

Stock Code : 00270

Environmental, Social and Governance Report

2019





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Guangdong Investment Limited (hereinafter referred to as "GDI" or the "Company", together with its subsidiaries, collectively referred to as the "Group", "we" or "us") is pleased to present its Environmental, Social and Governance Report for the year 2019. The Group engaged an independent third-party adviser and prepared and compiled this report in accordance with the Environmental, Social and Governance Reporting Guide (the "ESG Reporting Guide") contained in Appendix 27 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the "Listing Rules").

To ensure that the information disclosed herein aligns with the four principles of materiality, quantitative, balance and consistency, apart from complying with the "comply or explain" code provisions set out in the ESG Reporting Guide, the contents of this report are also determined with reference to the materiality and relevance of sustainability issues to the Group and stakeholders. Meanwhile, we will continue to strengthen information collection so as to improve our future sustainable development performance and disclosure.

1.1 SCOPE OF THE REPORT

This report summarises the Group's vision of and commitment to sustainable development, and showcases the Group's efforts and achievements on sustainable development from 1 January 2019 to 31 December 2019 by an all-rounded presentation of sustainable development strategy, corporate governance, and core issues of sustainable development including high efficiency and integrity, efficient water supply, green operation, climate risk prevention and control, ecosystem protection, assurance of product quality and safety, safe working environment and community investment in the Group's six business segments including water resources, property investment and development, department store operations, hotel ownership, operation and management, energy projects as well as road and bridge operation. In addition, except for the number of employees, this report does not cover the relevant disclosures about Guangdong Land Holdings Limited (stock code: 00124), a subsidiary directly held by the Company and also listed on The Stock Exchange of Hong Kong Limited (the "Stock Exchange"), whose performance on sustainable development is detailed in the 2019 Environmental, Social and Governance Report of Guangdong Land Holdings Limited (available for download at http://www.gdland.com.hk/en/).

1. ABOUT THIS REPORT (CONTINUED)





1.2 CONTACT INFORMATION

Should you have any query or feedback on this report and its contents, please feel free to contact us at:

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2.1 COMPANY PROFILE

The Company, formerly known as Union Globe Development Limited ("Union Globe"), was established in 1973 and listed on the stock market in Hong Kong in the same year. In January 1987, an enterprise owned by the Guangdong provincial government acquired a majority stake in Union Globe and changed its name to Guangdong Investment Limited in July 1988. Currently, the Company is a constituent stock of the Hang Seng China Enterprises Index, the Hang Seng China-Affiliated Corporations Index and the Hang Seng Composite Industry Index - Utilities. The Company's stock code for its shares listed on the Main Board of the Stock Exchange is 00270.



As at the date of publication of this report, the Company's ultimate controlling shareholder, 廣東粤海控股集團有限公司 (Guangdong Holdings Limited▲ hereinafter referred to as "Guangdong Holdings"), holds approximately 56.49% shareholding interest in the Company through its wholly-owned subsidiary, GDH Limited ("GDH"). Guangdong Holdings is a wholly state-owned provincial investment holding company under the supervision of the State-owned Assets Supervision and Administration Commission of the People's Government of Guangdong Province.

2.2 COMPANY SCALE

As of 31 December 2019, GDI recorded a total market capitalisation of approximately HK\$106,566 million, employed a total of 7,805 employees and had approximately 150 wholly owned and controlling subsidiaries. GDH, the immediate controlling shareholder of GDI, is the largest overseas conglomerate in Guangdong Province. The Group is principally engaged in six core businesses, including water resources, property investment and development, department store operation, hotel ownership, operation and management, energy projects as well as road and bridge operation, with business coverage across Mainland China, Hong Kong and Macau. At the same time, the Company directly holds approximately 73.82% shareholding interest in Guangdong Land Holdings Limited, a company listed on the Stock Exchange (stock code: 00124).

The English name of the entity marked with a "^{*}" is a translation of its Chinese name, and is included herein and in other sections of this report for identification purposes only. In case of any inconsistency, the Chinese name shall prevail.





2.3 INTRODUCTION OF BUSINESS SEGMENTS

WATER RESOURCES

The Group's water resources segment contributed to 56.74% of the Group's revenue in 2019. This segment's business mainly encompasses untreated water supply, tap water supply, sewage treatment and waterworks construction. It invests in and operates 77 water projects, with a customer base exceeding tens of millions in Hong Kong and a number of provinces in Mainland China. In particular, Dongshen Water Supply Project, with a designed annual capacity of 2,423 million tons, supplied an aggregate of 2,071 million tons of water to Hong Kong, Shenzhen and Dongguan during the reporting period (2018: 2,111 million tons), which represented a 1.9% decline. Aside from Dongshen Water Supply Project, water resources projects in Mainland China are mostly located in Southern China and Eastern China. During the reporting period, for the Group's other water resources projects (excluding Dongshen Water Supply Project), the total designed water supply capacity of the water supply plants and the total designed sewage processing capacity of the sewage treatment plants were 9,003,000 tons per day (2018: 6,004,000 tons per day) and 1,331,000 tons per day (2018: 1,140,000 tons per day) respectively.



PROPERTY INVESTMENT AND DEVELOPMENT

The Group's property investment and development segment contributed to 23.62% of the Group's revenue in 2019. The Group is engaged in property investment and development business in Hong Kong, Guangzhou, Shenzhen, Tianjin, Panyu and Jiangmen. The Group headquartered at Guangdong Investment Tower, a 28-storey commercial building on Connaught Road Central, Hong Kong, with a total gross floor area ("GFA") of approximately 14,132 m² attributable to the Group. The other properties held by the Group mainly include Guangdong Teem Plaza, Tianjin Teem Shopping Mall and Panyu Wanbo CBD Project. Amongst them, Guangdong Teem Plaza comprises a shopping mall, an office building and a hotel. Favourably located in the prime area of Guangzhou, the shopping mall of Guangdong Teem Plaza covers a total GFA and lettable area of approximately 160,000 m² and 106,000 m², respectively. Situated at a convenient location above underground railroads, Tianjin Teem Shopping Mall stands as one of the leading shopping and leisure destinations in the renowned "Binjiang Dao – Heping Road" Commercial District in Tianjin, with a total GFA and lettable area of approximately 205,000 m² and 145,000 m² respectively.

DEPARTMENT STORE OPERATION

The Group's two subsidiaries, namely 廣東 天河城百貨有限公司 (subsequently renamed) 廣東粵海天河城百貨有限公司 (GDH Teem Department Store Co., Ltd.▲)) ("GDTDS") and 廣州市天河城萬博百貨有限公司 (subsequently renamed 廣州市粤海天河城百 貨商業有限公司) ("天河城萬博") (collectively referred to as "Teemall Department Store") are engaged in department store operation, collectively generating 3.98% of the Group's revenue in 2019. During the reporting period, GDTDS and 天河城萬博 operated a total of seven stores, including Teemall Store, Wan Bo Store, Teemall Store – Beijing Road Branch, Ao Ti Store, Dong Pu Store, Dongguan Store and Nanhai Store with an aggregate lettable area of approximately 136,000 m² (2018: 168,700 m²).



HOTEL OWNERSHIP, OPERATION AND MANAGEMENT BUSINESS

During the reporting period, the Group's hotel management team managed a total of 35 hotels (2018: 34 hotels), of which three are located in Hong Kong, one in Macau and 31 in Mainland China, collectively generating 3.7% of the Group's revenue in 2019. Among the Group's five star-rated hotels, four are managed by its hotel management team except the one located in Guangzhou, namely Sheraton Guangzhou Hotel which is managed by Sheraton Overseas Management Corporation. During the reporting period. the average occupancy rate of Sheraton Guangzhou Hotel was 93.8% (2018: 93.2%) and that of the other four star-rated hotels was 71.7% (2018: 76.9%).



ENERGY PROJECTS

The Group's energy business includes the project of 中山粤海能源有限公司 (Zhongshan GDH Energy Co., Ltd.[▲]) (formerly known as 中山火力發電有限公司 (Zhongshan Thermal) Power Co., Ltd.▲)) ("Zhongshan Energy") and the project of 廣東粤電靖海發電有限公司 (Guangdong Yudean Jinghai Power Generation Co., Ltd.) ("Yudean Jinghai Power"), collectively generating 7.34% of the Group's revenue in 2019. Zhongshan Energy has two 300 MW heat and electricity generators with a total installed capacity of 600 MW. Sales of electricity amounted to 2,693 million kWh during the reporting period (2018: 2,794 million kWh), representing an annual decrease of 3.6%. Yudean Jinghai Power (in which the Group holds a 25% effective interest) has four power generators with a total installed capacity of 3,200 MW. Sales of electricity amounted to 12,485 million kWh during the year (2018: 13,464 million kWh), representing an annual decrease of 7.3%.

ROAD AND BRIDGE

廣西粤海高速公路有限公司 (Guangxi GDH Highway Co., Ltd.▲) (formerly known as 廣 西新長江高速公路有限責任公司 (Guangxi Xinchangjiang Gonglu Company Limited)) ("GDH Highway") contributed to 4.62% of the Group's revenue in 2019. Its main business is the Xingliu Highway Project in Guangxi Zhuang Autonomous Region. The highway comprises a main line which is approximately 100 km in length and three connection lines (to Xingye, Guigang and Hengxian respectively) with an aggregate length of approximately 53 km. The average daily toll traffic flow of Xingliu Highway was 24,359 vehicle trips during the year (2018: 22,447 vehicle trips), representing an increase of 8.5%.

2.4 CORPORATE STRATEGY

While striving for green operation and sustainable development, the Group remains committed to enhancing the operational development of its existing businesses and expanding its core businesses so as to generate continuous and steady investment returns for shareholders. Going forward, the Group will continue to optimise its asset portfolio, enhance its capital operation, management and corporate governance, and further bolster its competitive strengths and influence on the market, with an aim to provide strong support for the enterprise's long-term, steady and sustainable development.

In line with its strategic development plan, the Group will continue to increase investments in water resources management, property and infrastructure business, and enhance its focus on and understanding of ecological environment and biodiversity protection. The Group will also actively explore market investment opportunities in the water resources segment such as untreated water and urban water supply, urban sewage treatment and integrated water environment management, accelerate the pace of project acquisitions and enhance its capability in developing new business. While expanding its scale and improving its strength in specific segments, we endeavor to minimise damage to nature and ecosystem.

Against the backdrop of globalisation, the Group will continue to capitalise on Hong Kong's strength as an international financial centre and a capital raising platform, improve capital utilisation efficiency, strengthen capital management capabilities and foster effective value enhancement of capital. Meanwhile, the Group will optimise its human resources build-up and further improve management expertise. The Group will also step up its efforts in strengthening corporate culture in order to enhance corporate core competitiveness. For more information on the business operation and financial position of the Group, please refer to the 2019 Annual Report of GDI, which is available for download at http://www.gdi.com.hk/en_US/investorrelations/financial-reports/.

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3 SUSTAINABLE DEVELOPMENT MANAGEMENT

3.1 SUSTAINABLE DEVELOPMENT STRATEGY

Societies around the world are experiencing rapid urbanisation. Population growth in cities will bring a host of sustainability challenges to land use planning, natural resource consumption and construction and development needs. In this regard, as a responsible enterprise, the Group firmly believes that its operations should not only create value for shareholders, but also contribute to sustainable development of the Group and society at large. By developing and utilising green sustainable technologies, and integrating sustainable development and stakeholder expectations into our business decision-making process, we strive to address the challenges arising from climate change and urban development.



During the year, GDI solicited the expectations and suggestions on ESG-related issues collected from internal and external stakeholders via its regular communication mechanism with stakeholders, in conjunction with interviews and online questionnaires. Meanwhile, we also seek to determine material issues relating to sustainable development through stakeholder engagement so as to provide reliable reference for the formulation of our directions and objectives for sustainable development in the future. By taking into account the expectations and suggestions of stakeholders along with our sustainable development strategy, in the future, we will enhance the management of sustainability issues which are highly relevant to the Group, including ensuring our compliance with water quality standard, ensuring stable water supply and establishing decarbonisation targets. Besides, we will further deepen the assessment of climate change risks based on the current status and regularly re-examine the implementation and progress towards targets.



3.2 MANAGEMENT SYSTEM OF THE ESG COMMITTEE

STRUCTURE OF THE ESG COMMITTEE



The board of directors of the Company (the "Board"), being the highest decisionmaking body in the Group's ESG structure. is responsible for the leadership, decisionmaking and supervision of the Group's ESG performance. The Environmental, Social and Governance Committee (the "ESG Committee"), which was established by the Board, is composed of the Managing Director, Executive Director and Chief Financial Officer, Company Secretary and senior management from all business segments of the Company, and is chaired by the Managing Director of the Company. The ESG Committee assumes full responsibility for monitoring, coordinating and evaluating the Group's risks on ESGrelated issues and the direction of sustainable development strategies, and reports directly to the Board. Based on the ESG Committee's report, the Board assesses and determines

the Company's risks on ESG-related issues, implements appropriate and effective risk management measures to improve internal control, and formulates various ESG-related policies at the Group level. For details, please visit the official website of GDI at http://www. gdi.com.hk/en_US/corporate-governance/ sustainability-and-social-responsibility/. Relevant departments of GDI's subsidiaries are responsible for setting ESG targets, implementing the ESG work arrangements assigned by the Board, collecting information and reporting it to the headquarters for communication and coordination. Furthermore, the Group requires members of ESG working groups under different segments to sign a letter of undertaking on ESG information disclosure so as to ensure the authenticity and reliability of such disclosures.

3.3 STAKEHOLDER ENGAGEMENT PROCESS

Creating value for consumers, employees, investors and communities at large is the core of GDI's management direction. With that in mind, the Group cares about the needs and opinions of all stakeholder groups, which are the drivers for continuous improvement of its services and operational model. During the year, we identified stakeholder groups that are crucial to the sustainable development of GDI based on the characteristics of each business segment. We also set corresponding engagement objectives and plans for each

stakeholder group, and endeavour to maintain multi-dimensional, continuous and candid communication with stakeholders so as to understand their feedback on ESG issues and integrate such feedback into the Group's management policy and strategic planning for sustainable development. After reviewing our engagement work during the reporting period, we have identified and closely communicated with the following stakeholder groups.

Stakeholders	Engagement Objectives	Primary Engagement Channels
Employees	Understand employees' ESG focuses and views towards the Group Collect employees' recommendations for improving ESG work Enable employees to better understand the Group's work on ESG development	Group and departmental meetings Staff meetings Staff caring activities Questionnaires Internal training Physical meetings of labour union
Consumers	Understand consumers' ESG focuses and views towards the Group Provide products that cater for consumer needs Offer more dedicated services to consumers Formulate marketing strategies which align with consumer expectations	Corporate media platform Open days Questionnaires
Suppliers, contractors and service providers	Establish long-term rapport Create mutually beneficial partnerships Create an atmosphere of mutual trust and cooperation Joint management of ESG issues	Supplier meetings On-site technological knowledge exchanges and inspections Questionnaires Seminars

Investors, shareholders and analysts	Understand the Company's ESG development and core focuses Demonstrate the directions and focuses of the Group's ESG work	Annual general meetings Interim and annual reports Results presentations Investor meetings News and announcements Questionnaires
Media	Showcase the highlights of the Group's ESG work Disseminate the core values of the Group's ESG management	News and announcements Corporate media platform Questionnaires
Government departments and regulatory authorities	Showcase the Group's reputation for compliant business operations	Physical meetings with the government Site visits Questionnaires
Local communities	Understand the focuses and trajectories of the Group in shouldering its social responsibility Demonstrate the Group's confidence in creating social value in the places where it operates Enhance mutual trust with local communities and residents in places of operations	Open days Charitable activities Corporate media platform Questionnaires

3.4 ESG MATERIALITY ASSESSMENT

By referencing the ESG Reporting Guide and international standards, benchmarking against outstanding international and local industry peers, and taking into account sustainable development trends in the industry, the key concerns of capital markets and our own business characteristics, we identified ESG issues that have a significant impact on stakeholders and development of the Group's business. We deployed various means such as interviews, online guestionnaires and discussion with senior management to study, collect and analyse the expectations and recommendations of internal and external stakeholders regarding the ESG work of GDI. We determine the materiality and importance of all sustainability issues to the Group and its stakeholders after consolidation, classification, screening and ranking. Meanwhile, based on the ranking of materiality of each sustainability issue to stakeholders and senior management, we categorised 28 identified sustainability issues into four aspects, namely, environmental responsibility, market performance, corporate

governance and social responsibility, in order to develop a matrix of material sustainability issues for GDI in 2019 which serves as the basis for key disclosures and responses in this report.

Through the above analytical process, we integrated the identified sustainability issues into sustainable development strategies of the Group, re-examined our sustainable development vision and implementation methods, and plan for sustainable development objectives and work of GDI in the future. Going forward, we will focus on our progress towards objectives, improve the process of identification, evaluation and management of issues related to climate change, carry out internal and external inspection and reporting, update and recalibrate our objectives to achieve continuous improvements.



List of Material ESG Issues of GDI in 2019

Materiality	No.	lssues
Very Important Issues	10	Compliance with relevant environmental protection regulations
	23	Reliable products and services
	28	Safeguarding intellectual property rights
	21	Anti-corruption
	7	Water consumption and conservation
	3	Wastewater treatment and water reuse
	26	Customer relations
	27	Customer privacy
	4	Waste management
	22	Economic performance
	16	Protection of labour rights
	5	Energy consumption and conservation
	8	Ecological environment and biodiversity protection
	24	Technological innovation
	1	Greenhouse gas emissions
	15	Healthy and safe working environment and ancillaries
Important Issues	19	Responsible and sustainable procurement
	20	Supply chain management
	9	Climate change
	11	Workforce diversity and equal opportunity
	12	Employee relations
	13	Employee welfare
	14	Staff training and career development opportunities
	25	Industry exchange
General Issues	17 18	Community contribution
General issues	2	Minimising the impact on communities
	2	Air pollutant emissions
	0	Use of renewable energy





4.1 EFFICIENT WATER SUPPLY AND RESPONSE TO WATER STRESS

In recent years, China has gained significant progress and achievements in water resources conservation, protection and management. However, we are well aware that about one third of China is still confronted with a stress of water resources along with economic and social development as well as population growth. By continuously enhancing the rigorous management of water resources and developing policies and regulations on indicators such as total water consumption and efficiency, the government explicitly imposes stricter management on water resources in three aspects, namely strengthening the control on the development and utilisation of water resources, improving the control on water efficiency and reinforcing the sewage discharge standards in water functional areas. A national target has also been established to limit water consumption for economic purpose to 700 billion cubic metres by 2030.



As our water resources business relies heavily on stable water supply, we actively addressed the risks from water stress during the course of our operations. We commence preliminary work such as water resource reliability analysis, water supply continuity assessment, water quality assessment, and downstream water consumption forecast at the stage of initial site selection for our projects, with a view to mitigating the challenges brought by water stress. We optimise our production technologies during the course of production and operation, improve the efficiency of water treatment, enhance water resources recycling and reuse, collect rainwater and water from other sources, strictly control pipeline network leakages, strengthen the water conservation awareness of downstream users, and take the initiative to promote and support government policies and calls for ensuring stable supply of water resources, sparing no effort in tackling water stress issues. At the same time, as an experienced water supplier, we proactively respond to and work with the government. We participate in the preliminary research, planning and analysis of waterworks construction projects such as water diversion. Through the integrated management of upstream, midstream and downstream processes, we strive to minimise the risks arising from water stress.

GOVERNANCE REPORT 2019

The water resources business of GDI is mainly undertaken by Guangdong Water Group (H.K.) Limited ("Water Group HK") and Guangdong Yue Gang Water Supply Company Limited ("Yue Gang Water Supply"). Water Group HK is an integrated water company engaged in water businesses of untreated water supply, tap water operation and sewage treatment, with investments in water project operations. It serves regions such as Guangdong, Guangxi, Jiangsu, Hainan, Hubei, Jiangxi, Anhui, Guizhou, Zhejiang and Gansu. Yue Gang Water Supply is responsible for the management of the Dongshen Water Supply Project, supplying and selling untreated water to Hong Kong, Shenzhen and Dongguan.

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Case: Project Regarding Water Resource Allocation in the Pearl River Delta

To alleviate the issue of water stress in an effective manner and as a backup water supply, we understand that Guangdong Holdings, the Company's ultimate controlling shareholder, participated in the Project regarding Water Resource Allocation in the Pearl River Delta led by the Ministry of Water Resources of China and Guangdong Provincial Government.

Dongjiang River, one of the three major river systems in the Pearl River Basin, is the main water source for production activities and living of nearly 40 million people in Eastern Guangzhou, Shenzhen, Heyuan, Huizhou, Dongguan and the Hong Kong Special Administrative Region. High-intensity development and utilisation of water resources from Dongjiang River resulted in problems such as low water flow during dry seasons and seawater reflux, affecting water supply and ecological safety of the river basin in the future.

Upon thorough investigation, the Guangdong Water Resources Department made a significant proposal of a water

resource allocation project in the Pearl River Delta by diverting water from Xijiang River, with nearly 10 times water volume and whose development and utilisation was of a relatively smaller extent as compared with Dongijang River, to eastern side of the Pearl River Delta. This mega project is a hydraulic engineering project with the largest investment scale, the longest water transfer route and the most extensive coverage of water recipient areas in Guangdong's history, and is also a water diversion project with the highest water transfer pressure and the longest tunneling shield worldwide. With construction commencing on 6 May 2019, the project transfers water through deep tunnels that pass through the core city clusters of the Pearl River Delta to reach eastern side of the Pearl River Delta, achieving unified allocation of water resources between Dongjiang and Xijiang Rivers. This will effectively address the stress of water for domestic and production use in Guangzhou, Shenzhen and Dongguan and serve as an emergency backup water source for Hong Kong and other places to provide a major strategic support for the construction and development of the Guangdong-Hong Kong-Macao Greater Bay Area.

4.1.1 PROTECTION THROUGH MANAGEMENT SYSTEMS

The water resources segment has formulated a series of management policies, plans, operating procedure guides and strategic directions, in which the Policy on Water Supply Management of Guangdong Investment Limited explicitly states that the total amount of water consumption shall be controlled from the source to improve comprehensive utilization of water resources and to avoid wastage and loss of water resources. We have improved the water supply efficiency of distribution pipeline networks through technological upgrades and refined management. We comprehensively monitored and effectively controlled pipeline network leakage, through pipeline network plan from source to user, actively explored backup water sources, and reinforced promotion and education of water conservation.

The management of the water resources segment has also set a good example for ensuring sustainable water supply. For the performance evaluation indicators, as spearheaded by the management, the internal operational performance indicators of the water resources segment was pegged with the individual performance of persons in charge of respective water companies. We launched the Personal Business Objective Commitment (PBC) Scheme to ensure the consistency of water resources management objectives between the water resources segment and its subordinate water companies. We further worked towards our comprehensive management objectives by including indicators of untreated water, tap water and sewage operations, such as pipeline network leakage rate, unit production consumption and key project management, into individual integrated assessment. The assessment results are closely pegged to the remuneration of the persons in charge of the subordinate water companies in a bid to encourage employees to pay attention to water stress and improve the companies' overall operational efficiency in discharging their daily duties.

To address pipeline network leakage, we not only adopted the industry standard on Leakage Control and Evaluation Standard for Urban Water Supply Pipeline Networks as our calculation methodology, but also applied the water balance analysis method of the International Water Association to evaluate the extent of leakage and identify the root problem, thus laying a solid management foundation and aligning ourselves with international standards. To further strengthen our internal control, the water resources segment published the Selection Guide for Materials Used in Municipal Water Supply Pipeline Networks, the Management Procedures for Urban Water Supply Pipeline Networks and other management systems to carry out systematic management of pipeline material selection, metering and pipeline network maintenance so as to improve our capability in pipeline network leakage control and detection.



4.1.2 PROTECTION THROUGH TECHNOLOGICAL PLATFORMS

Urban water supply pipeline networks are of vital importance to Yue Gang Water Supply in its supply and sales of water. Leakage and damage of such networks would cause wastage of precious water resources and economic loss. Hence, the water resources segment has formulated technical procedures and regulations, such as the Regulations for Maintenance, Repair and Management of Hydraulic Structures, the Rules for Monitoring and Management of Hydraulic Engineering Safety, the Management Procedures for Aqueduct Technologies, the Management Procedures for Box Culvert Technologies, the Management Procedures for Hydro Tunnel Technologies and the Management Measures for Hydraulic Facilities Rating to provide guidance for Dongshen Water Supply Project and the maintenance and repair work for the upstream facilities of hydraulic infrastructures. Each year, we conduct supervisory inspection and rating assessment on the technological management, specific engineering works, maintenance and repair inspections of hydraulic infrastructures. In 2019, all our hydraulic infrastructures remain intact, ensuring the operating efficiency of our upstream water supply chain.



Meanwhile, we continued to perform daily pipeline network control by utilising the

technology from the R&D project which we jointly completed with the South China University of Technology and Harbin Institute of Technology. This leading domestic testing and control technology for pipeline network leakage and damage has helped us to achieve diversified management, covering multiple management platforms for water supply pipeline networks such as water supply pipeline network GIS, the Internet of Things system, the pressure management system and the online modelling analysis system. These platforms have been widely adopted by water companies. According to statistics. Meizhou Guangdong Water Co., Ltd. alone has saved over 12 million tons of water and almost RMB9 million of production costs after using the platforms, bringing about magnificent economic and environmental benefits.



Aside from using technology such as pipeline network testing, the real-time production monitoring system jointly developed by the Dispatch Centre and the Information Centre provides reliable information and technical support for the dispatch of water supply to cope with factors that affect water supply to cope with factors that affect water supply stability such as abnormal climate and water consumption fluctuations among users. This helps us to timely grasp the key production and operational indicators of all regional water companies and support subsequent operations management and control.

4.1.3 CONTROLLING WATER CONSUMPTION

We make full use of our operational advantages in waterworks and water environment management segment to proactively ensure water supply. Furthermore, in other operating segments, we also actively strive for better utilisation of water resources, higher water efficiency and less water wastage.

Property Investment and Development Business:

Teemall launched the "reclaimed water" recycling system as early as 2008 by adding the function of reusing "reclaimed water" to the sewage treatment system. By installing control valves and conducting pipeline modifications, Guangdong Teem saves approximately 36,000 tons of water each year with higher quality of sewage treatment and less sewage discharge. During the year, the total sewage discharge of Teem Group amounted to 558,130.0 tons (2018: 568,123.8 tons).

Energy Projects:

In compliance with the Water Law of the People's Republic of China, Zhongshan Energy sets out its planned annual water consumption level at the beginning of every year according to the Management Measures on Planned Water Consumption Level and submits the Form of Annual Planned Water Consumption Level to Xijiang River Basin Administration of Guangdong Province for approval. Zhongshan Energy strictly controls the water consumption of the entire plant in line with the approved water consumption level. Up to the end of 2019, Zhongshan Energy has never exceeded such planned water consumption levels. We implement target-oriented management, and set the amount of water withdrawal per unit of power generation as a production evaluation indicator. We formulate relevant target each month and disseminate such requirements to relevant production departments to strictly control the performance. Through the unremitting efforts of our production staff, we recorded continuous reduction in water consumption per unit product. During the year, the target value of water withdrawal for power generation was 2.1 m³/MWh, while we had achieved value of 1.83 m³/MWh, exceeding our targets.

We have built water circulation systems for respective operating systems. After cooling the equipment, the cooling industrial water generated from recycling auxiliary equipment flows into the front pool of the cooling tower in the water circulation system to seamlessly supply water to the system. In addition, the sewage generated from the supplementary steam system, equipment and pipes will flow into the industrial sewage treatment system for a series of filtration and water quality treatment. The treated water will be used for ash removal, electrostatic precipitation and for flushing the ground of ash silos and coal transporting trestles.



4.1.4 IMPROVING WATER-SAVING AWARENESS

As a responsible company, GDI is committed to leveraging the business characteristics of each business segment to improve the water-saving awareness of citizens and employees. The water resources segment actively promotes knowledge on water conservation, protection, and treatment among citizens and customers, hoping to realise concepts into concrete actions and achieve harmonious co-existence between mankind and water.

Case: A Series of Activities on World Water Day • China Water Week

22 March 2019 marked the 27th World Water Day, while 22 to 28 March was the 32nd China Water Week. During the period, water companies under Water Group HK organised a range of activities such as water plant open days, promotions in

communities and home visits for water quality testing. Through these activities, we aim to promote knowledge on water conservation and protection from different perspectives and create an atmosphere conducive to loving and cherishing water.

Yue Gang Water Supply once again opened the Dam of Shenzhen Reservoir to citizens and co-organised the 2nd Open Day of Shenzhen Reservoir and





the 6th Reservoir Roundabout Charitable Hike with Shenzhen Water (Group) Co., Ltd. and Shenzhen Luohu District Green Hiking Volunteer Association (深圳市羅 湖區綠色出行志願者協會), aiming to further raise citizens' awareness of water conservation and protection. Led by the on-site staff of Yue Gang Water Supply, nearly 400 adults and children from the communities, schools and companies acted as environmental protection volunteers to visit the Shenzhen Reservoir, known as the "Shenzhen Water Tank", where they strolled and biked freely on the dam, gained in-depth knowledge on tap water from "source" to "water tap" and the differences between untreated water and drinking water, improving their awareness of cherishing water, and cultivating the habit of water conservation and protection.

Zhaoqing HZ GDH Water Co., Ltd.

On 22 March, Zhaoqing HZ GDH Water Co., Ltd. initiated a series of publicity activities at Dawang Park, where the Business Department of that company set up information desks at the site. The staff distributed material to residents to promote the concepts of water consumption, conservation and protection, introduced the system and knowledge on secondary water supply management in communities and answered residents' guestions on daily water consumption.

Gaoyou Guangdong Water Company Limited

On 22 March, Gaoyou Guangdong Water Company Limited held an open day at its water plant. The event invited teachers and students from Songqiao Secondary School and Linze Secondary School to the water plant. Our staff led the students to closely observe water production processes such as mixing, reaction, sedimentation, filtration and complex treatment and answered questions from students on site, offering a vivid lesson on water conservation. In the afternoon, Gaoyou Guangdong Water Company Limited also held a water conservation seminar and arranged customer representatives to visit communities such as Kang Hua Yuan to further spread the knowledge on water conservation and consumption so as to advocate the concept of water conservation.

Suixi Guangdong Water Company Limited

On 23 March, Suixi Guangdong Water Company Limited held the first open day at its water plant. More than 30 teachers and students from Suixi Second Primary School were invited to visit the canal water plant. In order to understand the process of water production and purification techniques, the teachers and students, guided by the staff, visited water intake pump room, reaction tank, sedimentation tank, filtration tank, clear water tank, laboratory testing demonstration and central control room of the canal water plant. Afterwards, teachers and students interacted with the staff at the meeting room of the company. The staff provided a business overview, briefed the development history of the canal water plant and promoted the knowledge and significance of water conservation, encouraging the students to act as water conservation ambassadors.

4.2 CLIMATE RISKS PREVENTION AND CONTROL

Climate change is one of the global topical issues when it comes to sustainable development. International organisations and governments are engaged in continuous discussions to alleviate and address the series of challenges arising from climate change. To effectively cope with the potential risks arising from climate change in the future while improving its ability to respond to extreme weather and climate incidents, the water resources segment has taken steps to work on preliminary identification of climate change risks to Yue Gang Water Supply in accordance with the proposed framework of the Task Force on Climate-related Financial Disclosures (TCFD). We identified and analysed the possible consequences of climate change and formulated management measures through a multi-dimensional benchmarking analysis, together with the considerations of the climatic environment where our production and operation take place, the external policy direction as well as the potential climate change risk exposure faced by the water supply business. The identified climate change risks are incorporated as one of the dimensions in formulating long-term sustainable operation strategy.

4.2.1 ACTIVELY RESPONDING TO CLIMATE CHANGE RISKS

In recent years, the world witnessed the frequent occurrence of extreme weather incidents arising from climate change, such as typhoon, flood, heat wave and drought. We identified risks from various aspects and assessed the potential degree of severity of such risks with reference to the impacts on our operations caused by historical events.

Our business and surroundings would suffer from these potential physical risks, resulting in calamities including rising water levels, accelerating water flows, exhausted water sources and even acute environmental hazards such as mudslides and landslides. Besides, such incidents would cause certain damages to our equipment and facilities such as flood control equipment, water treatment equipment and pipeline network system. Meanwhile, prolonged climate change could pose challenges to water quality and water plant equipment, including algal blooms and rising sea levels, etc, which might affect the stability of our water supply business.

Hence, we must take early precautions to protect water sources and water quality, improve the capability of our equipment in resisting extreme weather and undertake proper response measures to reduce the acute negative impacts and chronic changes on Yue Gang Water Supply.





Soil and coastal erosions



Heavy rainfalls and storms induce frequent physical impacts on earth, resulting in loss of surface soil, soil erosion and potential damage or even collapse of facilities such as dams.

Algal blooms



Rising water temperatures favours the reproduction of microorganisms and makes minerals more soluble in waters. This results in the increase of nutrients in water bodies such as lakes, rivers and coastal areas, followed by a surge in algal blooms, which in turn affects water quality.

In response to the acute physical risks, our water resources segment formulated a series of control measures to effectively mitigate and alleviate various risks that may cause short-term impacts on our business. Firstly, we have prepared a number of contingency plans to cope with extreme weather and water pollution incidents, such as the Water Supply Contingency Plans for Storm and Flood Prevention, the Water Supply Contingency Plans for Drought Prevention, the Contingency Plans for Water Pollution Emergencies, and the Contingency Plans for Flood and Storm Prevention for Dongshen Water Supply Project. Such plans cover a wide range of content, including an identified list of potential risks in various emergencies, internal governance structure and responsibilities under the leadership of protection and prevention departments of provincial and municipal governments, early warning mechanism for information reporting, ranking and publication, as well as the planning, equipment and training of specific responsive actions. We work on emergency supplies reserve and organise regular emergency drills for our personnel so that they are familiar with relevant procedures and capable of handling various emergencies.

We also have a robust communication mechanism in place to reinforce the synergy among different water companies. We work with government authorities of water supply and treatment to ensure that adequate resources and personnel are arranged to handle different emergencies in case of occurrence.

Case: Enhancing Management of Flood, Drought and Storm Control ("Three-control") and Safely Going through the Flood Season with Scientific Deployment

After Typhoon Mangkhut in 2018, we have gained adequate experience to enhance our Three-control command department and contingency plans. We strengthen the knowledge of general staff in defending against disasters and arrange more trainings and drills so as to enhance the resilience against disasters such as typhoon and rainstorm on a comprehensive scale.

During the year, our Dispatch Centre joined hands with the Luohu District of Shenzhen City for an impromptu emergency drill on Three-control. More than 250 staff members from the water supply department, armed police, fire fighters and public security participated in the drill. All the participating units responded actively. The drill provided integrated examinations on the organisational emergency command system, the on-site command mechanism, prevention and early warning mechanisms and the abilities of handling emergencies and providing emergency protection. The drill helped further clarify the roles and tasks performed by each department.

At the same time, municipal and regional water resource and emergency management organisations arranged a number of special inspections on our Three-control with the priority laid on checking the performance of responsible person, handling of hazards, flood prevention and control, execution of contingency plans, maintenance and management of floodgates and management of flood control supplies. Our relevant performance was highly recognised by the government.

In addition, during the period of water level peaks from 9 to 14 June 2019, many rivers in Guangdong Province exceeded the warning level with the maximum flow of Dongjiang River reaching 8,000 cubic metres per second. In particular, the outer section of Taiyuan River recorded the highest water level of 5 metres. Despite this, scientific deployment and rigorous defence measures enabled us to secure the safe operation of Taiyuan pump station and a stable water supply along the route.


In terms of risks caused by extreme weather incidents, we consider both short-term and long-term weather conditions, such as terrain, topography, historical rainfall and floods as well as droughts during our site selection in order to avoid locating our operations at places with a higher likelihood of extreme weather incidents and higher risks of changes in long-term climate model so as to reduce the chance of severe damage to water plant equipment in accidents such as flooding and submergence. Apart from that, we require water companies to conduct proper inspection and maintenance as well as regular screening on equipment hazards to reduce equipment malfunctioning caused by sudden and longterm climate changes which hinder the normal operation of our equipment.

We also investigate water pollutions regularly and utilise smart platforms to closely monitor water quality standards and to ensure that the water quality will not be affected by inadequate or untimely checking. To further ensure the stability and quality of our water sources, stable business operation and fulfill the water demand of residents, we require water companies with relatively higher risks to equip themselves with emergency backup water sources and to supply water with dual origins.

4.2.2 LOW-CARBON TRANSITION OPPORTUNITIES

To cope with climate change, the Chinese government has gradually tightened its climate-related policies to enhance governance and regulation on greenhouse gas (GHG) emissions. It also continued to implement the national policies on tackling climate change actively by including such policies in the 14th Five-Year Plan for National Economy and Social Development and Ecological Environment Protection. China continued to implement its laws and regulations on environmental protection, such as the Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on Prevention and Control of Atmospheric Pollution, the Energy Conservation Law and the Renewable Energy Law of the People's Republic of China, and enhanced enforcement of the regulations on energy conservation and lowcarbon economy. With that in mind, the water resources segment will continue to ramp up its environmental protection requirements to ensure its compliance with the regulations and standards set out in national strategies for addressing climate change and to minimise the risk of non-compliance. As for low-carbon development, the Chinese government has set its overall targets on climate change in documents such as Enhancing Action on Climate Change: China's Intended Nationally

Determined Contributions, the 13th Five-Year Work Plan for GHG Emissions Control and the National Plan on Climate Change (2014-2020) with long-term plans prepared. The water resources segment has also responded to the government's call and overall plan by devoting itself to energy conservation and emissions reduction.

Meanwhile, China has launched a national trading market for carbon emissions. Key industry players with excessive emissions are required to purchase carbon quotas in the market. Hence, we will be more active in enhancing management and reducing energy consumption and emissions during our business operation. In response to the above policy trends and development strategies released by national authorities, the water resources segment worked proactively to improve its understanding and learning of relevant policies with timely review of national policies and development strategies. We closely monitor and collect the relevant industry information, standards and expert opinions, further disseminate such information to the subsidiaries to enhance the information flow amongst the business segments so that corresponding measures can be adopted as soon as any policy update takes place. We have internal control standards in place which closely follow policies and industry developments, such as the Evaluation Indicators System for Standardised Operation and Management. This allows us to maintain highly standardised operation and achieve our production targets with effective reduction of costs and risks.

GDI also regards necessary energy consumption and carbon emissions management during the process of addressing climate risks as another key issue. For relevant energy saving and emissions reduction measures implemented, please refer to the contents in the following chapters.

4.3 GREEN OPERATION, LOW-CARBON AND ENVIRONMENTAL PROTECTION

China has already formulated and implemented a number of policies on controlling carbon emissions and energy consumption since its signing of the Paris Agreement in 2013. It actively seeks effective mitigation measures and promotes the indepth work on tackling climate change, while continuously improving the mechanisms and raising public awareness on climate change.

As a responsible corporate citizen who mainly operates in Mainland China, GDI actively responds to the national targets of low-carbon and environmental-friendly development in compliance with laws and regulation. It helps realise our aim to continuously improve our energy efficiency during the operation of various business segments and reduce GHG emissions, further mitigating the risks from climate change.



GHG emissions	Unit	2019	2018	2017
Water Resources (1) GHG emissions – Scope 1 GHG emissions – Scope 2	tons of CO_2e tons of CO_2e	466.24 334,527.77	496.36 304,685.78	280,006.06
Teem Group ⁽¹⁾ GHG emissions – Scopes 1 and 2 ⁽³⁾	tons of CO_2e	34,303.05	40,038.96	43,314.01
Hotel Management Company ⁽¹⁾ GHG emissions – Scopes 1 and 2 ⁽³⁾	tons of CO_2e	7,128.37	7,093.72	8,269.89
Zhongshan Energy ⁽²⁾ GHG – Scope 1 ⁽⁴⁾	0'000 tons of CO ₂ e	269.04	278.24	240.12
GHG – Scope 2 ⁽⁵⁾	tons of CO_2e	75.59	383.83	2,428.99
GDH Highway ⁽¹⁾ GHG emissions – Scopes 1 and 2	tons of CO_2e	835.76	734.78	844.32
Hong Kong Headquarters ⁽¹⁾ GHG emissions – Scopes 1 and 2	tons of CO_2e	77.09	84.21	/
Total GHG emission intensity Total GHG emission intensity	tons/HK\$10,000 of revenue	1.84	2.35	2.25

Notes:

- GHG emissions are calculated based on the gross electricity consumption with reference to the emission factor of China Southern Power Grid and the gross consumption of diesel and petrol. GHG emissions of the Hong Kong headquarters are estimated based on the Reporting Guidance of the Stock Exchange.
- GHG emissions are estimated in accordance with the Guidelines on Accounting and Reporting of Greenhouse Gas Emissions from China's Electricity Generation Enterprises issued by the National Development and Reform Commission.
- 3. The data is restated to improve report readability and comparability. Data disclosure in 2017 and 2018 has been optimised and improved with standardized data collection methods and data scope. The data of Hotel Management Company disclosed in 2017 and 2018 and data of Teem Group disclosed in 2018 have been updated. Besides, Teem Group improved energy consumption management in 2019 and conducted retrofitting works in department stores during the reporting period, contributing to a decrease in purchased electricity consumption in operations compared to 2018 and hence a decrease in GHG emissions compared to 2018.
- 4. The data is restated to improve report readability and comparability. Data disclosure in 2017 and 2018 has been optimised and improved with standardized data collection methods and data scope, where tons were changed to 0'000 tons and relevant data disclosed in 2017 and 2018 has been updated accordingly.
- 5. In 2019, Zhongshan Energy further optimised its energy consumption structure and method by measures including using reserve power supply for interconnection so as to reduce external electricity purchase. Meanwhile, in this reporting year, operations were optimised to reduce the starting and shutdown procedure of machines, contributing to a significant decrease in external electricity purchase in 2019, which in turn reduced the GHG emissions.

4.3.1 WATER RESOURCES SEGMENT

GDI's water resources business is located mainly in Southern and Eastern China, providing premium water resources services for tens of millions of people. As a utility enterprise, leveraging our robust management mechanism and highly efficient performance in water supply, we renewed our Application for Not Being Included in Key Energy Consumption Units in 2019 to the water conservancy engineering authorities, who once again cancelled the key energy consumption assessment on our operations. Despite the exemption, from the perspective of energy conservation and efficiency enhancement, cost control, corporate responsibility and favourable national policies, we maintain strict control of our energy consumption performance in daily operations.

We have formulated the Statistical Analysis System for Electricity Consumption, which is implemented by the Control Centre. We analyse the electricity consumed throughout our production activities, the balance of electricity consumption of the energy supply system and power consumption. Relevant data is calculated monthly on the internal electricity management webpage, generating indicators such as energy consumption and pumping efficiency of systems and pump stations which allow us to keep abreast of the energy saving performance of all water treatment facilities.

In the meantime, we engaged a third-party energy-saving assessment institution to conduct regular assessment on our equipment. If decline in equipment efficiency during the analysis and assessment process is observed, we will explore potential energy-saving opportunities, eliminate obsolete equipment systems and carry out renewal work if appropriate. Through the assessment, we wish to keep improving energy utilisation and avoid unnecessary wastage and carbon emissions during the operation process.



Case: Completion of the Renovation Project at Shangpu Pump Station

The renovation project at Shangpu Pump Station was completed in September 2019, with the transformation work of three main units and their auxiliary equipment completed. The three transformed units operate in stable conditions and perform well on various indicators. The unit efficiency was greatly improved with the efficiency of pump station devices increased from 63% to 75%.





Case: Replacement of the High Energy-Consuming Generators of Auxiliary Systems at Lianhu, Qiling and Jinhu Pump Stations



According to the Energy Conservation Diagnosis and

Planning Report prepared by a third-party energy saving company in 2018, we sorted out the high energy-consuming generators amongst our project sites that failed to meet the national standard on energy efficiency requirements and formulated an energy efficiency improvement plan for generators. During the period of water suspension in 2019, we upgraded a total of 45 units of 938.2kW high energyconsuming generators of auxiliary systems at Lianhu, Qiling and Jinhu Pump Stations. Such systems include direct water supply systems, circulated water supply systems and drainage systems, with replacement by ultra-efficient energy-saving generators, which greatly reduce operational energy consumption.

According to the on-site energy saving testing for a single generator of the direct water supply system at Qiling Pump Station, the new energy-saving generators save an average of approximately 2 kWh per hour as compared to its predecessors, while the auxiliary system operates for an average of approximately 2,100 hours per year, with the three pump stations saving a total of approximately 72,000 kWh per year after the transformation.

In addition to raising equipment efficiency, we have delegated specialised personnel to continuously test and control the indicators of energy consumption per unit during our daily production and operation according to the Regulations on Standard Configurations of Pump (Power) Stations. In 2019, despite uncertainties such as adverse weather and flood control, we maintained high efficiency in energy consumption indicators. During the year, our energy consumption per unit of water withdrawal amounted to 3.73 kWh/kTm. far outperforming the required 5 kWh/kTm under National Standard GB/T30948 Code of Practice for Technical Management of Pumping Station.



On top of the overall hardware optimisation, we aligned with policies such as the Comprehensive Budget Management Measures and the Power Cost Management Measures as well as the tariff mechanism for peak/trough periods for major power consumption industries in Dongguan to optimise the water pumping of our water supply systems. We have adopted the following control plans during peak/trough periods to reasonably allocate production resources and reduce energy wastage, thereby mitigating the carbon emissions from power wastage and achieve a mutually beneficial outcome together with power generation enterprises.

- Water pumping takes place at the designed maximum flow of water supply projects during the valley period with the lowest tariffs
- 2. Water pumping takes place at the designed minimum flow of water supply projects during the peak period with the highest tariffs, provided that the demand of customers within the area is met
- 3. Water withdrawal takes place according to the daily water demand of customers within the project area during periods with normal tariffs

During its actual operation, the Control Centre optimises its arrangement of water pumping flow at different time slots every day, taking into account conditions such as equipment, maintenance arrangements as well as the need for flood and storm prevention of pump stations at different levels. In 2019, we saved approximately RMB15 million of power costs by applying optimization and adjustment planning.

4.3.2 ENERGY PROJECTS

Pursuant to a series of national and provincial policies, Zhongshan Energy has formulated the Standard on Supervision and Administration of Energy Conservation of Zhongshan GDH Energy Co., Ltd. and the Standard on Supervision and Administration of Environmental Protection Technology of Zhongshan GDH Energy Co., Ltd. in accordance with its own development needs.

The standards set out respective management responsibilities, scopes of supervision and details of the production process, together with an assessment mechanism in place so that internal supervision is more systematic, scientific and institutionalised.

All our power generating units have met the national ultra-low energy consumption standards, with energy consumption per unit during electricity production amounting to 306.04 grams of standard coal, lower than the 310 grams of standard coal required by the National Standard GB21258-2017-The Limit on Energy Consumption Per Unit of General Coal-fired Power Generating Units. We also actively participate in the carbon trading scheme and minimise energy consumption and carbon emissions through different technological transformation projects or actions. Guangdong Development and Reform Commission allocates carbon dioxide emission quota annually based on operation history and actual situation. When carbon emissions exceed such quota, we will take the initiative to purchase unused quota from other enterprises via the carbon exchange market in a bid to undertake the carbon emission and environmental responsibilities arising from our production and operation.

To optimise management and operation of power generation units and to achieve better performance on various economic indicators and consistent reduction of energy consumption, Zhongshan Energy formulated the Competition Management Measures on Performance Indicators, which involves assessment on the performance of each operating department. According to the Measures, 30% of the discretionary bonus of its departmental assessment shall be allocated to the competition appraisal so as to motivate the operation team to perform better in the competition. For each indicator, the score will be determined by the SIS monitoring system of the power plant. Indicators for the competition encompass key operational and monitoring indicators, which include standard coal consumption for electricity supply, electricity consumption rate of production factories (net of administrative usage), average electricity supply and average temperature of steam supply.

Case: QC Team Activity

In 2019, we also organised activities to boost employees' initiative to actively explore the potential of energy consumption reduction, improve energy efficiency and strengthen enthusiasm toward resolving key issues, which ultimately lead to a high degree of energy conservation and consumption



reduction, better production processes and promotion of quality management and labour skills. Demineralised Water", the "Project of Pre-latch EH-Oil Main Pipe Pressure for #2 Generator" and "the Project for Reducing False Power-offs due to ETS Signals".

Each team of the labour union actively encouraged its members to participate in the activities, while the evaluation team conducted strict evaluation on each project. The labour union committee commended and rewarded excellent projects. In particular, the title of Excellent QC Team was conferred on the "Cost Optimisation Project for 300MW Subcritical CHP Cold Starting", the "Cost Reduction Project for Producing



4.3.3 OTHER BUSINESS SEGMENTS

Property Investment and Development Business:

Teem Tower received the LEED O + M V4 (LEED: Operations & Maintenance) platinum certification and maintained excellent energy conservation performance. We conducted indepth testing and adjustment of the building's energy consumption system at an early stage to improve the performance of the principal energy consumption system and continuously advocated energy-saving optimisation solutions. We utilise the dynamic ARC platform to reflect the environmental impacts of carbon emissions of the building in an intuitive manner. In tandem with testing energy indicators, we also assess operating costs and GHG emissions so as to achieve the highest standard of green buildings.





While advocating green buildings, we also conducted regular equipment upgrade on other existing properties to improve energy efficiency and reduce energy wastage.

Case: Technical Modification Project on Energy Conservation at Teemall



In 2019, the engineering department assessed the actual usage of respective equipment at Teemall. Equipment that does not meet energy efficiency standards will be optimised and modified so as to strengthen the management on power supply and allocation.

This technological modification project involves removing an aggregate of 400 metres of air vent lights on each floor, replacing 500 malfunctioned fluorescent lamps with LED light tubes in the parking lot and replacing 260 LED light lamps in hallways. The project received an incentive payment from Guangzhou Power Supply Bureau in the form of electricity tariff refund due to power factor improvement. All technological modification works saved electricity costs of approximately RMB516,384 in total with unnecessary carbon emissions reduced through relevant measures.



Hotel Ownership, Operation and Management:

Each year, the hotel headquarters would compile energy budgets, set targets and conduct a work review for its managed hotels. We pay particular attention to electricity and fuel consumption. All domestic hot water in our hotels (including all guest rooms) has no fuel consumption. Instead, heating is achieved through the residual heat of air conditioners. We strive to minimise unnecessary energy consumption and emissions while maintaining our service standards and satisfying customer demand. In addition to daily supervision of the hotels' control of energy consumption in accordance with the annual plan, we also require hotels to provide proper repair and maintenance of their facilities and equipment and explore energy saving potential. We encourage hotels to use energysaving products in a reasonable manner. We communicate with our hotel employees on the importance of intensifying energy conservation, improving the power consumption management system and cultivating a good habit of saving electricity when fulfilling their duties and in daily lives.

4.4 ECOLOGICAL SYSTEM PROTECTION IN A HARMONIOUS AND MUTUALLY BENEFICIAL MANNER

Protecting the ecological system is the foundation for the economic and social sustainability of the human society. The Chinese government attaches great importance to protecting the ecological system and actively engages itself in global biodiversity conservation campaigns. Upon signing the Convention on Biological Diversity in 1992, China has accelerated its pace of formulating policies, laws and regulations on biodiversity protection with a series of major plans in place, including the China Biodiversity Conservation Strategy and Action Plan, and continuously improves its coordination mechanism for biodiversity conservation. GDI actively devotes itself to national biodiversity

conservation and governance plans and reinforced the conservation work of the ecological space to contribute to maintaining ecological well-being and biodiversity.

4.4.1 ECOLOGICAL CONSERVATION PRINCIPLES

We remain committed to the basic principles of biodiversity conservation by prioritising ecosystem protection, sustainable utilisation and public engagement. We formulated the Biodiversity Protection Policy of Guangdong Investment Limited, which required the adoption of a series of measures to practise our ecological conservation principles. We have commenced biodiversity assessment on each business segment's operations. committed to respecting the way of life and living environment of indigenous people, actively facilitated the recovery of local ecosystems and biodiversity conservation, and strived to mitigate the negative impact of our corporate operation and development activities on neighbouring communities and ecosystems. In addition, we strengthened the internal education on biodiversity conservation, assisted the government with ecological conservation work actively, carried out various collaborative research projects and conducted ecological impact assessment and integrated environmental management projects so as to build a homeland where mankind and nature co-exist and thrive in harmony.

We integrate biodiversity conservation into our daily project development, management and operation. In the process of business development, we proactively adopt various measures to effectively evaluate and protect significant ecosystems and ecological species. We forbid exploiting natural resources in a destructive manner and promote and facilitate the sustainable utilisation and development of ecological resources. We also carry out targeted publicity and training activities on biodiversity conservation to arouse the attention of our employees. contractors and other relevant parties to biodiversity conservation and actively engage our stakeholders to establish an

effective mechanism for comprehensive biodiversity conservation. Meanwhile, we cooperate with government authorities, environmental protection organisations and ecological research institutes to study the technologies for maintaining aquatic ecosystem and make great efforts to participate in a variety of biodiversity research, conservation, education and promotion projects to contribute to biodiversity conservation in China.

Case: In-depth User Engagement and Promote Ecological Conservation Principles

In 2019, Wuhua Yuehai Huanbao Co., Ltd. organised an activity themed "Water Environment Protection and Water Resources Conservation", in which participants visited the village where Hengpo Water Purification Plant was located to understand the changes in villagers' lives following the construction and operation of the water purification plant. The participants collected villagers' opinions and recommendations on the operation of the water purification plant and construction of pipeline networks, and communicated with villagers on how to protect aquatic ecosystems and water resources. The activity sufficiently conveyed the ecological conservation principles of Water Group HK.

4.4.2 ACTIVE COORDINATION WITH GOVERNMENT AND FULFILLMENT OF RESPONSIBILITIES

Biodiversity conservation is an essential component of developing ecological civilization and the Chinese government's significant driver of high-quality development. In this regard, we have taken the initiative in assuming our corporate social responsibility and strike a balance between corporate development and protection of ecological environment. We have actively supported the government's effort in biodiversity conservation and management.

We support the establishment of the Shenzhen Dongshen Water Source Protection Office by the Chinese government, continuously invest in human and material resources to

assist and participate in the government's ecological environment protection work, and cooperate with local governments to put forward management proposals on the ecological conservation of water resources, to improve the patrolling and monitoring mechanism of drinking water sources. We hold regular meetings every quarter to study water source protection, arrange random onsite joint inspection, and instantmessaging working groups are established for timely communication on the status in the conservation of water sources. We also helped set up physical and biological containment prevention facilities around the water source of the dam to provide maximum protection for the safety of drinking water. Meanwhile, we comprehensively assess soil and water conservation programmes and conduct environmental pre-assessment for new

projects, with an emphasis on the protection of local communities and residents as well as local ecosystem, thus conserving local land resources and biodiversity in a systematic way.



4.4.3 JOINT SCIENTIFIC RESEARCH ON ECOLOGICAL PROTECTION

We actively cooperate with universities by signing service cooperation agreements with Tsinghua University, The Chinese University of Hong Kong, Sun Yat-Sen University, Tongji University, Harbin Institute of Technology, South China University of Technology and Jinan University to form an industry-university research alliance to work on improving ecological environment and habitat restoration.



Case: Cooperating with The Chinese University of Hong Kong on the Research and Development of Unmanned Algae Removal Boat for Intelligent Aquatic Ecosystem Management

By equipping intelligent unmanned boat with automated equipment for dropping and spraying ecological laterite, Yue Gang Water Supply and The Chinese University of Hong Kong have jointly developed a new model of unmanned boat for algae removal so as to construct an autonomous intelligent system for aquatic ecosystem management. This realises the closedloop management of algae through monitoring, warning and prevention to protect and restore the aquatic habitats and hence improve biodiversity of local water ecosystems and the capability of protecting the safety of water environment in the Greater Bay Area.



Case: Research on Sludge Treatment Devices with Tongji University for Sludge Stabilisation and Detoxification coliform index of over 0.01. The device also meets the requirements for sludge stabilisation and detoxification and satisfies landscaping criteria while reducing damages to the ecosystem.

We worked with Tongji University to jointly undertake the key industry-university technology research project of Guangdong Province – "Small Intelligent System for Aerobic Fermentation Treatment of Sludge". The development of such treatment device enables the decrease of treated sludge in water content from 60% to around 45%, with a 95% to 100% death rate of roundworm eggs and a faecal





4.4.4 ECOLOGICAL ASSESSMENT AND ENVIRONMENTAL IMPROVEMENT

While forging ahead with business operation and corporate development, we attach great importance to the impact of our business on ecological environment and strive to manage and restore ecological environment. Before the commencement of all new large-scale construction projects, we require an ecological impact assessment to analyse and evaluate the potential negative impacts of the construction projects on local and neighbouring ecosystems, biodiversity and indigenous people's daily lives. Based on the analysis results, we adopt measures to protect natural habitats and biodiversity from the source.

Evaluation on Ecology and Biodiversity:

- In the early stage of a large-scale project, we evaluate the type of land resources occupied by the project and natural vegetation on land surface, and estimate the biomass loss of existing vegetation during project construction;
- We collect information and research on animals and plants species, plankton and benthic organisms in our area of construction and operation or the basins involved to evaluate whether there is any rare national or local protected species and estimate the impact brought by our construction and operational activities;
- We evaluate the condition of the local ecological environment. We estimate the impact on air and water permeability of soil during the construction and operation period as well as any soil erosion and take into account a range of factors such as water consumption balance, safety of water supply, land conservation and utilisation and height restriction for aviation.

At the same time, we integrate the local customs into our architectural design and increase urban vegetation to allow our construction projects to merge into the surrounding natural environment. We actively adopt various measures during our construction to restore the damaged habitats and minimise biodiversity loss. Furthermore, we work to rebuild the soil and water conservation mechanism and improve biodiversity greatly through land hardening and expansion of green space.

Measures for Protecting Ecology and Biodiversity:

- We minimise the land area occupied by our construction projects and maximise land use efficiency, avoid development in habitats of rare species, and reduce noises, construction dust and exhaust emissions that affect animals and plants in the neighbouring area during construction process;
- We shorten the period of bare land by speeding up the construction schedule with no construction works during rainy season from April to September and adopt stringent prevention measures to reduce soil erosion;
- For water plant construction projects, we erect cofferdam during the construction of intake racks and water turbine pump stations to control areas which may affect plankton. Suspended matters are sedimented when water is pumped out to mitigate the impact on planktons;
- During project operation, we prohibit any additional construction activity and restore the damaged habitats of animals and plants through land hardening and increasing greening areas in the original site.

Furthermore, we proactively apply our achievements in collaborative scientific research to our business development and continue to manage and restore ecological environment for areas which are affected by our business operation. We have significantly improved the management standards of water quality assurance for the operating areas of our water resources business through comprehensive application of different technical methods such as "sediment at original locations, aquatic ecosystem management and water purification". We also utilise our research achievements in integrated water environment management to quickly improve water quality, stabilise the aquatic ecosystem and protect ecological environment.



Case: Integrating Local Culture into the Construction of Water Plant and Conducting Ecological Assessment to Protect Biodiversity

Before the construction of Meizhou Xincheng Water Plant, we carried out thorough research on ecological environment and local culture. In the early stage of the project, we conducted research on the species of planktons, benthic organisms, fish, animals and plants in the construction and operating areas of our water plant as well as water intake basin and evaluated the extent of impact thereon. We adopted measures such as the erection of cofferdam,

reducing construction area, land hardening and greening to minimise the impact on nearby animals and plants, restoring damaged vegetation in the neighbouring area, and issued an environmental impact assessment report of the project. Meanwhile, we integrated green building concepts into our design and deployed low-impact development technologies on bio-retention area to protect biodiversity. We incorporated the architectural design of local Hakka gardens to allow our water plant to blend into the surrounding natural landscape and architecture as we are fully committed to building an ecofriendly water plant.





4.5 TECHNOLOGY EMPOWERMENT AND PRODUCT QUALITY AND SAFETY

In tandem with augmenting diversity in our business development, we adhere to the highest standard of product quality and opt for exceptional technological innovation to provide all customers with premium products and services. In this regard, we have formulated the Policy on Quality, Environmental Health and Safety Management of Guangdong Investment Limited, with a key focus on product service and quality and environmental health and safety. Meanwhile, as an enterprise mainly engaged in water resources business, we strictly monitor and manage the quality and safety of our water supply engineering works, with stringent monitoring and control over the quality and safety of our water supply at every level to ensure that every drop of water is safe for customers. At the same time, we have introduced advanced technological solutions in developing smart water services to alleviate water stress, with forward-looking perspectives to address water environment issues and ensure water safety.

We highly value our interaction and communication with customers and constantly improve the overall quality of the Group's products and services in all business segments to ensure more comfortable user experience and meet customers' expectations.

4.5.1 IMPROVING WATER SAFETY AND QUALITY WITH SMART WATER SERVICES

The water resources segment has formulated the Policy on Water Quality Management of Guangdong Investment Limited and the Management Concepts to state explicitly the importance of water quality management with a view to further strengthening internal control. In particular, our subsidiaries Zhejiang Bohua Huanjing Technology Engineering Co., Ltd., Gaoyou Gangyou Engineering Company Limited and Wuhua Yuehai Huanbao Co., Ltd. have obtained the ISO 9001 quality management system certification.



We also issued internal policies such as the Urban Water Supply Quality Monitoring and Management Guidelines, the Evaluation Indicator System of Standardised Operation and Management, the Technical Regulations for Operation and Management of Urban Sewage Treatment Plants and the Regulations on the Management of Urban Water Supply Pipeline Networks to require implementation of water quality management measures by water companies engaged in untreated water supply, tap water supply and sewage treatment as well as newly acquired water companies.



Untreated Water and Water Safety

Since the safety of untreated water is vital to tap water supply, we have introduced the globally advanced automatic monitoring technology of untreated water guality in the Dongshen Water Supply Project which has a water supply capacity of 8.64 million tons per day and established systems for monitoring dam safety, automatic monitoring and reporting of water conditions, water supply metering and remote transmission, satellite nephogram and video monitoring, covering all the aspects of untreated water supply and management to provide safe and robust protection for the transportation of untreated water. In addition, the Dongshen Water Supply Project has built the world's largest biological nitrification project with a daily treatment capacity of 4 million tons, which played a major role in improving the water quality and emergency response.

Meanwhile, we have a Water Environment Monitoring Centre accredited by China National Accreditation Service for Conformity Assessment ("CNAS"). Our centre possesses capabilities of 568 types of water quality testing and covers three major domestic standards for water quality (surface water, drinking water and urban sewage testing). We have also established a water quality monitoring network for project companies across the country. In addition, we have established an early warning and forecast platform on water quality throughout the river basin to ensure water safety. The Water Environment Monitoring Centre also publishes Water Quality Monitoring Programme for the Dongshen Water Supply Project every year, under which water quality monitoring includes two levels of manual testing (laboratory testing and on-site testing) and online testing (testing the water quality of project water intakes and two regulating reservoirs) to obtain real-time understanding of important water quality conditions during water intake and supply and ensure water quality and safety.

Continuously Improving Water Quality Testing Capabilities with a Better Monitoring Network

In addition to fulfilling 86 standards of the World Health Organisation's Guidelines for Drinking-water Quality (Fourth Edition) and 15 water quality standards of the United States, Japan, Australia and the European Union, our water resources segment has expanded its testing scope to the monitoring of emerging micro-pollutants, such as environmental estrogens, medicine and antibiotics, disinfection by-products and odour-prone substances, which are not included in the abovementioned standards. At the same time, the Determination of 6 Environmental Oestrogen Compounds in Water-Solid Phase Extraction – High Performance Liquid Chromatography – Tandem Mass Spectrometry is the first testing technical standard prepared by our water resources segment as a local standard in Guangdong Province, filling the technological gap in the use of liquid chromatography tandem mass spectrometry in environmental estrogens detection in China.

Case: Renovating the Online Water Quality Monitoring System of Water Intakes at Taiyuan Pump Station

To continuously improve the water quality monitoring system, the water resources segment upgraded the online water quality monitoring system for the water intakes of Taiyuan Pump Station in 2019. On the one hand, tests have been added to monitor the level of nitrate nitrogen, chlorophyll and blue-green algae with a



view to meeting the operational needs of the integrated forecast and early warning technology model for water quality and aquatic ecology as well as strengthening the safety of water supply. On the other hand, Taiyuan Pump Station underwent thorough transformation on top of its original conditions with its overall functions upgraded and optimised so that the station's system can achieve higher operational efficiency and stability. In addition, the online water quality monitoring system at the water intakes and outlets of the newly-built biological nitrification station is equipped with two monitoring indicators, ammonia nitrogen and dissolved oxygen, to lay the foundation for further optimisation of the renovated biological nitrification station and can gradually replace manual monitoring.





Our water resources segment has boosted the development of smart water services by applying innovative information technologies, such as the Internet of Things, mobile internet, big data and cloud computing. Our smart water service system strictly monitors the quality and safety of our water supply during production management, water supply services as well as operation and control of water companies. In 2019, in terms of the research and development of core products of the smart water services, we have completed, as a key focus, the development of core products such as dynamic modelling system for pipeline networks, intelligent system for pressure control, laboratory management system and intelligent platform for centralised metering to further improve the water guality reliability rate.

1. Dynamic modelling system for pipeline networks

The dynamic modelling system can calculate and display the distribution of pressure and flow within the water supply pipeline network on a real-time basis. It is equipped with functions such as analysis of pipeline pressure and flow for early warning, accident simulation, and analysis of the impact of measures on water supply, and is the first smart tool for dynamic online Java calculation platform for water supply pipeline networks domestically and effectively addresses the difficulties in the application and maintenance of pipeline network models. More than 20 professional algorithms are built into the system to prevent such difficulties and errors that may occur in the setting of highly correlated data. In the meantime, the system realises dynamic connection as well as automatic and rapid update of models through three major systems, i.e., the system for supervisory control and data acquisition (SCADA) system, the business billing system and pipeline network GIS system.

2. Intelligent system for pressure control

The intelligent system for pressure control, based on the efficient and independent regional monitoring and control technology of the IoT platform "dNet-iNet-oNet", can effectively monitor the operational status of subareas and reduce the leakage of water supply pipeline networks. The system has sensors and control equipment installed at key positions of pipeline networks to gauge the flow and pressure of pipeline networks. with results calculated to regulate pressure reducing valves or pressure of water outlets of the pump station to ensure that pipeline networks remain in an optimised state and at the same time meet user demand. The system can also formulate control strategies based on different conditions of the pipeline network, such as working days, holidays and seasons to minimise the pressure of the pipeline network, thereby significantly reducing the background leakage and implicit and explicit leakages of the entire pipeline network and cutting the overall leakage by 5% to 20%.

3. Intelligent platform for centralised metering

We have established a unified intelligent platform for centralised metering, which is used for intelligent water meter communication and data access in our water resources segment to simplify the process of connecting water meters or concentrators and further lower our costs. The intelligent platform for centralised metering provides unified access to smart water meters, and relies on metering management, operation alarm management, statistical reports and other functions to offer real-time monitoring and analysis of massive meter data, address issues such as low automation and complicated processes of manual metering as well as untimely payment by users, while deploying big data analysis to provide end users with more proactive and personalised services.

4. Intelligent water quality monitoring platform

Our water resources segment has further optimised the water quality monitoring platform. The technical team of our water quality testing centre and software companies have worked for two years to jointly create a new generation of Laboratory Information Management System (LIMS) to replace the old imported system. The new system can simultaneously support eight management models, namely the testing, reporting, quality control, resources, systems, standards and users as well as internal reports, enabling the Company to fully control water quality at the experimental stage. The water quality testing centre and its 22 laboratories have begun to adopt this system.



A New Generation of Laboratory Information Management System (LIMS)

5. The first domestic database platform for odour substances in drinking water

To solve the problem of difficult detection of water odour, we leveraged the latest intelligent sample pre-treatment platform system to build the first domestic database platform (http://odor.guangdongwater.com/) for odour substances in drinking water, a platform equipped with rapid screening function. With reference to 47 testing methods of advanced international standards, we have developed an efficient and accurate method to detect 13 types of common odour substances in water that are not stated in the standards. The platform was officially launched in June 2019 for public use, under which the public can independently search the information of more than 808 substances based on the odour characteristics of tap water, understand their

characteristics and uncover the causes for such odours earlier. In addition, the platform is supported by a technical team composed of researchers from well-known Chinese universities and research institutes and has helped many tap water companies to solve the issues of odour complaints caused by the production process. It has received the attention and positive evaluation from industry experts and scholars from China and abroad. In particular, a professor of Dalian University of Technology even regarded this database as a teaching reference. Furthermore, we published the monograph Water Odour Chemical Substances: Categories, Sources, Analytical Methods and Controls (《水體異 味化學物質:類別、來源、分析方法和控 制》) jointly with South China University of Technology, establishing our reputation and brand influence in the industry.





Datebase for Drinking Water Odour Compounds

Unified Management and Assessment on the Production Management of Newly Acquired Water Companies

We established Work Guidelines for New Project Takeover of Guangdong Water Group (H.K.) Limited for our newly acquired water companies to guide them step by step to meet the requirements on water quality management within three years. Such new acquirees receive regular assessments on safety of water quality and laboratory status which include testing capability, staffing, instruments and equipment as well as laboratory environment, coupled with analysis on the safety of water quality of untreated water, treated water and pipeline water of tap water plants. We also test them on the treatment of sewage to and effluents from sewage treatment plants. We connect the laboratory data of newly acquired companies to our water guality early-warning platform for unified early-warning management of water quality.

Joint Water Safety Innovation Centre of the Guangdong-Hong Kong-Macao Greater Bay Area

In response to the national strategy of Guangdong-Hong Kong-Macao Greater Bay Area, we planned to set up the Joint Water Safety Innovation Centre of the Guangdong-Hong Kong-Macao Greater Bay Area with a number of universities and research institutes to improve GDI's R&D capability in water technology. Leveraging the Innovation Centre as a platform, we have collaborated on projects such as smart monitoring with the University of Hong Kong, The Chinese University of Hong Kong (Shenzhen) and other partners, arranged registration of the China Water Resources Blue Book series and compiled the Water Resource Development Report of the Guangdong-Hong Kong-Macao Greater Bay Area (2020) Monograph for publication. Apart from that, we hosted the international water environment conference with South China University of Technology, an event attended by more than 40 experts from over 10 countries and regions, including the United States, Singapore and Taiwan, to facilitate professional discussions on water quality and safety.

2019 User Satisfaction Survey

Adhering to the customer service concept of being "attentive, sincere and considerate", our water companies conduct regular user satisfaction surveys to collect opinions from users, which serve as the basis for continuous improvement of service and product quality. Such survey covers six dimensions, namely, corporate brand image, water quality management, water supply management, customer service, service demands of major clients as well as customer opinions and suggestions. The survey also assesses 18 items on customer service for water supply, namely, reputation and trust, honesty and integrity, quality of untreated water, water quality protection and management, water guality monitoring and early warning, water supply security, water supply contract, water supply measurement, water volume calculation and water tariff collection, service attitude, staff professionalism, malfunction handling, water suspension arrangement, complaint handling, processing capability and work efficiency, technical support, customer communication mechanism and overall evaluation. The 2019 user satisfaction survey for Yue Gang Water Supply indicated that user satisfaction level exceeded 98% for areas such as water supply volume, water guality and service.



4.5.2 PRODUCT QUALITY AND SAFETY MANAGEMENT IN OTHER BUSINESS SEGMENTS

Property Investment and Development and Department Store Operation:

Teemall Department Store strictly complies with the relevant laws and regulations, such as the Law of the People's Republic of China on Protection of Consumer Rights and Interests, the Food Safety Law of the People's Republic of China and the Product Quality Law of the People's Republic of China and monitors product quality through its ISO 9001 certified quality management system.



Regarding customer value as the core focus, Teemall Department Store actively maintains and improves the quality of goods and services. In the pre-sale stage, we have a supplier management system in place to request certificates and invoices for product quality proof. During sale, we conduct quality inspection over goods already put or to be put on shelves. In addition, on-site management personnel would conduct sampling inspections of on-site products on a weekly basis to further prevent problematic goods from entering the market and affecting the safety of our customers. Furthermore, pursuant to the Specification of Hygiene of Centralised Air Conditioning Ventilation Systems in Public Places, we entrusted the constructor to clean and disinfect the air conditioning and ventilation system in the public areas of Guangdong Teem Plaza, after which we engaged a gualified environmental testing company to test the total number of bacteria,



fungi and dust accumulation and issue a qualified testing report. At the same time, we appointed a third-party inspection agency to test the air quality. We passed such testing successfully in 2019 and obtained a new hygiene license.

We have prepared the Sales Management System Manual of Teemall Department Store, which clarifies the work procedures for customer complaints with three complaint levels based on the severity of complaint, corresponding handling processes and staff service requirements set out in explicit terms. After the incident, the department shall submit a customer complaint report as reference for improving service quality. In 2019, Teem Group received 2 tenant complaints and 19 consumer complaints. Upon careful understanding of the incidents, we took timely corrective actions on effective complaints and achieved a resolution rate of 100%.



overall evaluation of staff integrity and selfdiscipline of the management centre. In 2019, the overall satisfaction rate of tenants was 95.1%.



Hotel Ownership, Operation and Management:

Guangdong Hotel (Hong Kong), Wharney Guangdong Hotel (Hong Kong), Guangdong Hotel (Shenzhen), Guangdong Hotel (Zhuhai), Guangdong Hotel (Shanghai) and Guangdong Hotel (Zhengzhou) have all passed ISO 9001 quality system certification, and are subject to regular review and recertification.



By issuing electronic customer satisfaction questionnaires through its WeChat public account, Teemall Department Store invited customers to score 13 specific items such as ancillary facilities, shopping environment and service quality in its venues. In 2019, the overall satisfaction rate of customers was 96.37%. For property investment and development, Teem Group works on tenant opinion survey reports every year with assessment criteria including public health, environment, greening, safety, management of engineering equipment and facilities, handling of daily affairs at the management centre, staff management and

We regard service quality and food safety as the primary focus of our operation and management and have been in strict compliance with national laws and industry regulations such as the Industry Code of Tourist Hotels in China and Star Rating Standard. We issued and implemented several internal policies such as the Internal Guidelines for Hotel Pricing Management System and the Service Quality Management Regulations of Guangdong (International) Hotel Management Holdings Limited. Moreover, we have prepared the Manual for Food Safety in accordance

with ISO 22000 Standard, established and maintained a sanitary and safe production procedure to fully align with relevant requirements of customers and laws on food safety. In 2019, Sheraton Guangzhou Hotel recorded a 100% completion rate of food hygiene and safety audit. In order to create a safe and comfortable environment for our customers, we also conduct regular hotel floor patrols and cross-checks to ensure that all safety management work is carried out in an orderly manner.



The Hotel Management Company takes membership information security seriously and is dedicated to adopting stringent information security measures. Relevant personal information will be directly transmitted to Central Reservations System (CRS) via Property Management Systems (PMS) when customers register for membership through our official website or at the hotel reception with membership information protected by unified encryption. In addition to continuous improvement on the security level of our PMS system, we strictly manage the information access rights of employees in accordance with the principle of customer data confidentiality. Staff must apply for approval from the information department of the Hotel Management Company before requesting the CRS technical service company to extract data with a view to effectively and strictly preventing information leakage. In addition, we have strengthened our technical precautions, including setting up a

white list, strengthening access verification and improving the password complexity of login accounts to prevent third-party service companies from disclosing customers' personal information. In 2019, there was no case of membership information leakage.



We take our customers' comments and suggestions seriously and live up to our commitment to quality service. When receiving customer complaints, the staff will timely address customer demands within their capacity, immediately report to the superior and handle them properly according to instructions, and strive to timely reply to customers on the processing results. In case of online customer complaints, the sales department, upon receiving such complaints and based on their content, would forward them to corresponding departments for thorough investigation with remedial and corrective measures adopted. In 2019, we received no complaints from our customers.

The Hotel Management Company leverages big data to monitor customer satisfaction and the online opinion collection platform to conduct satisfaction survey during customers'



stay at the hotel. It also uses the data of Guest Satisfaction Survey (GSS) system to conduct monthly statistics and tracking on customer satisfaction. By statistical analysis of each customer's evaluation dimension, customer comments will be classified according to corresponding operational departments and converted into the reference for improving internal service quality and the basis of departmental assessment. During the year, the Hotel Management Company recorded a customer satisfaction score of 91.4, 0.3 point higher than that in 2018.



Energy Projects:

Zhongshan Energy strictly complies with the laws and regulations of the state and regulatory authorities, including the Production Safety Law of the People's Republic of China, the Special Equipment Safety Law of the People's Republic of China, the Regulations on Safety Supervision over Special Equipment and the Metrology Law of the People's Republic of China. In addition, we have internal policy documents in place, such as the Comprehensive Quality Management System of the Expansion Project Command Department, the Dynamic Progress Control Management System of the Expansion Project Command Department and the Administrative Measures on Steam Supply Business to guarantee safe production and energy guality.

Roads and Bridges:

GDH Highway carried out the innovative programme of "Maintenance to Achieve Model Road of Premium Quality" and prepared the Implementation Plan for the Construction, Maintenance and Management of Model Roads of Premium Quality. In 2019, GDH Highway used innovative maintenance material - silicone sealants in the completed Daling Interchange C4 Ramp Maintenance Project (大嶺互通C4匝道維修項目). Currently, the material meets the requirements on the quality and depth of sealing up, sealing performance and the height difference between the top of slits and the road. Furthermore, the material is convenient for construction, improves the waterproof performance of roads and effectively reduces maintenance costs. In tandem with managing maintenance works, we have implemented third-party professional engineering budget consultation and project construction supervision in road maintenance management, established a performance evaluation system for the contractors of maintenance projects, and strictly executed the standardised management on construction guality and safety. With our Regulatory System for Service Areas in place, we joined hands with police force, fire fighting as well as food and drug supervision authorities of our jurisdiction to conduct monitoring and inspection on police force, food quality and service operations in our service areas twice a year in a bid to provide a safe and quality environment for the public.

GDH Highway conducts regular highway technical condition evaluation (MQI) to evaluate pavements, enbankments, bridges and tunnel structures as well as facilities along highways, of which pavement inspection covers five indicators, namely, pavement surface condition, roughness, rutting depth, skidding resistance and pavement structure strength so as to quantify the performance of highway quality. The MQI of highway technical condition evaluation reached 87.62 points in 2019.

Faced with customer concerns about information security and privacy, GDH Highway has formulated the Administrative Measures on the Toll System Network to strictly enforce industry specifications and physically isolated all 70 toll system computers from the internet. Meanwhile, GDH Highway carries out regular network inspections on such computers to ensure cyber security of the toll system as well as the security and privacy of vehicle-related information. In addition, we carried out a questionnaire survey on customer satisfaction in which we interviewed the drivers of 1,620 vehicles. The survey found a 100% satisfaction rate from drivers and passengers on the overall service performance of GDH Highway.



In addition, GDH Highway fully taps into the functions of the public commuting service platform to effectively enhance the bulletin service of highways and the emergency handling capabilities. During the year, we received a total of 40 service suggestions, including 2 service commendations, handled 1,562 business consultations and 232 instant messages and deployed 707 rescue operations with a handling rate of 100%. At the same time, there were no valid complaints.

5 OUR PERFORMANCE ON SUSTAINABLE DEVELOPMENT

5.1 EFFICIENT GOVERNANCE, RISK PREVENTION AND CONTROL

The Group operates with great probity and adopts a high standard of integrity and business ethics as its operating principles. With reference to the Basic Standards for Internal Control of Enterprises formulated by Guangdong Holdings and with a focus on "three flows and three points" ("three flows" are logistics, fund flows and information flows; and "three points" are key points, risk points and control points), we have optimised our corporate policies and procedures and established "rigid constraints" on the internal control system of the Group. We promote internal control and integrity, comprehensive budgeting, production safety, "three systems" management (i.e. quality, health



and environmental management systems) so that the Company can closely integrate comprehensive risk management with other management work. Meanwhile, we regularly conduct analyses on the effectiveness and rationality of the established risk management strategies, taking into account the actual situation for revisions and improvement. All such work aims to ensure that the Company enhances its execution capability and overall management standard at a steady pace. During the year, according to an evaluation by the third-party organisation Institutional Shareholder Services (ISS), we did not violate the UN Global Compact Principles on human rights, labour rights and interests, environment and anti-corruption in 2019.

In 2019, having evaluated our past performance, the Group facilitated the discussion and communication on corporate discipline inspection and supervision and enhanced its overall integrity practice standard. The Group also further enhanced promotion to establish a positive corporate image. While vigorously promoting integrity practice and combating corruption, we should also proactively promote integrity practices, take the initiative to voice our view and strengthen positive guidance so that all stakeholders can appreciate the achievements of our work on combating corruption and advocating integrity. During the reporting period, we did not have any ongoing or concluded lawsuit filed against the Group or its employees in relation to corruption.

5.1.1 FUNCTIONS OF THE BOARD

The Board is responsible for leading the development of the Company, establishing strategic objectives and formulating the overall strategies and policies of the Company so as to ensure that the Company can obtain necessary financial and other resources to attain its goals. Meanwhile, the Board also oversees the management and reviews the business performance of the Company.

The Company recognises and embraces the benefits of having a diverse Board and perceives increasing diversity at Board level as an essential element in contributing to the attainment of the Company's strategic objectives and sustainable development. All Board appointments are based on meritocracy, with the Group's business model and specific needs taken into account from time to time. Candidates are considered against objective criteria with due regard to the benefits of diversity on the Board. The Nomination Committee has set measurable objectives based on five focus areas: gender, age, length of service, professional experience and skills and knowledge to achieve board diversity of the Company. The Nomination Committee reviews the Board Diversity Policy from time to time to ensure its continued effectiveness.

The Board is also responsible for the Group's risk management and internal control systems and reviews their effectiveness annually. In particular, the Audit Committee ensures that the management has established effective risk management and internal control systems and oversees the Group's risk assessment, control and management processes.

5.1.2 BUSINESS OPERATION WITH INTEGRITY AND ANTI-CORRUPTION

The Group's anti-corruption policy embodies the philosophy of high standards and high transparency, with integrity and accountability as the principle. We ensure strict compliance with national laws and regulations, including the Criminal Law of the People's Republic of China, the Supervision Law of the People's Republic of China, the Contract Law of the People's Republic of China, the Company Law of the People's Republic of China, the Antimonopoly Law of the People's Republic of China and the Anti-unfair Competition Law of the People's Republic of China during all our operational processes and will also improve our internal control and risk management systems according to the latest regulatory requirements.

In addition to strictly executing the Anticorruption Policy of Guangdong Investment Limited, we have formulated the List of Objectives and Assignments for Discipline Inspection and Supervision, which details various work items, objectives and assignments in relation to combating corruption and advocating integrity in a bid to put into practice the anti-corruption system. In addition, dialogues regarding the construction of a clean and honest administration have taken place with key leaders and newlyappointed senior management members of the Group, with an aim to identify the duties and concerns in preventing integrityrelated risks. We conducted admonitory talks with staff who committed minor disciplinary violations to require and urge them to review and rectify their violations within a given

period of time. We also promote the culture of honesty and integrity among the staff to boost their sense of self-precaution and safeguard the fundamental interests of the Group. Furthermore, with reference to the Employee Code of Conduct on Honesty and Integrity of Guangdong Holdings Limited, the Group provides regular anti-corruption training for employees to improve their awareness of combating corruption and advocating integrity.

Water Resources Business:

As for the water resources segment, a principal operational arm of the Group, we have put in place rigorous supervisory measures and established comprehensive supervision and audit management systems. In 2019, the water resources segment revised the Internal Audit Management Measures, the Management Measures on Supervision and Implementation (《督辦工作管理辦法》) and the Management Measures on Economic Responsibility Audit to strengthen internal audit management and guidance, expand the supervision and implementation coverage to all subordinate water companies and strictly implement the Management Measures on Discipline Inspection and Supervision and the Work Guidelines on Supervision and Discipline Execution to prevent and control business integrity risks and effectively improve the level of integrity cases handling.

In addition, the water resources segment continues to strengthen the Company's integrity building and supervision mechanism, promote the formalisation of integrity dialogues with the management of key departments and positions with centralised power and intensive capital. In 2019, the water resources segment organised 4 inspection teams to supervise and inspect the implementation of the rectification of each subsidiary on two occasions. At the same time, 180 interviews took place with the management, including 57 group talks with key expatriates. To strengthen integrity education, we have leveraged materials such

as Cautionary Cases on Integrity and the Procedures and Requirements on Integrity Supervision Mechanism as regular training activities for all staff in water resources segment, which cover professional ethics and discipline education. In such activities, staff members visited the integrity education base and received cautionary education on integrity.





Water Group HK conducts inspection and supervision business training to effectively improve the professional level of discipline inspectors and prevent and control integrity risks to comprehensively improve the management and operational performance of the Company

Property Investment and Development and Department Store Operation:

Teem Group revised five of its management policies, namely, the Work Regulations for Discipline Inspection and Supervision, the Work Guidelines for Supervision and Discipline Execution, the Implementation Rules for Reminder, Enguiry Letter, Admonition, Encouragement and Integrity Interviews, the Internal Audit Management Measures and the Management Measures on Economic Responsibility Audit. Such revision clarifies the duties and principal tasks of the staff responsible for discipline inspection and supervision, refines the requirements for interviews and discipline supervision and enhances the standardisation of internal audit. all in a bid to effectively boost risk prevention capability and internal management standard. In 2019, Teem Group conducted routine audits on Teemall Department Store, regularly followed up issues revealed in the audit and urged their rectification to strengthen the internal control of the Company and close any management loophole. In addition, we actively organise internal and external training activities, strengthened audit training continuously and improve the auditors' professionalism, especially in deepening their understanding of our business in order to provide better audit services for operations.

Hotel Ownership, Operation and Management:

The Hotel Management Company actively formulates internal audit plans and discipline inspection and supervision schemes to further expand the internal audit coverage. We conduct internal audits specially on annual major engineering projects, tendering and bidding and daily procurement, property rental management and financial management; and follow up the rectification of issues detected by internal audit, taking into account the feedback collected during inspections to mitigate integrity and compliance risks. In addition, senior management members such as chairman, general manager, department heads and staff holding key positions shall sign the Integrity Responsibility Statement on an annual basis to reduce the integrity risks in business operation.



In 2019, our hotel management team carried out discipline inspection and supervision and internal audit. The team assessed the integrity risks of 10 important elements of the management and control of engineering construction projects, such as key decisionmaking, project outsourcing as well as project surveying and settlement. Additional internal supervision and audit specialists were deployed to complete 46 important business compliance reviews and 35 compliance reviews on "Key Decision-making, Key Leaders Appointment and Dismissal, Arrangement of Key Projects and Utilisation of Considerable Funds". In addition, Hotel Management Company also conducted 10 special inspections including 2019 annual special inspection and special inspections on major projects. For issues identified, timely communication and confirmation were made with relevant units to arouse their attention and facilitate rectification, reduce risks and optimise management efficiency.

Case: Discipline Education and Training Activities of the Hotel Management Company

In 2019, the hotel management team of the Group launched a series of discipline education and training activities, inviting all staff to watch the educational film Fading Original Aspirations (《 蜕 變 的 初 心 》) as a negative learning example and as part of

an ideological education under our special centralised rectification work. Combined with integrity risk prevention and control, we engaged in integrity dialogues about major projects and signed the Integrity Responsibility Statement with staff holding key positions such as people in charge of departments, subordinate hotels and project management in a bid to raise the awareness of our staff on integrity and anti-corruption.



Staff watching the educational film Fading Original Aspirations on 22 August 2019



Anti-corruption dialogues at our Jida Project in September 2019

Energy Projects:

Zhongshan Energy strictly complies with policies such as the Work Guidelines on Supervision and Discipline Execution and the Work Guidelines on Integrity Systems Development and Integrity Dialogues, Cautionary Dialogues and Admonitory Dialogues, revised management regulations such as the Administrative Measures on Reception and the Management Standards for Reimbursement of Personal Expenses for Business Purposes, strengthens training on staff integrity in order to prevent integrity risks in business operation. In 2019, Zhongshan Energy invited 27 staff members who hold key positions, including supplies procurement, finance and accounting and steam sales to observe a trial on corruption crimes at Zhongshan Intermediate People's Court, which served as a special cautionary education class at a real life scenario at "zero distance". In addition, Zhongshan Energy and suppliers signed integrity agreements on supplies, projects and service contracts with a contract value of more than RMB200,000, which clearly stipulated both parties' responsibilities for joint integrity development and handling of any behaviour in breach of integrity.

Roads and Bridges:

GDH Highway has established 133 policies and internal control manuals, including the Requirements on Discipline Inspection and Supervision for Guangxi GDH Highway Co., Ltd. and the Accountability Management Measures of Guangxi GDH Highway Co., Ltd. A working group for discipline inspection and supervision has been set up and led by the person in charge of the Supervision and Legal Affairs Department to carry out disciplinary inspection and supervision. An investigation list on integrity risk prevention and control has also been prepared to strengthen prevention and control at integrity risk points and to provide holistic process control for key business and sensitive positions.

5.1.3 WHISTLE-BLOWING MECHANISM AND PROTECTION

The Group has implemented whistle-blowing policies and procedures, encouraging its staff to report any suspicion of dishonest, immoral and illegal behaviour. All relevant cases shall be reported in a confidential and anonymous manner. We have also formulated and published the Code of Ethics for Employees of Guangdong Investment Limited and the Policy on Employees Raising Concerns over Possible Improprieties, enabling our employees to raise concerns over any impropriety or fraud in relation to the Group in a confidential manner. For misconduct of employees, Internal Audit Department is responsible for carrying out fair and independent investigation. After collecting adequate information, the case will be directly submitted to the chairman of the Board or the Audit Committee to protect the identity of the whistleblower. In 2019, there were no disciplinary violations or cases filed for the Group's business segments.

Water Resources Business:

With "standardised, institutionalised and refined practice" as its goal, the Supervision and Audit Department of our water resources segment carefully processes the reporting and accusation from the public and verifies the facts concerning the case reported through timely verification and processing. In addition, the department attaches great importance to all cases reported, conduct timely and detailed verification, reaches conclusions on the problems and situation of the persons being reported against and addresses relevant issues accordingly. Moreover, we have set up measures to protect our whistleblowers to ensure the confidentiality of their information and strictly forbid retaliation against them.
Property Investment and Development and Department Store Operation:

Teem Group issued the Rules for Whistleblowing via Petition Letters for Discipline Supervision (《紀檢監察信訪舉報工作細 則》), the Work Guidelines for Supervision and Discipline Execution and other policies to standardise the process for handling whistleblowing and complaints and clarify the provisions for whistleblowers protection:

- The name, work unit and other relevant information of the whistleblowers and the contents of whistle-blowing shall be kept confidential. Without the whistleblowers' consent, the information of the whistleblower shall not be disclosed;
- Whistleblowing materials are forbidden from being extracted, photocopied, withheld or destroyed without permission;
- Investigation and verification must be carried out without exposing the whistleblowers;
- Whistleblowing materials are strictly prohibited from being transferred to the unit or person being reported.

In addition, we collect whistleblowing information via various channels, including Teem WeChat official account and official APP which remain open during holidays. Dedicated personnel are responsible for making suggestions on how to handle the matter in strict compliance with relevant policies, coupled with level-by-level review and timely processing to achieve "zero backlog" of reported cases.

Hotel Ownership, Operation and Management:

The Hotel Management Company has formulated and issued the Rules for Whistleblowing via Petition Letters and provided whistleblowing channels to the public such as hotline and email address on its official website. Cases are subject to verification, processing and submission to the Hotel Management Company according to relevant requirements with verification results provided to employees in a responsible and timely manner.

Energy Projects:

To facilitate employees to report any breaches of laws and disciplines or other issues, Zhongshan Energy has published its whistleblowing hotline, email address and postal address on its bulletin board and internal magazine so as to keep various complaint channels readily accessible.

Roads and Bridges:

GDH Highway has fully improved its whistleblowing mechanism and procedure, formulated the Guidelines on Handling Complaints and Whistleblowing to strictly regulate the management of information from whistleblowing hotline and email and fully tapped into the function of the customer service platform hotline "96333" to receive supervision from the general public.

5.2 ENERGY SAVING, EMISSIONS REDUCTION AND EMBRACING NATURE

GDI considers green operation as an important part of fulfilling its social responsibilities. With the Sustainable Development Policy of Guangdong Investment Limited in place to further promote the work of sustainable development, GDI is committed to strictly complying with relevant laws and regulations as well as environmental standards during its operation. Aligning with the national trend of environmental protection, environmental protection solutions commensurate with the business characteristics of each business segment are in place to reduce the sewage,

waste and atmospheric pollutants, achieving our goal of clean production and effective use of resources and fulfilling our responsibilities as a leading green corporate in the industry.

5.2.1 ENVIRONMENTAL MANAGEMENT SYSTEM

The Group has prepared its overall environmental protection policy with specific policies and measure in place according to the actual operational situation of each business segment to minimise the effect of our operation on local environment and natural resources. The Group strictly complies with major environmental protection laws such as the Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, the Law of the People's Republic of China on the Prevention and Control of Water Pollution, the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste, the Energy Conservation Law of the People's Republic of China and the Measures for the Administration of Environmental Surveillance. In addition, we observe the laws, regulations and industry standards specific to the locations and industries where each business segment operates. We have assumed our responsibility for monitoring and managing projects and continuously promote awareness of green production internally.

Water Resources:

In addition to core issues such as water stress, climate change, energy and emissions, the water resources segment is committed to improving the environmental sustainability of its business, creating more value and carrying out proper management and control while improving business. The business of the water resources segment is complicated, which requires a systematic management strategy. Therefore, we have built an integrated management system that combines environment, quality and safety with strict control over the implementation of policies, procedures and responsibilities. Our environmental management system of the "three systems" is certified with the ISO 14001 standard certification of the International Organisation for Standardisation, with regular updates based on the requirements of certification agency to ensure that our water operation attains high international level. The management system covers Water Group HK. Yue Gang Water Supply and water companies held by them.



In order to detect operational and environmental risks as early as possible and avoid substantial damage to the surroundings and our own operations, we identify the environmental risk of our subordinate water companies from time to time with a thorough investigation of five risk aspects, namely "corporate environmental risks", "environmental hazards in the course of production and operation", "organisational structure of the Company for environmental protection", "environmental accidents" and "corporate environmental protection focuses". We also conduct targeted analysis of project performance on environmental risk such as energy and water consumption, sludge discharge, solid waste disposal and use of disinfectants to ensure no illegal activities in the production process and explore the potential for improvement.



Property Investment and Development and Department Store Operation:

To continue improving management standard, the property segment is actively establishing an environmental management system in line with ISO 14001 standard certification, which will help the Company to effectively identify environmental risks in its business and promote the environmental benefits of new and enhancement projects. We have engaged a third-party consultant firm to provide professional advice, organise training and sharing activities and assist us in building a stable system. We aim to seamlessly integrate the requirements of ISO 14001 into our business processes to lay a solid foundation for our future management.

Teem Group advocates green buildings with the main goals of enhancing the conditions of the equipment and hardware in properties, as well as improving energy consumption and emissions performance. In terms of the indoor environment of our properties, we have engaged a professional third party to clean and sterilise each special exhaust system in the building, conduct relevant indoor air quality inspection covering bacteria, particulate matter and dust accumulation and issue a qualified inspection report pursuant to the Hygiene Specification of Central Air Conditioning Ventilation System in Public Buildings. During the year, we also conducted a survey on environmental satisfaction of tenants and obtained a satisfaction rate of 93.90% and 97.70% on environment and greening respectively. Recognition from tenants will continue to drive us to improve our environmental performance.



Hotel Ownership, Operation and Management Operation:

The Hotel Management Company has gradually established an environmental management system with robust policies in place. From green consumption, pollution prevention, waste classification and treatment, energy saving and consumption reduction to strengthening employees' awareness of environmental protection, we will continue to improve the internal and external environment of our hotels according to the requirements of environmental management standards.

Energy Projects:

With the goal of ultra-low emissions and green development in mind, Zhongshan Energy seeks to build a comprehensive system for treating sewage, exhaust and waste residues as well as a fully enclosed coal transportation system and enclosed coal yards to achieve centralised sewage treatment, integrated and efficient utilisation of solid waste and ultralow emissions according to standard. We adhere to the idea of synchronous design, construction and use of environmental protection facilities in main projects to achieve high level of environmental management in daily operations.

At the same time, we have also formulated various environmental management rules and regulations, including the Supervision and Management Standards for Chemical Technology, the Supervision and Management Standards for Environmental Protection Technology, the Management Standards for Reporting Information on Exceeding Environmental Protection Standards, the Solid Waste Management Standards, the Operation Rules for Centralised Control, the Operation Rules for Environmental Protection and the Operation Rules for Chemical Use, to standardise daily operations and ensure employees perform their duties according to the requirements of various rules and regulations.

Roads and Bridges:

Greenery maintenance and environmentally friendly highways are the long-term operational goals of GDH Highway. We remain highly attentive to the surroundings of our operations by launching a long-term green management plan for highway greening and cleaning management to strengthen greening of slopes along the highways, beautify the scenery along the highways, effectively prevent landslides caused by heavy rainfall and improve the driving environment.

In 2019, we continued to repair the green belts on both sides of the driveway, replaced dead or missing plants due to car accidents, removed weeds, cleaned up garbage and litter at accident sites to improve the ecological environment in our area of operation. During the greening and cleaning management of highways and the construction of premium quality highways, we have not only established clearer work management standards, goals and requirements, but also strengthened training on daily greening and cleaning maintenance for our workers in order to enhance their awareness of environmental protection. At the same time, to enhance our efforts to green and beautify the ecological environment of areas under our management, we have actively rolled out voluntary planting activities to green and beautify the ecological environment of those areas and road sections of areas of operation, in which the greening teams of the maintenance department developed their own nurseries and cultivated various plants to drive the greenery work of the company as a whole.

On the other hand, we are committed to reducing the highway noise. In the road renovation project, we engage third-party consultant from time to time to perform professional environmental assessment along the highways. Based on the assessment results, we plan to set noise barriers at highway sections with excessive noise to effectively mitigate the impact of vehicle noise on villages along the highways.

5.2.2 EMISSIONS MANAGEMENT AND ENVIRONMENTAL IMPROVEMENT

GDI actively leverages the competitive edge of various business segments to help improve the ecological environment and reduce emissions, including atmospheric pollutants, sewage and hazardous and non-hazardous waste by the use of clean energy, production technologies and new technologies. Under strict internal monitoring and control, GDI and its business segments have no major environmental pollution incidents or violations of relevant laws and regulations in 2019; nor were they subject to complaints, fines or sanctions for major environmental pollution or violation of environmental regulations.

Water Resources:

The water resources segment involves two water business operations. Our water supply business is responsible for the supply of clean water resources, the process of which does not involve discharge of water pollutants. Our sewage business is responsible for treating the contaminated water due to human activities. During the treatment process, the content and concentration of pollutants in water will be reduced to reach the national standard suitable for discharge. We strictly control such indicators as chemical oxygen demand (COD) and ammonia nitrogen (NH₃) concentration in water, coupled with real-time monitoring via online monitoring devices and other technologies to ensure the discharge complies with requirements and avoid the pollution of water sources and any harm to public health. We have been engaged in various sewage treatment projects in 6 provinces in China, reducing COD and NH₃ by an aggregate of 25,888 tons and 3,110 tons respectively.



On top of basic water quality control technology, we utilised an advanced treatment process with biological activated carbon to solve the problem such as strong algae odour in water. At the same time, we have developed mobile sludge trucks to cope with the difficulties in sludge treatment in township and village sewage plants and reduce the risks of major land and water pollution.



Property Investment and Development and Department Store Operation:

In respect of the property business of Teem Group, the major emissions are various types of solid waste and sewage from construction works, catering tenants and daily operations. Under regulations such as the Management Regulations for Construction Waste of Guangzhou, the Management Regulations for Classification of Domestic Waste and the Management Measures for Food Waste and Waste Grease, Teem Group has prepared relevant measures to control waste generation and treatment. In addition, we have engaged professional third parties to collect, transport and treat wastes to ensure proper disposal.

In 2019, the government further strengthened the promotion and implementation of waste classification, with Teem Group listed in the first batch of mandatory classification participants in Guangzhou. We actively responded to the government's call and cooperated with government authorities to implement the waste classification system. As such, we first established a leading group for waste classification with clear responsibilities. Under the guidance of the leading group, we formulated the Implementation Plan for Domestic Waste Classification of Teem, the Waste Classification Management Policy, the Operation Code of Domestic Waste Classification and other policies to standardise relevant work. At the same time, we further promoted waste classification to raise the awareness of our staff and customers on waste classification, such as adding bulletin boards and demonstration sites for waste classification in multiple shopping centres.

At the same time, we provided training for tenants and directly went to their shops to illustrate the importance and practical procedures of waste classification. In addition to on-site training, we invited the commissioner of Tianhe South Street to provide training on waste classification for about 160 people from 30 tenants. To cooperate with tenants and provide adequate support, we have further enhanced employees' awareness of waste classification responsibility. Through waste classification skills competitions, trainings and assessments, employees can better understand classification processes and skills. At present, the tenants of Teemall have received promotion, supervision and evaluation. Generally, the tenants can take the initiative to carry out waste classification according to the requirements. For the next step, we will extend our promotion efforts to Teem Tower.

In addition, during daily operation, maintenance and facilities modification, we have prepared corresponding green management plans in relation to procuring products and materials and managing waste. We squarely avoid procuring and using materials that would cause environmental hazards in construction operations and dispose of hazardous wastes such as mercury lamps in a serious manner. In 2019, Teem Plaza recorded a 100% recycling rate by delegating third-party agencies for nonhazardous waste upon classification.



Energy Projects:

On top of meeting the standard of factory construction, Zhongshan Energy has been working to control air pollutant emissions from its coal-fired generation units under the Emission Standard of Air Pollutants for Thermal Power Plants and the Notice on Issues concerning the Implementation of Tariff Support Policies for Coal-fired Power Plants with Ultra-Low Emissions. As a result, Zhongshan Energy has largely met the emissions limit for coal-fired power generation

units, with its emission density of smoke and dust, sulphur dioxide and nitrogen oxides below 10mg/Nm³, 35mg/Nm³ and 50mg/Nm³ respectively when the oxygen content meets the standard of 6%.

Pollutants	Former Implementation Standard	National Standards for New Power Plants ¹	"Ultra-low Emissions" ²	Zhongshan Energy
Sulphur dioxide (SO ₂ , mg/Nm ³)	200	50	35	Approximately 15
Nitrogen oxides (NO _x , mg/Nm ³)	200	100	50	Approximately 40
Smoke and dust (mg/Nm ³)	30	20	10	Approximately 3

Notes:

1. The National Standards for New Power Plants is derived from the special emission limits under the Emission Standard of Air Pollutants for Thermal Power Plants (GB13223-2011);

 "Ultra-low Emission" is derived from the Notice on the Proposal on 'Comprehensive Implementation of Ultra Low Emission and Energy Efficiency Improvement for Coal-Fired Power Plants' Forwarded by the Office of Environmental Protection of Guangdong Development and Reform Commission (Yue Fa Gai Neng Dian [2016] No.75).

In 2019, we invited third-party testing agencies to conduct quarterly monitoring of mercury content and blackness in exhaust gas discharged in the operation, as well as factory noise, unorganized emissions, circulating cooling water and domestic sewage. The major pollutants from fume, namely smoke and dust, sulphur dioxide and nitrogen oxides are monitored online instead of manual monitoring. All monitoring is in line with national standards.

Zhongshan Energy has formulated process and standard for waste disposal. We divide waste storage areas and conduct regular cleaning. Waste with sale value will be put up for sale through bidding, auction, inquiry and price comparison subject to relevant requirements of the company and upon evaluation by valuers. On the other hand, according to the requirements of state and local governments, Zhongshan Energy has established the Solid Waste Management Standards of Zhongshan Energy Co., Ltd. to supervise and manage the generation, collection, transfer, storage, utilisation, treatment and disposal of hazardous wastes. Hazardous waste will be processed according to the following procedures:

- Special warehouses are built to store hazardous waste, which will be put into use after passing the inspection by local environmental authorities;
- 2. The department for safety supervision and production technology is responsible for reporting the information regarding the amount of hazardous waste generated as well as their storage, flow and disposal to local environmental authorities for approval;
- 3. Entities qualified for the disposal of hazardous waste will be engaged to transfer and dispose of hazardous waste, and complete and handle the waste transfer form in accordance with national regulations and report to local environmental authorities.

Zhongshan Energy has even set up a working group for the disposal of waste materials at the operational level to classify and store waste supplies including maintenance and emergency supplies, electromechanical materials, machinery and equipment and other low-value daily consumables that cannot be reused. After verifying that an item can no longer be used, the company will find a professional purchaser in the market to dispose of the item for reasonable utilisation.

Roads and Bridges:

The waste generated by GDH Highway mainly include waste materials from the replacement of broken road slabs, waste guardrails, columns, household garbage and wastewater. We have developed and implemented strict control and treatment procedures for various emissions and wastes.

We require that concrete mixing plants be equipped with three-level sedimentation tanks for the treatment of wastewater discharged from the projects, with regulations in place at the construction site to strictly forbid untreated sewage from being discharged directly into rivers.

As for waste management, we insist on recycling and reusing items with value. Waste generated from the replacement of broken road slabs will be offered to residents along the route by the contractors free of charge to build simple retaining structures such as tractor roads, village roads, housing foundation backfilling and road drains. We also continue to follow up on where the waste generated from replacement of broken road slabs are sent, supervise the contractors to ensure that the solid wastes are disposed of in a safe and standardised way. For the treatment of metal materials such as waste guardrails and columns, we have entered into agreements with waste purchasers for regular recycling to reduce pollution from hazardous metals.

GDH Highway also cleans up household garbage in areas under its management from time to time and transport such garbage to recycling stations for unified treatment. With this measure, GDH Highway reduced solid wastes by approximately 108 tons in 2019.

Emissions	Unit	2019	2018	2017
Water resources ⁽¹⁾				
COD emissions COD reductions NH ₃ emissions NH ₃ reductions Total phosphorus emissions Total phosphorus reductions Sludge treatment Teem Group⁽²⁾ Hazardous waste generated Hazardous waste recycled Recycling rate of hazardous waste Non-hazardous waste recycled Recycling rate of non-hazardous	tons tons tons tons tons tons tons kg kg % kg kg %	2,921.00 25,888.00 161.00 3,110.00 91.00 406.00 77,358.24 5,316.24 3,146.00 59 617,090.00 617,090.00 100	2,150.07 14,701.83 144.14 2,073.24 54.03 232.97 34,621.25 2,494.09 900.20 36.1 277,584.00 264,255.00 95.2	2,242.47 12,188.41 177.48 1,948.05 / / 34,926.38 2,435.14 618.45 25.4 110,683.00 109,260.00 98.7
waste Hotel Management Company Total sewage discharged Food waste generated ⁽³⁾	tons kg	175,413 71,174.00	180,225 77,187.00	185,141 81,815.00
Zhongshan Energy	5			·
Nitrogen oxides (NO _x) emissions ⁽³⁾ Sulphur oxides (SO _x) emissions Smoke and dust emissions ⁽³⁾ Gypsum generated Recycling rate of gypsum Ashes generated Recycling rate of ashes Residues generated Recycling rate of residues	tons tons tons % tons % tons %	454.03 129.94 29.43 67,653.97 100 305,106.84 100 18,560.00 100	449.20 148.66 27.77 68,380.37 100 285,208.85 100 19,281.96 100	304.34 136.02 58.76 62,183.03 100 256,607.26 100 18,498.14 100
GDH Highway ⁽⁴⁾				
Hazardous waste generated Hazardous waste recycled Recycling rate of hazardous waste Non-hazardous waste generated Non-hazardous waste recycled Recycling rate of non-hazardous waste	kg kg kg kg %	2,184.95 2,120.45 97 97,769.00 97,769.00 100	 	
Total sewage discharged	tons	824	712	1

Notes:

- The amount of water treatment of tap water and sewage projects of the water resources segment in 2019 increased in varying degrees respectively as compared with 2018. As a result, emissions related to business operations increased as compared with 2018. However, the increase in emissions stood within a reasonable range considering the increase in water treatment (tap water and sewage).
- 2. In 2019, Teem Group further enhanced and optimised its data management and expanded the scope of data disclosure. During the reporting year, the data scope of hazardous and non-hazardous waste generation and recycling was expanded to include Tianjin Teem as compared to 2018. Hence, waste generation related to operations increased when compared to 2018.
- 3. Restated. To improve report readability and comparability, data disclosure for 2017 and 2018 has been optimised and improved with standardized data collection methods and data scope. Food waste generated by Hotel Management Company as disclosed for 2017 and 2018 as well as NOx and smoke and dust emissions of Zhongshan Energy disclosed in 2018 have been updated.
- 4. In 2019, the GDH Highway segment further optimised the data scope and management process, and disclosed the amount of hazardous waste (including waste electronic equipment and waste batteries in office) and non-hazardous waste (including waste road guardrail plate, office paper, etc.) generated in this reporting year.

5.2.3 SUSTAINABLE USE OF RESOURCES

Apart from its focus on improving the efficiency of energy and water conservation in core operations, GDI fully promotes green office and endeavours to optimise the use of resources. With a view to achieving an energy efficient and environmentally friendly workplace, measures are taken across companies at all levels, including paperless management system and paperless office. Energy conservation promotion has also been strengthened by requiring employees to uphold the "eight offs" policy before leaving offices with centralised management of company vehicles in place. The Group also manages the vehicles owned by the Company. Policies such as the Management Measures for the Deployment and Use of Vehicles and the Rules for Reception Standards clearly set out the appropriate occasions for vehicle usage and the standards for reception activities to encourage green commuting and standardised reception so as to avoid wastage. We carry out reasonable procurement of office supplies in all business segments in accordance with documents such as the Management Measures for Office Supplies of Zhongshan Energy so that we only purchase supplies when necessary in order to reduce unnecessary warehousing and encourage employees to cherish all resources.

Use of Resources Hong Kong headquarters	Unit	2019	2018	2017
Total electricity consumption	10 MWh	9.64	10.66	9.19
Water resources ⁽¹⁾				
Electricity consumption in business operations	10 MWh	63,465.71	57,804.17	53,122.00
Total gasoline consumption	litres	155,893.33	/	/
Total diesel consumption	litres	16,853.66 155.01	/	/
Renewable energy consumption	10 MWh	155.01	1	/
Teem Group ⁽²⁾				
Total electricity consumption	MWh	61,189.01	70,880.82	68,638.31
Electricity consumption intensity	MWh/m ² of area in operation	0.09	0.11	0.10
Total gasoline consumption	litres	33,031.04	30,274.49	21,679.52
Total diesel consumption	litres	950.00	972.00	/
Total natural gas consumption	m ³	905,741.00	1,197,511.00	/
Total water consumption	tons	928,822.00	903,731.04	632,464.03
Water consumption intensity	tons/m ² of area in operation	1.39	1.36	0.95
Hotels				
Total electricity consumption ⁽³⁾	10 MWh	1,233.15	1,228.32	1,251.73
Total gasoline consumption ⁽³⁾	litres	51,045.00	55,393.00	51,918.00
Total diesel consumption	litres	129,706.00	119,863.00	101,240.00
Total natural gas	m ³	69,744.00	71,960.00	/
consumption Total water consumption	tons	194,903.00	200,250.00	194,885.00
		194,905.00	200,230.00	194,009.00
Zhongshan Energy ⁽⁴⁾				
Total coal consumption	tons of standard coal	1,011,361.16	1,045,805.43	902,624.00
Total gasoline consumption Total diesel consumption	litres litres	17,701.84 40,862.50	19,212.09 186,453.00	16,266.02 52,430.00
Total water consumption	tons	6,869,629.00	8,405,747.00	6,579,327.00
Water consumption in	tons	6,735,484.00	8,248,500.00	6,498,400.00
production		-,,	-, -,	-,,
Industrial water recycling rate	%	97%	/	/
Domestic water consumption in office	tons	134,145.00	157,247.00	80,927.00
GDH Highway				
Total electricity consumption	10 MWh	121.65	108.34	108.15
Total diesel consumption ⁽⁵⁾	litres	12,615.72	8,179.86	9,381.31
Total gasoline consumption	litres	50,896.62	52,455.47	62,623.42
Total water consumption	tons	23,650.00	24,850.00	1

Notes:

- The amount of water treatment of tap water and sewage projects of the water resources segment in 2019 increased in varying degrees respectively as compared with 2018. As a result, the power consumption in business operations increased slightly as compared with 2018. However, the increase in power consumption stood within a reasonable range considering the increase in water treatment (tap water and sewage).
- Restated. To improve report readability and comparability, data disclosure for 2018 has been optimised and improved with standardised data collection methods and data scope. Total gasoline consumption, total water consumption and total water consumption intensity for 2018 have been updated.
- 3. Restated. To improve report readability and comparability, data disclosure for 2017 and 2018 has been optimised and improved with standardized data collection methods and data scope. Gasoline consumption for 2017 and 2018 and power consumption for 2018 have been updated.
- 4. Restated. To improve report readability and comparability, data disclosure for 2018 has been optimised and improved with standardized data collection methods and data scope. Data disclosure for 2018 has been updated. Meanwhile, Zhongshan Energy generated less electricity in 2019 than in 2018, and did not deploy diesel for boiler activation or reserve electricity supply. It also incorporated the water consumption in production into its evaluation indicators in order to impose strict control in the year. As a result, diesel consumption and water consumption for the whole year decreased significantly as compared with that in 2018.
- The GDH highway segment responded to operational needs by adding a new diesel generator, and duration of generating electricity through diesel generators in 2019 also increased as compared to 2018. Therefore, the total diesel consumption in 2019 has increased as compared to 2018.

5.3 CREATING A HEALTHY AND SAFE WORKING ENVIRONMENT

The Group always adheres to the safety management concept of "life and safety first" to ensure the safety and health of employees and visitors. Also, the Group is committed to enforcing the safety management system in different business segments, further amplifying the execution of safety supervision and continually improving the safety awareness of employees and relevant parties so as to prevent major safety incidents during operation and to protect the life and safety of employees. We strictly comply with national and regional laws and regulations, including the Labour Law of the People's Republic of China, the Production Safety Law of the People's Republic of China, the Fire Prevention Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases and the Occupational Safety and Health Ordinance of the Hong Kong Special Administrative Region and purchased social insurance and employer liability insurance for all employees in an effort to guarantee their safety and create a healthy, reassuring and safe working environment for them.

We formulated policies including the Regulations on Safety Production Management of Guangdong Investment Limited, the Provisional Measures for Screening, Identification and Control of Production Safety Hazards of Guangdong Investment Limited, the Provisional Management Measures for Hazard Management of Guangdong Investment Limited to guide the production safety of the Group. We also put in place the Appraisal Measures for Production Safety Management of Guangdong Investment Limited and the Provisional Regulations on Production Safety Responsibility System of Guangdong Investment Limited to specify the safety responsibilities of departments and employees.

We set up the Production Safety Committee at group level chaired by our Managing Director who is responsible for supervising and managing the production safety management within the management scope of the Group. The main responsibilities are as follows:

 Consistently implement the production safety laws and regulations, policies, procedures and industry standards and the decisions and deployments in relation to production safety from superiors;

- Organise and formulate the targets for production safety and supervise their implementation;
- (III) Conduct debrief on production safety, analyse the situation of production safety and establish appropriate counter measures;
- (IV) Supervise the formulation and improvement of production safety management system by companies;
- (V) Ensure the effective implementation of production safety work.

In the past three years, we did not have any work-related fatalities. In 2019, we recorded a total of 11 work-related casualties, representing a decrease of 47.6% as compared to 2018; and a loss of 220 working days in total, representing a decrease of 61.3% as compared to 2018.

5.3.1 DEVELOPMENT OF SAFETY MANAGEMENT SYSTEM

Water Resources Business:

Structure of production safety governance

In the water resources segment, the Production Safety Committee of Water Group HK (the "Water Group HK PSC") was established with the chairman assuming the role of director of the Water Group HK PSC, the general manager assuming the role of vice director of the Water Group HK PSC, and other members comprising leaders in charge and department heads. It is responsible for supervising and managing production safety within the management scope of Water Group HK, as well as safety inspection, accident investigation, reporting and punishment. The Water Group HK PSC also established branch offices under Water Group HK, which are in charge of the coordination of production safety among subsidiaries in the water resources segment.

In order to enhance the safety monitoring of each water company, the water resources segment implemented a vertical management system for safety management personnel in those regions under its purview and subsidiaries reaching certain business scale (having two or more sewage treatment plants, excluding villageand-town level sewage treatment plants) in a bid to enhance safety management efficiency. Each water company appointed safety directors, who are in charge of production safety and are responsible for providing guidance on production safety in the water companies. They also formed safety management departments, which are responsible for the development of production safety system and daily management works concerning production safety.



In order to effectively manage occupational health and safety, we formulated a number of internal policies including the Manual on Quality, Environment, Occupational Health and Safety Management Systems, the Control Procedures for Hazard Identification and Risk Appraisal, the Control Procedures for Occupational Health and Safety Operation, and the Emergency Response and Accident Handling Procedures. All companies in the water resources segment have signed production safety responsibility statements.

In order to procure water companies at subsidiary level to fulfill their production safety responsibilities and continuously enhance the level of safety management, the water resources segment formulates the Management Proposal for Occupational Health and Safety every year, which determines the indicators of safety management targets and management proposals for subsidiaries and integrate such content into the production the indicators of safety responsibility system by conducting regular appraisals of all entities. Every year, Water Group HK conducts appraisal on the production safety performance of all water companies. The results are linked to the performance of chairmen of such companies and are subject to strict compliance with the explicit requirements of the Group: the chairman is subject to warning if appraised as ungualified in the first year and subject to demotion if appraised as unqualified for two consecutive years. In addition, each company also formulates its own Guidelines for Appraisal on Production Safety Standardisation, of which the appraisal on the annual performance of safety directors is linked to the grading of safety standards. If the production safety standard was appraised as unqualified, he/she may be subject to position adjustment after joint evaluation by the branch office of the PSC, chairmen and general managers of the companies.

The Group has formulated the Guidelines for the Takeover of New Projects of Guangdong Water Group (H.K.) Limited. It requires and guides the subsidiaries or the new project companies to establish the three-level production safety system in a progressive manner, obtain relevant certifications within three years and operate in accordance with the Planning, Doing, Checking and Acting (PDCA) model of the safety management system of Water Group HK.

In order to reduce the exposure of employees to occupational health and safety risks, we have formulated the Provisional Operational Risk Classification and Grading Control Plan to identify the corresponding key risks and risk levels in production, hazardous chemical management, vehicle usage, engineering, fire safety, etc. and to clearly state the risk control measures and the requirements for operators, enabling comprehensive prevention of the foreseeable work-related injuries.

We incorporate our safety management requirements into tender documents and contracts with suppliers, contractors and service contractors to clarify the safety responsibilities of the relevant parties and sign safety management agreement when signing contract for maintaining safety management throughout the process from safety responsibilities, target management, supervision and evaluation and so on. In order to incorporate the business risks of the relevant parties into our risk management boundary, we strictly implement internal risk management and control, conduct regular inspection and appraisal, consider rewards and punishment seriously and incorporate the appraisal result of relevant parties into department appraisal, so as to achieve safety management throughout the whole process.

Production safety performance

In 2019, a total of 20 subordinate water companies in the water resources segment have obtained occupational health system certification, of which 14 have obtained OHSAS 18001 certification and 6 have obtained ISO 45001 certification, accounting for 29% of the total number of companies. In addition, in accordance with the requirements of the Ministry of Water Resources, we have integrated the standardisation of safe production into the daily production safety management and a total of 1, 12 and 4 subsidiaries have obtained Grade 1, Grade 2 and Grade 3 Qualifications for production safety standardisation from the Ministry of Water Resources respectively.

We have established the safety performance appraisal system and corresponding annual KPIs in accordance with safety management system.

Production Safety Target of the Water Resources Segment in 2019	Target Value
Loss of working hours per one million working hours	≤50
Liability accident with serious injury or above	0
Occupational disease	0
Fire liability accident	0
Major equipment liability accident involving loss of RMB100,000 or above	0

In 2019, after rigorous supervision and monitoring on safety performance by each company throughout the year, the water resources segment achieved all safety targets, and continued to promote production safety and set up work objectives for 2020, striving to build a comprehensive safety system.

Production Safety Target of Yue Gang Water Supply in 2019	Target Value
Loss of working hours per one million working hours	≤50
Occupational disease	0
Fire liability accident	0
Major equipment liability accident involving loss of RMB100,000 or above	0
Major events in relation to social responsibility	0
Liability accident involving one death or three or more serious injuries of direct-related parties with management liability or severe negative impacts	0

Production Safety Target of Water Group HK in 2019	Target Value
Liability accident with serious injury or above	0
Occupational disease	0
Fire liability accident	0
Major equipment liability accident involving loss of RMB100,000 or above	0
Violations by employees at serious or level above	0
Major water quality liability accident	0
Liability accident involving one or more serious injuries of direct-related parties	0

Property Investment and Development and Department Store Operation:

Production safety governance structure

Teem Group has established the Teem Group Production Safety Committee (the "Teem Group PSC"), with the chairman assuming the role of director of the Teem Group PSC, the chief executive assuming the role of executive vice director of the Teem Group PSC, other members in its operation team assuming the role of vice director and other members comprising persons in charge of functional departments and subsidiaries. The Teem Group PSC has set up the Production Safety Management Department, which is responsible for coordinating the production safety between the headquarters of Teem Group and its subsidiaries.

In order to carefully implement the production safety responsibility system for all employees and to specify the safety responsibilities of employees at all levels and positions, Teem Group requires all employees to sign production safety responsibility statements based on their levels and positions every year. In addition, in order to minimise the risks of safety liability, Teem Group conducts comprehensive inspection and review on safety management and compliance and implements corresponding risk prevention

measures. During 2019, the safety and legal personnel of Teem Group sorted out the contract terms signed by the store owners of Teemall Department Store to clarify their respective scope of responsibility and production safety liability so as to prevent and reduce the risk of safety liability.

Teem Group strictly implements the "Five Measures in Place" regarding safety responsibility, management, investment, training and emergency rescue to further strengthen its capability in production safety management. In 2019, we have completed the revision of 123 production safety management rules and regulations such as the Regulations on Shift Management during Major Holidays and the Integrated Contingency Plan for Emergencies with an aim to effectively implement companies' responsibilities for production safety. We attached great importance to the occupational health and safety of employees and engaged a third-party professional company to carry out occupational disease hazard testing for Teemall and Teem Tower in the first quarter of 2019. Hazard sources including chemical poisons, dust, noise, UV radiation, power frequency electric field, high temperature were detected at 30 testing points respectively. The detection values were all within the national statutory occupational exposure limits and we have passed all the tests.



Teem Group also paid great attention to the management standard of suppliers. In this regard, it evaluates service suppliers on the unified information platform of Teem within one month after the completion of projects and contracts. The evaluation covers indicators such as service scope, service quality, contract performance and emergency response ability. It established a supplier information database covering suppliers from different business sectors based on evaluation results, consolidates and updates the supplier evaluation status and blacklists half a year and publishes and shares such information in the system of Teem in a unified manner.

Production safety performance

Teem Group established a safety performance appraisal system and corresponding annual performance indicators in accordance with the safety management system. In 2019, with the joint efforts of all employees, Teem Group had no accidents in relation to production safety liability, occupational disease hazards and environmental pollution nor casualties.

Production Safety Targets of Teem Group in 2019 and 2020	Target value
Liability accident with serious injury or above	0
Minor injury rate of employee	not more than 0.001
Non-personnel injury and production safety liability accident with direct economic loss of more than RMB100,000	0
Occupational disease of employee	0
Liability accident in relation to environmental pollution	0
Semi-annual and annual production safety management appraisal	not less than score of 80

In 2019, Teem Group actively commenced production safety standardisation. 廣東天 河城物業營運管理有限公司 (Guangdong Teem Property Operation Management Limited▲) (subsequently renamed 廣東粤海 天河城商業營運管理有限公司 (GDH Teem Commercial Management Co., Ltd.▲), GDTDS and Sheraton Guangzhou Hotel Branch of Teem Group had entered into the review stage of Grade 2 gualification for national production safety standardisation. The above three companies or branch successfully passed the on-site audit and obtained the Grade 2 gualification again through carefully organising professional technical personnel to conduct self-appraisal work and hiring third-party safety professional to carry out external reviews. Currently, a total of four companies or branch have obtained the Grade 2 gualification for national production safety standardisation.



Hotel Ownership, Operation and Management:

Production safety governance structure

The Hotel Management Company attaches great importance to safety management in workplace and constantly improves various production safety management systems. We implement the Measures for Production Safety Management of Guangdong (International) Hotel Management Holdings Limited, the Collection of Operation Safety Procedures of Guangdong (International) Hotel Management Holdings Limited, and the Collection of Safety Management Systems of Guangdong (International) Hotel Management Holdings Limited to ensure production safety. In addition, under the Appraisal Measures for Production Safety Management of Guangdong (International) Hotel Management Holdings Limited and the Production Safety Responsibility System for the Headquarters of Guangdong (International) Hotel Management Holdings Limited, the Hotel Management Company signed 42 production safety responsibility statements with hotels and departments to clearly set out safety responsibilities and performance targets of the departments.

We have formulated the Dual Prevention Management Method for Production Safety of Guangdong (International) Hotel Management Holdings Limited, establishing the dual prevention mechanism for safety and risk control and hazards screening and management and, strengthening the closedloop management of risk identification and hierarchical control of hazard sources and hazard management to prevent and eliminate all kinds of safety hazards in a timely manner.

At the same time, we have formulated the Regulations on Work Management of Relevant Parties in the Construction Projects of Guangdong (International) Hotel Management Holdings Limited to supervise the safety management of employees of relevant parties in hotel construction projects. The cooperating construction entity or general contractor is required to conduct a comprehensive review on the gualification certificates, production safety licenses, construction performance and safety construction records for the latest three years of its suppliers or contractors, provide pre-construction education and training on safety system, carry out regular safety examination, sign the Safety Management Agreement and, pursuant to which, implement the production safety bond system and safety credit management, etc. so as to improve the awareness of relevant parties in reducing safety risk during construction and prevent all kinds of accidents.

Production safety performance

The Hotel Management Company formulated the Assessment and Scoring Standard for Production Safety to conduct self-review on production safety and an average score of 92 was achieved this year. In 2019, we accomplished the production safety goal of zero production safety liability accidents with minor injury or above, zero occupational disease of employees and zero liability accidents for property loss with direct economic loss of more than RMB100,000.

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In addition, we encouraged all hotels to obtain certification of production safety system. Among the self-operated hotels in China, Guangdong Hotel (Shenzhen) and Guangdong Hotel (Zhuhai) are Grade 3 enterprises of production safety standardisation. Other

hotels managed by the Hotel Management Company are actively promoting the certification of production safety system, for example, Guangdong Hotel (Shanghai) and Guangdong Hotel (Zhengzhou) are Grade 2 and Grade 3 enterprises of production safety standardization respectively. During the reporting period, the Hotel Management Company did not incur any safety liability accident.

Energy Projects:

Production safety governance structure

Zhongshan Energy has established the Production Safety Management Committee, comprising a director (assumed by its chairman), vice directors (assumed by its general manager and other leaders) and other members (assumed by department heads and the safety office director). Under the leadership of the chairman, the safety committee is engaged in production safety deployment and guidance and situation analysis of production safety to solve major problems in production safety. The safety management team of the company has five safety management personnel, three of whom are registered safety engineers.

The energy projects segment has formulated a total of over 40 production safety management policies and operation procedures, such as the Management Standard for Production Safety Committee, the Screening and Management System for Production Safety Hazards, the Management Standard for Production Safety

Responsibilities of Personnel at All Levels, the Safety Management Standard for Relevant Parties, the Management Standard for Safety Education and Training and the Fire Safety Management Standard. Every year, we review the effectiveness of such policies and release a revised edition of such policies and procedures. In 2019, taking into account the requirements for the production safety standardisation, we revised or reformulated a total of more than 13 standards.

The company implements the safety management of relevant parties through a series of measures. We strictly review the safety gualification of relevant parties and sign the production safety agreement to specify the safety management responsibilities of both parties and urge them to assign adequate safety management personnel. Besides, we integrate the personnel of relevant parties into the company's safety training system, providing basic safety and safety technology training for the employees of relevant parties before work. We review the proposal for operation with high safety risk. We also strengthen the safety control of on-site operation process to timely coordinate and solve problems, correct and assess violations and supervise major operation projects on site.

Production safety performance

Zhongshan Energy sets targets on production safety every year, which are then allocated to respective departments, teams and individuals, covering various safety indicators in personnel, equipment, environment and management



perspectives. Assessment and appraisal for departments are carried out on the progress of achieving the targets. At the same time, the production safety responsibility system was established, which requires signing of the production safety responsibility statements level by level. With continuous improvement in production safety, we have reached annual production safety targets of "six zeros", i.e. "no personnel injury accident, no equipment accident at the lowest level or above, no fire accident at the lowest level or above, no environmental incident at the lowest level or above, no traffic accident with responsibilities at serious level or above, and no occupational disease cases".



safety management. The employees signed 277 statements and commitment letters for production safety responsibility. The company formulated 25 production safety management policies, and screened and managed safety hazards for 261 times. At the same time, the company installed equipment such as monitors and probes, infrared intruder alarms, access control and wall vibration detectors in key positions of each management area, thus establishing a robust security alert system to safeguard employees' lives and the company's properties.

In order to pass the Grade 2 qualifications of production safety standardisation system in 2020, the company entrusted a consulting and evaluation institution to guide our work in developing production safety standardisation system, and invited the safety technology consulting service institution to conduct onsite investigation and counseling on two occasions.

Roads and Bridges:

Production safety governance structure

GDH Highway has established a Production Safety Committee (the "GDH Highway PSC") for the supervision and management of production safety and emergency response management within the company. The GDH Highway PSC comprises a director (assumed by its chairman), vice directors (assumed by its general manager and the leaders in charge of production safety) and other members (assumed by the leaders in charge of other businesses of the company, the chairman of the labour union and department heads).

We have also set up a department and assigned security personnel specialising in production



Production Safety Management Network of GDH Highway – Safety Assurance System

GDH Highway further optimises and refines the performance appraisal standards of production safety responsibility. Currently, the strategic performance contract of 2019 has been signed with all departments, which incorporates the safety performance at toll stations into the appraisal scope and adds the appraisal indicator of "Progress of Implementation of Road Renovation" to the monthly appraisal.

In order to identify the main occupational hazards and risks in the workplace, we carry out the identification and assessment of production safety risks every guarter, and established the Register for Production Safety Risks for the responsible departments to continuously monitor the risks. In addition, strict control measures were implemented at locations with high safety risk and accident risk, such as setting up warning signs in generator room and power transformer enclosure, and putting signboards at risk control locations such as places where geological disasters may occur and highway to forbid pedestrians and vehicles to get on and off. The implementation of control measures is also regularly checked every month to effectively prevent safety accidents. No major sources of hazards and major risks were identified in the identification and assessment of production safety risk during the year.

GDH Highway formulated the Safety Management Requirement for Relevant Parties, which specifies safety management works for suppliers, contractors and service contractors. The company shall carry out safety qualification audit for outsourced projects as required and conduct safety training for contractors from time to time. In 2019, we conducted safety audits of relevant parties' safety performance or rectification of potential safety hazards on three occasions.

Production safety performance

In 2019, GDH Highway duly promoted the implementation of production safety planning and actively carried out production safety and emergency response management. GDH Highway has formulated the 2019 Work Plan for Production Safety and Emergency Response Management, which specifies the safety management targets and assigns them to each staff under the signed production safety responsibility statements. With the active cooperation and joint efforts of all departments, no safety production liability accident occurred during the year and the 2019 safety targets were achieved.

Production Safety Target of GDH Highway in 2019	Target Value
Production safety liability accident with serious injury or above	0
Minor injury rate of staff	≤1%
Non-personnel injury and production safety liability accident with direct economic loss of more than RMB100,000	0
Occupational disease of employees	0
Fire liability accident	0
Annual appraisal of production safety management	Pass or above

Proc	luction Safety Target of GDH Highway in 2019	Target Value
(I)	Accident targets	
	Liability accident with minor injury or above	0
	Fire liability accident	0
	Occupational disease rate of employees	0
	Traffic accident with major liability	0
	Incident of stability maintenance via petition letters and visits	0
	Liability accident with direct economic loss of more than RMB100,000	0
(II)	Safety management indicators	
	Three-level safety education and training rate of employees	100%
	Rectification rate of safety hazards	100%
	Annual inspection rate of vehicles and whole-vehicle weighbridges	100%
	Daily inspection and maintenance rate of toll collection systems and generator units	100%
	Evaluation indicators on highway technical condition	85 points
	Annual appraisal of production safety management	Qualified or above
	Rate of timely response to emergencies and prompt hindrance clearance and rescue	100%

5.3.2 RESPONSE TO SAFETY EMERGENCIES

Water Resources Business:

We implement the Emergency Preparedness and Response Procedures to identify potential safety risk or emergencies so as to prevent and reduce the diseases and injuries that may arise from such events or emergencies. According to the Overall Contingency Plans for Emergencies of Guangdong Water Group (H.K.) Limited, our subsidiaries were guided to classify different emergencies into four categories: production safety accidents, social security accidents, public health accidents and other accidents. The emergencies were also classified into four levels of risks according to their severity, controllability, scale of influence and other factors. In accordance with the principle of "Simplification, Unification, Efficiency", the emergency leading teams,

emergency response office and five working groups for emergencies were set up to carry out the emergency response. We regularly conduct emergency drills and effectiveness evaluations in accordance with the Plan. In 2019, Yue Gang Water Supply carried out 47 emergency drills in total across all departments with 1,836 attendees, which enhanced the emergency response management as well as the emergency response capability of our employees.





Emergency Response System of Water Resources Segment



Drills for flood prevention and emergency rescue

In order to improve emergency response capabilities for public security accidents, each subsidiary also strengthens their contingency plan system according to the nature of their business, including formulating the Emergency Plan for Flood Prevention and Rescue, the Emergency Plan for Geological Disasters, the Emergency Plan for Urgent Repair of Burst Pipes in Water Supply Pipeline Networks, the Emergency Plan for Abnormal Water Quality, the Emergency Plan for Chlorine Leakage and other special emergency plans.

Property Investment and Development and Department Store Operation:

Teem Group organised several emergency drills during the year to ascertain the staff's emergency handling and response capabilities. In 2019, property segment of Teem Group

carried out a simulated fire drill in the filing room and then conducted an unalerted simulated warehouse fire drill with Teemall Department Store followed by a discussion on the shortcomings in the drill for improvements.

Furthermore, in order to enable the relevant parties to be more familiar with the relevant handling procedures, as well as achieving better cooperation in the future, property segment of Teem Group and the tenants jointly conducted a simulated emergency drill for fire on oil boiler and organised night fire drills with all tenants and employees as well as customers on site being invited to participate in the drills. Employees and tenants have a clearer understanding of the handling procedures for sudden fire incidents after multiple drills.



Hotel Ownership, Operation and Management:

According to the requirements of the Group, the Hotel Management Company revised the Work Plan for Handling Emergencies by Guangdong (International) Hotel Management Holdings Limited, which classified emergencies into four categories, namely, natural disasters, accidents, public health and social security. The emergencies were also classified into four levels according to their severity. In addition, the revised work plan specified the responsibilities of the emergency leading teams. The Hotel Management Company also formulated multiple contingency plans according to the nature of the hotel business, including the hotel emergency fire evacuation, treatment of emergency elevator failure or power outages with passengers trapped, treatment of highly infectious diseases, prevention of terrorist activities or emergency treatment of suspicious explosives and other emergency plans and conducted regular drills.

Apart from emergency leading teams, volunteer fire brigades of 342 members in total were set up by the hotels. With enhanced equipment, the team organised regular skills training and fire drills. According to the requirements of the local government, we have established a small-scale fire station. By organising training voluntarily and inviting the government's fire department to conduct, 34 emergency drills of fire fighting and evacuation with 1,206 attendees in total, which efficiently enhanced the employees' capabilities in responding to and handling different emergencies in an orderly manner.





To further improve production safety management for the hotels, the Hotel Management Company promoted fire safety information system with the help of internet technology, which enhanced the visualization and transparency of production safety management to eliminate safety hazards in a timely manner. Currently, four self-operated hotels or hotels managed by the Hotel Management Company, namely Guangdong Hotel (Shenzhen), Guangdong Hotel (Zhuhai), Guangdong Hotel (Shanghai) and Guangdong Hotel (Zhengzhou), have all completed and launched the system, allowing management personnel at all levels to have real-time monitoring over hotel safety through smart phone APP, to report safety hazard information by levels and to support prompt risk identification, handling and feedback, providing strong support for hotel production safety.



Energy Projects:

Zhongshan Energy has established an emergency response mechanism, formulating an integrated contingency plan for emergencies and 22 special emergency plans. Through annual emergency drills, Zhongshan Energy works to continuously bolster its emergency response capabilities. In 2019, all departments of Zhongshan Energy carried out 41 emergency drills in total, including 16 practical drills, covering major hazard sources, fire fighting and fire evacuation.





Roads and Bridges:

GDH Highway has set up an emergency leading teams to coordinate emergency management. It has also established the Emergency Plan for Production Safety Accidents which includes a total of 19 contingency plans covering integrated plans, special plans and onsite handling plans. In

2019, GDH Highway formulated the Emergency Plan for News Crises and the Emergency Plan for Construction Safety Accidents and carried out drills for integrated plan and special plans for road administration, toll collection, maintenance and onsite handling plan at toll stations. Meanwhile, GDH Highway set up two vehicle rescue points in Hengxian and Guigang management areas and a "police-roadenterprise" platform, with more than 900 people mobilised to handle 472 traffic accidents and address more than 50 traffic congestions. The measures effectively improved the capabilities of joint rescue, rapid response and integrated emergency handling on highways and provided efficient and safe traffic services for the public.

Case: GDH Highway Carried out Emergency Drills

In 2019, GDH Highway carried out a "police-road-enterprise" drill against bridge accidents on highways to improve emergency response capabilities for highway emergencies. Despite increasing traffic flow year by year, the number of traffic accidents has shown a "stepwise decline", with overall decline in fatalities and injuries and significant reduction in highway congestion time, which helped to maintain social order and stability.

In addition, the company also worked with the departments of fire fighting, safety supervision, traffic police and road administration to carry out emergency drills against highway accidents of vehicles carrying dangerous chemicals. The departments sent more than 40 people and 10 emergency rescue equipment to participate in the drills for testing the emergency response capability in dealing with accidents of vehicles carrying dangerous chemicals.



GDH Highway implements an emergency stand-by system, conducts overall coordination of emergency stand-by personnel, equipment and information to achieve timely reporting of emergency information (including traffic congestion information) and conduct traffic analysis during major holidays, with an aim to mitigate the impact of emergency accidents on traffic order and safety and maintain normal and orderly traffic conditions.

5.3.3 SAFETY MANAGEMENT RESPONSIBILITIES

5.3.3.1 Enhancement of Production Safety Supervision

Water Resources Business:

Through the standardised and smart platform for production safety management, we conducted real-time control of the safety management process and quantitative analysis of safety status for water companies and evaluated production safety data such as current index, leading index, historical index as well as monthly and annual data of hourly unsafe behaviours, all in a bid to improve the production safety management of water companies.

We have also established and improved the safety supervision system, for which the safety management department, the engineering department and the technical department jointly carry out comprehensive and special inspections and regional cross-checks. Furthermore, professional security inspections are carried out quarterly by third-party security companies and remote video monitoring is utilized for video inspections. All these are done in an effort to implement comprehensive inspections that fully cover companies under the businesses.

To continuously improve safety operation, we regularly hire third-party organisations to conduct industry market research, study safety regulations and policy trends and explore industry safety management models, methods and tools to guide the company's safety work. At the same time, we invite third parties to conduct safety technology assessments, the items of which include safety consultation, special safety inspections such as construction sites, comprehensive safety assessments, annual safety production evaluations and suggestions for improvement of overall safety management so as to ensure that the water companies practice is on par with industryleading safety management.

Property Investment and Development and Department Store Operation:

In order to implement the prevention and control of safety risk, Teem Group adopted Job Risk Analysis (LEC) method to quantitatively analyse each operating premise to identify high, medium and low risk sources, formulated preventive measures and created a register for production safety risk control at different levels. Meanwhile, we further enhanced the safety hazards screening and management by developing a register for safety hazards screening and management to ensure prompt elimination of sources of danger. In 2019, a team led by senior management conducted 54 inspections for production safety compliance. Each quarter,



the person in charge of production conducted safety inspection and situation analysis on at least one occasion; production safety personnel of each department conducted inspections on at least three occasions; other leaders conducted inspection on at least one occasion together with heads from different businesses; and senior management from each subordinate company organised safety production inspections at least once a month.

We take the initiative to maintain close communication with government departments such as the public security, fire fighting and emergency departments to improve the ability to respond to production safety accidents and riots prevention. At the same time, we put forth efforts into emergency management, strengthen the establishment of emergency rescue teams, optimise the emergency management system and improve on-site emergency response capabilities by: first, pursuing improvement of emergency plans; second, intensifying daily emergency supplies.

In 2019, we conducted more than 10 activities on fire prevention and control, special inspections of 24-hour operating equipment, special rectifications on limited space operation and fire safety, electric bicycle fire management, production safety month, fire safety promotion month and special inspections during major holidays and etc. We also actively encourage the participation of the leader groups of the Teem Group and various companies under the Group to facilitate the orderly implementation of special safety production activities and enhance safety production management.

Hotel Ownership, Operation and Management:

During the year, the Hotel Management Company has been engaged in various indepth production safety activities and fire safety work as well as regular operational safety inspection. The company appointed professional companies to regularly maintain fire alarm systems, automatic sprinkler systems, boilers and elevators and other equipment in each hotel and make sure all major equipment is regularly maintained, inspected and certified in accordance with relevant regulations. In addition, the company has also established and improved a patrol system, which carries out patrol in high-risk points, such as oil depots, boiler rooms and power distribution rooms for nine times per day.

In order to assess the effectiveness of production safety management inspection of each hotel, the safety director of the Hotel Management Company performed no less than one safety spot check for all self-owned hotels during the year. The inspection rate of hotels with hotel management outsourced reached 96%, which enables the Hotel Management Company to rectify the potential hazard. Moreover, each hotel conducts various safety inspections on its own such as special inspections for electricity safety, focusing on safety conditions of electrical equipment and facilities, electrical wiring and the surrounding of power distribution facilities, requiring relevant departments to follow up and rectify the identified problems in a timely manner and carry out review subsequently to form a "Closed Loop Management". Production safety cross-checking for all hotels under the group and some hotels with management outsourced to the Hotel Management Company will be conducted by an inspection team in the middle and at the end of each year respectively.

Energy Projects:

Zhongshan Energy strives to support a series of decisions and arrangements for production safety proposed by central and provincial governments and the provincial branch of State-owned Assets Supervision and Administration Commission of the State Council (SASAC) and continuously improved its production safety by promoting first-class production safety standardisation. Zhongshan Energy met the standardisation requirements on safety management, equipment and facilities, operational safety, occupational health, with its equipment and facilities under good conditions. It succeeded in standardising its production safety, thus meeting the safety standardisation requirements for first-class energy enterprises.

Roads and Bridges:

GDH Highway continuously invests resources in improving safety standard, with a total investment of approximately RMB1,642,100 in safety management in 2019. The management of GDH Highway pays a visit to the highway, toll stations and service areas for on-site safety inspection on a guarterly basis. The leaders in charge organise monthly production safety inspections and carry out department-level and station-level safety inspections for various departments and toll stations each month. The safety management department organises monthly inspections and assessments on production safety. In 2019, special inspections and seasonal safety inspections were carried out for nine times and six times respectively. Safety inspections at GDH Highway level were carried out for 48 times. All identified issues have been rectified and no material safety hazards have been found.

GDH Highway is committed to keeping highways open to traffic during construction period and strengthening the safety management in maintenance and construction of highways. In 2019, on top of the standardised and normalised management of traffic control zones for maintenance work, we continued to implement the unified management of "unified personnel; unified vehicle and machinery equipment; unified management standard on construction site" and, particularly in terms of civilised construction safety management, safety protection settings such as safety posts and traffic cones in the maintenance operation area had been established. Meanwhile, innovative safety management measures have been taken to inspect car recorders installed by construction contractors to strengthen the daily inspection and maintenance work on the safety protection facilities in traffic control zones at least 3 times a day. Such inspection work will be recorded by car recorders in form of video recording to ensure that the daily inspection and maintenance work on the safety protection facilities in maintenance and operation areas have been effectively implemented.



Traffic Control Zone for Maintenance Work on Highway

5.3.3.2 Raising Safety Awareness

Water Resources Business:

Water resources segment regularly carries out safety training for staff to raise their safety awareness and develops safety training plans for heads of units and safety management personnel, front-line staff, part-time safety

management personnel and staff in specific job position. During the safety month in June 2019, we organised the "Well-being Cup", a safety quiz competition in WeChat with 718,000 respondents; arranged safety management training on construction project to learn the relevant safety regulations; held the activity of "Production Safety Open Class" led by heads of units to deepen the understanding of safety culture; scheduled safety education films; and carried out various special training, such as limited space operation, hazardous chemicals management to improve the safety awareness and skills of employees.



Property Investment and Development and Department Store Operation:

Teem Group promotes production safety education, conducts various safety lectures and practical operation sessions and uses bulletin boards, promotional cards, WeChat and other channels to strengthen education on the production safety laws and regulations, enterprise safety rules and regulations and safety knowledge and skills. In addition, we provide targeted safety education with reference to the job positions and operational requirements of employees. In 2019, we organised a total of 691 safety lectures and practical operation sessions on various topics, with 23,000 employees and tenants attending. Besides, during the production safety months from June to July, more than 500 employees were arranged in batches to participate in emergency response training and safety experience at Sinopec South China Safety Simulation and Operation Training Center, in which they could experience 27 types of virtual simulations including fire escape, fall from height, slow descent from height and traffic safety, thereby enhancing their safety awareness and capability to emergency response.





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Furthermore, we encourage learning from cases and materials for the management, which are based on domestic production safety accidents including such documents as Report on "15 February" Gas Poisoning Major Accident in Dongguan Shuangzhou Paper Co., Ltd., Report on "21 March" Extraordinarily Serious Accident in Xiangshui County, Yancheng City, Jiangsu Province, Report on "1 October" Maior Fire Accident in Shanwei City and Report on Various Fire Accidents in the Province. Through studying the cases, lessons have been learnt from the accidents, with the safety awareness of personnel enhanced to forcibly prevent the occurrence of similar safety accidents.

Hotel Ownership, Operation and Management:

Each hotel provides three-level safety training for new employees and then requires employees to complete various training according to the annual training plan for employees. Also, it assists employees in specific job positions to pass the qualification assessment. In the safety-themed activities such as production safety month, fire drills in the summer and "119 Fire Prevention Day", the hotels' fire safety bulletin boards were updated and relevant accident cases were broadcast and the children of employees participated in the painting competition of the Group in relation to production safety so that our employees could deepen their knowledge and skills on production safety.



Energy Projects:

During the year, Zhongshan Energy provided more than 30 safety training sessions for more than 1,000 participants. It organised various safety training for employees depending on type of job position such as providing induction classes for enterprise leaders, department heads, safety management personnel and key business personnel to learn necessary safety management knowledge. Besides, it arranged training and education for personnel in special positions, covering welder, high/low voltage electrician, special equipment management, boiler operator, boiler water treatment, crane command and helped 90 special operation personnel and special equipment operation personnel complete training and obtain certificates during the year. It also gives regular safety training for employees through the combination of accident case analysis and theoretical training/examinations and competitions, covering training topics of safety procedures, management knowledge for work sheet and operation sheet, high-

risk operations and hazardous chemicals, fire fighting, emergency response, occupational health prevention and control.



Roads and Bridges:

In order to ensure that employees have sufficient risk knowledge and skills to perform their duties safely, GDH Highway provided more than 30 training sessions on safety education during the year. We organised education and learning based on accident case studies. In 2019, in the training session on accident liability investigation entitled "Case Study Education – Analysis of Liability in Production Accident Cases", we simulated the legal liabilities of relevant personnel arising from non-fulfillment of management responsibilities through citing real-life accident cases so as to effectively improve the safety risk awareness of employees at all levels. In addition, the company conducted production safety examinations and safety knowledge competitions on a regular basis, provided safety education for new, transferred and re-employed employees when required and established files of safety education and training for employees on a basis of "one file for one person" to ensure that safety training for employees was in compliance with the regulations. We held exchange sessions in highway reconstruction and expansion projects in Guangxi to promote the exchange of experience in safety and traffic management of road reconstruction projects.





5.4 CARING FOR EMPLOYEES AND BUILDING FUTURE TOGETHER

GDI regards employees as an important cornerstone of business success and is committed to building a talent team that focuses on engagement and continuous innovation. Through a competitive remuneration and welfare system, all-rounded and professional on-thejob training, abundant and diversified employee activities, GDI adheres to nurturing a diversified corporate culture to provide employees with high-quality environment for talent development and growth, while motivating the employees to grow together with the Group.

The Group strictly complies with all relevant labour laws and regulations such as the Labour Law of the People's Republic of China, the Labour Contract Law of the People's Republic of China, the Employment Ordinance (Chapter 57 of the Laws of Hong Kong), the Employees' Compensation Ordinance (Chapter 282 of the Laws of Hong Kong) and Occupational Safety and Health Ordinance (Chapter 509 of the Laws of Hong Kong). The Group has formulated and implemented a system with sound employment policies, including the Operational Procedures for Recruitment

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Management, the Management Regulations on the Implementation of MPF Schemes and Administrative Measures on the Avoidance of Relatives. The Group strictly prohibits child labour and forced labour. All forms of discrimination over gender, region, race and religion are prohibited and principles of anti-discrimination and diversity are implemented in recruitment, remuneration, training and promotion to ensure that the employees' remuneration and benefits are provided in an open and reasonable manner, which practically protects all basic rights and interests of the employees.

During the reporting period, employee statistics are as follows:

	2019	2018
Total number of employees	7,805	6,983
Total number of employees by employee category Management level employees Other level employees	1,654 6,151	1,278 5,705
Total number of employees by region Employees in Mainland China Employees at headquarters and Hong Kong	7,563 242	6,731 252

	2019	2018
Total number of resigned employees	573	703
Total number of resigned employees by region Employees in Mainland China Employees at headquarters and Hong Kong	478 95	637 66

5.4.1 FOCUSING ON STAFF DEVELOPMENT

Cultivating and exploring employees' talent is one of major focuses of the Group's talent management. Establishing a fair and equitable work environment with proper reward and punishment, we strictly formulate and abide by our internal policies such as the Staff Management Regulations, the Human Resources Management Regulations and the Performance Assessment Measures and continuously provide our staff with training and development opportunities, which include training on professional skills and relevant knowledge necessary for career development in a bid to assist them to fully reach their potential and explore career development path as well as to create a succession plan.

The Group has formulated the Interim Regulations on Management of Staff Training and Further Study, which encourages the staff to participate in external workrelated professional skill training, continuing education courses and seminar according to job requirements and pays the relevant fees for the staff. In 2019, employee training is mainly provided by internal and external professionals, including teaching training and external professional training. The training category includes the necessary vocational qualification training, job-related vocational qualification training, job adaptability training and professional seminars, etc.

In 2019, employees in various segments of GDI received a total of 207,378 hours of training, with an average of 26.5 hours.



	2019	2018	2017
Total training hours by employee			
category Senior Intermediate Junior Contract and short-term	4,800 45,998 156,195 385	9,390 40,305 159,203 260	10,499 23,916 183,799 783
Total training hours by gender Male Female	136,448 70,930	131,560 77,598	123,893 95,104
Total training hours	207,378	209,158	218,997

Water Resources:

In order to strengthen capacity-building, we have established GD Water College to provide a unified training platform for the water resources segment, build a unique and comprehensive enterprise college, deliver on its mission of "providing professional knowledge to all the staff of water resources segment, advocating strategic coordination and nurturing cultural inheritance" and realise its vision of "becoming a first-class enterprise college".

In 2019, the GD Water College operated on a steady footing. On top of optimizing the facilities of the college and taking into consideration corporate strategy, it carries out training programmes with focus on actual business operation, and emphasizes the combination of online self-study and offline teaching, knowledge teaching and case study so as to achieve better training effect. The college carries out training based on its model of "Four Capabilities", namely leadership, professionalism, transferability and safety. In 2019, 16 company-level integrated

training classes were held successfully, with over 1,000 training sessions provided voluntarily by departments and subsidiaries, which covered all our employees.



In 2019, the college completed the environmental improvement of the training base and the construction of the training centre, maintained and repaired the surrounding environment of the training base and carried out the greening transformation. It purchased and installed the equipment for three large classrooms and two


small classrooms in the training center and installed the electronic whiteboard, projector, audio and other multimedia equipment in large classrooms to meet the training needs of large class, while installing the electronic whiteboard in small classrooms for meeting or group discussion.



Training Centre



Training Base

The GD Water College organizes various professional management programmes, including operation management, compliance management, human resource management, safety management and other themes, which

combines both theoretical and case studies to equip the staff with necessary knowledge on the system, process and experience in performing professional duties so as to support the high-quality and efficient corporate reform and development. In 2019, the content of professional management courses was further optimized by considering the actual operation of the subsidiaries and can get a closer grip of the actual business problems, which facilitated daily work handling. Meanwhile, the GD Water College also provides professional skills training, such as training for personnel on operation and maintenance, special training classes for water project management personnel, etc., and organise practical operational training in training base so that professional and technical personnel can obtain practical experience. Meanwhile, the water resources segment continues to implement a senior talent cultivation scheme, which combines systematic training with rotational practice to develop a management talent pool for our subsidiaries.

The water resources segment launched the 2019 "Ivy League (常青藤)" programme for new employees. The project, which combined centralised training, online self-study and practical drills by virtue of position, introduces and promotes corporate culture, enterprise management concept and various rules and regulations, learning of professional knowledge and skills required for taking up the position, aiming to enhance new employees' sense of belonging, strengthen team cohesion and assist new employees integrate into the team more smoothly, which is beneficial to building up a team with common goals.





In order to improve the teaching standards and curriculum development ability of GD Water College, we effectively make use of existing talent resources to carry out internal training and launch the programme of "Dandelion (蒲公英)". The purpose is to establish an excellent internal trainer team through systematic, professional, practical and sustainable training model and share the professional knowledge and skills with peers by internal video courses. In 2019, the college trained 20 new junior internal trainers to help building a standardized learning ecosystem and improve the competitiveness of the company and employees.

The online platform of GD Water College also helps facilitate the employee training and motivates them to learn spontaneously. In 2019, the online college had 4,346 activated members and registered staff spent 24.3 hours online per month. The platform keeps launching one new internal cloud course per week and regularly sends the data in the reading platform to all the staff every month. In 2019, we further optimised the online platform. Employees can directly log in the college from the OA (Office Automation System) homepage and can also access the mobile learning interface through the Water APP.



Property Investment, Development and Department Store Operation:

In order to expand the talent pool of Teem Group and improve its overall quality, the Teem Group has launched several Teem College business courses since 2008. After graduation, many trainees have served as management personnel or business backbone of all departments of the Teem Group. In 2019, Teem College mainly has two teaching directions: one is to continue to implement the teaching plan by organizing course for each specialty and the other is to organise group-based learning on project reporting, review the project reports of each group and coach them by stages so as to help trainees complete high-quality report for their action learning projects. In 2019, the teaching of 14 courses, including Internet Thinking and Business Model Innovation, Design Aesthetics of Shopping Center Space, Fashion and Buyer Practice, Department Store Layout Adjustment and Commodity Strength Improvement Practice, Business Model Innovation under Internet



Thinking and Brand Building of Commercial Enterprises, were accomplished for improving their technical knowledge. The total training hours were 78 hours with 956 trainees.



Teem Group also actively invests in resources to strengthen job training for each business segment, formulates and executes professional training plans for various departments in 2019. In 2019, employees of the Finance Department, the hotel proprietor office and the Department of Operations Management and other departments have been selected to participate in external professional training, such as life cycle tax planning courses, practical training skills on data declaration forms, training on the interpretation of The Bidding Law of the People's Republic of China implemented by Guangdong Province, Python training and advanced level seminars on income segregation management and enhancement of capital value of hotels nationwide, etc. Employees of various departments of the Teem Group use the reading app of the Teem Group Online Academy and CITIC College to expand their knowledge and enhance their core business capabilities. In 2019, the completion rate of professional knowledge training of various departments of the Teem Group is 100%.





Hotel Ownership, Operation and Management:

In order to further enhance the hotel staff's overall quality and facilitate organisational performance, Hotel Management Company has created innovative online training channels and established two major online training platforms – the Hotel Management Company online training and education platform and business service network platform. With the advantages of flexibility and efficiency of online training, it can make up for the deficiencies in traditional offline training.

The Online Training and Education College of Guangdong (International) Hotel Management Holdings Limited (粤海(國際)酒店管理集團網 絡培訓教育學院)

Unlike traditional training, the online training and education college not only breaks the shackles of space and time, but also allows

the Hotel Management Company to easily conduct training in different areas at the same time, which simplifies the training coordination and effectively improves the efficiency of training management. Employees can participate in more than 3,000 diverse, customised and comprehensive training courses. The content of the training courses covers 10 categories, namely, leadership, specific enhancement, office software, daily services, etc. Hotel Management Company also utilizes the platform to enhance its internal training system. We have built a team of internal trainers and encouraged employees with professional skills to share knowledge as lecturers. Up to now, 62 internal trainers have been selected and 103 courses have been independently developed.

Effectively Promote the Development and Accumulation of Management Experience with Business Service Network Platform

At the initial stage of platform construction, the relevant information provided by Hotel Management Company such as organizational structure, job responsibilities, the Start-up Handbook, the Management Handbook and important institutional processes of each functional department have been contextualized, arranged and systemized by professional technical team. The platform converts boring and complex text to a variety of vivid and easyto-understand micro-classes such as video, graphics, animation, talk show, etc., which is convenient for the management personnel to extract, memorise and apply relevant contents.

In addition, the management personnel can use the course making tool in the platform to transform related management experience and difficulties into courses, which can accumulate the management knowledge while achieving mutual communication and sharing. Besides, there is no limit on the number of accounts on this online platform, and it also has ten extraordinary functions, such as interactive live broadcasting, voice lectures and facial recognition examination. The platform is simple, easy to operate, efficient and convenient at lower cost, and it enables the construction and accumulation of management experiences of Hotel Management Company.

Energy Projects:

Zhongshan Energy continued to deepen the construction and development of the training system, focusing on the improvement of the system, courses library and the team of internal trainers. Improvement was made to the Double Eagle Programme (雙鷹計劃), a special programme for talent cultivation and the daily training plan was also implemented.

In 2019, Zhongshan Energy completed the revision of the Training Management Standards and the Internal Trainers' Management Standards and actively developed internal training courses. By adopting the coaching model of external training institutions, more than 60 internal trainers and professional technical staff were arranged to participate in this training. Two phases of courses development training were carried out and 20 course development proposals developed by participants were reviewed and approved by judges. In the meantime, the annual selection of internal trainers was completed and the training of internal trainers was carried out to improve their teaching skills. At present, there are 26 internal trainers and some internal courses have been launched.

Zhongshan Energy's Double Eagle Programme, a special programme for talent cultivation, provided training courses including official document writing, office software (PPT) training, computer distributed control system (DCS), course development skills and teaching skill training. In addition to course development and internal trainer selection, a total of 13 quality control technology projects have been launched by the production

department. In 2019, two seminars on talent cultivation of the Double Eagle Programme have been held to deeply analyse employee training needs and the revised nurturing proposal was completed. In 2020, the overall talent cultivation thoughts will be adjusted according to the demand for talents to better reflect the practicality and feasibility of the programme.





"Double Eagle Programme", Zhongshan Energy' s special programme for talent cultivation

Roads and Bridges:

In 2019, GDH Highway continued to carry out a combination of internal and external training, promoted the "weekly theme learning day (周主題學習日)", established learning interest groups and conducted a thematic training programme for employees. By organizing training on ideology, ethics, integrity, safety, business and others every Thursday, the staff's literacy, management capability, job skills and work efficiency were comprehensively improved. A total of 40 internal training, 63 external training and 19 expert training were organized throughout the year.



In 2019, GDH Highway continued its efforts in developing talent pools and promoting talent cultivation. Three talent reserve positions (including acting station manager, supervisor and toll collection leader) in the Toll Collection Department totaling 14 talents were put in place. As of 2019, there was a pool of 39 young talents in the Toll Collection Department. Through the combination of centralised training, regional training and class learning, the overall ability of employees can be effectively improved.



GDH Highway has formulated the Implementation Rules for the Management of Employee Skills Enhancement Rewards to reward employees who meet the specified skill requirements in terms of academic qualifications, degrees, job titles, vocational qualifications and years of service so as to encourage employees to improve their job skills continuously.

5.4.2 EQUAL OPPORTUNITIES AND LABOUR RIGHTS

The Group strictly complies with laws and regulations such as the Labour Contract Law of the People's Republic of China, the Social Insurance Law of the People's Republic of China as well as the Employment Ordinance and the Employees' Compensation Ordinance of the Hong Kong Special Administrative Region. It has formulated and implemented employment related rules and policies that comply with national and regional laws and regulations. The Group focuses on protecting the basic rights and interests of all employees and has established a diverse and equal working environment that is free of discrimination. Adhering to the "peopleoriented" philosophy, we provide competitive salary and benefits, including annual leave, sick leave, maternity leave, paternity leave, marriage leave, bereavement leave and casual leave and provide MPF contributions, pension insurance, medical insurance, work-related injury insurance, unemployment insurance, maternity insurance and other insurance for the employees. Meals and overtime transportation subsidies are also provided in daily work. GDI arranges a comprehensive physical examination and injection of influenza vaccination for employees every year and always pays attention to the health of the employees.

As a responsible enterprise, we have not implemented significant job cuts affecting more than 1,000 employees or more than 5% of the total workforce during the past three years to ensure stability in employment. In the meantime, we are committed to reducing the employment of temporary employees to reduce the negative impact of the use of nonregular employment.

Water Resources Business:

Water resources segment has robust employment systems in place, such as the

Remuneration and Welfare Management Policy, the Performance Assessment Measures and the Employee Reward and Punishment Measures to clearly set out the employees' remuneration structure, standards and distribution as well as welfare management. In 2019, we have reshaped the management system, benchmarked our remuneration level with that of peer companies in the market and improved the customised remuneration and incentive mechanism. We insist on the rewarding culture of "Remuneration based on duties and responsibilities as well as performance; Rewarding the diligent and good and punishing the lazy and bad; Fair competition and highlighting contribution". Remuneration is closely linked to the annual performance of the team and individuals. breaking the constraints of gualifications and years of service, inspiring employees to achieve outstanding work performance and helping the Company's business success.

In addition, the water resources segment revised the performance appraisal management system of Yue Gang Water Supply and Water Group HK and put in place emergency management duties in the safety management department, fully mobilising the enthusiasm of all employees to promote the company's development goals. In order to motivate employees to improve their professional skills and facilitate the intelligent development of water resources, the water resources segment specially formulated the promotion management regulations for R&D personnel, stipulating that obtaining scientific and technological progress award, national invention patent award or invention patent are the criteria for R&D management personnel promotion. It also adjusts the remuneration for promotion to fully stimulate the enthusiasm and initiative of the R&D team.

The water resources segment carries out talent inventory in each business segment and exerts its efforts to nurture professional talents. The heads of various departments identify talents through communication and performance feedback so as to create a talent pool to cope

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with the rapid development of water business. It carries out relevant training and rotation opportunities for talents and specifically designs empowerment projects for the heads of front-line business units to improve the professional management capabilities and professional operation skills of subordinate companies through training such as the internal training plan of the financial director. Employees in relevant positions will perform "3 years of financial work at headquarters + 2 years of financial work by rotation at the regional project companies + 1 period of financial director training" and will secure placement after passing the comprehensive interview evaluation. Secondly, the talent inventory helps implement key incentives for professional talents and prevent the loss of key talents to support the achievement of strategic doals.

Property Investment, Development and Department Store Operation:

Teem Group has formulated the Manual of Employee Performance Management, the Regulations on Salary Management and the Management Regulations on Working Hours, Leaves and Welfare, implemented objective employee appraisal and evaluation and supported a performance-oriented culture with clear responsibilities and authorities. The employees are offered equal working hours, leaves, remuneration and benefits and the rights and interests of employees at all levels are ensured. We uphold the principles of openness and transparency, fairness and justice to encourage the employees to improve their abilities and performance continuously.

In 2019, Teem Group further optimised the staff's remuneration and welfare policies by commissioning a third-party consultant to benchmark the remuneration system with the market and optimised the proportion of fixed to variable remuneration and quarterly bonus distribution proportion in order to effectively address the low fixed salary proportion and maintain fairness of employee compensation both internally and externally. In 2019, a market-based compensation incentive plan for professional managers was implemented with assessment and incentives linked to

performance to motivate management personnel to achieve the company's strategic objectives.

Teem Group actively expands channels to attract talents and has built up a diversified talent pool. In 2019, Teem Group actively responded to SASAC and held on-campus job fair in Wushan campus of South China University of Technology. A total of 212 resumes were received, of which 112 resumes were received at the campus job fair and 100 resumes via online recruitment. The job fair has promoted Teem Group's corporate culture and provided a professional and friendly interview environment for new graduates.



On-campus job fair in Wushan campus of South China University of Technology

Hotel Ownership, Operation and Management:

Hotel Management Company has formulated employment policies, such as the Management Measures on Employee Benefit Expenditure of Guangdong International Hotel Management (China) Limited, the Measures for Labour Relations and Administration of Social Insurance of Guangdong (International) Hotel

Management Holdings Limited, the Leave Management Requirements of Guangdong (International) Hotel Management Holdings Limited and the Performance Assessment Management Measures of Guangdong (International) Hotel Management Holdings Limited to ensure that employee remuneration and benefits are protected. Hotel Management Company continues to strengthen its reforms of internal management and improves the remuneration system for manager by benchmarking the actual remuneration level of Hotel Management Company against the market remuneration level. The remuneration of different levels has been optimised and the transparency of remuneration and welfare is undergoing continuous improvement.

Energy Projects:

Zhongshan Energy has formulated internal regulations and procedures, such as the Recruitment (Competitive Employment) Management Policy and the Provisional Management Policy on Employee Selection and Appointment to ensure that recruitment processes are strictly in accordance with the relevant rules and internal control procedures of the Group and the company, safeguarding the employees' equal rights by adhering to the principle of reasonable transfer of gualified personnel to suitable positions (能上能下). A management system for selection and appointment of outstanding talents has been developed, which sets out three main paths for career development (namely management, technology and skills) as well as a variety of promotion channels such as internal competition and rank/salary promotion appraisal so as to optimise the career path for employees. Zhongshan Energy also implements the Remuneration Management System and the Performance Management Measures, which specify the employee performance appraisal and the employees' remuneration

and benefit distribution mechanism in a bid to achieve mutual benefits and in a mutually beneficial manner with employees and share with them the fruit of our success.

Roads and Bridges:

GDH Highway has established employment management systems, such as the Implementation Rules for Salary Management, the Management Measures for Performance Appraisal, and the Management Policy for Selection and Appointment of Key Personnel. Annuity plan is also provided for employees to build a sound and competitive remuneration and benefit system, enabling the employees to develop a sense of belonging and corporate cohesion. In 2019, GDH Highway has completed the adjustment plan for the remuneration system and bonus scheme for the command department, which demonstrated GDH Highway's people-oriented philosophy. GDH Highway also implements the incentive system based on a combination of job-based pay, ability-based pay and performance-based pay. Adhering to the principles of fairness and justice, it boosts the enthusiasm of the employees and encourages them to complete the tasks efficiently.

5.4.3 STAFF CARING ACTIVITIES

The Group attaches great importance to providing employees with a safe and pleasant working environment and devotes resources to actively organise a variety of team building initiatives, sports and cultural activities, etc., encouraging employees to relax and explore their interests during their spare time and striving to maintain employees' physical and mental health and work-life balance. At the same time, we strengthen communication with employees, listen carefully to them and create a workplace culture "happy work and healthy life" together with them.

Water Resources Business:

During the year, in order to let employees relax in their spare time, we have organized art and cultural performance activities to celebrate the 70th Anniversary of the People's Republic of China and engaged employees through a series of sports competitions and employee networking events.



In addition, water resources segment has purchased the hospital insurance plan for all the employees, consoled 45 employees who have illness and helped the children of two employees to solve their schooling problems. We established communication channels for employees with an aim to encourage open communication. Employees can give feedback to the leaders through phone calls, emails, interviews, etc. to further protect the legitimate rights and interests of the employees, give full play to the employees' monitoring function and procure the ongoing betterment of the leadership team.

Property Investment and Development and Department Store Operation:

Teem Group organises a variety of outdoor activities every year to facilitate communication and cooperation among employees through group activities, enhance coordination capability of employees in each department and strengthen their perseverance.

In 2019, Teem Group held two outdoor activities with 101 employees divided into four groups heading to the training centres in Shenzhen and Qingyuan. In the activity of frisbee, employees need to move quickly on the beach and pass the frisbee to win the game. When passing the frisbee, employees not only get physical exercise, but also increase the sense of cooperation through communicating with each other. Moreover, in the activity of "Rescue of Madagascar (馬 達加斯加的救援)", each group needed to decide work allocation by themselves, which tested the decision-making and organisation and coordination capability among them, effectively improving the team spirit and service awareness.





Outdoor Training Activities

Hotel Ownership, Operation and Management:

Hotel Management Company has established the labour union which has, during the year, actively organised employees to participate in various cultural and sports activities which could enhance cohesiveness. These include various holiday consolation activities, sightseeing activity at the Shenzhen Xianhu Botanical Garden, the "Beauty Starts from the Head (美麗從頭開始)" activity to celebrate the March 8 Women's Day and labour union activities such as the Alps Ice and Snow World in the Window of the World in Shenzhen.



Outdoor Labour Union Activities



In addition, Hotel Management Company also held a variety of art and cultural activities to explore employees' hidden talent, such as singing contest to celebrate the 70th Anniversary of the People's Republic of China, photo contest of "Celebrating Labour Day, Showing Style, Finding the Most Beautiful Workers of Hotel Management Company (慶五一、展風採,尋找酒管最美勞動者)". Moreover, we invited Hotel Management Company and hotels under its management to record moments of employees' devotion to work, to capture and widely promote the spirit of dedication, hardworking, innovation, unity and cooperation of staff of Hotel Management Company.



Art and Cultural Activities of Employees

In order to promote sports and healthy life, Hotel Management Company and hotels under its management have participated in sports competitions organised by the labour union.



Ball Games

Hotel Management Company establishes multi-faceted communication with employees in order to maintain harmonious employee relations. Hotel Management Company and hotels under its management set up employee opinion boxes in public areas, disclose the email of the general manager. arrange designated staff to check and collect the emails regularly, submit the opinions to the leaders for review and process and reply one by one to resolve staff comments and suggestions in a timely manner and also reward suggestions that contributes to improvement in management. Forum of general manager will be held every month to listen to the opinions and suggestions of staff representatives at all levels.

Energy Projects:

In 2019, Zhongshan Energy organized activities for staff such as staff sports day, Niugang Mountain hike tour, and one-day tour of labour union in Zhuhai. There were eight largescale cultural and sports events held during the year to create a harmonious corporate atmosphere. As for the young employees, the company cooperated with the Youth League Committee of Huangpu Town, Zhongshan

City to organise networking activities with an aim to build mutual communication channels with young employees and expand their social circles. The company also held a knowledge contest named "Forge ahead with Original Aspiration (讓初心砥礪青春前行)" and organized mobile photography activity. Fun and sharing activities were also organized to enrich the cultural life of young employees in their spare time.

Zhongshan Energy strives to offer employees in need with care and love and has visited 30 inpatient staff throughout the year, disbursing consolation funds and items. Special consolation fund was given to an employee who has suffered a sudden serious illness.

In 2019, under the leadership of the chairman, the management conducted discussion with more than 30 middle management staff and key personnel respectively. Three staff forums for front-line employees were held in order to understand the hardship, difficulties and obstacles confronted by employees regarding junior jobs via face-to-face meetings. We listen to their opinions and suggestions on corporate management, deal with problems that can be solved immediately, set out a detailed list for those that cannot be solved at once, clearly assign the responsible departments and request them to take rectification measures and give employees specific feedback.

Roads and Bridges:

In 2019, GDH Highway launched the open day event, namely "Working together to Build Youth Dream (凝心聚力,共築青年夢)", for the front-line toll station employees and their families, inviting them to spend happy family time. The Women's Day activity was organized to provide female employees with holiday greetings. In addition, GDH Highway also organized various sports activities, including an activity with the theme of "Chasing Dream, Building Successful New Era with Youth Strength (逐夢前行,青春建功新時代)" cum the Third Fun Sports Day. GDH Highway also organized teams to participate in various ball games organized by Guangdong Holdings and won the championship in the basketball competition, the second runner-up in the women's table tennis singles competition and the second runner-up in the team competition.



GDH Highway - Cultural and sports events for employees

GDH Highway spares no effort in employee care and assists them to solve various dilemmas in life. For example, every year before the Chinese New Year Festival and the Mid-Autumn Festival, GDH Highway visits employees in need. For the employees and their families who are in difficulties, we provide labour union consolation fund and medical assistance. Timely and continuous assistance are provided to employees in special difficulties through voluntary donations by all employees. Moreover, through establishment of record for employee in need, GDH Highway delivers financial support and gifts every year on an irregular basis.



We maintain communication with employees through on-site visits, general staff survey, forums and regular work meetings. The labour union of GDH Highway holds forum regularly and 51 practical difficulties have been solved for employees in 2019. The management conducts more than one general staff survey every quarter and department heads and the toll station heads also hold work meetings every week to listen to opinions and work suggestions from employees.

5.5 SHOULDERING SOCIAL RESPONSIBILITIES AND BUILDING A BETTER FUTURE TOGETHER

5.5.1 JOINING HANDS TO OVERCOME DIFFICULTIES AND COMBAT THE EPIDEMIC

At the end of 2019, in response to the sudden outbreak of Novel Coronavirus (COVID-19), GDI has staved alert all the time. fully predicted the severity of the situation, strictly implemented the relevant requirements of the State and Guangdong Holdings and carried out epidemic prevention work. We are determined to take on the social mission and remained steadfast in winning this battle of epidemic prevention and control with firm confidence, concerted efforts, scientific prevention and precise implementation of strategies through various initiatives, including establishing an epidemic prevention leading group, formulating an emergency response plan for the epidemic situation, strictly testing the water quality and safety, taking various measures to ensure a stable water supply. conducting sanitation and disinfection to protect employees, strengthening promotion on the knowledge of epidemic prevention throughout the society, raising public awareness of epidemic prevention.

Respond Quickly and Set up a Workgroup on Prevention and Control to Formulate Emergency Plans

Epidemic prevention and control is our responsibility. In order to enshrine the spirit and fully implement the decisions and arrangements made by the government of the PRC and the government of the Hong Kong Special Administrative Region in respect of the prevention and control of COVID-19, GDI, by timely collecting and mastering the latest information about the epidemic situation and relevant policies, announcements and requirements of the government, setting up a leading group for the prevention and control of COVID-19 to coordinate to lead the Group's epidemic prevention work and reinforce production safety amid emergency conditions. Based on the Provisional Comprehensive Contingency Plan for Emergencies of Guangdong Investment Limited (《粤海投資有 限公司突發事件綜合應急預案(試行)》) and its own actual situations, GDI swiftly formulated the Emergency Plan for Prevention and Control of COVID-19 of GDI (《粤投新型冠 狀病毒感染的肺炎疫情防控應急處理方案》). improved the rules and regulations governing the emergency management of production safety and implemented emergency measures for production safety against the epidemic. According to the requirements of the plan, GDI implements various epidemic prevention and control measures, makes sufficient preparation for anti-epidemic protection supplies and strengthens the education of epidemic prevention for its staff so as to steadfastly support the battle against the epidemic.



Work Diligently and Compliantly to Guarantee Safe and Stable Water Supply amid Epidemic Prevention and Control

In order to guarantee the safety of water supply during the Chinese New Year Festival, companies under the water resources segment have implemented even stricter monitoring and testing on water plants, water supply network and secondary water supply facilities. On top of strengthening the cleaning and maintenance of water supply facilities and the disinfection work of production area on a daily basis, we also inspect the disinfection facilities at water plants and strengthen the tap water disinfection process. By increasing the inspection and monitoring frequency of key indicators of each water purification at water quality monitoring points and strengthening the inspection work of key units and water supply facilities, we can ensure safe, reliable and quality water to communities and the general public.

Guarantee Safe and Stable Operation of Water Supply and Treatment Business under the Epidemic

- Water supply: Adopt stricter testing and disinfection. In water supply process, turbidity and residual chlorine are given particular attention and chlorine disinfection is used to effectively kill the virus so as to effectively control the microbial risk in drinking water.
- Sewage treatment: Strictly control the treatment of medical sewage, actively prevent and control the discharge of pollutants into water in rural areas as well as some endemic areas and pay special attention to disinfection and protection of operating employees in the process of sewage treatment.



The control centre of the water resources segment is on duty 24 hours a day to monitor the Dongshen Water Supply Project's operation, flow of water intake, water quality of key sections along the route and water usage of each user. Facing the epidemic, we try our best to guarantee safe and stable water supply to Hong Kong, Shenzhen and Dongguan.



The staff of the Water Environment Monitoring Centre under the water resource segment is monitoring the quality of untreated water.

Leveraging the unique advantage of \succ smart water service, we monitor the pressure, flow and water quality of the water supply network and the secondary water supply pump in real time through our Internet of Things platform to ensure normal operation of the water supply system. Integrated management is conducted via the Laboratory Information Management System (Aqua LIMS) for water quality sampling, testing, reporting and environment testing to improve the efficiency of water quality testing and achieve multi-party data sharing and real-time alert of abnormal water quality.

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Furthermore, in order to ensure stable water supply in all areas when people return to work after the Chinese New Year Festival, Water Group HK made further research, deployment and implementation about the prevention and control of the epidemic, formulated and issued the Epidemic Response, Prevention and Control Work Plan for Resuming Work and Production after the Chinese New Year Festival (《節後復產復工疫情應對防控工作方案》), the Work Guidelines on Water Companies in Operation. During the Epidemic Prevention and Control Period (《疫情防控期間已運營水 司工作指引》) and the Notice on Strengthening **Operation Management of Subordinate** Sewage Treatment Plants During Epidemic

Prevention and Control (《關於下屬污水廠疫 情防控期間加強運營管理的通知》) to guide all the companies attain the best result in water supply and sewage treatment operation amid epidemic prevention and control. Subordinate companies were equipped with more repair vehicles for emergency repair of water supply pipeline networks and seamlessly inspect pipeline networks. Meanwhile, green channels of water supply have been open for key epidemic prevention and control projects by the government so as to quickly solve the water demand of the projects, timely respond to the needs of residents and ensure that people everywhere have no worries about water supply.



No fear of the epidemic, stick to the post, speed up the emergency response and improve the repair efficiency. The staff of Water Group HK responds timely to water failure and provide prompt service for users to properly solve their water problems, so as to ensure that water usage in important venues would not be affected.





Actively cooperating with relevant local authorities in the prevention and control of the epidemic, Wuzhou Yuehai Jianghe Water Company Limited is conducting water quality and water pressure tests in designated hotels open to tourists from Hubei Province.

In order to guarantee safe and stable operation of water supply for the Dongshen Water Supply Project, Yue Gang Water Supply timely adjusted its on-duty plan and organized a strong emergency repair team to ensure safe and stable water supply to Hong Kong. In urgent response to the request of the Third People's Hospital of Wuzhou City, which was designated to treat COVID-2019 patients, Wuzhou Yuehai Jianghe Water Company Limited conducted leakage checking on the water supply network of the whole hospital, being the main battlefield of Wuzhou City in fighting the epidemic.



Comprehensive Prevention and Control to Ensure the Health and Safety of Our Employees

The Group has fully strengthened its work on epidemic prevention and control by educating its employees and grasps the health conditions of employees in a timely manner. We regularly disinfect our offices and have set up a temporary resting room with disinfection work on a regular basis. As an emergency aid, we are equipped with necessary medical supplies such as face masks, gloves, thermometers and alcohol. In addition, we ensure we have sufficient epidemic prevention materials and take active measures so as to protect others while protecting ourselves.



Hotel Management Company disinfects its hotel lobbies corridors, meeting rooms, elevators, staircases, rest rooms and other public areas by using sprav.



Zhongshan Energy adopts flexible lunchtime sessions to avoid gathering of employees at the canteen. The restaurant is disinfected at least once a day and tables and chairs are disinfected after use. Cutleries are disinfected at high temperature.



Hotel Management Company requests its receptionists, security guards and cleaners to wear face masks and disposable rubber gloves at work and keep a safe distance from others. Meanwhile, we also timely follow up the health status of our employees.



Teem Group adopts body temperature testing after the resumption of work and conducts repetitive temperature monitoring.





Guangdong Hotel (Hong Kong) distributes epidemic prevention supplies to its employees.



Guangdong Hotel monitors the body temperature changes of employees and customers in real time in a contactless manner to ensure the health and safety of the workplace.



The production and technology department of Zhongshan Energy conducts regular temperature measurement for outsourced personnel to record the health conditions of staff.

Working Together to Fight Against the Outbreak of Novel Coronavirus

GDI took the initiative to join the community in assisting in the epidemic prevention work. We organized volunteers to cooperate with local government for the improvement of communities' health and epidemic prevention so as to make up for the shortcomings of epidemic prevention in the community. Additionally, we actively donate alcohol, face



Zhongshan Energy implements regular epidemic prevention measures and conducts inspection and replenishes supplies.

masks, gloves and other epidemic prevention supplies to fight against the disease in main endemic areas. We also promote epidemic prevention policies, emergency measures and scientific prevention knowledge by leveraging on our advertising platforms such as WeChat official accounts, electronic display screens and posting notices to effectively implement various measures by every family and each community resident.



Based on the actual situation, Suixi Guangdong Water Company Limited organised volunteers to assist in the mapping exercise in residential areas, distributing and posting various promotional materials as well as sending prevention and control tips to enhance residents' epidemic prevention awareness. Suixi Guangdong Water Company Limited also assisted in the purchase of epidemic prevention materials and equipment, monitored the temperature of people entering and leaving to make up for the shortcomings of epidemic prevention in the community.



Yunfu Guangdong Water Company Limited visited the prevention and controlling station of Yunfu New District highway and gave out alcohol, face masks, gloves and other epidemic prevention supplies to fight against the epidemic together.



Volunteers of Zhongshan Energy helped frontline workers in the community to carry out temperature measurement and monitor the temperature of people entering and leaving the community.





Guangdong Hotel (Shenzhen) donated face masks, bottles of disinfectant, milk, bread and other epidemic prevention supplies to the community station in Jiabei.

Headquarters of the Hotel Management Company supplied Nanhu street with face masks, disposable medical gloves and bottles of disinfectant and other epidemic prevention supplies.



Zhongshan Energy provided Huangpu Town and Nantou Town of Zhongshan with 6,000 disposable protective face masks and 24 barrels of disinfectant to support the local government's work on COVID-19 prevention and control and also donated 80 cartons of milk.



GDH Highway posted slogans on the prevention and fight against the epidemic at toll booths to raise people's awareness.



GDH Highway carries out temperature measurement at its service area and for the convenience of the people, an epidemic consulting service station has been set up.



5.5.2 SUPPLY CHAIN MANAGEMENT

GDI has been committed to working with our suppliers to pursue sustainable development and minimise the environmental, social and governance risks in the supply chain. With the Policy on Sustainable Supply Chain of Guangdong Investment Limited in place, we encourage and prioritise our cooperation with suppliers who have environmental and safety certifications. Green development concepts, such as construction safety and environmental protection, have been included in our construction contracts and performance evaluation. Additionally, we have incorporated the integrity agreement into the tender documents and procurement contracts of products and services in all business segments, which clearly stipulates the joint responsibility of both parties for integrity and the penalty for any breach. At the same time. GDI continues to actively promote local procurement. Under the same terms and conditions, we would prioritise local suppliers to establish a mutually beneficial partnership so as to reduce our carbon footprint in the transportation of materials and drive local economic development. By doing so, we hope to enhance green supply chain management as well as the sense of social responsibility and the compliance performance in the supply chain, all under a transparent and fair supplier selection and management mechanism.

In 2019, we further revised and improved the Management Measures for Tendering and the Management Measures for Procurement, setting out the disciplines and duties of various departments and personnel involved in tendering and procurement and specifying that those personnel who have conflict should abstain from tendering and bid evaluation, such as those who have a relationship with the bidder, worked for the bidder within the last two years or are relatives of the bidder during the tendering and bid evaluation process. Meanwhile, we have strengthened daily training, supervision and inspection of the tendering and procurement management of subsidiaries. In addition, we emphasise compliance culture through holding on-site compliance training to constantly improve our management level. Our Internal Audit Department audits the compliance and effectiveness of the Group's tendering management, including whether the tendering system, procedure and work guidelines are scientific, rational and effective as well as the implementation thereof. In order to achieve an informatisation and intelligent operation, our legal department will cooperate with the information centre of the water resources research and development department to establish online tendering and procurement platform and put in immense effort to implement digitised tendering and procurement so as to further improve the efficiency of tendering and procurement and reduce the overall operating cost.

Water Resources Business:

Water resources segment upholds a "mutually beneficial, honest and responsible (共赢 立心、廉潔立身、當責立行)" corporate culture. We continuously improve our internal management policy to achieve responsible procurement. We also emphasise honesty, environmentally-friendly and quality in our cooperation with our suppliers. At the same time, we regard our suppliers as our partners and guarantee their rights and interests, and together, we can establish a responsible supply chain to achieve the sharing of benefits.

Supplier rating management:

Water resources segment has revised the Management Measures for Suppliers Information Database and the Provisional Operational Guidelines on Suppliers Rating to centralise supplier's management. The suppliers are classified into four classes: excellent, qualified, unqualified and severely unqualified, based on their performance quality, responsiveness, extent of coordination

and cooperation. In addition, we progressively establish supplier information database to collect information on the classification and evaluation of suppliers. The evaluation working group formed by the general manager of the business department and the head of tendering and procurement is responsible for supplier performance evaluation. They make objective assessment of the suppliers' performance on a regular basis according to the suppliers' abilities to perform contracts, responsiveness, extent of coordination and cooperation, so as to effectively enhance efficiency and standard of suppliers' management.

Standardised tendering and procurement:

Water resources segment has also issued tendering and procurement management policies such as the Management Measures for Tendering, the Management Measures for Procurement and the Rules of Procedure for the Tendering and Procurement Management Team, specifying the different responsibilities for the bid evaluation team and the supervision team so as to maintain a fair, impartial and open bid evaluation process. The Supervision and Audit Department follows the internal policies under the Implementation Rules on Tendering Supervision and Management to supervise tendering and procurement work. We immediately terminate the employment contracts with those who falsify, collude with the suppliers or accept benefits from the suppliers in the procurement process. For those who commit a serious violation, once verified by the Supervision and Audit Department, relevant personnel will be held accountable.

Property Investment, Development and Department Store Operation:

In 2019, Teem Group revised its Procurement Management System Manual to standardise its procurement procedures, actively established a comprehensive supplier database and blacklist. Teem Group sorted out and classified suppliers based on the supplier evaluation results, which effectively improves the comprehensiveness and accuracy of the supplier database and enhance the work efficiency for supplier management. In addition, all suppliers are required to sign the Honesty and Integrity Undertaking, which effectively combats commercial bribery to co-create a fair, orderly, credible, honest and transparent cooperative environment. In the future, we will provide all of our employees with special training on tendering and procurement to ensure the compliance of each project and improve the transparency and fairness in our supply chain operations.



Hotel Ownership, Operation and Management:

In 2019, the Hotel Management Company updated the tendering and procurement system and revised system documents such as the Implementation Rules for Tendering and Procurement of Guangdong (International) Hotel Management Holdings Limited, the Rules of Materials Procurement and Approval Procedures of Guangdong (International) Hotel Management Holdings Limited, the Measures for Management of Suppliers of Guangdong (International) Hotel Management Holdings Limited and the Management Measures for Centralized Procurement of Guangdong (International) Hotel Management Holdings Limited to firmly grasp the key issues in risk and efficiency management, control risk from the source, reduce consumption and improve quality and efficiency. We will continue to strengthen the implementation of the "Transparent Procurement Strategy" and be



open and transparent in the implementation of relevant procedures of Hotel Management Company and holding companies under supervision from audit and other departments throughout the procurement process to promote transparency and progress of work.

Case: The Special Inspection of Tendering and Procurement Carried Out by Hotel Management Company

In 2019, the supervision, audit and legal department of Hotel Management Company inspected tendering projects of its own hotels and carried out spot checks for other projects, where problems and loopholes were identified in a timely manner to facilitate the tendering system, the rationality and effectiveness of the tendering process as well as the implementation of tendering work.

Energy projects:

Upholding a "mutually beneficial, honest and responsible (共贏立心、廉潔立身、當責立行)" corporate culture, Zhongshan Energy has revised the Tendering Management Standard of Zhongshan Energy Co., Ltd. and the Coal Procurement Management Measures of Zhongshan Energy Co., Ltd., which stipulate the tendering management responsibility, scope of tendering, tendering method and tendering procedures, as well as the department responsibilities and other tendering management

procedures in the whole process. We have also issued the Management Measures for Day-to-Day Operational Expenditure of Zhongshan Energy Co., Ltd., to standardise the compliance procedures and integrity policy in the tendering process.



In 2019, Zhongshan Energy carried out an on-site survey targeting the potential suppliers of 3 annual mega raw materials procurement projects, including liquid ammonia, chemical raw materials and desulfurized limestone powder. The focuses of the on-site visit includes: 1) whether raw materials were obtained in accordance with the law and the use of toxic and harmful substances are not in excess of the standard; 2) whether they have participated in the formulation of industry standards and specifications and whether they have responded to investment activities within the industry advocated by the government; 3) whether there is sufficient project cooperation and compliance ability. The on-site survey greatly improved the selection efficiency of suppliers and reduced risk in the selection process.

Roads and bridges:

GDH Highway has issued and implemented the Implementation Rules for Tendering Management, the Management Requirements for Materials Procurement and the Management Measures for the Evaluation of Contract Performance. Meanwhile, key businesses and sensitive positions are subject to holistic management in accordance with the management policies and internal control system such as the Regulations on Discipline Inspection and Supervision and the Accountability Management Measures. In 2019, by carrying out contract performance evaluation of construction contractors. GDH Highway continuously evaluated the performance of each construction contractor, effectively enhanced the construction contractors' ability to perform contracts and improved the self-discipline and performance of the construction contractors.

The number of suppliers by region during the reporting period is as follows:

Year	2019
North China	21
Northeast China	1
East China	155
Central China	11
South China	1,014
Southwest China	15
Northwest China	1
Hong Kong, Macao and Taiwan	376
Overseas	12

5.5.3 ENGAGEMENT IN COMMUNITY BUILDING

GDI firmly believes that business development is inextricably connected with corporate social responsibility. Hence, we are actively involved in charitable activities to show our concern about community welfare, striving to give back to our communities. We notice the difficulties faced by small and medium-sized water companies in their growth and cooperate with them so as to drive the industry forward. GDI is committed to encouraging its employees to care for disadvantaged groups and communities through various charitable activities such as fundraising, promotion of ecological protection, supporting and participating in blood donations. We actively invest resources in fulfilling our social responsibilities. During the reporting period, our volunteer activities totalled 4,303.5 hours.

5.5.3.1 TARGETED POVERTY ALLEVIATION

While developing its own business, GDI actively undertook social responsibilities and responded to the call to participate in targeted poverty alleviation activities. It established a strong sense of corporate social responsibility and fulfiled corporate social responsibilities with practical actions.

Case: The Poverty Alleviation Project of Dongbei Water Plant

In 2019, to resolve the difficulties in water supply and water stress and promote access to water in Dongbei Village, Guangdong Holdings included the reconstruction of Dongbei Village water plant as a poverty alleviation project and provide safe water to Dongbei Village and the surrounding villages jointly with Water Group HK. The reconstructed Dongbei Village water plant would provide safe water supply services for local residents and bring long-term stable income to Dongbei Village.



Case: The Social Assistance Project of Shantou Qitou Village

conditions and it responded to the call of targeted poverty alleviation in the new era of the country.

Under the leadership of Shantou Water Bureau, Shantou Guangdong Water Company Limited allocated for the reconstruction of dilapidated houses

of 6 poverty-stricken households and the construction of LED street lights for the Qitou Village in Shantou. In December 2019, the reconstruction work of the 6 poverty-stricken households in the village was fully completed. The reconstruction of dilapidated houses and the construction of street lights greatly helped the poverty-stricken households in the village to improve their living



Before and after reconstruction of dilapidated houses in Qitou Village, Shantou



5.5.3.2 CONTRIBUTION TO COMMUNITY

In order to promote the joint development with the local community, GDI actively organised charitable activities with various communities and non-profit organizations. We care for disadvantaged groups, support community activities and carry out charity disaster relief, so as to bring long-term benefits to the community and to promote the economic and social development of the community.

Case: Teem Group Actively Provided Jobs for the Society

In 2019, Teem Group and its subsidiaries actively responded to the government's call for expanding employment, providing

more than 400 jobs to the society throughout the year, with an actual employment of 399 new employees. It adhered to the principle of nondiscrimination and diversification in the recruitment process, contributing to the stability of employment.

Case: Zhongshan Energy Organised and Participated in the Chinese New Year Festival Couplets Writing for Huangpu Town

On 18 January 2019, in order to enrich the cultural life of the people in Huangpu Town, a 2019 Chinese New Year Festival couplets writing event was held in Huangpu Town with the theme of "writing with ink to bring blessings for a new year (揮毫潤墨香,新春送萬福)". This event invited calligraphers to send blessings through writing spring couplets for the people for free. The volunteers of Zhongshan Energy were invited to participate in the volunteer service and jointly celebrated the new year with the local people.





Case: Zhongshan Energy Volunteer Team Visited Elderly Centre of Nantou Town at the Dragon Boat Festival

On 6 June 2019, before the Dragon Boat Festival, the Zhongshan Energy volunteer team organised a visit to the elderly home

of Nantou Town, Zhongshan City. They brought milk and hot rice dumplings for the elderly, celebrating the Dragon Boat Festival with them in advance to fully feel the profound festive sentiment.





Case: Taking the Initiative to Deal with Agriculture Related Issues and Actively Improving the Corporate Image and Reputation

Centered on the service concept of "peopleoriented, serving the community (以人為 本,服務社會)", GDH Highway actively dealt with agricultural issues by de-silting channels and gutters as well as cutting thorny hedges, identifying problematic road sections with the help of the findings by maintenance engineers in their routine inspection and the feedback of the villagers along the project area. GDH Highway actively arranged small repair teams to deal with the problems timely. In 2019, GDH Highway dealt with approximately 54 agricultural related issues with de-silting channels and gutters area of approximately 5,920.45 m³, as well as cutting barbed fences area of approximately 15,617.10 m. There were no petitions throughout the whole year, which greatly improved the image and reputation of GDH Highway.









Awards	Issuing Organization	Recipient	Award Information
2018 Top 10 Influential Water Companies in China	E20 Environment Platform	Water Group	The award recognises the profound operation and management experience of the Water Group for more than 50 years as well as the achievements in promoting technological innovation in the industry.
Certificate of Shenzhen Top Brand	Shenzhen Top Brand Evaluation Committee	Yue Gang Water Supply	Yue Gang Water Suppl was recognized as a renowned brand in Shenzhen
First Prize – Exhibition and Evaluation Activity on National Production Safety Standardization of Waterworks Construction	Executive Office of the Ministry of Water Resources	Water Group	The award recognises the contribution of Guidelines for Refined Operation of Pumping Station Equipment to the national production safety standardization of waterworks construction
The Certificate of Integrity Demonstration Enterprise in Guangdong Province in 2018	Guangdong Provincial Enterprise Confederation and Guangdong Provincial Association of	Water Group	Water Group was recognized as an integrity demonstration enterprise in Guangdong Province

APPENDIX: CONTENT INDEX FOR ESG REPORTING GUIDE

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Environmental, So	cial and Gove	mance Indicators Guide Index	Disclosure page
Environmental			
A1: Emissions	General Disclosure	 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste 	P37-47, 72-83
	A1.1	The types of emissions and respective emissions data	P37-39, 75-82
	A1.2	Greenhouse gas emissions in total (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	P38
	A1.3	Total hazardous waste produced (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	P80
	A1.4	Total non-hazardous waste produced (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	P80
	A1.5	Description of measures to mitigate emissions and results achieved	P37-47, 72-83
	A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved	P73-81
A2: Use of Resources	General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials	P27-31, 37-47, 72-83
	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)	P82
	A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility)	P82
	A2.3	Description of energy use efficiency initiatives and results achieved	P27-31, 37-47, 72-83
	A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved	P24-31, P72-83
	A2.5	Total packaging material used for finished products (in tons) and, if applicable, with reference to per unit produced	N/A

7. APPENDIX: CONTENT INDEX FOR ESG REPORTING GUIDE (CONTINUED)

A3: The Environment and Natural Resources	General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources	P47-54, 72-8
	A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them	P47-54, 72-8
Social			
B1: Employment	General Disclosure	 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare 	P105-12
	B1.1	Total workforce by gender, employment type, age group and geographical region	P10
	B1.2	Employee turnover rate by gender, age group and geographical region	P1(
B2: Health and Safety	General Disclosure	 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards 	P83-10
	B2.1	Number and rate of work-related fatalities	P8
	B2.2	Lost days due to work injury	P8
	B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored	P83-10
B3: Development and Training	General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities	P105-12
	B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management)	P1(
	B3.2	The average training hours completed per employee by gender and employee category	P10

7. APPENDIX: CONTENT INDEX FOR ESG REPORTING GUIDE (CONTINUED)

Environmental, Socia	al and Goveri	nance Indicators Guide Index	Disclosure page
B4: Labour Standards	General Disclosure	 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour 	P105-120
	B4.1	Description of measures to review employment practices to avoid child and forced labour	P105-106
	B4.2	Description of steps taken to eliminate such practices when discovered	P105-106
B5:Supply Chain Management	General Disclosure	Policies on managing environmental and social risks of the supply chain	P126-129
	B5.1	Number of suppliers by geographical region	P129
	B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored	P126-129
B6: Product Responsibility	General Disclosure	 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress 	P55-65
	B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons	N/A
	B6.2	Number of products and service related complaints received and how they are dealt with	P55-65, 71-72
	B6.3	Description of practices relating to observing and protecting intellectual property rights	P55-65
	B6.4	Description of quality assurance process and recall procedures	P55-65
	B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored	P55-65, 71-72

7. APPENDIX: CONTENT INDEX FOR ESG REPORTING GUIDE (CONTINUED)

Environmental, Soc	ial and Gover	rnance Indicators Guide Index	Disclosure page
B7: Anti-corruption	General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering	P66-72
	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	P66-72
	B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored	P66-72
B8: Community Investment	General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests	P102-135
	B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport)	P102-135
	B8.2	Resources contributed (e.g. money or time) to the focus area	P102-135

