policies, practices, performance and targets. This Report has disclosed some indicators in the GRI standards and TCFD framework. The Company will continue to enhance sustainable development management and further improve the disclosure in line with relevant standards in the future. 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 2022 to gain full knowledge of the Company's ESG performance.

#### **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 this Report. The Board of Directors has reviewed the Report and confirmed that there were no false representations, or misleading statements in any material respect.

The Company recorded the ESG data in an online ESG data collection system and audited the data internally before they were released. In 2022, we conducted an internal review of this Report based on our corporate governance structure and included the work in the annual audit plan, covering key aspects of this Report. The internal review was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing issued by the Institute of Internal Auditors ("IIA").

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

#### **Access and Feedback**

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

All stakeholders are welcome to give their valuable feedback in relation to this Report by contacting us at: info@siicenv.com.

## **About SIIC Environment**

#### **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 across 20 provinces, municipalities and special administrative regions in China.

Our water projects, sludge treatment services and waste incineration projects are operated and managed by Central BU, South BU, North BU, North BU, East BU and headquarter while industrial wastewater treatment services are mainly carried out by Ranhill Water.





#### **Business Outlook**

The Company's various businesses grew steadily under the strong support of China's environmental policies. In 2022, the Company secured 13 new wastewater treatment and water supply projects in the water business throughout the year, with a total designed capacity of 367,200 tonnes per day; agreements for 7 wastewater treatment projects, with a total designed capacity of 880,000 tonnes per day, were signed for upgrading, expansion, price raising, or extension of the operation and management ("O&M") service period; 12 projects have been put into operation, with a total capacity of 1.13 million tonnes per day. In addition, our key solidwaste treatment and power generation project, the Shanghai Baoshan Renewable Energy Utilization Center ("Baoshan Center"), commenced trial operation in September 2022. That project will lead the industry to promote the realisation of the goal of "carbon peak and carbon neutrality" as a new benchmark for the utilisation of renewable energy in China.

SIIC Environment Baoshan Center is the first municipal key project for domestic waste treatment in Shanghai after the enforcement of garbage sorting, which is significant for realising zero landfill of domestic waste in Shanghai. The project is designed to incinerate about 3,800 tonnes of waste per day, and it is expected to generate 800 million kWh of electricity annually. Baoshan Center fully embodies the concept of circular economy and people-orientation. It aims to create a low-carbon environmental project with "cutting-edge technology, advanced process, near-zero emissions, and neighbour-friendly operation", thus establishing a benchmark for high efficiency and community-networking in the industry.

The Shanghai Xicen Water Purification Plant Project is part of the Yangtze River Delta Integration's demonstration zone. The project was constructed underground, with a total designed capacity of 50,000 tonnes per day. The effluent is in compliance with the surface water quality standard Grade III, making it currently the most advanced underground wastewater treatment plant in terms of effluent standards in the country.



Shanghai Baoshan Renewable Energy Utilization Center

The year 2023 is a key year for China's 14th Five-Year Plan. The Company will firmly grab strategic opportunities such as "Development of Yangtze River Economic Belt" and "Integration of Yangtze River Delta" and fully utilise strong resources to broaden business layout in various regions, especially accelerating business expansion in the Yangtze River Delta Economic Belt and the Guangdong-Hong Kong-Macao Greater Bay Area. We will start with ESG to pursue high-quality and sustainable development and continuously improve ESG governance and management with internal motivation to achieve a win-win situation of social value and market value.

Looking ahead, the Company will continue to explore business opportunities and speed up digitalisation and low-carbon development. With more high-quality and modern environmental projects, we will contribute to protecting the ecological environment and improving people's well-being.

Shanghai Xicen Water Purification Plant Project

#### **Corporate Governance**

#### **Governance Structure**

SIIC Environment continuously strengthens the level of corporate governance, ensuring the protection of shareholders' rights and interests, and continuous improvement of corporate performance. We are committed to establishing a comprehensive corporate governance system in line with principles and guidelines set out in 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.

Our Board is responsible for overseeing the Company's overall policies, strategies and objectives, key operational initiatives, performance and measurement, internal controls and risk management, etc. The Company has also established five Board committees - namely the Audit Committee, the Nominating Committee, the Remuneration Committee, the Risk and Investment Management Committee ("RIMC") and the Executive Committee - to assist the Board in fulfilling its responsibilities. Each of the Board Committees, governed by clearly defined terms of reference, ensures the effective implementation of the Company's management system.



SIIC Environment Organisation Chart

#### **Board Diversity**

The Company places a strong emphasis on Board diversity and sees it as an essential element to attain its strategic objectives and sustainable development. SIIC Environment formulated a Board Diversity Policy in 2022, which sets out the approach to making the Board more diverse. The Company has also defined targets of board diversity - at least one director with different gender will be appointed by December 31, 2024, and progress on gender diversity will be reviewed and discussed at least annually. These aspects including gender, age, culture, industry experience, skill and knowledge, among others, will be considered for an optimum Board composition to achieve an appropriate balance.

As of 31 December 2022, the Board of Directors of the Company comprises nine members, including five executive directors, one non-executive director and three independent non-executive directors. The Board has expertise in corporate strategy. governance and business. The nine Directors have extensive experience in finance, law, engineering, environmental protection and corporate management. Background diversity contributes significantly to the Board's effectiveness and management.

#### **Risk Management**

The Company has established a risk management and internal control system. The Board of Directors is responsible for risk governance and the overall internal control framework. The RIMC and the management design, implement and monitor the risk management and internal control systems within the Company. Scrutiny of those systems is performed at least once a year to ensure their effectiveness. Meanwhile, the RIMC and the management regularly review the Company's business and operational activities to identify material risks as well as take appropriate actions to control and mitigate those risks. In 2022, 7 meetings were convened on risk management. Since the second half of 2022, the Company has been conducting monthly risk identification and assessment and formulating corresponding reports. The RMIC also monitors the Company's material ESG issues (including ESG-related risks) and reports to the Board on ESG performance. Our internal auditors assist the RIMC in assessing whether the Company's internal controls are adequate, effective, and performing as intended.

Our business units identify, assess and manage risks in accordance with the Company's risk management framework based on our actual operations each year. Each business unit formulates appropriate risk control measures to effectively control material risks identified. For example, Northeast BU has developed and implemented the Internal Control and Risk Management Manual, which outlines the framework of internal control-related systems and the basic procedures for risk assessment. The list of risk factors established by Northeast BU includes ESG risks such as climate risk, safety risk and human resources risk, integrating ESG risks into the overall risk assessment and control.





#### SIIC Environment Holdings Ltd.

#### Internal Control and Risk Management Framework

# 03

## **Sustainability Governance**

SIIC Environment continuously improves its ESG working mechanism and implements ESG management practices. The Company has established a ESG governance structure and set short-, medium-, and long-term ESG goals based on its business development and actual operation, which enables us to promote the implementation of ESG work and improve our ESG performance. In the future, the Company will further promote the improvement of its ESG management system and integrate ESG with strategic planning and business management, to continuously enhance corporate value and achieve high-quality and sustainable development.

#### **Highlights**

Established a sustainability governance structure and formulated short, medium and long-term targets The Board, the management and the employees received sustainability and anti-corruption training No corruption cases have occurred. Number of corruption cases concluded

0

#### Highly Material Issues addressed in this Chapter

- Corporate governance
- Compliance operation
- Anti-corruption

#### SDGs addressed in this Chapter





## **Board Statement**

As SIIC Environment's governance body of sustainability, the Board has overall responsibility for ESG strategy and reporting. The Board has identified and evaluated material ESG factors (including ESG risks) and continued to monitor the effectiveness of management approaches regarding these factors. Every year, the Company's Directors review and approve material ESG issues, and integrate them into the sustainability planning.

To further its commitment to sustainability, the Company has formulated short, medium and long-term targets according to its business strategies and material ESG issues. The Board has reviewed the ESG target setting based on operational reality. Furthermore, it checks from time to time the implementation progress, so as to promote the continuous improvement of the Company's ESG performance with higher standards.

The Company also continues to build up the Board's sustainability capability through regular training projects. During the Reporting Period, all Directors of the Company signed up for the Singapore Institute of Directors (SID)'s "Listed Entity Director Programme Module: Environmental, Social and Governance", a sustainability training programme designated by the Singapore Exchange. 8 of the Directors obtained training certificates<sup>2</sup>.

## **Sustainability Governance Structure**

Taking a top-down approach to integrating ESG throughout the corporate governance system, the Company has formulated an appropriate sustainability governance structure and comprehensive management system. ESG-related responsibilities were integrated into the overall authorities of the Board and RIMC.

The Board is the top governance body for our sustainability work. As for responsibilities, it determines and monitors ESG strategies, actions and procedures, confirms material ESG issues (including ESG-related risks) as well as oversees progress in achieving sustainability targets periodically. The Board delegates RIMC to supervise and manage ESG-related issues in a role to design ESG management approaches, policies and targets; review, confirm and report material ESG issues to the Board, and monitor the compliance of ESG disclosure.

This year, an internal review of this Report has been conducted based on the Company's governance structure and buttressed by the effective internal control and risk management system. Compliant with the *International Standards for the Professional Practice of Internal Auditing* issued by the IIA, the identified processes relating to this Report have been incorporated into our annual internal audit plan.

<sup>2</sup> In 2022, 100% of the Directors of the Company signed up for sustainability training programme, and one of them failed to attend the training due to a scheduling conflict, thus obtaining no training certificates for the time being.

In addition, the Company has established the ESG Working Group to implement ESG in business practices. Consisting of senior management and employees from various departments who possess a good understanding of the Company's operations and relevant ESG matters, the ESG Working Group is responsible for implementing the Company's ESG strategies and preparing the annual sustainability report, including collecting and validating ESG data, etc. In 2022, the ESG Working Group regularly reported ESG work to the Board and the management, as well as organised ESG training for the management and business unit heads. In this way, management at all levels becomes more closely engaged in ESG efforts.

#### SIIC Environment ESG Governance Structure



and supervise ESG strategies, initiatives and processes
I ESG issues (including ESG related risks), and continuously pervise the issues
w the Company's sustainability performance and its targets
prove the ESG Report
review ESG management approaches, targets and
nfirm the Company's priority of ESG issues
lated risks and opportunities of the Company, and review its coping with these risks
sess the Company's ESG work, and check the performance ade in achieving ESG-related targets
npany's compliance with ESG disclosure and report to the v and approval
mulation of ESG management approaches, targets and

- · Establish and maintain communication with stakeholders
- Analyse and evaluate ESG risks and report to the RIMC on a regular basis
- Promote the implementation of relevant work in accordance with ESG management policies, objectives and strategies
- · Collect ESG indicators and participate in ESG reporting

## **Compliance and Anti-corruption**

#### **Compliance Management System**

Compliance and integrity are critical to the company's efficient, healthy and sustainable development. Fully recognising the importance of corporate compliance, SIIC Environment has zero tolerance for corruption, bribery, fraud, and other violations of business ethics. The Company strictly abides by the *Company Law of the PRC*, the *Oversight Law of the PRC*, the *Anti-Money Laundering Law of the PRC*, the *Anti-Unfair Competition Law of the PRC*, the *Prevention of Corruption Act of Singapore*, and other relevant laws and regulations. More than that, the Company has formulated a comprehensive internal control system (including financial, operational, compliance, information technology control and risk management). Our Board regularly reviews and evaluates how the internal control system works, while the Audit Committee and RIMC assess, manage and supervise the risks arising from business operations. The risk assessment results will also be reported to the Board for overall review. Through these processes, our internal control system runs effectively and business risks are properly managed.

In addition, to prevent corruption within the Company, we conduct internal audits and assessments of business ethics for our business units periodically, including but not limited to procurement and accounts payable; internal control on cash and bank management; and internal control on revenue and receivables. In response to the problems revealed in the audits, the Company has implemented timely rectification and improvement of the relevant system accordingly. In 2022, the Company conducted internal control audits on 9 projects for its subsidiaries. The Company also hired professional agencies to conduct internal control audits on the project companies subordinate to the business units, and guided the business units to conduct self-inspection on weak points in internal control and issues to be rectified.

Our business units have also developed and implemented internal anti-corruption policies based on actual operating conditions, such as the *Internal Audit System*, *Insider Information Management System*, and *Conflict of Interest Avoidance System*, and carried out internal audits as needed. For example, South BU regularly conducts internal audits with the help of external third-party agencies, covering the aspects of anti-corruption, anti-fraud, and anti-money laundering. During the Reporting Period, there was no reported non-compliance with laws and regulations related to bribery, extortion, fraud, and money laundering.

Number of cooruption cases concluded:

#### **Whistleblowing Policy**

The Company has established an internal *Whistleblowing Policy* to timely detect and prevent fraud. The policy specifies the actions constituting fraud, reporting procedures, complaint handling process, investigation responsibilities, and terms on confidentiality and whistle-blower protection. The *Whistleblowing Policy* applies to all Directors, officers, employees, and external parties such as vendors and contractors.

Upon discovering or suspecting fraudulent activity, any employee has the right to report it to the Audit Committee, Directors, or the management of the Company. The Company will investigate all allegations of fraud. If the investigation substantiates the fraudulent activities, the case will be immediately reported to authorised personnel, and if appropriate, to the Board through the Audit Committee.

The Company also takes proper measures to protect whistle-blowers and prohibits harassment or retaliation against the whistleblowers for raising concerns over alleged wrongful acts. In order to protect whistle-blowers'identity, the complaints addressed by employees will be submitted confidentially and anonymously to the Audit Committee, Executive Directors, or the management.



#### **Training for Anti-corruption**

The Company continues to strengthen its integrity culture and extensively conducts educational activities related to anticorruption. We organise training for anti-corruption every year. In 2022, the Company engaged a third party to launch online training sessions dedicated to anti-corruption for the Directors, management and employees, providing a systematic introduction and comparative analysis of anti-corruption policies in Mainland China, Hong Kong, and Singapore. In addition to the training provided by headquarter, our business units also organised various training activities according to their needs, to continuously raise the integrity awareness of our employees and promote the integration of business ethics into our business practices.





South BU invited legal experts to provide compliance training for the staff.





East BU launched "Fighting Corruption" training session in September 2022.

## **Stakeholder Engagement**

SIIC Environment engages with its key stakeholders regularly to understand their needs, concerns and expectations. The Company has scored different stakeholders based on the two dimensions - "influence by the Company" and "influence on the Company". Based on the scoring results, 8 stakeholder groups have been identified as crucial to the Company's business and operations and the table below outlines the key topics of concern of each group and the methods of communication.

Stakeholders	Concerns and Expectations	Methods of Communication
Shareholders and Investors	<ul> <li>Environmental impact management</li> <li>Operational compliance</li> <li>Anti-corruption</li> <li>Resource efficiency</li> <li>Service quality and standards</li> <li>Economic performance</li> </ul>	Annual reports, interim reports, quarterly results, public announcements, circulars, press releases, annual and extraordinary general meetings, non-deal roadshows, individual and group meetings
Employees	<ul> <li>Occupational health and safety</li> <li>Employee compensation and benefits</li> <li>Clean water and sanitation</li> </ul>	Company-wide meetings and departmental meetings, annual staff meetings, questionnaires, internal emails
Customers	<ul> <li>Operational compliance</li> <li>Labour standards</li> <li>Sustainable supply chain management</li> <li>Intellectual property protection</li> <li>Consumer rights and privacy protection</li> </ul>	Customer meetings, customer satisfaction surveys, on-site visits
Business Partners and Suppliers	<ul> <li>Clean water and sanitation</li> <li>Emissions, discharges, and waste management</li> <li>Service quality and standards</li> <li>Occupational health and safety</li> </ul>	Partner meetings, questionnaires, seminars, on-site visits
Industry Associations and NGOs	<ul> <li>Clean water and sanitation</li> <li>Emissions, discharges, and waste management</li> <li>Operational compliance</li> <li>Anti-corruption</li> </ul>	Industry conferences, company website, official reports, online communication, offline surveys
Local Communities and the Public	<ul> <li>Clean water and sanitation</li> <li>Occupational health and safety</li> <li>Service quality and standards</li> <li>Environmental impact management</li> </ul>	Volunteering activities, public hearings, open houses, on-site visits
Media 【၂))	<ul> <li>Promotion of environmental protection concepts</li> <li>Climate change mitigation</li> <li>Environmental impact management</li> <li>Community engagement and investment</li> </ul>	Press releases, interviews, announcements
Government and Regulators	<ul> <li>Consumer rights and privacy protection</li> <li>Emissions, discharges, and waste management</li> <li>Clean water and sanitation</li> </ul>	Government meetings, supervision and assessments, questionnaires, on-site visits

## **Materiality Assessment**

Under the condition that the business structure remains unchanged, the Company conducts a material assessment every three years. We invite internal and external stakeholders to participate in online surveys to identify ESG issues of high importance to the Company. Additionally, we periodically review and adjust these material issues based on actual circumstances. In 2020, the Company invited 450 internal and external stakeholders to participate in a materiality assessment, and to evaluate different issues based on two dimensions: "importance to SIIC Environment" and "importance to stakeholders". We also engaged independent sustainability consultants to assist in the analysis.

Based on the materiality assessment results in previous years, during the Reporting Period, we reviewed and updated material ESG issues in accordance with regulatory requirements, industry trends and the Company's business features and conducted the materiality assessment. The Company's sustainability management team and external consultants jointly reassessed the importance of the issue. The assessment process of material issues for this year is shown in the following figure:

#### 1. Identify key stakeholder groups:

Identify stakeholder groups that have high importance to the Company, and invite them 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, select issues that closely related to the Company and establish material ESG issue database.

#### 3. Conduct stakeholder survey:

Invite internal and external stakeholders to participate in an online questionnaire survey and rate different issues based on two dimensions - "importance to SIIC Environment" and "importance to stakeholders".

#### 4. Analyse and confirm survey results:

Analyse the survey results to identify the highly-material issues. The Board confirms the overall materiality assessment results.

#### 5. Regularly update material issues:

Review and update the ESG issue database from time to time, and re-evaluate and confirm the importance of each issue.

The Company identified a total of 11 issues of high-level materiality for the year 2022 after evaluation, including 5 environmental issues, 2 labour issues, and 4 operational issues., which have been presented in the table below. The materiality assessment results have been submitted to the Board for review and confirmation, and this Report will focus on disclosing ESG issues with highly materiality.

Subject Area	High-level Materiality	
Environment	<ul> <li>Emissions, discharges and waste management</li> <li>Resource efficiency</li> <li>Addressing climate change</li> <li>Clean water and sanitation</li> <li>Environmental impact management</li> </ul>	<ul> <li>Protection</li> <li>Ecoprot</li> </ul>
Labour	<ul> <li>Occupational health and safety</li> <li>Labour standards</li> </ul>	• Equ • Emj • Emj
Operation	<ul> <li>Service quality and standards</li> <li>Anti-corruption</li> <li>Compliance operation</li> <li>Corporate governance</li> </ul>	• Sup • Cor • Inte • R&I • Eco

Medium-level Materiality	Low-level Materiality
motion of environmental protection cepts logical environment and biodiversity tection	
al opportunity and employee rights ployee compensation and benefits ployee training and development	
oply chain sustainability management nsumer rights and privacy protection Ilectual property rights protection D and innovation onomic performance	<ul> <li>Community engagement and investment</li> <li>Rights of indigenous people</li> </ul>

We have set short, medium and long-term targets for highly material issues and have incorporated the United Nations Sustainable Development Goals ("SDGs") into our ESG targets and development plans to contribute to global environmental, social, and economic concerns of the utmost importance. Meanwhile, we have reviewed our progress toward our 2022 targets in light of our actual operations. We will continuously improve our action plans to strengthen the Company's overall ESG performance

Subject Area	Highly material issues	Related SDGs	Short-Term Targets (FY2023)	Medium and Long-Term Targets	Progress in FY2022	Overachievements/ Shortfalls	Corresponding Chapter
	Emissions, discharges, and waste management	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	To prevent violations and non-compliance that may seriously impact the environment.	Actively explore new technologies, methods, and models to minimise adverse environmental impacts.	Standardised business operation and management processes, and continuously optimised treatment processes, to ensure compliance with laws and regulations.	Progress steadily towards the target.	Waste and Emission Control
	Resource efficiency	12 RESPONSE AD PRODUCTION COCO	To pilot automatic and intelligent methods such as precise aeration and precise dosing in sewage plants to reduce power and drug consumption. To realise the transformation of the project to intelligent operation in stages.	To practice refined management, comprehensively promote informatisation, digitisation, and intelligentization in the water business, integrate these advancements into various aspects of operational management, accurately saving energy and reducing consumption, and further improve operational efficiency. To make contributions to solving China's water pollution, water shortage, and water security through the path of resource utilisation.	Set annual targets regarding electricity and chemical consumption for the project companies, incorporated resource efficiency considerations into the project companies' performance evaluation and implemented a reward mechanism. Our business units and project companies continued to strengthen resource management. Some of the project companies surpassed the annual targets.	Our project companies have taken effective measures to save resources in accordance with the annal targets, to ensure that the resources consumed are fully utilised.	Resource Consumption Management
Environment	Clean water and sanitation	6 CLEAN WATER AND SANITATION	To improve the water quality monitoring mechanism, ensure the safety and hygiene of the water supply, and achieve 100% qualification rate in water tests.	To meet public demand for high-quality water with adherence to stricter treatment requirements.	The project companies carried out regular water quality monitoring and developed strategies to protect water safety.	In 2022, the water supply business was carried out orderly, and the water qualification rate remained at 100%.	Service Quality Management
	Environmental impact management	12 RESPONSIBLE CONSUMPTION AND FROMUTION	To comply with applicable national laws and regulations and ensure the openness and transparency of environmental data	To standardise the approach to environmental management, refine environmental management systems, implement environmental management strategy, accept external supervision and ensure compliance with regulatory requirements.	Gradually improved management systems as planned for emissions, wastewater, hazardous and non-hazardous waste and resource consumption in a timely manner and publicly disclosed environmental management performance and relevant data in accordance with policy requirements	Progress steadily towards the target.	Waste and Emissions Control
	Addressing climate change	13 climate 15 UFF 15 UFF 15 CIVIENT 15	To pilot thermal energy utilisation from tail water and sewage treatment. To advance the introduction of distributed photovoltaic plants. To gradually promote green operations, green procurement, and green office practices.	To enhance energy efficiency and actively explore renewable energy, improve energy and carbon neutrality of water projects, and promote green, low-carbon, and safe development.	Intensified the management of climate-related risks and adopted measures to save energy and reduce emissions, such as upgrading to energy-efficient equipment, developing renewable energy, and planting trees.	In 2022, the Company used 1,953,656 kWh of clean energy (solar); Tree planting helped to offset 742.19 tonnes of $CO_2$ emissions.	Addressing Climate Change
Labour	Occupational health and safety	3 GOOD HEALTH AND WELL-BEING 	To provide employees with occupational health and safety related training and ensure 3 hours of training per person per year.	To provide employees with a safe work environment by offering adequate protective clothing and gear, giving safety education and training, and appointing dedicated safety management personnel. To establish an occupational health, safety, and management system. To achieve zero workplace safety accidents.	Set annual workplace safety targets and carried out regular monitoring to practise the occupational health and safety management system. Provide health and safety training for employees.	In 2022, there were no work-related fatalities and 40,088 hours of health and safety training were provided to 5,122 employees.	Occupational Health and Safety
	Labour standards		To maintain zero cases of child labour or forced labour. To optimise the assessment system; To improve the incentive mechanism; to establish a talent training mechanism.	To maintain zero cases of forced labour and child labour, ensure thorough protection of employees' rights and interests related to labour practices and employment.	Adhered to labour laws and regulations and ensured effective implementation of labour management systems.	In 2022, the Company strictly complied with the laws of the place where it operates, and there was no noncompliance such as forced labour or child labour.	Equal and Inclusive Workplace
	Service quality and standards	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	To provide customers with quality service and address 100% of customer feedback.	To deliver outstanding products and high-quality service as a commitment to our customers.	Ensured safe and compliant emission and high-quality water supply and continuously enhanced service quality; promptly handled customer complaints and maintained a 100% resolution rate.	Progress steadily towards the target.	Service Quality Management
Operation	Anti-corruption	16 PEACE AUSTICE AND STROME INSTITUTIONS	To provide annual anti-corruption training for the Board, management and staff. To update anti- corruption policies	To maintain zero cases regarding corrupt practices brought against the Company and its employees. To foster a culture of integrity and virtue among employees.	Implemented comprehensive anti-corruption policies; organised anti-corruption training for the Board, management and staff.	There was no concluded legal case regarding corrupt practices brought against the Company and its employees in 2022. All Directors were engaged in anti-corruption training.	Compliance and Anti- corruption
	Compliance operation	16 PAGE JUSTICE AND STRONG INSTITUTIONS	To conduct annual internal audits of business units to ensure that internal control measures and compliance inspection are consistent and effective.	To continuously improve the control system, tighten internal control management, raise employee awareness, and regularly organise training. To establish a supervision and assessment institution to conduct regular assessments to ensure the effectiveness of compliance management.	Business units and project companies developed and implemented internal policies to ensure compliance with national and local laws and regulations.	In 2022, the internal audits and inspections of business units were carried out as planned.	Compliance and Anti- corruption
	Corporate governance	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	To strengthen the Board's management and oversight of ESG issues, build sustainability capability and engage Directors in sustainability training.	To continuously improve corporate governance system and capabilities, integrate ESG into corporate governance, strategy and risk management.	Established and implemented a three-level governance structure: Board - Risk and Investment Management Committee - ESG Working Group, with clear responsibilities at each level.	Provided sustainability related training for Directors, management, and employees in 2022.	Corporate Governance Board Statement Sustainability Governance Structure

# 04

## **Responsible Operations**

SIIC Environment is committed to providing customers with high-quality drinking water and water services. We constantly strive to innovate through advanced research and development, and apply digital and intelligent systems to enhance our management and operational efficiency. The Company has established a comprehensive water quality monitoring system, and employs intelligent platforms to provide customers with more convenient service. Additionally, we are working together with our supply chain partners to promote green and healthy development of the industry.

#### **Highlights**

Water qualification rate

Investment in R&D RMB

Supplier management systems enforced on

6,020 suppliers

100%

**11.483** million

#### Highly Material Issues addressed in this Chapter

- Clean water and sanitation
- Service quality and standards

#### SDGs addressed in this Chapter





## **Service Quality Management**

SIIC Environment is committed to continuously improving guality management and providing first-class services, in compliance with laws and regulations and driven by customer needs. In our environmental operations, we strictly abide by the laws, regulations and standards relevant to our products and services, such as the Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant (GB18918-2002), the Standards for Drinking Water Quality (GB5749-2006), the City Water Supply Quality Standard (CJ/T206-2005), and the Standard for Pollution Control on the Municipal Solid Waste Incineration (GB18485-2014) to ensure service quality. At the same time, we comply with the Advertising Law of the PRC, the Trademark Law of the PRC and other laws and regulations on advertising, labelling and privacy protection. During the Reporting Period, the Company reported no non-compliance with the above laws and regulations.

The Company has a top-down project management system and well-established operational management processes. Our business units further establish their internal management systems and standard operating procedures according to the nature of their operations. For instance, our business units have formulated internal policies such as the Water Quality Management System, Internal Control Manual for Water Quality Testing, and Operation Management Regulations for Wastewater Projects. The policies provide a holistic approach to the management of water projects. Based on our actual operations, they are adjusted in a timely manner to reflect changing external trends. In addition, we encourage business units to develop quality management systems based on ISO 9001 Quality Management System. Several business units, including the East BU, have obtained ISO 9001 quality management system certification. We monitor and assess the operational performance of our business units on a quarterly basis to effectively implement internal policies and management practices.

#### **Safeguard Public Health**

To guarantee the quality of drinking water provided to our customers and for the sake of public health and sanitation, our water supply project companies continuously update their internal management systems and processes in accordance with national and local standards, to improve their management capabilities.

A three-level water quality monitoring and assurance system is established and implemented, namely, the monitoring by networked instruments, daily water quality testing by on-site laboratory staff, and seasonal sampling and testing by certified third parties. Each water supply and wastewater treatment project company is equipped with water quality warning systems to help promptly adjust the water treatment process. In addition, for certain key projects, we disclose water quality reports to increase transparency and expose ourselves to stakeholder oversight.

In addition to water quality, SIIC Environment has launched initiatives to improve access to clean drinking water among customers and communities. Our business units have established online platforms, such as the website or official WeChat account, through which customers can complete their applications and installation requests directly. In addition, our project companies set up temporary service facilities in communities to make our service more accessible. Through these facilities, we dealt with customer requests on site, helped raise public awareness of water conservation and distributed service information cards to bring convenient service to the door.

#### [Case study]

To secure water supply during the 22nd Yabuli China Entrepreneurs Forum, the Yabuli Wastewater Treatment Plant ("WWTP") Project under Northeast BU made arrangements ahead of time and set up a dedicated team to develop appropriate plans. During the Forum, the project company scientifically adjusted the amount of water purification chemicals and disinfectants, and increased the frequency of water quality monitoring from once a day to twice a day to meet the water needs. At the same time, depending on rainfall during the Forum, the project company upgraded the relevant treatment techniques to enable efficient equipment operation, thus securing water supply and wastewater treatment provision.

#### [Case study]

Continuous COVID-19 outbreaks had a substantial impact on the production and operation of water supply in 2022. To ensure the proper operation of urban water supply during the pandemic, North BU convened three urgent deployment meetings. The three water supply project companies under North BU further improved their contingency plans, strengthened water supply scheduling and raised their service standards. In addition, the project companies encouraged users to pay water bills online and maintained seamless payment channels and quick handling of repair requests through a 24-hour service hotline.



North BU held urgent working meeting







Water supply project companies reinforced water scheduling

### **Protection of Customer Rights and Interests**

SIIC Environment is committed to providing customers with high-quality services and consistently improving their satisfaction. Business units have formulated internal policies, such as the *Customer Satisfaction Management System*, to standardise customer satisfaction survey procedures. In a bid to solicit feedbacks and improve service quality, the Company opens different channels for customers to voice their problems and concerns, including customer satisfaction questionnaires, headquarters' email, message boxes on the website of project companies, WeChat official accounts, and service hotlines.

In the event of a customer complaint, we investigate immediately and identify the accountable person and the monitoring procedure to address customer concerns immediately. During the Reporting Period, we received 8 service-related complaints from customers, mainly about abnormalities in water quality, water pressure and the due amount of water. After receiving the complaints, our project companies immediately communicated with the complainants to collect more information. The responsible departments take a proactive approach to address customer feedback and follow up with customers after the complaint has been closed to ensure it is fully resolved. In 2022, 100% of customer complaints were settled. To prevent similar problems in the future, we regularly review customer complaints and update our management systems as necessary.

In order to protect customer information and privacy, our project companies have formulated the *Customer Information Privacy Management System*, which further standardise customer information management procedures, and establishes a reward and punishment mechanism for customer privacy management. Privacy and information security training has been provided to our employees to raise their awareness and ability to deal with related issues. On the technical side, our technical team continuously maintains critical hardware and software and strengthens technological solutions, in order to prevent data breaches, information theft, and unauthorised access.

## **Innovation-Driven Development**

Committed to innovation-driven growth, the Company has stepped up the development and application of new technologies. Leveraging our technical strengths in water environment management and wastewater treatment over the years, we explore and implement various technical means to develop and promote smart water systems, thus continuously improving our service quality and competitiveness. During the Reporting Period, the Company continued to invest in technological research and development ("R&D") programmes and carried out various innovative research projects. In 2022, R&D expenditure amounted to RMB 11.483 million, representing a 68.7% increase from 2021.

Our business units take active steps to research innovative processes based on their operations. Recognised as High-tech Enterprise of Heilongjiang Province, Northeast BU has established an R&D centre with 52 employees and a specialised laboratory capable of bacteriological agent development, pilot testing, and comprehensive testing. Currently, 4 invention patents from the R&D Centre were successfully accepted and 4 utility model patents were granted. The Centre also was named "the 20th Heilongjiang Youth Civilization Unit" in 2022.

[Case study]		\$
Northeast BU continues its efforts in developing bacterial agents. It has independently developed multiple bac- terial strains for wastewater treatment, including bacteria for saltpetre removal, phosphorus removal, odour elimination, COD degradation, and high-temperature sludge fermentation, and has obtained multiple patents. The development and application of the strains can further		
improve wastewater treatment efficiency and reduce costs, ensuring safe and stable wastewater treatment	Bacterial Strains Cultivated at Northeast BU	Patent Granted to Northeast BU for Bacterial Strains Developed



#### **Digital Platforms**

The Company continuously explores intelligent and efficient business management models in its operations and actively develops and deploys digital platforms. To achieve data-driven management, we have developed many information platforms, including a finance system, a human resources system, and an office automation system, covering 152 project companies under six business units. With the platforms, our business units are managed in an organised and standardised manner in the form of system traceability and standardised review and approval process. The comprehensive digital system ensures compliance management and effective control of operational risks.

To achieve data-driven production and operations, our business units have also established a production and operations management platform to manage the status of each project and monitor Influent and effluent water quality parameters. Some project companies have also started to capitalise on precision dosing and aeration systems to control resource consumption. In the future, we expect to empower more operational practices with digital platforms to further reduce costs and improve management efficiency.

In addition, to make it easier for customers to access water supply services, our water supply project companies are actively building digital platforms for customer service. WeChat mini-programmes, mobile service apps and others have been launched to continuously improve customer experience and satisfaction.

#### [Case study]

In 2022, the Weifang Water Supply Project under North BU launched its WeChat mini-programme "Water Kite". It allows customers to make enquiries and provide feedback on their day-to-day water supply issues in a timely manner. Compared to traditional service hotlines, the mini-programme, embedded with intelligent customer service robots, can respond more quickly to enquiries and provide one-to-one door-to-door repair service.



#### **Protection of Intellectual Property**

We strictly adhere to the *Trademark Law of the PRC*, the *Patent Law of the PRC* and other relevant laws and regulations. Due to our intellectual property rights protection endeavours, there was no violation of the above laws and regulations during the Reporting Period. We apply for and maintain patents to protect the Company's innovations and actively seek legal advice in the event of intellectual property breaches. Our business units organise intellectual property training as needed to familiarise employees with relevant laws and regulations and build their capabilities and awareness.

## **Sustainable Supply Chain**

#### **Supplier Management and Assessment**

SIIC Environment abides by the *Bidding Law of the PRC*, the *Regulation on the Implementation of the Bidding Law of the PRC* and other relevant laws and regulations, and pledges to ensure a fair, open, and transparent bidding process. Our business units have formulated the *Procurement Management System*, *Tendering Administration*, *Contract Management Protocol*, and other systems and the systems are updated on a regular basis to reflect changes in legislation and procurement management practices.

As part of the supplier selection process, we visit our suppliers on site to monitor their operations and production processes, and we set up an audit team to evaluate and assess the quality of purchased materials. The audits address quality and safety, compliance, and other aspects. Meanwhile, our business units gradually improve relevant policies and include the requirement for suppliers to be environmentally and socially responsible into their system. We assign separate duties for incompatible positions in internal control, that is, the authorised functional departments conduct comprehensive assessments on suppliers, which will be finally reviewed by the senior management. Currently, our business units have gradually developed a multi-category supplier directory, which facilitates supplier assessment, specifies responsibilities and reduces supply chain risks. To manage suppliers more efficiently, our business units have also established a supply chain information management system, capable of supplier contract management, qualifications management, etc. Interfaced with our internal financial management system, that system further standardises supplier information management and traceability while streamlining the procurement process.

The Company is concerned with the social and environmental performance of our suppliers. Our business units have included provisions on workplace safety, environmental protection, anti-corruption, human rights protections, and other compliance issues in our contracts with qualified suppliers. Each business unit maintains a list of suppliers assessed and updated on an annual basis after unqualified suppliers are eliminated.

To address supply chain risks such as safety and corruption, our business units have taken a series of measures to mitigate the impact of these risks. In terms of safety risk management, we check the workplace safety qualifications of outsourced construction units, and require them to sign the letter of workplace safety responsibility. We also provide them with site safety training and distribute materials such as the *Workplace Safety Notice* to raise the safety awareness of construction personnel. During construction, we also conduct regular site inspections to control safety risks. To prevent the risk of corruption in procurement, our business units have formulated the *Conflict of Interest Avoidance System* and signed *Integrity Agreements* with suppliers. For instance, South BU conducted an integrity audit of suppliers.

As of the end of the Reporting Period, the Company had a total of 6,020 suppliers and had policies in place for 6,020 of these suppliers. The number of suppliers by geographical area is shown in the chart below.



#### **Green Procurement**

SIIC Environment is committed to building a greener supply chain by integrating sustainability into supply chain management. In the process of procurement, we give priority to suppliers with better environmental performance and prefer to green, safe and sustainable products and services. For example, our business units favour eco-friendly chemicals and energy-efficient equipment (such as energy-saving air blowers) and require contractors to implement strict pollution control measures in their contracts, minimizing negative impacts on the environment.





## **05** Green Development

Protecting the environment and the Earth has been the mission of SIIC Environment for years. We focus on the environmental industry, track the impacts of global climate change, and actively promote green operations, green procurement, and green office in our business activities. In the future, we will continue to explore innovative technologies, new methods, and new models, We will also implement refined management and gradually improve the energy and chemicals efficiency, as well as developing renewable energy, and continuously contribute to environmental protection and addressing global climate change.

#### **Highlights**

GHG emission intensity reduced by

Indirect energy consumption intensity decreased by

Electricity generated from solar

14.07%

15.24%

1,953,656 kWh, increased by 19.06%

#### Highly Material Issues addressed in this Chapter

- Emissions, discharges, and waste management
- Energy efficiency
- Environmental impact management
- Addressing climate change

#### SDGs addressed in this Chapter





## **Environmental Management**

SIIC Environment rigorously complies with the Environmental Protection Law of the PRC, the Atmospheric Pollution Prevention and Control Law of the PRC, the Water Pollution Prevention and Control Law of the PRC, the Law of the PRC on the Prevention and Control of Environment Pollution Caused by Solid Wastes and other laws and regulations pertaining to air emissions, wastewater discharge, and solid waste disposal. Our top-down internal environment management system carries over from the headquarters to business units and project operations. Our business units have prepared the Environmental Protection Management System in Project Operation, and the Management System for Environmental Factor Identification and Evaluation, among other internal systems based on their actual operations. The policies specifically define environmental management requirements, including waste control, up-to-standard discharge of water and air pollutants, standard operating procedures, emergency plans, as well as responsibilities of designated personnel and departments.

The headquarters of the Company leads overall environmental management by defining and reviewing environmental targets. delivering policies, and monitoring and tracking the environmental performance of business units. Compliance with pollutant discharge limitations and resource consumption (including energy, water, and chemicals) from operations are our environmental management priorities. The Company cascades environmental targets down to business units and project companies at the beginning of each year and periodically tracks the progress to ensure they are advanced smoothly. The targets are also tied to the compensation and bonuses of heads of business units and project companies. Regular review and monitoring, training, and technical support are rendered by business units to project companies to enhance their operational performance.

## **Addressing Climate Change**

Climate change is currently a prominent global challenge. Green and low-carbon development has also become an essential strategy for preventing pollution and combating climate change in China. SIIC Environment has been actively responding to the Paris Agreement and China's goals to peak CO<sub>2</sub> emissions before 2030 and achieve carbon neutrality before 2060. The Company strives to effectively manage climate-related risks and minimise greenhouse gas ("GHG") emissions throughout operations by formulating and implementing a series of sustainability strategies. In 2022, the Company further referred to the Task Force on Climate-related Financial Disclosure ("TCFD") framework to identify and analyse the climate-related risks and opportunities it faces and to develop appropriate risk management strategies and countermeasures, in an effort to fully support the global climate action.

#### **Climate Governance**

For the second year in a row, the climate-related issue has been identified as highly material for the Company and integrated into its sustainability management. The Board of Directors is the highest governance body for our ESG efforts and comprehensively oversees and guides the Company's management of climate-related risks and opportunities. Its duties include reviewing, approving, and supervising climate-related targets, supporting the development of climate strategies and action plans, etc. The Board delegates to RIMC the management of material ESG issues, including the ongoing review of risk management and internal control systems, the identification and recognition of climate-related risks and opportunities, and the development of risk mitigation strategies.

#### **Climate Risk Management**

The Company has established a risk management system. The RIMC and the management design, implement and monitor the risk management and internal control systems, which are also scrutinised periodically to ensure their effectiveness; The management regularly reviews the business and operations of the Company to identify high-risk areas and conclude corresponding procedures and risk mitigation strategies.

As one of the important ESG risks, climate risk is highly concerned by the Company. The Board of Directors and the RIMC are both engaged in the review and identification of climate risks to better integrate climate-related risks into the Company's overall risk management scheme

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#### **Climate Risk Management Process**

Identification of climate-related risks Preliminarily identify climaterelated physical risks and transition risks affecting the Company's operations through literature review, internal interviews and peer benchmarking

Review and confirmation of climate-related risks Present the risks identified in the previous step to the Board and management for review and feedback. and confirm or adjust the identified climate-related risks.

#### **Climate Strategy**

To better understand the risks and opportunities that climate change presents to the Company, we have assessed and analysed the potential impacts of climate change on our operations and supply chain. Countermeasures and strategies have been introduced to address the identified risks. Going forward, we will further explore approaches to climate scenario analysis and continuously improve our climate resilience.





#### S: short-term M: medium-term L: long-term

#### Sustainability Report 2022





Northeast BU prepares an Environmental Contingency Plan each year and organises annual emergency drills for its project companies





#### [Case study]

The Baoshan Center of the Company actively explores key technologies such as high-parameter power generation technology, coordinated disposal of dry and wet waste, digitisation and intelligence of waste treatment, and real-time detection of carbon emissions. With these development, the project's power generation efficiency will be increased by more than 29%, making it the most efficient waste incineration power generation project in Shanghai. It can additionally reduce over 5,000 tonnes of carbon emissions per year.

Relying on the Baoshan Project, the Company, in conjunction with SUS Environment, Tongji University, Fudan University, and other units, successfully obtained Shanghai State-owned Assets Supervision and Administration Commission's ("SASAC") technological innovation project, "Research and Development and Industrialization of Key Technologies for Intelligent and Efficient Incineration of Domestic Waste for Power Generation", and sponsored by special funds. The research and development achievements of key technologies, such as efficient coordinated disposal of domestic waste, digitised and intelligent waste disposal, and real-time detection of carbon emissions will provide technical support for the double carbon goal and will be industrialised in Baoshan Center in the future.

The Company will also actively seize the new opportunity of green power generation through waste incineration, and exlpore emission reduction potential. We will strive to participate in China Certified Carbon Emission Reduction (CCER) market when feasible, to gain additional carbon emission reduction benefits.



Adopt energy-saving equipment and develop green technologies to improve energy

Develop digital platforms to help the Company fully monitor and control the use of electricity and chemicals in each business unit, thereby improving operational efficiency

Actively promote the development and use of clean energy, such as solar power, at project sites to further reduce emissions and lower energy costs.

Waste incineration produces fewer carbon emissions than its coal-fired counterpart, thus helping reduce pressure on municipal waste disposal. Waste incineration projects eligible for carbon emissions trading can receive additional benefits.





Project Map of Baoshan Center

### **Climate Metrics and Targets**

SIIC Environment is committed to reducing CO<sub>2</sub> emissions from business operations through positive climate actions. We collect and analyse GHG emissions data on an annual basis and conduct regular assessments to continuously enhance energy saving and emissions reduction measures.

During the Reporting Period, the Company's direct (scope 1) GHG emissions mainly came from direct energy consumption and waste incineration, while indirect (scope 2) GHG emissions primarily resulted from purchased electricity.



#### **GHG Emissions**

Direct emissions (Scope 1):

**105,747** tonnes CO<sub>2</sub>e

Total GHG emissions in 2022:

581,354 tonnes CO2e

year on year decreased by

1.81%

Indirect emissions (Scope 2):

## 475,607 tonnes CO<sub>2</sub>e

GHG intensity in 2022:

 $70.01 \text{ tonnes } \text{CO}_2\text{e/RMB million}$ 

year on year decreased by

14.07%

We have adopted energy saving and emission reduction measures to control GHG emissions from our business activities. For instance, digital platforms have been in place to monitor and manage energy consumption and prompt upgrades to energy-efficient equipment and processes. Our business units actively explore the use of renewable energy, having distributed photovoltaic facilities installed at project sites where appropriate. In 2022, we used 1,953,656 kWh of solar electricity, representing a year-on-year increase of 19.06%. We have also planted trees at our project sites to further offset GHG emissions. As of the end of the Reporting Period, a total of 32,269 trees were planted, supposed to offset 742.19 tonnes of  $CO_2$  emission per year.

#### [Case study]

In 2022, the Huishan Economic Development Zone WWTP Project set an annual GHG emission target of fewer than 8,750 tonnes. To reduce  $CO_2$  emissions from purchased electricity, the project company applied a precision aeration system to air blowers to reduce electricity consumption from aeration; process parameters were adjusted properly and energy-saving equipment was promoted to further reduce carbon emissions from electricity use. Through these measures, the project company controlled its GHG emissions effectively and successfully achieved the emissions reduction target.



The Company also strives to drive low-carbon development in the industry. Our business units leverage their experience in association with industry partners to contribute to low-carbon research and help set industry standards.

#### [Case study]

A research project titled "Research on Carbon Footprint Accounting and Low Carbon Synergistic Pollution Reduction Control Technology for the Wastewater Treatment Industry", jointly conducted by Northeast BU and Harbin Institute of Technology, completed its acceptance on 24 November 2022. The project analyses typical types of GHGs generated in the process of wastewater treatment and sludge disposal, and develops a life cycle carbon accounting methodology for the wastewater treatment industry, providing technical support and reference to the industry.

#### [Case study]

In 2022, Northeast BU participated in the development of two industry standards on carbon emissions, namely Technical Standards for Low Carbon Operation Evaluation of Wastewater Treatment Plants and Carbon Emissions Reduction Assessment Standards for Municipal Wastewater Treatment Plants. The standards provide guidance for carbon emissions calculation, and related process optimisation and technological upgrades in wastewater treatment. They also provide an important methodological basis for regulators to assess carbon emission management at WWTPs.







Working meeting of the preparation group of the Carbon Emissions Reduction Assessment Standards for Municipal Wastewater Treatment Plants

## Waste and Emissions Control

To minimise the environmental impact of its operations, the Company strictly complies with national discharge standards for wastewater, air emissions and solid waste disposal, including *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plants* (GB18918-2002), *Environmental Quality Standards for Surface Water* (GB3838-2002), *Standard for Pollution Control on the Municipal Solid Waste Incineration* (GB18485-2014), *Emission Standards for Odour Pollutants* (GB14554-1993), *Disposal of Sludge from Municipal Wastewater Treatment Plant- Quality of Sludge Used in Land Improvement* (GB/T24600-2009) and *Disposal of Sludge from Municipal Wastewater Treatment Plant-Quality of Sludge Used in Gardens or Parks* (GB/T23486-2009). During the Reporting Period, the Company continued to implement its internal policies and employed a variety of measures to control pollutant emissions. In 2022, there was no reported major non-compliance with relevant standards and regulations.

#### Wastewater Management

The main pollutants generated from the Company's wastewater treatment business include chemical oxygen demand ("COD"), biochemical oxygen demand ("BOD"), ammonia nitrogen, total nitrogen, total phosphorus, and suspended solids. To discharge pollutants in accordance with national standards, our business units and project companies sample wastewater for contaminant detection and routine testing. Some business units monitor water quality on digital systems in real time to timely adjust process parameters and explore refined process management. A number of project companies under Northeast BU have been using laboratory robots to monitor water quality, reducing laboratory waste liquid while improving monitoring efficiency. Meanwhile, we manage our wastewater treatment facilities and equipment in strict accordance with their operating instructions and diligently perform routine maintenance and repairs to operate wastewater facilities stably.

In 2022, we continued to explore to intelligently refine the management of water treatment and have developed precision dosing systems for carbon sources and phosphorus removal chemicals. Research into the precision aeration system is also underway. At present, the systems have been gradually implemented in our production and operating facilities, stably draining safe effluents while precisely controlling chemical dosage and electricity consumption.

#### [Case study]

The wastewater treatment process faces challenges such as low water testing frequency, the long turnaround time for results, and mismatches between chemical dosage and water quality. To tackle these problems, Northeast BU developed a precision carbon source dosing system and obtained a national utility model patent for it in 2021. In 2022, that system has applied to actual production demonstration projects, which produced successful results and facilitated technology transfer. The system uses an artificial intelligence water quality prediction model to calculate the appropriate carbon source dosage and release the dosage. In this step, water safety is ensured and costs are saved - bottleneck problems in wastewater treatment plants are effectively solved.



Precision dosing systems for carbon sources and phosphorus removal chemicals have been used in our project companies

#### [Case study] -

In 2022, the Wuxi Municipal Bureau of Administration and Liplants. The assessment covered ten aspects, including equipanagement, safety management, system construction, etc. Zone WWTP Project stood out as the first prize and was awar Plant of the Year.

The project company continuously strengthens its water formulated actionable process control plans and contingence Water Monitoring Platform to enable sophisticated and dynam



Smart Water Monitoring Platform



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iipme Our	ndscape assessed 50 municipal wastewater treatment pment management, process operation, water quality Our project company, Huishan Economic Development ded by the Bureau as Excellent Wastewater Treatment								
y pla	ns. Me	quantity management practices and has canwhile, it develops and applies the Smart n process management.							
	_	<b>锡市市政和园林局文件</b> <sup>編政國水〔2022〕16 号</sup> 无锡市市政和园林局关于 2021 年度全市 成領污水处理厂运行管理考核情况的通知 优秀污水处理厂名单							
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#### Sustainability Report 2022

To reach a higher standard for effluents, we made continuous efforts to upgrade facilities. In 2022, the Company upgraded the standards of 8 projects, accounting for a design capacity of 0.96 million tonnes/day. Currently, 8 of our projects meet the standard of Quasi Grade IV and one meet the standard of Grade III. Nearly 90% of wastewater treatment projects reach superior Class I Standard A (excluding O&M projects).

We set a high premium on the impact of our business operations on the community and our project companies regularly disclose information such as water quality reports and environmental management reports. In the future, we aim to enhance transparency further and promote more projects to disclose environmental information, thereby ensuring the public's right to information and oversight.





#### **Air Pollutant Management**

Air pollutants from our operations consist of sulphur oxides, nitrogen oxides, dioxins, carbon monoxide, and smoke generated from the waste incineration process. Additional air pollutants are odorous gas generated from wastewater and sludge treatment, such as hydrogen sulphide and ammonia gas.

The Company strictly abides by national emission standards and adopts a series of chemical and physical techniques, including 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, allowing full compliance of air pollutant emissions.

To combat the odorous gas generated from wastewater and sludge treatment, we apply sealing covers to treatment facilities and utilise a negative pressure collection system. We also employ biological, chemical and physical techniques, including biofiltration, plasma deodorisation, and activated carbon adsorption. In addition, we plant air-purifying plants near project sites to absorb odorous gas and thus mitigate impacts on the surrounding environment and communities.

We have established and strictly followed the *Safety Management Regulation for Chlorine to* standardise the use of liquid chlorine in the disinfecting process of water supply projects. Our project companies have installed chlorine gas absorbers and alarm systems for leakage detection in the chlorination room to mitigate the impact of leakage incidents, and the devices are routinely inspected and maintained. In 2022, there was no leakage incident reported in the Company's water supply business.



#### Waste Management

Hazardous waste generated in our operation process mainly includes fly ash and used activated carbon generated from the waste incineration business while other hazardous wastes are small amounts of hazardous sludge, laboratory waste liquid and waste motor oil produced by other businesses. We treat all hazardous waste safely and properly, in accordance with applicable regulations and standards. Specifically, fly ash, produced from domestic waste incineration, is solidified with cement and chelating agents before being landfilled. Used activated carbon, produced from flue gas treatment, is transported to certified third parties or fed back into the waste incinerator in accordance with local environmental regulations. Hazardous sludge, laboratory waste liquid, waste motor oil and other hazardous waste are stored properly at the designated area before being sent to qualified waste removal companies.

Our goal is to minimise the generation of hazardous waste and avoid its impact on the environment. The Company adopts multiple measures to reduce hazardous waste: developing and implementing standard procedures in the laboratory and applying advanced technologies to improve process efficiency. In water quality monitoring, effluent samples used for experiments are disposed of separately from laboratory wastes, thereby avoiding inappropriate waste mixtures, which directly help generate fewer effluents. We also recycle and reuse hazardous waste. Waste motor oil, for instance, is utilised as lubricants for valves, nuts and bolts, and other parts. In 2022, the hazardous waste discharge intensity of the Company decreased by 2.14% compared to 2021.

Non-hazardous wastes generated in our business activities are non-hazardous sludge from wastewater treatment, water supply and sludge treatment businesses, as well as slag generated from solid waste incineration, but the non-hazardous sludge is treated in strict compliance with applicable regulations. To be specific, some is transported to local landfills for centralised treatment the other is recycled for landscaping in project companies or collected by certified third parties. After treatment, nonhazardous sludge is repurposed for fertilisers, construction materials, and mine restoration, or incinerated for power and heat generation. Our business units regularly commission professional service providers to transport sludge in a centralised manner. The sludge transport sheet is filled in as required for supervision of the transportation process.

## Resource Consumption Management

The Company is committed to improving resource efficiency. Acting in strict accordance with the *Energy Conservation Law of the PRC*, we have formulated and implemented internal management systems such as the *Production and Operation Cost Management System*. We have set short, medium and long-term targets to reduce the use of energy, chemicals and water resources. Our project companies have also developed and implemented systems, standards and targets in line with the policies set by each business unit. The targets have been incorporated into the assessment of the project companies and the responsible personnel. In 2022, the Company continued to monitor and manage resource use so that resource efficiency targets can be achieved.



#### **Energy Management**

Energy use is a key concern in our operations. We have developed and implemented conservation plans to reduce energy consumption and promote energy efficiency by strengthening energy management, upgrading energy-saving equipment and developing energy-saving technologies. Our project companies have also practiced energy-saving measures, such as installing frequency converters on water pumps and air blowers, which adjust the number and parameters of equipment based on real-time water quality monitoring results; reducing unnecessary power consumption by replacing obsolete and high energy consuming equipment and gradually upgrading to energy-efficient motors; and performing regular maintenance on energy-intensive equipment to maintain good equipment performance. At the same time, we actively explore the application of energy-saving technologies in our business processes and continuously refine production management to reduce energy consumption in production and operations.

#### [Case study] -

In 2022, Northesat BU initiated a feasibility study on "precision aeration" in the wastewater industry. Based on existing intelligent inspection robots, Northesat BU developed its own precision aeration control system. The system predicts and tracks dissolved oxygen levels during the aeration cycle and supply oxygen according to the real-time effluent index, significantly reducing aeration power consumption. The system is undergoing production verification tests and will be progressively applied to wastewater projects as conditions allow.



Precision aeration control system interface

#### [Case study]

Huishan Economic Development Zone WWTP Project consumes less electricity for water pumps, air blowers, return pumps and other equipment by improving the management of production operations and optimising process control. It also practiced a strict energy conservation management system, which requires lights to be switched off during non-office hours to reduce non-essential energy consumption. In 2022, the project company used 1,426 MWh of electricity, meeting the annual target of fewer than 1,450 MWh set at the beginning of the year.

In terms of water consumption, the project company set an annual target to reduce purchased freshwater by 5%. To this end, the project company standardised production management and strengthened water consumption requirements, while encouraging employees to save with an aim to reduce domestic water consumption. In 2022, the project company reduced purchased freshwater by 12.8% from 2021, successfully achieving its target.



Submersible pumps in the lift pump room were equipped with frequency converters to meet energy saving requirements

In addition, our project companies continue to push for the use of renewable energy. For example, project companies such as Luohe Sludge Treatment Plant Project plan to adopt solar-powered lighting systems. Some other project companies are exploring purchased electricity from renewable sources. Our waste incineration projects turn domestic waste into resources while generating electricity. A portion of the electricity generated supplements the solid waste incineration projects' daily energy supply, while the rest is uploaded to the power grid. During the Reporting Period, we used a total of 149,597,009 kWh of electricity generated from waste incineration and 2,025,795 cubic metres of electricity generated from biogas.

#### **Chemical Consumption**

The Company have implemented a range of measures to use chemical and carbon sources more efficiently. Before dosing, we experiment on the main chemicals such as flocculant to determine optimal dosage and dosing approaches. During treatment, we monitor regular water quality indicators such as COD and BOD in real time using online monitoring facilities. The dosage of chemicals is precisely controlled by the intelligent dosing system to reduce costs and improve efficiency.

In addition, to practice the principle of green procurement, we choose carbon sources that exert less environmental impact, produce obvious denitrification, and generate no refractory pollutants. Furthermore, we adjust the dosage of carbon sources based on parameters such as water volume, water quality and temperature to improve efficiency and reduce residual waste.

#### Water Consumption

The Company has a well-established water reuse system in place to efficiently use water. Water used in factory operations and reclaimed wastewater is used for irrigation, cooling, cleaning, and chemical preparation. Our project companies regularly upgrade water reclamation equipment in factories based on their operations, further increasing water reused. During the Reporting Period, we reclaimed and reused a total of 27,198,069 tonnes of water. Water consumption intensity decreased by 8.72% year on year.

Also, we regularly check for leaks in pipes, maintain and upgrade water supply equipment, put flow meters on main pipes, and implement maintenance of the pipeline system to timely detect and repair the leakage. In terms of domestic water use, we have gradually promoted water-saving taps and toilets, put up water-saving signs in toilets, and educated employees on water conservation.



#### [Case study]

Baoshan Renewable Energy Utilization Center adopts a mist elimination water saving system for its circulating water, which incorporates recycling technology. After the operation stabilises, this system will reduce the evaporation of circulating water while achieve a mist elimination effect of over 95% and a water conservation rate of over 18%. In addition to the water saving system used in the cooling tower, the project will also comprehensively utilise some of the wastewater generated during the production process through methods such as cooling tower return water, lime pulping, and furnace spraying, making full use of the water resources available on-site.

Most of the Company's projects have no problems in obtaining water sources suitable for production and operation, while some of our water supply projects can be affected by seasonal weather and droughts, resulting in an unstable water supply. Our business units and project companies have come up with countermeasures to address such risks based on their actual operations. For example, during dry seasons, they withdraw water from the midstream rather than near the shore. For groundwater intake projects, they enhance well cluster maintenance, and increase well wash depths to ensure a stable source water supply and thus meet clients' demands. In addition, our water diversion projects have established a pipeline inspection system, which greatly manages the safety of single-pipe water transmission. The projects also keep close association with water source suppliers to transmit water timely.

#### **Green Office**

A green office is encouraged in our daily operations. We standardise the procurement procedures for office supplies to reduce unnecessary purchases. Meanwhile, the management of company vehicles is further to be standardised along with regular inspections and maintenance in an effort to prevent fuel leaks and excessive fuel consumption. Green office supplies, office equipment and lighting are promoted as government and industry recommended. We are also actively exploring paperless office practices by reducing paper consumption with the Office Automation (OA) system. For example, with the OA system, South BU reduced the average number of paper purchases from 5 to 3.5, saving around 37,500 sheets of paper per year.

To reduce solid waste from office activities, we actively practice waste sorting and advocate the "Clean Plate Campaign" to reduce food and kitchen waste. We also try to raise awareness among employees to save water, electricity, and paper in the office. Notices and reminders are posted in offices, meeting rooms, canteens, and toilets to raise awareness of environmental conservation. At the same time, we encourage our employees to use public transport, walking and cycling wherever possible to champion green travel and reduce carbon emissions from commuting.



## **Environmental Performance Data**

## Summary Table of Key Environmental Indicators<sup>1</sup>

#### Emissions

Emission Type	Indicator	Unit	2022	2021	2020
Greenhouse gases <sup>2</sup>	Direct emissions (Scope 1)	tonnes CO₂e	105,747	91,823	89,804
	Indirect emissions (Scope 2)	tonnes CO₂e	475,607	500,252	566,578
	Total greenhouse gases emissions	tonnes CO <sub>2</sub> e	581,354	592,075	656,382
	Total greenhouse gases emissions intensity <sup>3</sup>	tonnes CO₂e/RMB million (operating revenue)	70.01	81.47	104.99
	Total discharge of hazardous waste	tonnes	12,353	11,048	10,822
Colid wests	Hazardous waste discharge intensity	tonnes/RMB million (operating revenue)	1.49	1.52	1.73
Solid waste	Total discharge of non- hazardous waste	tonnes	2,055,981	2,039,334	1,751,269
	Non-hazardous waste discharge intensity	tonnes/RMB million (operating revenue)	247.59	280.63	280.11

#### Use of Resources

Resource Type	Indicator	Unit	2022	2021	2020
Energy consumption	Total direct energy consumption	kilowatt hours	40,566,541	34,323,905	27,279,502
	Intensity of direct energy consumption kilowatt hours/ RMB million (operating revenue)		4,885	4,723	4,363
	Total indirect energy kilowatt hours consumption		833,960,036	861,019,078	817,574,333
	Intensity of indirect energy consumption	kilowatt hours/ RMB million (operating revenue)	100,428.71	118,483.43	130,770.05
Watar	Total water consumption	tonnes	461,733,613	442,654,447	435,818,336
Water consumption	Intensity of water consumption	tonnes/RMB million (operating revenue)	55,603.76	60,912.96	69,708.63

<sup>1</sup> Summary Table of Key Environmental Indicators includes environmental data of four main business (wastewater treatment, water supply, sludge treatment, solid waste incineration) of the Company.

<sup>2</sup> Greenhouse gas scope 1 mainly comes from greenhouse gas emissions generated by direct energy sources (petrol, diesel, natural gas) in various business sectors and emissions from solid waste power generation processes. The emission of greenhouse gas scope 2 mainly comes from the use of purchased electricity during the Reporting Period. This year, the calculation method of greenhouse gas for Waste Incineration Business Line has revised, and the relevant data for 2020 and 2021 were updated simultaneously.

<sup>3</sup> GHG emissions intensity calculation is based on the Company's operating revenue, RMB' millions. The intensity calculation of solid waste discharge, energy consumption and water consumption also used the same denominator.



#### Wastewater Treatment Business Line

#### Emissions

Emission Type	Indicator	Unit	2022	2021	2020
Air Pollutants	Ammonia gas	/	In compliance	In compliance	In compliance
All Pollularits	Hydrogen sulphide	/	In compliance	In compliance	In compliance
Greenhouse	Direct emissions (Scope 1)	tonnes CO₂e	1,503.34	2,219.84	1,037.76
gases <sup>1</sup>	Indirect emissions (Scope 2)	tonnes CO <sub>2</sub> e	411,369.66	414,850.71	462,574.93
	Wastewater	tonnes	2,325,436,490.71	2,509,567,643.12	2,376,508,851.82
	COD	tonnes	51,082.59	49,176.70	49,697.03
Wastewater	BOD	tonnes	11,062.15	11,867.97	12,602.84
	Total suspended solids	tonnes	13,362.83	15,170.96	16,868.23
	Ammonia nitrogen	tonnes	1,754.85	1,938.85	1,862.43
Hazardous	Hazardous sludge	tonnes	3,394.94	3,749.71	3,163.53
wastes <sup>2</sup>	Other hazardous wastes <sup>3</sup>	tonnes	106.51	91.48	71.22
Non-	Regular sludge	tonnes	1,538,845.73	1,540,076.95	1,375,615.88
hazardous wastes	Other non- hazardous wastes <sup>4</sup>	tonnes	28,510.42	33,620.94	33,827.00

#### Initiatives and processes to reduce emissions/discharges

Initiatives and processes	Indicator	Unit	2022	2021	2020
Trees	Number of trees able to reach at least five metres in height	trees	22,499	23,054	21,352
	Amount of CO <sub>2</sub> offset <sup>5</sup>	tonnes CO <sub>2</sub>	517.48	530.24	491.10
	COD reduced after treatment	tonnes	501,372.87	491,457.41	456,736.07
Wastewater treatment	BOD reduced after treatment	tonnes	221,042.13	221,204.10	199,400.50
	Ammonia nitrogen reduced after treatment	tonnes	54,404.74	50,192.46	47,917.17
Water recycling	Recycled water used	tonnes	26,586,468.00	45,286,648.10	32,123,475.00
Reclaimed water supply	Reclaimed water produced	tonnes	45,109,985.00	66,456,166.00	23,614,106.13
Sludge recycling	Regular sludge reused	tonnes	987,978.18	989,721.40	838,375.04

#### Use of Resources

Resourc	е Туре	Indicator	Unit	2022	2021	2020
		Petrol	litres	128,321.85	116,940.10	161,941.35
		Diesel	litres	54,115.70	52,734.34	41,156.70
	Direct	Natural gas	cubic metres	495,773.30	840,758.27	260,527.54
Energy consumption	energy	Renewable energy (solar)	kilowatt hours	1,732,105.00	1,617,662.00	1,713,670.00
		Total direct energy consumption	kilowatt hours	8,819,367.42	12,318,032.29	6,443,673.29
	Indirect energy	Purchased electricity	kilowatt hours	721,321,514.00	714,028,755.08	681,160,652.9
Water cons	sumption	Purchased freshwater	tonnes	2,135,380.85	2,293,738.85	2,008,736.21
		Disinfectants	tonnes	36,132.87	32,113.27	34,570.92
		Adsorbents	tonnes	5,390.08	3,862.19	1,951.29
Pow mo	toriala	Carbon sources	tonnes	84,904.77	96,047.76	67,068.03
Raw materials consumption		Coagulants and flocculants	tonnes	146,859.23	160,848.90	150,330.38
		Acid-base regulators	tonnes	11,624.06	11,086.24	12,284.01
		Other raw materials <sup>6</sup>	tonnes	35,776.43	31,614.40	25,956.75

<sup>1</sup> Scope 1 emissions mainly generated from direct energy consumption and were calculated using *Industrial Enterprises Greenhouse Gas Emissions* Accounting and Reporting Guidelines (Trial) published by National Development and Reform Commission of the PRC. Scope 2 emissions were from the purchased electricity consumption during the Reporting Period and were calculated using 2022 average emission factors of the National Grid as defined in the Notice on the management of greenhouse gas emission reporting by enterprises in the power generation industry from 2023 to 2025 issued by the Ministry of Ecology and Environment of the PRC.

<sup>2</sup> Hazardous wastes were defined according to the *Directory of National Hazardous Wastes (2021 Revision)* published by the Ministry of Ecology and Environment of the PRC.

<sup>3</sup> Other hazardous wastes mainly include laboratory waste liquids, waste motor oil, and a small quantity of waste reagent bottles and other hazardous waste.

<sup>4</sup> 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.



#### Water Supply Business Line

#### Emissions

Emission Type <sup>1</sup>	Emission Type <sup>1</sup> Indicator		2022	2021	2020
Greenhouse gases²	Direct emissions (Scope 1)	tonnes CO <sub>2</sub> e	13.62	20.16	14.89
	Indirect emissions (Scope 2)	tonnes CO <sub>2</sub> e	54,168.76	74,873.79	92,949.99
Wastewater	Wastewater	tonnes	19,426,922.00	14,526,302.71	16,353,578.99
Non-	Regular sludge	tonnes	70,887.00	98,126.24	17,723.00
hazardous wastes	Other non-hazardous wastes <sup>3</sup>	tonnes	45.45	56.50	55.70

#### Initiatives and processes to reduce emissions/discharges

Initiatives and Indicator processes		Unit	2022	2021	2020
Trees	Number of trees able to reach at least five metres in height <sup>4</sup>	trees	6,384	6,645	3,543
	Amount of CO <sub>2</sub> offset <sup>5</sup>	tonnes CO <sub>2</sub>	146.83	152.84	81.49
Water recycling	Recycled water used	tonnes	264,750.00	370,000.00	360,000.00

#### Use of Resources

Resource	Туре	Indicator	Unit	2022	2021	2020
		Petrol	litres	5888.00	8,865.00	6,545.50
	Direct	Diesel <sup>6</sup>	litres	200	-	-
Energy consumption	energy	Total direct energy consumption	kilowatt hours	55,559.42	82,464.200	60,887.696
	Indirect energy	Purchased electricity	kilowatt hours	94,982,920.19	128,870,553.99	122,085,123.39
Water consu	unantien	Surface water	tonnes	388,447,336.47	379,267,824.67	362,798,921.00
vvaler const	иприоп	Groundwater	tonnes	70,555,173.00	60,447,575.84	70,318,538.00
Raw materials consumption <sup>7</sup>		Disinfectants	tonnes	4,232.05	5,266.69	2,875.32
		Coagulants and flocculants	tonnes	9,376.00	5,249.89	4,072.28
		Water purification agents	tonnes	3,200.47	4,524.32	3,875.18

<sup>1</sup> Hazardous waste is not important to the water supply business line and is therefore not disclosed.

<sup>2</sup> Scope 1 emissions mainly generated from direct energy consumption and were calculated using Industrial Enterprises Greenhouse Gas Emissions Accounting and Reporting Guidelines (Trial) published by National Development and Reform Commission of the PRC. Scope 2 emissions were from the purchased electricity consumption during the Reporting Period and were calculated using 2022 average emission factors of the National Grid as defined in the Notice on the management of greenhouse gas emission reporting by enterprises in the power generation industry from 2023 to 2025 issued by the Ministry of Ecology and Environment of the PRC.

<sup>3</sup> Other non-hazardous wastes mainly include domestic garbage and packaging cardboard boxes.

<sup>4</sup> During the Reporting Period, the number of trees in the newly operated plant was re-counted.

<sup>5</sup> CO<sub>2</sub> 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.

<sup>6</sup> During the Reporting Period, the newly acquired water supply projects involved diesel consumption, therefore the relevant data was included in the energy statistics. <sup>7</sup> During the Reporting Period, the consumption of coagulants and flocculants fluctuated due to the changes of the type of chemicals.

Sludge Treatment Business Line<sup>1</sup>

#### **Emissions**

Emission Type	Indicator	Unit	2022	2021	2020
Air Pollutants <sup>2</sup>	Ammonia gas	/	In compliance	In compliance	In compliance
Air Poliulants	Hydrogen sulphide	/	In compliance	In compliance	In compliance
Greenhouse	Direct emissions (Scope 1)	tonnes CO <sub>2</sub> e	1,479.85	1,320.78	1,214.25
gases <sup>3</sup>	Indirect emissions (Scope 2)	tonnes CO <sub>2</sub> e	9,888.23	10,371.15	10,622.54
Hazardous wastes	Other hazardous wastes <sup>4</sup>	tonnes	2.87	3.98	3.19
Non- hazardous wastes	Regular sludge	tonnes	341,417.50	300,403.07	240,835.05
	Other non-hazardous wastes⁵	tonnes	186.15	244.00	234.69

#### Initiatives and processes to reduce emissions/discharges

Initiatives and processes	Indicator		2022	2021	2020
Trees	Number of trees able to reach at least five metres in height	trees	2,233	2,179	1,720
	Amount of CO <sub>2</sub> offset <sup>6</sup>	tonnes $CO_2$	51.36	50.12	39.56
Water recycling	Recycled water used	tonnes	125,300.00	109,325.00	116,835.00
Sludge recycling	Regular sludge reused	tonnes	266,450.50	226,402.20	201,037.43



- 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
- performance on air pollutant emissions by evaluating whether the emissions met the local emission standards.
- Accounting and Reporting Guidelines (Trial) published by National Development and Reform Commission of the PRC. Scope 2 emissions were from the purchased electricity consumption during the Reporting Period and were calculated using 2022 average emission factors of the National Grid as defined in the Notice on the management of greenhouse gas emission reporting by enterprises in the power generation industry from 2023 to 2025 issued by the Ministry of Ecology and Environment of the PRC.
- <sup>4</sup> Other hazardous wastes mainly include waste motor oil and laboratory waste liquids.
- <sup>5</sup> Other non-hazardous wastes mainly include domestic waste and screening waste and grit. <sup>6</sup> CO<sub>2</sub> 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.

<sup>1</sup> Since wastewater generated from the sludge treatment process is treated in-house and reused at the sludge treatment plant or discharged to the WWTP

<sup>2</sup> Since some sludge treatment projects are not equipped with quantitative data monitoring systems, this table discloses the sludge treatment business line's

<sup>3</sup> Scope 1 emissions mainly generated from direct energy consumption and were calculated using Industrial Enterprises Greenhouse Gas Emissions

#### Use of Resources

Resource	Туре	Indicator	Unit	2022	2021	2020
		Petrol <sup>7</sup>	litres	13,252.12	-	-
		Diesel	litres	433,454.24	386,971.79	371,457.10
		Natural gas	cubic metres	128,577.00	149,284.50	118,520.78
Energy	Direct energy	Renewable energy (biogas)	cubic metres	2,025,795.00	1,930,148.00	1,912,544.00
consumption		Renewable energy (solar)	Kilowatt hours	23,175.00	23,175.00	-
		Total direct energy consumption	kilowatt hours	18,742,999.13	17,578,421.06	16,958,882.54
	Indirect energy	Purchased electricity	kilowatt hours	17,338,641.60	17,850,513.00	13,719,816.00
Water const	umption	Purchased freshwater	tonnes	10,152.00	12,037.00	12,553.00
		Straw	tonnes	37,043.79	30,502.75	30,875.17
Raw mate consump		Rice husk	tonnes	33,381.96	26,462.75	26,825.85
		Other raw materials <sup>8</sup>	tonnes	3,546.54	761.66	5,384.15

<sup>7</sup> The company is progressively improving its data collection system and petrol consumption is newly discloused in 2022 based on the actual operating data. Petrol consumption has also been incorporated into the calculation for scope 1 greenhouse gas emissions.

<sup>8</sup> Other raw materials mainly include corncob, sawdust, composite auxiliary materials, etc.

#### Waste Incineration Business Line<sup>1</sup>

#### Emissions

Emission Type	Indicator	Unit	2022	2021	2020
	NO <sub>x</sub>	tonnes	203.95	214.14	250.75
Air pollutants <sup>2</sup>	SO <sub>x</sub>	tonnes	30.03	30.56	44.52
	CO	tonnes	7.57	27.11	12.55
	Smoke	tonnes	6.72	12.73	6.09
	Dioxins <sup>3</sup>	/	In compliance	In compliance	In compliance
Greenhouse	Direct emissions (Scope 1)	tonnes CO <sub>2</sub> e	102,750.06	88,262.62	87,537.07
gases <sup>4</sup>	Indirect emissions (Scope 2)	tonnes CO <sub>2</sub> e	180.76	156.44	430.95
	Wastewater	tonnes	135,090.76	104,586.00	254,677.00
Wastewater	COD	tonnes	9.28	6.61	14.91
	Ammonia nitrogen	tonnes	0.51	0.09	1.30
Hazardous	Used activated carbon from treatment of waste gases generated during waste incineration	tonnes	106.94	153.45	152.39
wastes	Fly ash from domestic waste incineration	tonnes	8,733.39	7,045.23	7,424.64
	Other hazardous wastes	tonnes	7.91	4.31	6.75
Non-hazardous waste	Slag⁵	tonnes	76,088.37	66,806.00	82,978.00

#### Initiatives and processes to reduce emissions/discharges

Initiatives and processes	Indicator	Unit	2022	2021	2020
Trees	Number of trees able to reach at least five metres in height	trees	1,153	118	118
	Amount of CO <sub>2</sub> offset <sup>6</sup>	tonnes CO <sub>2</sub>	26.52	2.71	2.71
Water recycling	Recycled water used	tonnes	221,551.30	14,460.17	19,837.92
Electricity generation from waste incineration	Electricity generated	kilowatt hours	149,597,009.00	109,584,249.00	113,133,332.26
Waste recycling/ reuse	Slag reused	tonnes	74,698.37	64,382.00	79,583.00

#### **Use of Resources**

Resource	Туре	Indicator	Unit	2022	2021	2020
		Diesel	litres	310,284.96	440,239.00	386,647.29
	' i	Natural gas	cubic metres	900,378.00	-	-
		Total direct energy consumption	kilowatt hours	12,948,614.61	4,344,987.73	3,816,058.39
	Indirect Energy	PUICHASED EIECITICITY	kilowatt hours	316,960.00	269,256.00	608,741.00
Water consumption		Purchased freshwater	tonnes	585,571.12	633,271.00	679,588.00

<sup>1</sup> During the Reporting Period, the statistical scope of Waste Incineration Business Line has changed, resulting in fluctuations in data related to planted trees, recycled water, natural gas consumption, etc.

<sup>2</sup> Air pollutants only include those generated from waste incineration during the Reporting Period.

<sup>3</sup> During the Reporting Period, dioxins emission did not violate the local emission standards of the project operation site.

- <sup>4</sup> Scope 1 emissions mainly generated from direct energy consumption and waste incineration. Scope 1 emissions were calculated using Industrial Enterprises Greenhouse Gas Emissions Accounting and Reporting Guidelines (Trial) published by National Development and Reform Commission of the PRC and Greenhouse Gas Accounting Tool for Chinese Cities (Pilot Version 1.0) published by the Greenhouse Gas Protocol. This year, the calculation method of greenhouse gas has revised, and the relevant data for 2020 and 2021 were updated simultaneously. Scope 2 emissions were from the purchased electricity consumption during the Reporting Period and were calculated using 2022 average emission factors of the National Grid as defined in the Notice on the management of greenhouse gas emission reporting by enterprises in the power generation industry from 2023 to 2025 issued by the Ministry of Ecology and Environment of the PRC.
- <sup>5</sup> Other hazardous wastes include waste lead batteries, laboratory waste liquids, waste mineral oil, materials contaminated by waste mineral oil and laboratory waste liquids.
- $^{\rm 6}\,\text{CO}_2$  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.



# 06

## **Caring for People**

SIIC Environment is committed to creating an equal, inclusive, and healthy work environment. We are dedicated to safeguarding the physical and mental well-being of our employees and helping them grow together with the Company. We also care about society, support environmental education and actively participate in public welfare activities to assume the responsibility of corporate citizens. Going forward, we will strive to build a more humanistic atmosphere within the Company. We plan to improve our human resources systems and work to increase employees' sense of security and happiness. Additionally, we will actively expand our corporate responsibility and take more powerful actions to support environmental communication and public welfare charity, creating greater value for society.

#### **Highlights**

Number of work-related fatalities

Number of participants in safety training

Volunteer service hours

0

5,122



#### Highly Material Issues addressed in this Chapter

- Occupational health and safety
- Labour standards

#### SDGs addressed in this Chapter





## **Equal and Inclusive Workplace**

### **Equal Employment**

SIIC Environment is committed to the principle of fair, open, and voluntary employment. The Company strictly complies with applicable laws and regulations including the *Labour Law of the PRC*, the *Labour Contract Law of the PRC*, the *Regulation on the Implementation of the Labour Contract Law of the PRC*, the *Regulation on Public Holidays for National Annual Festivals and Memorial Days*, the *Employment Act of Singapore*, the *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 anti-harassment. During the Reporting Period, the Company had no reported violation of the above laws and regulations.

Furthermore, the Company abides by the *Labour Law of the PRC*, the *Provisions on the Prohibition of Using Child Labour* and other applicable laws and regulations. Our business units have developed systems such as the *Recruitment Management System* to prevent the occurrence of child labour, forced labour, or involuntary labour. To ensure lawful and equal employment relationships, we have taken a number of necessary steps. During the recruitment process, we strictly verify candidate information to ensure his or her eligibility. If forced labour or child labour is detected, employees can report it directly to the local labour supervision departments. We engage in equal and voluntary labour relations with employees and do not sign illegal agreements or contracts with them or withhold their identification documents. In the event of such violations, the Company will immediately establish an investigation team to stop the violation and see it as a warning to further improve our employment management system, thus preventing similar incidents from happening again.

We have established a sound human resources management system and have developed employee manuals to standardise the code of conduct of employees, covering the management requirements of office procedures, reporting, attendance, performance apprasial, rewards and punishments, compensation and benefits, training and employee rights. Our business units have formulated and implemented their own employment, remuneration, promotion and benefits policies.



Northeast BU honoured as Best Employer for three consecutive years

The Company endeavours to create an equal and inclusive workplace and to eliminate any discrimination on the grounds of gender, age, disability, belief, nationality and sexual orientation. We ensure equal pay for equal work and secure the legitimate rights and interests of female employees. For candidates with special needs, the Company also offers appropriate positions during recruitment to help them better integrate into society and realise their self-worth. During the reporting period, the Company employed a total of 19 persons with disabilities.

In addition, we maintain a close watch on the labour practices of our business partners. Our business units require contractors to be responsible for construction workers' rest periods, pay reasonable wages and expenses, and take effective measures to protect their health. In addition, we conduct due diligence or internal audits of our partners when necessary to safeguard legitimate rights of workers.

As of 31 December 2022, the Company had 6,456 employees (including 6,456 full-time employees and 0 part-time employees). A breakdown of employees by gender, age group, and geographical region is shown below:



In 2022, 269 employees left. A breakdown of employee turnover by gender, age group, and geographical region is shown below:



#### **Democratic Management**

The Company values the voice of its employees and has established a variety of communication channels. We provide efficient and convenient communication channels for employees to make themselves heard and participate in business decisions, including employee suggestion boxes, employee seminars and internal satisfaction surveys. We also actively encourage our employees to join the trade union. Through the union, we organise cultural and sporting activities and provide training for union members. It also enables employees to defend their legitimate rights and interests. During the Reporting Period, 6,215 employees joined the trade union.

#### **Employee Benefits and Support**

The Company implements policies such as the Employee Benefits Management System and ensures employee access to benefits and allowances, including statutory benefits, monetary benefits, and various supplemental benefits, to continuously improve employee wellbeing and satisfaction.

We pay close attention to the needs of female employees and provide them with marriage leave, maternity leave and breastfeeding leave in strict accordance with relevant requirements. To further enrich their personal lives after work. our business units organise group activities for them every International Women's Day, such as flower arrangement workshops and movie shows. Female employees also receive a half day off and holiday benefits. In addition, our business units provide women-specific health examinations, and organise activities such as women's health lectures to enhance their physical and mental wellbeing.

In addition, the Company actively addresses the needs of employees experiencing difficulties. Some business units provide special funds for employees suffering long-term family financial difficulties, and call on other employees to donate. We also pay regular visits to employees in need and extend warm care during special occasions such as festivals. During the COVID-19 pandemic, our business units offered special allowances to on-site employees and distributed preventive supplies such as masks. Regular visits were made to these employees to warm their hearts and satisfy their needs



Project company held a seminar on caring for female employees



Northeast BU visited front-line staff and those with family difficulties during the COVID-19 pandamic

We prioritise the physical and mental wellbeing of our employees and regularly organise sports and cultural activities to promote a healthy work-life balance. During the Reporting Period, our business units and project companies organised a variety of sports and recreational activities to enrich the lives of our employees after work and help them connect with each other.



Employees made rice dumplings to celebrate the Dragon Boat Festival



Employee basketball game

## **Occupational Health and Safety**

SIIC Environment is dedicated to protecting the physical and mental wellbeing of each and every employee and to creating a safe and healthy workplace. In addition to abiding by the Work Safety Law of the PRC, the Law of the PRC on the Prevention and Control of Occupational Diseases, the Fire Protection Law of the PRC, the Provisions on the Administration of Occupational Health at Workplaces, and other applicable laws and regulations, we have developed and continue to improve our occupational health and safety system. Business units such as East BU and South BU have obtained ISO 45001 Occupational Health and Safety Management System Certification. During the Reporting Period, there was no case of worse non-compliance related to occupational health and safet in the Company.

#### **Workplace Safety**

The Company actively carries out the accountability system. Our business units delegate responsibility in each link by signing Safety Responsibility Letters. Safety targets are linked to the bonuses of those responsible. Our workplace safety mechanism is based on three aspects, namely strengthening safety management systems, improving employees' emergency preparedness, and enhancing employee safety education. Our business units have incorporated the mechanism when building their own safety management systems, so as to fully ensure company-wide workplace safety.



Our professional management team is responsible for coordinating, planning, organising, developing and handling health and safety-related matters. The safety production team of the Company's headquarters holds regular meetings every quarter to keep abreast of and supervise the safety production trends of various business divisions. At the same time, we appoint members of the Board of Directors to conduct quarterly routine inspections and irregular safety inspections on behalf of the headquarters. In addition, each business division adopts different business management methods according to the nature of its production activities to further standardise the safety management of the production activities of the project company.

To effectively manage health and safety risks, our units have standardised safety incident reporting process to timely notify the responsible persons and regulatory bodies. We submit regular reports to regulators, publish the results of our self-assessment of workplace safety risks and listen to improvement suggestions from regulatory authorities to further improve our safety standards and compliance practices.



In 2022, the Company reported 349 lost days due to work injury and 0 work-related fatalities.

Indicator	2022	2021	2020
Number of work-related fatalities	0	0	2
Rate of work-related fatality (per 100 employees)	0	0	0.33

Our business units organise a variety of exercises and training programmes to promote workplace safety and raise safety awareness among employees. The training programmes include occupational safety education for new employees, safety education for special equipment operators, "three new" safety training (new processes, new technologies, and new equipment), safety training in preparation for job changes, education on safety accidents, etc. Through those training programmes, employees are trained to learn about occupational health and safety laws and regulations and the Company's policies, knowledge of using safety equipment, and emergency response measures. In 2022, our business units produced and published video tutorials and online courses, further diversifying the format of safety training.



Workplace safety training video produced by Ranhill Water

Central BU organised the Hands-on fire safety training

In addition, we are keenly concerned about the safety of our contractors and associated workers involved in production processes. We have formulated the Stakeholder Safety Management System, the Safety Risk Notification Card and the Outside Personnel Safety Notification Letter to communicate our safety management principles to stakeholders and require their adherence to necessary safety rules. Our business units also define safety requirements for external personnel. For example, East BU requires project contractors to sign responsibility letters for safety and fire prevention, and safety commitment letters; and delivers occupational health and safety notices to remind them of the potential safety hazards and precautions during production. North BU requires contractors to sign the Construction Safety Agreement to regulate their practices and carries out regular safety checks during construction.



#### **Occupational Health**

The Company has formulated systems and policies such as the Occupational Health Management System, and the Occupational Disease Hazard Notice System and Occupational Disease Prevention Responsibility System, under the guidelines of the safety management scheme. The systems are designed to maximise employee health protection and prevent occupational diseases. Our business units, such as Northeast BU, have formulated the Occupational Disease Prevention and Control Work Plan, which defines the annual targets for the prevention of occupational diseases and details the work of occupational health management. North BU. Northeast BU and other business units have formulated accountability systems for the prevention and control of occupational diseases, as well as established health management teams to be fully in charge of occupational hazards management.

We provide professional and technical staff with personal protective equipment such as helmets, gloves and masks as required by law. The protective equipment is also inspected and updated on a regular basis to control occupational hazards. We put up warning signs and instructions in hazardous areas and communicate relevant safety rules and manuals to our employees. For positions exposed to serious occupational hazards, we also do so at prominent places in the facilities and hire third parties to inspect occupational hazard factors.

Meanwhile, we provide annual occupational health check-ups and other occupational disease screenings for our employees. In addition to the physical check-up for new employees and annual routine check-ups, we also conduct targeted check-ups of occupational diseases for certain positions, for example, lung examinations for employees exposed to productive dust. Our business units have established "Occupational Health Surveillance Files" to standardise the management of employee health data.

## **Training and Development**

The Company places high emphasis on the professional competence of our employees. As the company formulated internal policies such as the Training Management System and the Training Management Measures, business units draw up annual training plans that include annual training arrangements, training budgets and assessment formats.

Each year, our headquarters and business units offer targeted training programmes for different categories of employees, such as managers, specialists, technicians, personnel needing position transfer, and new employees. The programmes include cross-department exchange programmes, position rotations programmes, online and offline seminars, self-study, external training, and skills competitions. The training covers professional and technical skills, research and development skills, health and safety, legislation and regulations, environmental protection, anticorruption, and others, aiming to improve the overall quality of our employees.

During the Reporting Period, 78.7% of our workforce received training related to career development. The average training hours per employee were 12.1 hours.



Portion of trainees and average training hours per employee by gender

Percentage of staff trained: 78.7%

Average training hours: 11.7 hours

Accounting for 25.6% of total employees who took part in training

Female

8	20	R	8	8
Senior management	Middle-management cadres	General staff	Technical staff	Others
Average training	Average training	Average training	Average training	Average training
hours: 20.1 hours	hours: 17.8 hours	hours: 11.9 hours	hours: 15.6 hours	hours: 2.7 hours
Accounting for 1.2% of	Accounting for 6.4% of	Accounting for 70.7%	Accounting for 17.1%	Accounting for 4.7%
total employees who	total employees who	of total employees	of total employees	of total employees
took part in training	took part in training	who took part in	who took part in	who took part in
		training	training	training

#### [Case study]

East BU actively organised various vocational training activities. In 2022, it held a variety of training such as "Communication Influence and Efficient Presentation Skills", labour competition activities, etc., which enriched the professional knowledge of employees and helped motivate them to learn and practise their skills.



Training on "Communication Influence and Efficient Presentation Skills" for over 140 employees



Troubleshooting competition



Water quality testing competition



Group photo of awards for labour competition activities

## **Community Engagement**

SIIC Environment abides by the *Charity Law of the PRC* and follows the principles of legality, voluntariness, and honesty to fulfil corporate social responsibility. Our business units also established policies such as *Implementation Measures for Management of Trade Union Funds* to clarify requirements for donations, employee activities, etc. The company is actively engaged in various charitable activities to give back to the community, such as environmental education, rural regeneration and donations to the community. We are committed to leveraging our expertise and resources to help create a harmonious society in association with the community.



#### **Environmental Education**

As a leader in environmental protection, SIIC Environment has been contributing to the cause of environmental protection through maximising its strengths. We raise public awareness and share environmental knowledge through multimedia communications and open house events. Our business units actively participate in environmental protection and organise various educational activities, so as to spread the eco-friendly philosophy and stimulate public engagement.



Students visiting a Weifang High-Tech Zone WWTP Project

### **Sharing Value**

SIIC Environment consciously assumes corporate social responsibility and gives back to society through practical actions. During the pandemic in 2022, the Company actively engaged in pandemic control. Under the leadership of Mr. Zhou Jun, nonexecutive director and chairman, and Mr. Yang Jianwei, CEO, we supported the operation of Lingang No.2 Shelter Hospital. Volunteers worked continuously for more than 12 hours per day. Chairman Zhou Jun visited different groups of volunteers at the command centre and made three encouraging speeches. All the volunteers worked together to complete various tasks arranged by the command centre and contributed their efforts to fighting against pandemic in Shanghai.



Volunteers helped disinfect the site and manage medical waste and continuously worked for more than 12 hours a day



Wuhan Hanxi WWTP Project organised an Open House activity



Mr. Yang Jianwei, CEO of SIIS Environment, led the team to spend 32 days on pandemic prevention

#### Sustainability Report 2022

Our business units also took active action by setting up a professional volunteer team to encourage employees to participate in social welfare activities such as rural revitalisation. For example, East BU has been partnered with Qingyun Village, Midu County, Yunnan Province for a long time to help and support its development. In 2022, East BU invested RMB 100,000 for rural revitalisation, consciously undertakeing corporate social responsibility. Additionally, our business units carried out various charitable activities in 2022 such as voluntary services, combating the pandemic, and donations, helping surrounding communities and people in need.



South BU volunteer team



South BU donated RMB 25,000 worth

of supplies to the local community to

support disease control efforts



Weifang Water Supply Project under North BU set up a neighbourhood service site

#### [Case study]

The Northeast BU Youth Volunteer Service Team was awarded as Outstanding Youth Volunteer Service Organisation of Heilongjiang Province for its excellent performance over the years at the First General Meeting of Heilongjiang Young Volunteers Association in 2022.

During the pandemic, the volunteers of the Youth Volunteer Service Team actively helped take COVID-19 control measures such as transporting anti-pandemic supplies and cleaning up medical wastes, serving more than 30,000 people.



Northeast BU Youth Volunteer Service Team



Outstanding Youth Volunteer Service Organisation of Heilongjiang Province



Volunteers and supplies donated for COVID-19 prevention





## **Social Performance Data**

Indicator Category	Indicators	Unit	2022	2021
	Total number of employees	number of personnel	6,456	6,284
	Number of male employees	number of personnel	4,802	4,667
	Number of female employees	number of personnel	1,654	1,617
	Number of employees under 30	number of personnel	956	900
	Number of employees aged 30-50	number of personnel	4,135	4,025
	Number of employees above 50	number of personnel	1,365	1,359
	Number of full-time employees	number of personnel	6,456	6,284
	Number of part-time employees	number of personnel	0	0
	Number of employees of China's Mainland	number of personnel	6,442	6,270
	Number of employees of other countries and regions	number of personnel	14	14
Employment	Number of disabled employees	number of personnel	19	22
	Number of ethnic minority employees	number of personnel	180	181
	Total number of employee turnover	number of personnel	269	325
	Turnover rate of male employees	%	4.6	4.8
	Turnover rate of female employees	%	3.0	6.3
	Turnover rate of employees under 30	%	7.2	8.8
	Turnover rate of employees aged 30- 50	%	3.9	3.1
	Turnover rate of employees above 50	%	2.8	8.9
	Turnover rate of employees of China's Mainland	%	4.1	5.1
	Turnover rate of employees of other countries and regions	%	21.4	35.7
	Total number of newly hired employees	number of personnel	456	-

#### Sustainability Report 2022

Indicator Category	Indicators	Unit	2022	2021
	Number of newly hired male employees	number of personnel	329	-
	Number of newly hired female employees	number of personnel	127	-
	Number of newly hired employees under 30	number of personnel	173	-
Employment	Number of newly hired employees aged 30-50	number of personnel	265	-
	Number of newly hired employees above 50	number of personnel	18	-
	Number of employees joined the trade union	number of personnel	6,215	6,081
	Percentage of employees who signed collective bargaining agreement	%	47.89	48.44
	Number of work-related fatalities	number of personnel	0	0
	Rate of work-related fatality	%	0	0
	Number of lost days due to work injuries	days	349	483
Health and	Number of recordable injuries	cases	1	-
safety	Number of high-consequence injuries (excluding fatalities)	cases	0	-
	Number of employees participated in safety training	number of personnel	5,122	6,100
	Total safety-related training hours	hours	40,088	23,199
	Average safety-related training hours per person	hours	7.8	3.8
	Total number of employees trained	number of personnel	5,081	5,198
	Rate of employees trained	%	78.7	82.7
	Rate of male employees trained	%	74.4	72.2
Development and training	Rate of female employees trained	%	25.6	27.8
	Rate of senior management trained	%	1.2	1.0
	Rate of middle-level management trained	or management trained % 1.2	6.4	5.4
	Rate of general staff trained	%	70.7	76.9

Indicator Category	Indicators	Unit	2022	2021
	Rate of technical staff trained	%	17.1	12.9
	Rate of other employees trained	%	4.7	3.8
	Average training hours	hours	12.1	10.0
	Average training hours of male employees	hours	12.3	10.0
Development	Average training hours of female employees	hours	11.7	10.0
and training	Average training hours of senior management	hours	20.1	15.9
	Average training hours of middle-level management	hours	17.8	16.7
	Average training hours of general staff	hours	11.9	9.0
	Average training hours of technical staff	hours	15.6	15.8
	Average training hours of other employees	hours	2.7	3.8
	Total number of suppliers	number of suppliers	6,020	4,417
Supply chain	Number of suppliers in the Chinese mainland	number of suppliers	5,976	4,373
management	Number of suppliers in other locations	number of suppliers	44	44
	Number of suppliers implementing management policies	number of suppliers	6,020	4,406
Quality and	Number of service-related complaints received	cases	8	7
service	Complaint resolution rate	%	100	100
	Number of cooruption cases concluded	cases	0	0
	Number of employees participating in anti-corruption training	number of personnel	6,197	5,974
Anti-corruption	Average anti-corruption training hours per Director	hours	1.5	1.5
	Average anti-corruption training hours per employee	hours	1.39	1.57
Community	Hours of volunteer services	hours	10,448	5,563
investments	Community investment	RMB 10,000	108.4	292.5

## Appendix

## Hong Kong Stock Exchange ESG Reporting Guide Content Index

General Disclosures and Key Performance Indicators (KPIs)		Relevant Section	Page Number
Environmental			
Aspect A1: Emission	ons		
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.	Environmental Management Waste and Emission Control	27, 33
KPI A1.1	The types of emissions and respective emissions data.	Enviromental Performance Data	40
KPI A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Enviromental Performance Data	40
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Enviromental Performance Data	40
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Enviromental Performance Data	40
KPI A1.5	Description of emission target (s) set and steps taken to achieve them.	Materiality Assessment Waste and Emission Control	15-16, 33-35
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target (s) set and steps taken to achieve them.	Materiality Assessment Waste and Emission Control	15-16, 36
Aspect A2: Use of	Resources		
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	Resource Consumption Management	36
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).	Enviromental Performance Data	40
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Enviromental Performance Data	40
KPI A2.3	Description of energy use efficiency target (s) set and steps taken to achieve them.	Materiality Assessment Resource Consumption Management	15-16, 37-38
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target (s) set and steps taken to achieve them.	Materiality Assessment Resource Consumption Management	15-16, 38-39
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	Not Applicable (the Co business activities main providing services and do products)	ly involve

General	Policies on minimising the issuer's significant impact on the environment	Environmental	27
Disclosure	and natural resources. Description of the significant impacts of activities on the environment	Management Environmental	         
KPI A3.1	and natural resources and the actions taken to manage them.	Management	27
Aspect A4: Clim	ate Change		
General Disclosure	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	Addressing Climate Change	27
KPI A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	Addressing Climate Change	27-30
Social			
Aspect B1: Emp	oloyment		
	Information on:		
	(a) the policies; and		
General Disclosure	(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.	Equal and Inclusive Workplace	49
KPI B1.1	Total workforce by gender, employment type (for example, full-or part- time), age group and geographical region.	Equal and Inclusive Workplace	50
KPI B1.2	Employee turnover rate by gender, age group and geographical region.	Equal and Inclusive Workplace	50
Aspect B2: Hea	Ith and Safety		
	Information on:		     
General	(a) the policies; and	Occupational Health	
Disclosure	(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.	and Safety	52
KPI B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	Occupational Health and Safety	53
KPI B2.2	Lost days due to work injury.	Occupational Health and Safety	53
KPI B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	Occupational Health and Safety	52-54
Aspect B3: Dev	elopment and Training		
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	Training and Development	54-55
<pi b3.1<="" td=""><td>The percentage of employees trained by gender and employee category (e.g. senior management, middle management).</td><td>Training and Development</td><td>54-55</td></pi>	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	Training and Development	54-55
<pi b3.2<="" td=""><td>The average training hours completed per employee by gender and employee category.</td><td>Training and Development</td><td>54-55</td></pi>	The average training hours completed per employee by gender and employee category.	Training and Development	54-55
Aspect B4: Lab	our Standards		
	Information on:		
General	(a) the policies; and	Equal and Inclusive	49
Disclosure	(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	Workplace	
<pi b4.1<="" td=""><td>Description of measures to review employment practices to avoid child and forced labour.</td><td>Equal and Inclusive Workplace</td><td>49</td></pi>	Description of measures to review employment practices to avoid child and forced labour.	Equal and Inclusive Workplace	49
KPI B4.2	Description of steps taken to eliminate such practices when discovered.	Equal and Inclusive Workplace	49

### Aspect B5: Supply Chain Management

Aspect B5: Sup	ply Chain Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain.	Sustainable Supply Chain	23-24
KPI B5.1	Number of suppliers by geographical region.	Sustainable Supply Chain	24
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.	Sustainable Supply Chain	23-24
KPI B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Sustainable Supply Chain	23-24
KPI B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	Sustainable Supply Chain	24
Aspect B6: Proc	luct Responsibility	•	
	Information on:		
	(a) the policies; and		
General Disclosure	(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.	Service Quality Management	19
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Not Applicable (the Cor business activities mainl providing services and do products)	y involve
KPI B6.2	Number of products and service related complaints received and how they are dealt with.	Service Quality Management	21
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	Innovation-Driven Development	23
KPI B6.4	Description of quality assurance process and recall procedures.	Service Quality Management	19
KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	Service Quality Management	23
Aspect B7: Anti-	corruption		
	Information on:		
General	(a) the policies; and	Compliance and Anti-	
Disclosure	(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.		11
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.	Compliance and Anti- corruption	11
KPI B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	Compliance and Anti- corruption	11
KPI B7.3	Description of anti-corruption training provided to directors and staff.	Compliance and Anti- corruption	12
Aspect B8: Com	imunity 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.	Community Engagement	55
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	Community Engagement	56-57
KPI B8.2	Resources contributed (e.g. money or time) to the focus area.	Community Engagement	55

### Task Force on Climate-Related Financial Disclosures Index

Focus on	Recommended Disclosures	Relevant Section	Page Numbe
Governance	Describe the board's oversight of climate-related risks and opportunities.	Climate Governance	27
	Describe management's role in assessing and managing climate-related risks and opportunities.	Climate Governance	27
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Climate Strategy	28-30
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Climate Strategy	28-30
	Describe the resilience of the organization's strategy, taking into consideration different climate-relatedscenarios, including a 2°C or lower scenario.	Climate Strategy	28-30
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks.	Climate Risk Management	27-28
	Describe the organization's processes for managing climate-related risks.	Climate Risk Management	27-28
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	Climate Risk Management	27-28
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Climate Metrcs and Targets	31
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	Climate Metrcs and Targets	31
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Climate Metrcs and Targets	31-32

