



中國水務集團有限公司 環境、社會及管治報告

CHINA WATER AFFAIRS GROUP LIMITED ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT









CHINA WATER

詞彙 GLOSSARY

"Al ₂ (SO ₄) ₃ "	硫酸鋁(Aluminium Sulfate)
"BOD"	生化需氧量(Biochemical Oxygen Demand)
"CIO ₂ "	二氧化氯(Chlorine Dioxide)
"CO ₂ "	二氧化碳(Carbon Dioxide)
"COD"	化學需氧量(Chemical Oxygen Demand)
"H ₂ S"	硫化氫(Hydrogen Sulfide)
"km"	千米/公里(Kilometer)
"km²"	平方千米/公里(Square kilometer)
"kWh"	千瓦時(Kilowatt-hour)
"m³"	立方米(Cubic meter)
"mWh"	兆瓦時(Megawatt-hour)
"NaCIO"	次氯酸鈉(Sodium Hypochlorite)
"NaOH"	氫氧化鈉(Sodium Hydroxide)
"NH ₃ "	氨氣(Ammonia)
"NH ₃ -N"	氨氮(Ammonia Nitrogen)
"PAC"	聚合氯化鋁(Polyaluminium Chloride)
"SS"	懸浮物(Suspended Solids)

核心價值觀 **CORE VALUES**

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WATER-ORIENTED ESS TO SOCIETY K

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管理層致辭 MANAGEMENT'S STATEMENT

Dear Readers:

We would like to express our sincere gratitude for your ongoing concern regarding China Water Affairs Group Limited (the "Company") and its subsidiaries and associates (hereinafter referred to as the "Group" or "China Water"). Since its establishment in 2003, China Water has always grasped the pulse of the development of the water market in Mainland China, sought truth from facts, and constantly made progress. Continuously broadening its service scope and raising its quality based on the core business of water projects, it has become a professional and international large-scale comprehensive water group.

The Group has always adhered to the management philosophy of "Water-oriented, Kindness to Society". While pursuing economic benefits and achieving sustainable development, the Group contributed to "Blue Sky, Clean Water and Social Harmony" by earnestly fulfilling its corporate social responsibilities and obligations. As of the end of the reporting period, through mergers and acquisitions, commencement of integration of urban and rural water supply and integration of water supply and drainage, expansion of businesses of urban and rural sewage treatment, urban water environment management and environmental protection, the scope of services has covered 13 provinces, 4 municipalities and approximately 60 counties, cities, and districts in Mainland China.

The Group continues to enhance its environmental, social and governance capabilities by firmly supporting various policy measures that are conducive to environmental protection and social harmony. In this new era, the main contradiction in Chinese society lies between the people's growing vision of a better life and an unbalanced and inadequate social development, the latter is particularly prominent in the aspect of supply and treatment of water. Objectively, as the gap between cities and between urban and rural areas concerning the issues of urban water environment as well as the quality of water supplied, water pressure and water supply stability still exists, demands for improvement of the aforesaid from the public are strong and urgent.

At the same time, objectively speaking, there is relatively low use capacity of water resources per capita and uneven distribution, extreme groundwater over-exploitation and acute shortages of clean fresh water in China. We carry heavy responsibilities through thick and thin when it comes to prevention and treatment of water pollution. With the acceleration of urbanization and the rapid development of industrial economy, domestic sewage and industrial wastewater are discharged in large quantities, leading to water pollution which has hindered urban development and threatened people's quality of life and health.

Contradictions, on the other hand, are opportunities while demands a market. China Water will take advantage of the trend by actively participating in various water-related businesses that improve the environment and society. Determined to rely on the professional, hard-working and dedicated staff of the Group, we make every effort to create a corporate sustainable development model that is characterized by environmental friendliness and humanity, science and innovation as well as proactiveness. By establishing a unique water service brand image with excellent economic and social efficiencies, we achieve a win-win goal for users, employees, governments, shareholders and stakeholders which satisfies all.

Duan Chuan Liang

Chairman of the Board

企業發展概況 OVERVIEW OF CORPORATE DEVELOPMENT

CORPORATE INFORMATION

China Water Affairs Group Limited was previously incorporated in the Cayman Islands as an exempted company. Pursuant to the extraordinary general meeting held on 9 June 2003, the place of registration of the Company has been re-domiciled from the Cayman Islands to Bermuda.

The Group is a company listed on the Main Board of the Hong Kong Stock Exchange (stock code: HK0855) and is a tradable stock under the Shenzhen-Hong Kong Stock Connect.

CORPORATE HEADQUARTER

The headquarter of the Group is located at Suite 6408, 64/F, Central Plaza, 18 Harbour Road, Wanchai, Hong Kong.

The management headquarter of the Group in Mainland China is located at 13-15/F, Building 20, Section 16, ABP, Fengtai District, Beijing.

OUR PRODUCTS AND SERVICES

China Water is principally engaged in the investment, construction and operation of water projects in Mainland China. Its principal projects include raw water and tap water supply, sewage treatment, urban canal management, urban drainage management and operation, and water related construction projects.

MARKETS WE SERVE



企業發展概況 OVERVIEW OF CORPORATE DEVELOPMENT

SCALE OF THE GROUP

As at 31 March 2018, China Water Affairs Group Limited had a total designed daily water supply capacity of 12.15 million m³, representing an increase of 0.92 million m³ as compared to last year; total designed daily sewage treatment capacity of 1.03 million m³, representing an increase of 70,000 m³ as compared to last year; 101 water plants and 22 sewage treatment plants; water pipelines under operation, maintenance and management of over 135,000 km, representing an increase of 5,000 km as compared to last year; drainage pipelines under entrusted operation of approximately 3,800 km; users of the Group's water supply service (number of registered water metres) over 3.30 million users of water services, representing an increase of 0.4 million as compared to last year; comprising 3.0 million domestic users and approximately 0.3 million commercial and industrial users. We have entered into labour contracts with 7,662 employees, while number of employees increased by approximately 562 as compared to last year.

2018 MAJOR ACHIEVEMENTS

During the reporting period, major achievements included (i) acquisition of major water projects amounting to HK\$160 million; (ii) new large-scale construction and upgrade projects amounting to HK\$2,800 million; and (iii) completion of the Group's financing amounting to HK\$2,410 million.



Source:

 Data for the industry is extracted from the Urban Water Supply Statistic Yearbook (2017) of China Urban Water Association

DEVELOPMENT OVERVIEW

MAJOR AWARDS GRANTED DURING THE REPORTING PERIOD



Ltd. (荊州水務集團有限公司) of the Group was named the National Civilised Unit (全國文明單位) for the sixth time

Awards



NATIONAL LABORATORY ACCREDITATION

Water quality testing centre of Xinyu Water Affairs Group Co., Ltd. (新余水務集團有限公司) of the Group was awarded the laboratory accreditation certificate by China National Accreditation Service for Conformity Assessment (CNAS)



证书

朝月

實質性分析 MATERIALITY ANALYSIS

The determination and analysis of materiality topics are conducted by three processes, namely, identification, prioritisation and verification

IDENTIFICATION

Step

Following the indicator related topics required to be disclosed by the Environmental, Social and Governance Reporting Guide in Appendix 27 to the Main Board Listing Rules of the Hong Kong Stock Exchange and by reference to the topics stated in the materiality list in G4 Sustainability Reporting Guidelines ("G4 Guidelines") issued by Global Reporting Initiative ("GRI"), and taking into account the concerned topics highlighted in the course of stakeholder engagement, the Group has identified 20 materiality topics and determined the scope and boundary of the impacts of such topics.

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No.	i opic	Materiality aspects	Internal		External				Boundary
			internal	Creditors	Government authorities	Customers/ consumers	Suppliers	Community	
1	Reasonably, effectively	Governance measures	٠	•	٠		٠	•	
2	and legally construct	Organisational structure	٠	•	•		٠	•	
3	management platform	Economic performance	•	•					
4	management platform	Compliant operation	•	•	•		•		
5	Actively,	Emissions	•		•	•		•	
6	comprehensively and sustainably promoting	Energy saving and consumption reduction	•	•	•			-	Materiality
7	environmental	Environmental protection	٠		•	•		•	aspects
8	improvement	Use of resources	٠	•	٠	٠	٠	•	applicable to China Water
9		Employment	•		•				and its
10		Remuneration and benefits	•						subsidiaries
11	Practice the	Development and training	•						and
12	cooperative	Health and safety	٠		٠				associated
13	development of	Labour standards	•		•				companies
14	society with passion,	Supply chain management	•		•		٠		somparios
15	kindness and	Procurement behaviours	•		•		٠		
16	aggressiveness	Anti-corruption	•		•		٠		
17		Product quality	•		•	٠			
18		Customer confidentiality	•		•	•			-
19		Community investment	•					•	-
20		Charity and relief	•		-			•	

PRIORITISATION

Step

With respect to the selected materiality topics, we prioritise the importance according to the degree of impacts on the environment, community and economy and the impacts on assessment and decision-making of stakeholders.



VERIFICATION

Step

In respect of the identified materiality aspects, China Water collects opinions from experts, users and stakeholders and carries out verification so as to reach consensus. Besides, the Group has formulated administrative measures regarding the indicators involved in the materiality aspects to determine the means of collection and procedures of indicator information disclosure.

利益相關方參與 STAKEHOLDER ENGAGEMENT

As a corporate engaging in city utilities business, China Water's business activities are closely related to stakeholders. In the course of operation and management, the Group has built a comprehensive communication channel with stakeholders which is open and transparent. Attaching great importance to the requests and concerns of stakeholders, we respond and tackle them in a timely manner to form a constructive and interactive mechanism between the parties.

Stakeholders of China Water that may have material impacts in the course of operation mainly include: interested shareholders/investors/creditors, employees, suppliers, consumers, as well as government authorities and local communities that have other relationship with the corporate.

Means of stakeholder engagement

Stakeholders	Means of engagement and communication	Topics concerned	Frequency of engagement
	Annual report, interim report		Year-end/half-year
Shareholders/	Investor communication meeting	Economic performance	As and when necessary
investors/creditors	Onsite visit	Supply chain management Organisational structure	As and when necessary
Investors/creditors	Press release, announcement	Governance measures	Regularly
	General meeting	-	Regularly/As and when necessary
	Correspondence	Operational safety	As and when necessary
Government	Onsite visit	Product quality and service Compliant operation	Regularly
	Themed conference	Emissions	As and when necessary
authorities	Seminar	Energy saving and consumption reduction	Regularly
	Progress report	Labour standards	Monthly, quarterly and annually
	Open tender		As and when necessary
Quantiere	Onsite visit	Use of resources Procurement behaviours	As and when necessary
Suppliers	Meeting	Anti-corruption	As and when necessary
	Training activity (Product briefing)		As and when necessary
	Customer satisfaction survey		Regularly
	Bringing service into the community		Regularly
Customers/	Factory open day	n day Product quality and service	
consumers	Hearing	Consumer rights protection	As and when necessary
	User seminar		Year-end/half-year
	Company homepage/ WeChat official account		Regularly
	Employee seminar	Remuneration and benefits Employment	Year-end/half-year
Employeee	Employee (representative) meeting	Development and training	Year-end/half-year
Employees	Face-to-face meeting	Work environment Health and safety	As and when necessary
	Employee group activity	Labour standards	Regularly
	Factory open day		Regularly
Least community	Bringing service into the community	Community investment	Regularly
Local community	Project environment and social survey	Charity and relief	As and when necessary
	Public welfare and charity event		As and when necessary

構建管治平台 CONSTRUCTION OF MANAGEMENT PLATFORM

China Water endeavours to maintain sound corporate management standards and procedures, and implement mergers and acquisitions in compliance with national laws and related requirements, enhancing investors' confidence through high standard corporate governance and continuous expansion. The Board strives to improve the corporate governance system to ensure completeness, transparency and accuracy of the disclosures and maintain a high standard of corporate governance capability so as to facilitate value enhancement of the Group.

The Company has been in compliance with the provisions of the Corporate Governance Code as set out in Appendix 14 to the Rules Governing the Listing of Securities on The Hong Kong Stock Exchange. Special circumstances are also elaborated in the section headed Corporate Governance Report in annual reports.

Shareholders of the Company comprise investors with extensive experience of investment and management of water affairs, profound knowledge in capital operation and tremendous strength

Mr. Duan Chuan Liang Chairman and executive director

Mr. Duan is the founder of China Water. He was graduated from the North China College of Water Conservancy and Hydro Power with a bachelor degree, major in irrigation and water conservancy works. Mr. Duan worked for The Ministry of Water Resources of the PRC for more than ten years. He has over 20 year experience in operation, investment and management in water affairs, real estate development and capital operation.

ORIX Corporation

Founded in 1964, ORIX Corporation is the largest non-bank integrated financial services group in Japan. It engages in insurance, entrusted banks, securities, consumer financing, investment banking and real estate financing businesses in 27 countries and regions across the world, with total assets amounted to US\$85.2 billion.

Others

Save as the above major shareholders, our shareholders also include several internationally renowned equity investors and investment management institutes.

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構建管治平台 CONSTRUCTION OF MANAGEMENT PLATFORM

The Board of the Group comprises 12 directors, including four executive directors, four non-executive directors and four independent non-executive directors.

The Board is mainly responsible for formulating the corporate strategies and monitoring the Group's business performance. Board meetings are regularly held by the Group. Save for the decisions on daily operational matters, which are delegated to the management, the majority of the resolutions are subject to the decision of the Board.

The Board has set up three board committees, namely the Audit Committee, Nomination Committee and Remuneration Committee. The Audit Committee is mainly responsible for reviewing the Company's accounting policies and monitoring the financial reporting procedures, monitoring the performance of the internal and external auditors, reviewing and verifying the effectiveness of the Group's risk management and internal control measures, and ensuring compliance with applicable laws and regulations and regulatory requirements.

The Nomination Committee is responsible for identifying qualified candidates for the Board, nominating talented professionals and quality individuals to join the Group, safeguarding a strong and diverse Board, and making recommendations to the Board on matters relating to the appointment or reappointment of directors as necessary.

The Remuneration Committee is responsible for making recommendations to the Board on the remuneration packages of directors and senior management, with reference to directors' and senior management's duties and responsibilities and their contributions and performance to the Group.

The Group implement mergers and acquisitions of new projects in compliance with requirements under relevant national laws, such as the Administration Measures for the Concession Arrangements of Infrastructure and Public Utilities (基礎設施和公共事業特許經營管理辦法). We actively cooperate with local governments and acquire concession for local water supply/sewage treatment projects through public tenders. We also establish project companies to implement scientifically reasonable operational management of the projects so as to create corresponding economic values and social values.

Project companies form board of directors, board of supervisors and operational management organisations in accordance with laws, and China Water appoints directors, administration officers and financial management officers in accordance with laws. We also strictly comply with Company Law of the People's Republic of China (中華人民共和國公司法) to perform duties and exercise powers of decisive organisations, management organisations and supervisor organisations.

For details of corporate governance, please refer to the relevant contents disclosed in the annual report of the Group.

Our environment is like water, which is capable of carrying a boat but also overturning it. If such enterprise blindly pursues economic interests while lacking any awareness to environmental protection or improvement, it is hardly a sustainable business. As an enterprise committed to serve as a public corporation, China Water is looking forward to turn itself into the best enterprise group in the service industry which does not stop evolving and fully recognises the importance of fulfilling responsibilities in terms of environmental protection.

As the pioneer of water value, China Water provides products which are environmentally friendly in nature. We supply tap water to ensure the users' productivity and their living. We purify waterbodies to provide an appealing living environment to the general public. The expanding businesses of our Group also include comprehensive water environment management, rural sewage treatment and the operation and maintenance of urban drainage pipelines. While creating labor value, China Water continues to optimise and beautify our living environment.

Supplying Purified Water

During the reporting period, the Group supplied a total of 1.067 billion m³ of purified raw water and tap water, ensuring 3.3 million connected users' accessibilities to water for drinking and other needs.

Processing Polluted Water Resources

During the reporting period, the Group processed a total of 244 million m³ of sewage, reducing COD emissions from waterbodies by 51,838 tons, BOD by 23,072 tons, SS by 33,464 tons and NH₂-N by 5,960 tons.



Implementation of Environmental Project Management throughout the Process

In order to regulate the environmental and social management of investment and construction projects, China Water formulated the "Environmental and Social Management System" (the "ESMS") (環境和社 會管理規程) in 2011. It was subjected to multiple revises and the latest version was prepared in January 2018. ESMS provides that projects under China Water and its subsidiaries should adhere to the regulations, which requires a comprehensive identification and analysis to any environmental and social risks associated with the projects and the formulation of their corresponding measures of improvement, as well as proper disclosure of information, discussion about concerned areas and supervision from relevant stakeholders during the implementing phase of the project. Meanwhile, China Water has established a standardised system which combined five key elements: water production, water supply, service, safety and branding. The Group organises evaluations every year to review the compliance of its subsidiaries to the relevant standards. The results will be subjected to review and comparison and as a reference for reward or punishment. Our measures generally cover the environmental management of every aspects from the start of a project to the ultimate operation of it.



China Water strives for reducing impacts on the environment of our projects

• We have a prudent planning regarding the new construction of water plants Starting from the site location, process selection and equipment selection, the vision of energy saving and consumption reduction is introduced from the source.

• We continue to carry out process and equipment upgrade

We carry out upgrade or reconstruction of companies that have been operating for long years with obsolete process and equipment in a planned way and introduce new process and equipment. Accordingly, the resource consumption has shown a downward trend over the years.

Yuanhe water plant of Yichun Silver Dragon Water Affairs Co., Ltd. (宜春銀龍水務有限公司) ◄











China Water strives for reducing impacts on the environment of our projects



Comprehensive Management of Water Environment

China Water actively participates in urban water environment management and the integrated operations of water supply and drainage. We aim to facilitate the development of the industry while protecting our environment and maintaining social harmony.

The comprehensive water and riverbank treatment campaign "Two Rivers and Fourteen Nullahs" (兩河 十四溝) in Hegang City (鶴崗市), Heilongjiang Province. Through the comprehensive treatment, we strived to establish water landscape area and water ecosystems as to provide the public with more and better leisure platforms which are better-equipped to interact with our water environment. The people-oriented construction priorities the ecosystem and is planned from a macro perspective to implement and proceed independently but comprehensively under sophisticated leadership, which could ultimately reach the goal of keeping our waterway clear and improving the water quality, as well as enhancing greening and landscaping of the riverbank to help construct a harmonious and beautiful modern city.



An Illustration of the Water and Riverbank Treatment Project "Two Rivers and Fourteen Nullahs" in Hegang



Comprehensive Management of Water Environment





Home of Laozi—Urban Water Environment Management in Luyi (鹿邑)

Luyi County is directly under Henan Province in terms of governance. Despite the rapid development of its society and economy, over the years, certain streams in its urban area have been polluted by domestic and industrial wastewater. Complaints were frequently received from the residents alongside with the streams. China Water approached the government of Luyi County to undertake the urban water environment management project in Luyi. We planned our project on a high starting point and we maintained high standards throughout the implementation phase. We removed the trash alongside with the streams and riverbank, established a system to diverse rainwater and sewage and completed slope maintenance. As a result, purification, beautification and brightening were achieved. After the transformation, the streams become crystal-clear. Trees flourish where the riverbank stretches while sufficient lighting and various leisure, gym and landscaping facilities are provided. The riverside area has become the choice of the residents for a walk or gatherings.



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Case

推進環境改善 PROMOTING ENVIRONMENTAL IMPROVEMENT

To Beautify the Rural Area

Rural sewage treatment project in Luhe County (陸河縣), Guangdong Province. China Water undertook the rural sewage treatment project of Luhe County, Guangdong Province to restore ecological civilisation and to beautify the rural area. Upon completion of the project, the current imperfect sewage pipelines system in Luhe County will receive thorough improvement in order to cure the problem of uncontrolled flow of sewage and enhance the poor living environment of the residents. We aim to build an ecological-park-style rural village to establish a model of an appealing new rural village. Similar projects are also undergoing in Luyi, Henan (河南鹿邑) and Xinyu, Jiangxi (江西新余) and their implementation will begin soon.

Domestic Sewage Treatment Project in Luhe County



Operation and Maintenance of the Urban Drainage Pipelines

The operation and maintenance of the drainage pipelines in Shenzhen City by China Water are widely praised. We replicate our success in an active way. During the reporting period, we entered an agreement with the Xinyu Municipal Government of Jiangxi Province (江西省新余市政府) in respect of a survey of pipelines for the diversion of rainwater and sewage. It lays the foundation of the subsequent redevelopment of the drainage pipelines and the entrusted operation of it.

Case

Integrated Service of Water Supply and Drainage in Shenzhen Grand Industrial Zone



Entrusted Operation and Maintenance of the Drainage Pipelines of Shenzhen Datong Water Affairs Co., Ltd.



Pollutant emission

Pollutant emission

China Water raises the awareness of our staff on environmental protection through publicity, and reduces emission of pollutants per unit product through technology upgrade and equipment enhancement, by which we successfully achieved compliant and reduced emission, and the impacts on the environment of our operation activities are reduced.

Major emissions produced in the course of China Water's operation include the following two categories: ① : the sludge produced in the course of raw water processing. The key components of sludge are the substances dissolved in natural water and the water purifiers added in the course of water purification.

@: the waste gases, sludge and treated discharge produced in the operation of sewage treatment. Waste gases refer to CO₂, H₂S and NH₃ produced in the course of bioprocessing; major pollutants in treated discharge are COD, SS and NH₃-N; and sludge mainly includes silt, garbage and excess activated sludge.

China Water has in place specialised standards for management of general wastes that have smaller impacts on the environment and human health, and has a comprehensive set of management processes and operational procedures regarding the identification, discharge and regulation of wastes to ensure compliant emission.

With respect to the hazardous wastes produced in the industrial sewage treatment plants, qualified professional companies are engaged to deal with them.

Emission categories and emission statistics (A1.1):

Category	Emission	Type of pollutants	Total volume of emission during the reporting period (tonnes)	Total volume of emission in the last year (tonnes)	Compliance of applicable laws and regulations	Remark
Water supply	Sludge	Naturally dissolved substances and water purifiers	131,102	109,409	Environmental Protection Law of the People's Republic of China	Compliant emission
	Waste	H ₂ S	Below emission limit	Below emission limit	Environmental Impact Assessment Law of the People's Republic of China	Compliant emission
	gases	$\rm NH_3$	Below emission limit	Below emission limit	Water Pollution Prevention and Control Law of the People's Republic of China	Compliant emission
		COD	6,497	7,378	Atmospheric Pollution Prevention and Control	Compliant emission
die	Treated discharge	SS	2,624	4,089	Law of the People's Republic of China Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste	Compliant emission
e trea		NH ₃ -N	851	1,199		Compliant emission
Sewage treatment	Sludge	Silt, garbage and excess activated sludge	90,610	129,998	Ambient Air Quality Standards Environmental Quality Standards for Surface Water Environmental Quality Standards for Underground Water Emission Standards for Odour Pollutants Pollutants Emission Standards of Urban Sewage Water Treatment Plant	Sludge from domestic sewage treatment plants is used for reclamation and electricity generation after dehydration and desiccation; and sludge from industrial sewage treatment plants is dealt with by qualified professional companies after dehydration and desiccation



Waste Emission

The hazardous wastes produced in the course of production and operation of China Water are mainly sludge produced in the industrial sewage treatment plants. During the reporting period, total sludge produced was 360 tonnes (A1.3). These wastes were properly dealt with by qualified treatment companies (A1.6).

Non-hazardous wastes are mainly sludge produced in tap water plants and domestic sewage treatment plants. During the reporting period, total sludge produced was 221,712 tonnes (A1.4). Treated sludge, which met with the emission standards, were dealt with by the local environmental hygiene departments after dehydration and desiccation. Major processing methods include reclamation, compost or combustion for electricity generation (A1.6).

Greenhouse gas emission (A1.2)

Greenhouse gas directly produced by China Water in the course of production and operation are very limited. Greenhouse gas are mainly produced from fuel used in production and office premises. Greenhouse gas indirectly produced are mainly caused by power consumption in the course of production. The direct and indirect greenhouse gas emissions in terms of CO₂ equivalent (unit: tonnes) are as follows:

Category	Scope 1	Scope 2	Scope 3	Total volume
Water supply	1,419	219,835	N/A	221,254
Sewage treatment	53	50,594	N/A	50,647
Total	1,472	270,429	N/A	271,901

The definition of Greenhouse Gas Indicator Scope is cited from United Nation's Kyoto Protocol and The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard of WRI and WBCSD.

- Scope 1: Refers to direct greenhouse gas emissions where the greenhouse gas emissions are derived from sources that are owned or controlled by the corporation (including those produced in the course of production process and those produced in fuel consumption).
- Scope 2: Refers to the indirect greenhouse gas emissions where the greenhouse gas emissions are resulting from the generation of electricity, heating, cooling and steam purchased from other entities consumed within the corporation (produced from purchased electricity).
- Scope 3: Refers to other indirect greenhouse gas emissions that are produced as a result of the activities of the entity but the emissions are not derived from sources owned or controlled by the corporation. China Water has not established the means of data collection regarding the greenhouse gas emissions under scope 3. Accordingly, it is not applicable to the report.

Emission factor and global warming potential ("GWP") use United Nation's Intergovernmental Panel on Climate Change ("IPCC") data.

Energy saving and consumption reduction (A1.5)

The characteristic of the industry determines that the principal business of China Water must consume a large number of electricity. Energy saving and consumption reduction is a key segment in the operational management of the Group. China Water always insists in promoting the new process, new technology and new initiatives of energy saving and consumption reduction to reduce the consumption of resources in the unit production and to improve the resource utilisation rate.

During the reporting period, energy consumption percentage for the water supply business accounted for 19.1% of the cost of production, which was lower than 21.2% of last year. Energy consumption percentage for the sewage treatment business accounted for 32.1% of the cost of production, which was lower than 33.8% of last year.

• We enhance the energy utilisation efficiency

The Group recruits experts and forms two working teams for "reducing leakage ratio" and "water production, energy saving and consumption reduction", so as to guide, assist and supervise the subsidiaries of the Company in phases and in groups. During the reporting period, the leakage ratio was 14.43%, which was lower than the average leakage ratio of 22.20% in the industry (data sourced from the Urban Water Supply Statistic Yearbook (2017) of China Urban Water Association). The average water supply and power consumption of unit of the Group was 225 kWh/thousand m³, which was lower than the average water supply and power consumption of unit of 280 kWh/thousand m³ in the industry. (A2.3)

• The use of clean energy

The Group continues to increase the usage ratio of clean energy. We make use of the open space in the plants and the rooftop of the buildings for the implementation of photovoltaic engineering with plan. We have installed solar panels in dozens of water plants and sewage treatment plants in Jiangxi, Hunan and Henan. During the reporting period, China Water produced clean energy of 21,900 mWh, accounting for approximately 6% of the total power consumption.



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Category	Power consumption (mWh)	Unit power consumption (kWh/' 000 tonnes)	Fuel consumption (tonnes)
Water supply	280,045	225	468
Sewage treatment	64,450	264	18
Total	344,495	N/A	486
Total energy consumption (power consumption and fuel consumption) is equivalent to 1,240,184 GJ			

All of the energy used by China Water are indirect energy. Details of energy use during the reporting period are as follows (A2.1):

During the reporting period, China Water's total water intake and water supply were 1,291.64 million m³ and 1,246.88 million m³ respectively. Water use for water production (total water use) amounted to 44.76 million m³, and the percentage of unit water use (water use by plants) was 3.47% (A2.2).

As a provider of city water, China Water does not have any issue in sourcing water that is fit for purpose but is an unswervingly promoter and practitioner of water conservation and efficiency (A2.4).





Environment and natural resources

All construction projects of China Water do not fall under the category of construction projects that may have a material impact on the environment under the Catalogue for the Classified Administration of Environmental Protection for Construction Projects (建設項目環境保護分類管理名錄) issued by the State Council.

The construction of water projects has considerable impacts on the environment and natural resources. The impacts mainly refer to the small amount of wastewater, waste gases, waste residues and noise produced in the course of construction, which are limited and generally temporary. China Water follows strictly the administrative requirements to engage qualified third parties to carry out feasibility studies and assessment of environmental impacts, identify the factors of impacts that may be caused by the project on the environment and natural resources, and take practical and effective measures to avoid or minimise the impacts in the course of construction of the project (A3.1).

China Water's consumption of natural resources refers to the renewable industrial products, which are mainly the water purifiers and disinfectants added in the course of water supply and sewage treatment.

Category	Name	Dosage (t)	Unit average dosage (kg/km³)
	PAC	11,946.3	11.6
Water purifier	$Al_2(SO_4)_3$	98.0	3.8
	NaOH	818.1	10.1
	Liquid chlorine	1,903.8	2.2
Disinfectant	CIO ₂	490.9	1.7
	NaClO	1,266.5	5.2



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踐行社會協同發展 PRACTICE THE COOPERATIVE DEVELOPMENT OF SOCIETY

Social co-development

As a business entity, China Water forms an integral part of the community. Corporate development and social development is complementary, and corporate development should come after social co-development.

The following table illustrates the economic values created by the Group and wealth allocated to stakeholders during the reporting period:

Stakeholders	Indicator	2018 (HK\$'000)	Category
Investors/creditors	Revenue	7,580,176	Economic value created by the Group
Suppliers (products and services)	Cost	4,309,540	
Employees	Remuneration and benefit expenses	738,646	
Creditors	Finance cost	289,062	Economic value
Shareholders	Dividend allocation	369,407	allocated by the Group
Government	Income tax	700,587	
Community	Donations	688	
Investors/shareholders	Total equity	11,154,409	Economic value retained by the Group



Respect employees' rights and care for employees' development and training

Employees

China Water follows strictly the requirements under the Labour Law of the People's Republic of China. To safeguard the interest of employees, we have entered into the Labour Contract with 7,662 employees. Relevant matters relating to employees' interests, such as remuneration and benefits are determined by way of negotiation between the Group and its member within the Group and all levels of labour union or the employee.

Remuneration and benefits

The remuneration system of China Water accords with the principle of "work more; get more" which fundamentally determines the remuneration based on individual performance. Remuneration comprises stocks, share options, annual salary, position compensation and performance-based allocation. The overall income of employees is closely linked with the economic benefits of the corporate, which helps strengthen the relationship between employees and the corporate so as to motivate the employees.

China Water provides a comprehensive range of benefits for its employees, including the payment of five insurances and one fund (五險一金) in accordance with the law; provision of a safe, comfortable and clean working environment equipped with a full range of work safety supplies; provision of transport, communication, holiday and relief allowances; and thorough implementation of paid leave system with paid-leave entitlements such as national statutory holidays and annual leave.

踐行社會協同發展 PRACTICE THE COOPERATIVE DEVELOPMENT OF SOCIETY

Respect employees' rights and care for employees' development and training



The Group's employee structure by gender and age (B1.1):





CO-DEVELOPMENT

The Group's employee distribution by position:

Rank	Gender	Number of people	Percentage (%)
Contine moment	Male	348	84
Senior management	Female	64	16
Mid-level management	Male	554	65
personnel	Female	295	35
Technicians and	Technicians and Male	2,766	52
operation workers	Female	2,516	48
C	Male	597	53
Others	Female	522	47

The Group's male/female employee proportion, proportion of local employees and annual employee turnover rate (B1.2):

Indicator	As at 31 March 2018
Total number of employees	7,662
Male (%)	4,265 (56%)
Female (%)	3,397 (44%)
Proportion of local employees	83%
Annual employee turnover	1.62%

踐行社會協同發展 PRACTICE THE COOPERATIVE DEVELOPMENT OF SOCIETY

Respect employees' rights and care for employees' development and training

Care for employees and the underprivileged in our team

China Water genuinely cares for its employees and advocates mutual support and co-development. The Group not only offers competitive remuneration package and fringe benefits to its employees, but also provides necessary assistance to employees with distress due to special circumstances.




Health and safety (B2.3)

Employees' safety and health is one of the premises of sustainable development for a corporate. China Water is committed to reducing the potential safety and health risks in the workplace for employees and adheres to the direction of "safety first and prevention" to provide employees with a compliant workplace equipped with a full range of production safety supplies.

We have clearly defined and strictly implements the duties of each position and operational procedures for equipment use. We also regularly organise relevant training and tests to employees in every position so as to ensure that our employees are familiarised with the management requirements and operational procedures, and prevent accidents due to employees' forgetfulness or unfamiliarity of the operational procedures.

We have established an accountability system for production safety and entered into the accountability letter for production safety target with each level within the corporation which states the person-in-charge for safety management.

The Group regularly organises safety and health checks for various levels within the corporation to identify relevant risks and take precautionary measures.

Fatal incident and injuries of employees of China Water during the reporting period (B2.1/B2.2).

Category	Number
No. of employees involved in fatal incidents	1
No. of employees involved in work injury disability incidents	14
No. of days lost due to work injury	1,102

33

Training and development

China Water attaches great importance to training and development of our employees. Various events are organised and arranged by our internal professional human resources department, including seminars presented by professionals, on-the-job training, skill contests and exchanges among members within the Group, so as to enhance the professional knowledge, skills and corporate identification, as well as strengthening employees' practical operational ability and management's problem identification and troubleshooting ability.

China Water provides an extensive platform for employee development. We insist on an employment mechanism which allows promotion and demotion as well as appointment and dismissal. We explore, train and put talents to the best use in our work practice. Management officers and technicians are selected via open recruitment and internal promotion where those who are competent are recruited. It also enables hardworking employees to refresh their work skills, and enhance their identification and loyalty to China Water, so as to enhance their work efficiency and allow employees to grow and achieve individual development in the course of corporate development.

China Water offers a myriad of training activities with different focuses.

The Group provides orientation training for new joiners to help them familiarise with its corporate culture, work environment, work conditions, staff relations and position requirements as soon as possible, so that they can quickly fit in our family of China Water.

We organise training for various positions for existing employees. In the corporate, each production and operation activity represents an economy activity to create value for its customers, and different position needs different knowledge and skills. Therefore, performance of employees in each position affects directly the quality of products and standard of service of the corporate, and hence affects the reputation of the Group. In this regard, China Water organises training for various positions, including on-the-job training, onsite guidance, simulated operation, case analysis and role play as an effort to enhance employees' operational skills and professional qualities.

We organise various management training for the management. Management is the brain of a corporation, and every decision it makes shall alter a corporation's direction. Therefore, quality of decisions of the management affects directly the development of the corporation. In this regard, China Water organises specific corporate management trainings, including management knowledge training, case analysis and management interaction, to learn and exchange experiences and enhance management's quality and leadership ability. Besides, we continuously identify outstanding management talents and provide targeted trainings with an aim of optimising the management structure and building an echelon of management.

We organise various themed seminars. China Water engages internal or external professional technicians and management personnel on target basis to give lectures on special topics. During the reporting period, the Group has organised feature seminars on safe production, management communication, financial knowledge, corporate informationised management, enhancement of leadership, performance management, professional quality and business etiquette. Besides, members of the Group also look into their own management needs and organise various themed seminars according to their annual training plans.

We organise skill contests. Through contests among employees, we create a learning environment in terms of knowledge, skills and experience, stimulate employees' learning initiatives and encourage lifelong learning.





The Group's employee distribution by position (B3.1/B3.2).

Rank	Gender	Average training hours	Percentage of personnel trained (%)
Mid-level to senior management personnel	Male	48	90%
	Female	48	92%
Lower management personnel	Male	45	96%
	Female	50	98%
Technicians and operation workers	Male	56	97%
	Female	56	98%



Labour standards

China Water follows the relevant provisions in the Labour Law and the Labour Contract Law and complies with the relevant rules of the International Labour Standards ("ILS") to safeguard the labour interest.

China Water respects the right of workers to choose their profession freely and any form of forced labour is strictly prohibited. All tasks are negotiated on voluntary basis. Employees are entitled to resign from work freely in accordance with the law. China Water does not require any employees to provide any collateral as a condition of employment.

Child labour is strictly prohibited. No child labour (aged below 16) is allowed for any position in China Water. Employment is subject to strict screening processes. Prior to recruitment, the account book and identification must be verified and submitted to the local public security bureau and the bureau for labour and employment for approval. Any use of child labour is strictly prohibited (B4.1).

China Water respects the right to rest for workers. Work hours should not exceed the national standards, i.e. no more than 40 hours per week. Any overtime work should be unanimously agreed with employees and compensated.

China Water treats the employees well and no physical assault, mental oppression or verbal abuse to employees is allowed. China Water does not discriminate employees because of their age, gender, skin, religion and marital status in employment and work practice.

A labour union is established by various levels of corporate bodies of China Water as required and employees may form or join a union of their own free will. Representatives of the union may enter into negotiation with the corporate in terms of matters relating to the interest of employees such as employment, wages and benefits, education and development and etc.

A human resources department is established by China Water's administrative headquarters and various levels of corporate bodies to regularly review and deal with violations of labour standards. During the reporting period, no violation of labour standards was identified (B4.2).







SAFEGUARD THE INTEREST OF MULTI-PARTIES AND CO-DEVELOP WITH THEM

Supply chain management

China Water selects quality raw materials and related service providers to ensure product quality and standard of service by implementing the supplier preliminary review system and the tendering system for bulk materials in supply chain management.

In terms of tender, China Water has formulated the Administrative Measures on Tender (招標管理辦法) and established the Group's electronic tender procurement platform to implement open tender, invited tender, centralised tender, tender renewal and tender request based on different procurement size and procurement features, in order to ensure the fairness of project tenders.



China Water has prepared a catalogue of suppliers for bulk materials which pre-approves the qualifications of suppliers. Criteria for approval include not only the capabilities and quality of products and services of suppliers, but also whether or not the suppliers have in place established policies in areas of environmental protection and social risk management. The supplier catalogue will be updated each year according to the cooperation status and suppliers' environmental and social performance. China Water seeks to work closely with like-minded suppliers who also place great emphasis on monitoring financial risks and social risks (B5.2).



The Group's suppliers distribution by region (B5.1):



Product responsibility

China Water highly values its product quality and sees it as the basis and foundation of corporate development. The Group implements product quality management in strict accordance with the relevant PRC laws and regulations and industry standards. The quality of tap water produced by our water supply companies must meet the Standards for Drinking Water Quality (GB5749-2006), whereas the discharge produced by our sewage treatment companies must meet the Standard of Pollutants for Municipal Sewage Treatment Plant (GB18918-2002).





Product responsibility

China Water has put in place a comprehensive product quality control system. On the one hand, it endeavours to optimise the water purification process to enhance product quality by investing in the construction of new water plants or the renovation of old water plants. On the other hand, it pushes ahead the development of product examination capabilities to achieve effective quality control. Relevant laboratories are set up according to the scale of subsidiaries of the Group. Currently, we have two full quality control laboratories that cover 106 items and 8 quality control laboratories that cover more than 42 items. The Group conducts self-testing or third party-testing in strict accordance with the national water quality testing standards to ensure the water quality is up to standard (B6.4).





During the reporting period, no recall of products due to product quality, safety and health reasons was identified by China Water (B6.1).

China Water aims to develop itself into a large-scale conglomerate that provides the highest quality services at its best endeavours. Positioned as a public service provider, the Group regards its services the key to create value and achieve performance. Service is always the focus of a corporate. After years of resource integration, China Water has widely implemented the "one-stop" service and external service pledge across its subsidiaries while optimising the conditions of services and enriching the contents of services. All members of the Group, especially the water supply companies, have set up a customer service department to handle user enquiries, business affairs and complaints. Meanwhile, the Group has also issued the operational management standards for water supply service which state the procedures and terms of the services (B6.2).



Anti-corruption

China Water is on no account engaged in bribery, blackmail, fraud and money-laundering. China Water has a zero-tolerance policy regarding abuse of power of duties and position for personal gain which damages the interest of users, suppliers and other third parties.

The Group has established various systems of finance, operations, investment and fundamental management to regulate the group and individual behaviours. Through the establishment of the internal disciplinary management office and audit departments, we systematically organise irregularities checks so that the Group is supervised internally and externally (B7.2).

During the reporting period, no litigation relating to corruption was identified by China Water (B7.1).

Co-develop with the community

China Water is committed to the design, construction, operation and management of city water infrastructures in China. Through the construction and operation of water plants, sewage treatment plants, water supply and drainage pipelines networks and comprehensive governance of water environment, it has greatly improved the city appearance and the living standard of urban and rural residents, facilitating the harmonious development of local economy.

Leveraging the urban water supply platform and extensive experience in water supply management, China Water has, to the full extent, commenced the integration of urban and rural water supply so as to benefit more rural users through various means such as pipelines network extension, upgrading of rural water supply facilities as well as entrusted management of operations.

The construction of the urban and rural water supply integration project in Xinyu City commenced:

The integration of urban and rural water supply in Xinyu City is a major civil project resolved and formulated by the municipal committee and municipal government with a total investment of approximately RMB1.3 billion. At present, Xinyu City has formulated the implementation plan for the construction of urban and rural water supply integration project in Xinyu City. In accordance with the principle of "government mainly for taking up responsibility; corporates mainly for construction and management; market serving as the financing channel", Xinyu City and China Water Affairs Group Limited signed a framework agreement for urban and rural water supply integration project with plans to commence construction before 1 July 2017 and to achieve the "three major goals": 100% of water supply network coverage rate in more than 50 villages in the whole city; 50% of the current water supply rate in villages that fulfilled water supply conditions; and 100% of the tap water quality passing rate within the water supply scope of the project until the end of 2018, to establish a drinking water safety system for rural villages under which the whole city shares the same water network, same price, same quality and all households have direct access to water in order to ensure that rural residents drink safe and convenient tap water.



China Water has commenced the construction of urban and rural water supply integration in Changzhou City in Jiangsu Province, Jingzhou City in Hubei Province, Yuncheng City in Shanxi Province and Gaoan City in Jiangxi Province.

During the reporting period, China Water supplied water to 14 new villages and towns, with 168,200 new households and new population of 588,800 using water in villages and towns.



Unified Water Supply Service in Wujin District, Changzhou City, Jiangsu Province



Integrated Development of Urban and Rural Water Supply in Jingzhou City, Hubei Province



Urban-rural water supply integration operation in Yuncheng City, Shanxi Province



Integrated allocation of water supply resources in Gao'an City, Jiangxi Province

Co-develop with the community

China Water provides differentiated water supply services and promotes comprehensively pipeline direct drinking with an aim of providing specialty products to customers with various needs.



Direct drinking facility in the express rail station in Hunan Jingzhou built by Jingzhou Water Affairs Group Co., Ltd.







Co-develop with the community

The development of China Water is also inseparably linked to community care and support. It cares for and listens to the requests of the community parties and use its best endeavours to assist community development so as to achieve co-development between the corporate and the community. The Group is in support of the community education affairs, community infrastructure development and community environmental improvement. China Water prioritises the employment of local workers and selection of suppliers.

China Water devotes active efforts to repay the society by organising various kinds of poverty relief activities. It encourages members within the Group to organise special events to penetrate into the community, rural areas and families in distress to provide necessary assistance to the people in need in society. The Group offers free water and water discounts to users in distress in the city to allow all users to enjoy the basic right of use. In addition, it brings service into the community to provide free water equipment maintenance service to users with disabilities. It also introduces targeted poverty alleviation in remote rural areas to help solve water-related problems faced by rural users and provide necessary assistance to those in need. It organises a variety of fundraising and caring events and frequently visit orphanages and elderly homes to show its care for them (B8.1/B8.2).











Organize the caring events regularly





Sustaining service during disaster period





聯交所《環境、社會及管治報告》內容索引 STOCK EXCHANGE'S ESG REPORTING GUIDE INDEX

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Note 1: Not meaningful

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Areas		"Comply or explain" Provisions	Recommended Disclosures	Pages
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Note 2: The relevant statistical process has not been established

報告概況 REPORT OVERVIEW

This report sets out the comprehensive and systematic review and overview of China Water Affairs Group Limited in the environment, social and governance aspects for the year 2018.

Reporting period: 1 April 2017 to 31 March 2018

Format of report: Prepared in accordance with the ESG Reporting Guide of Appendix 27 to the Main Board Listing Rules of the Hong Kong Stock Exchange and the Sustainability Reporting Guidelines ("G4 Guidelines") issued by Global Reporting Initiative.

Publication: The report is prepared in both Chinese language and English language, which is published on the Group's website (http://www.chinawatergroup.com).

We sincerely invite feedbacks and recommendations from various parties (readers) regarding the report and the environment, social and governance aspects of the Group. Please contact us via the following means:

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