中國水務
CHINA WATER

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

2023
ESG REPORT

CONTENTS

Glossary

"$Al_2(SO_4)_3$"	Aluminium Sulfate	硫酸鋁
"BOD"	Biochemical Oxygen Demand	生化需氧量
"ClO_2"	Chlorine Dioxide	二氧化氯
"CO_2"	Carbon Dioxide	二氧化碳
"COD"	Chemical Oxygen Demand	化學需氧量
"GJ"	Gigajoule	吉焦
"H_2S"	Hydrogen Sulfide	硫化氫
"km"	Kilometer	千米 / 公里
"km^2"	Square kilometer	平方千米 / 平方公里

“kW·h”	Kilowatt-hour	千瓦時
“m^3”	Cubic meter	立方米
“MWh”	Megawatt-hour	兆瓦時
“NaClO”	Sodium Hypochlorite	次氯酸鈉
“NaOH”	Sodium Hydroxide	氫氧化鈉
“NH_3”	Ammonia	氨氣
“NH_3-N”	Ammonia Nitrogen	氨氮
“PAC”	Polyaluminium Chloride	聚合氯化鋁
“SS”	Suspended Solids	懸浮物

Core Value

以水为本　达善社会

Water-oriented　Kindness to Society

STATEMENT OF THE BOARD

China Water Affairs Group Limited ("China Water" or the "Company", together with its subsidiaries, the "Group") upholds the core value of "Water-oriented, Kindness to Society". We place great emphasis on ESG works, and has established a comprehensive ESG management system that meets ESG management requirements and facilitates the collaborative development of China Water.

The Group has established a four-tier ESG governance structure consisting of the Board, the management, the functional departments and our subsidiaries, with a dedicated ESG task force set up to protect the interests of various stakeholders effectively. The Board is the chief ESG decision-making body and possesses decision-making power over the Group's ESG governance strategies, management objectives, information disclosure and major issues; the management is responsible for the supervision and execution of ESG governance issues and daily operations, and reports regularly to the Board; the functional departments, regarding various ESG issues, carry out directions from the management, formulate plans and supervise their implementation, and report regularly to the management; our subsidiaries, as the ultimate executing bodies of ESG governance, are equipped with professionals and the necessary resources to execute related works.

To achieve effective ESG governance results, the management of ESG issues had been a priority for this year. The Group held special meetings to assess the importance of ESG issues; discuss and identify ESG risks and material issues; monitor and review the progress of ESG works, by which the Group strived to align its ESG reporting with the four principles of materiality, quantitative, balance and consistency.

During the reporting period, the Board was fully informed of the status and progress of the Group's ESG governance. Material issues were considered and approved.

Duan Chuan Liang
Chairman of the Board and Executive Director

MANAGEMENT'S STATEMENT

"There are certain historic occasions that empower us with the wisdom and strength to move forward". In the past year, the international world has been in a state of flux, geopolitical crises have intensified, and the world economy has been walking on thin ice in the face of challenges from both regional conflicts and Covid-19 pandemic. Climate change has served as a "code red" alert to humanity, and global sustainability is facing an unprecedented and severe test.

Back in 2003, China Water opened its doors to the mainland water market. After two decades of obstacles and difficulties, with its core value of "Water-oriented, Kindness to Society", and under the precise planning and excellent leadership of the Board and the management team, China Water has committed to the strategic positioning of water supply as its principal business, grasped market opportunities and implemented the strategies of urban-rural water supply integration in 2011 and supply-drainage integration in 2016, respectively, which led to rapid expansion of its business scope and a further development of the pipeline direct drinking water business as its second core business in 2021. With each successful strategic upgrade, China Water has made great contributions to the improvement of the ecological environment and the practice of social co-development.

As climate crisis became the focus of global attention, China is actively taking action to address climate change, putting forward the new concepts of "building a community of shared future for mankind" and "lucid waters and lush mountains are invaluable assets" in relation to the construction of ecological civilisation. China Water continues to pay attention to national environmental policies, actively responds to the United Nations' standards and requirements on monitoring global warming, upholds net-zero greenhouse gas (GHG) emissions as a core strategy with the publication of the "Green Operation Proposal", the "Outline of the Implementation Plan for Carbon Peaking and Carbon Neutrality" and the "China Water Net-zero Emissions Proposal", as well as steadily carries out various established measures to achieve concrete results.

As the only listed company with a nationwide presence in the pipeline direct drinking water business, China Water has strong technical research and development capabilities and a comprehensive service guarantee system, with its pipeline direct drinking water business covering 183 districts, counties and county-level cities in 22 provinces, municipalities and autonomous regions, serving an estimated user population of approximately 4.5 million. Over the past year, China Water has been working together and committed as a whole to the formulation of the "Implementation Plan for the Comprehensive Promotion of Quality Water Supply and Construction of Pipeline Direct Drinking Water to Households", which specifies a dual-wheel business driving model of fully implementing quality water supply projects by companies within the inner wheel and rapidly expanding into quality markets by companies on the outer wheel. Meanwhile, the "citywide direct drinking water supply" and "urban-rural direct drinking water supply" models are becoming increasingly established with projects being steadily promoted. In view of the leapfrog development of the pipeline direct drinking water business, a revamped "China Water" is expected.

At the beginning of 2023, China finally relaxed its control over the Covid-19 pandemic. In the past three years, through witnessing countless cases of people watching out for each other and moving forward despite difficulties, China Water has become more committed on maintaining "people-oriented" as its human resources management philosophy, and has continuously increased its investment in talent training and launched various forms of training, job attachment and recruitment activities to create a broad platform for the career development of its staff. In terms of corporate governance, China Water continued to consolidate its achievements on standardised management, piloted grid-style zonal management, continuously improved product quality and strived to build its "China Water, Nourishing Thousands of Families with Love" brand.

For twenty years, we stay faithful to our heart – "Water-oriented, Kindness to Society".

For twenty years, we stay faithful to our mission – to be a forerunner in promoting the value of water.

For twenty years, we stay faithful to our vision – to build an ever-improving best service-oriented enterprise.

However difficult it might seem; the challenge will be overcome. Going forward, China Water will deepen its cooperation with local governments, expand its business scale for the pipeline direct drinking water business, the urban-rural water supply integration and the supply-drainage integration, optimise its asset portfolio and resource allocation, and accelerate the implementation of the "dual carbon" initiative to achieve net-zero GHG emissions, so as to achieve good water management in pursuit of perfection.

Liu Yong
Group General Manager

OVERVIEW OF CORPORATE DEVELOPMENT

ABOUT CHINA WATER

China Water Affairs Group Limited is a company listed on the Main Board of The Stock Exchange of Hong Kong Limited (stock code: 00855.HK) and its shares are tradable under the Shenzhen-Hong Kong Stock Connect.

Since 2003, the Group has been committed to investing, constructing and operating water projects in mainland China, including raw water, tap water, pipeline direct drinking water, wastewater treatment, drainage operation, comprehensive water environmental renovation and water-related construction. The Group has grown into a professional and market-oriented international leader of integrated water operation across multiple regions, with its business covering 24 provinces, municipalities and autonomous regions. The Group is headquartered in Hong Kong, the PRC, with a national management headquarter in Beijing, our capital city.

SCALE OF THE GROUP*

As of 31 March 2023, the Group had 158 water plants, with a total designed daily water supply capacity of 14.10 million m^3; 22 sewage treatment plants, with a total designed daily sewage treatment capacity of 1.32 million m^3; total length of water pipelines under operation and maintenance of over 148,000 km; total length of drainage pipelines under entrusted operation of over 1,000 km; it is estimated that the city water supply business and the pipeline direct drinking water business covered population of more than 30 million people and approximately 4.5 million people respectively. The Group had a total of 11,394 employees, representing an increase of 376 employees as compared to last year.

MAJOR OPERATING ACHIEVEMENTS

During the reporting period:

Total investment amount in new large-scale water construction and upgrade projects

HK$4.78billion

Total financing amount

HK$11.87 billion

* Associates are no longer included due to a change in reporting scope

Pipeline direct drinking water business

— Covered an estimated user population of approximately 4.5 million

Environmental protection business

Sewage treatment operation and construction (Including water environmental renovation construction projects)

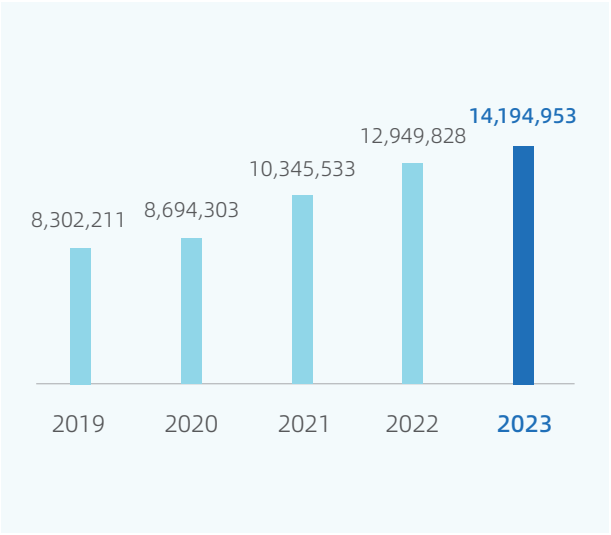
Drainage operation

Review No. GS(2019)1825 Prepared under the supervision of Ministry of Natural Resources

MANAGEMENT INDICATORS

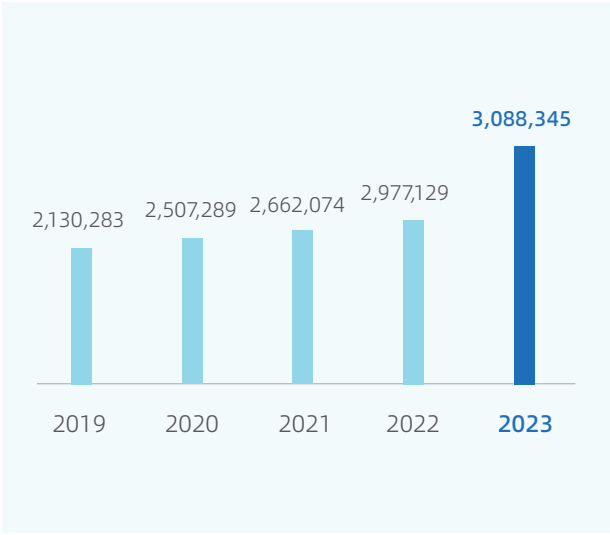
Revenue

Unit: HK$'000



Profit

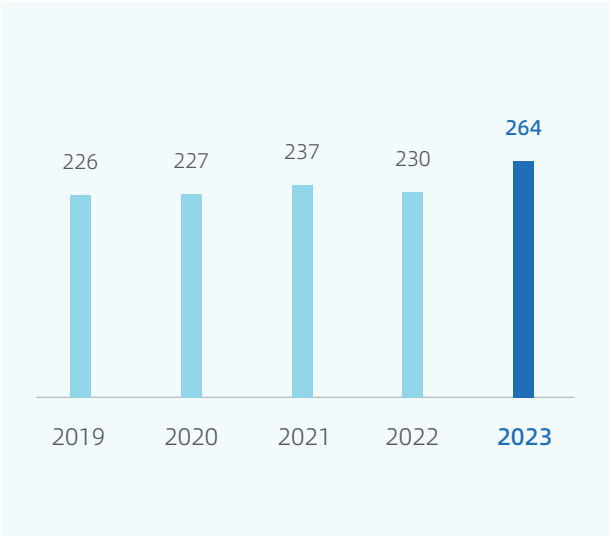
Unit: HK$'000



Power consumption per unit of water supply*

Unit: kW·h/1,000 m^3

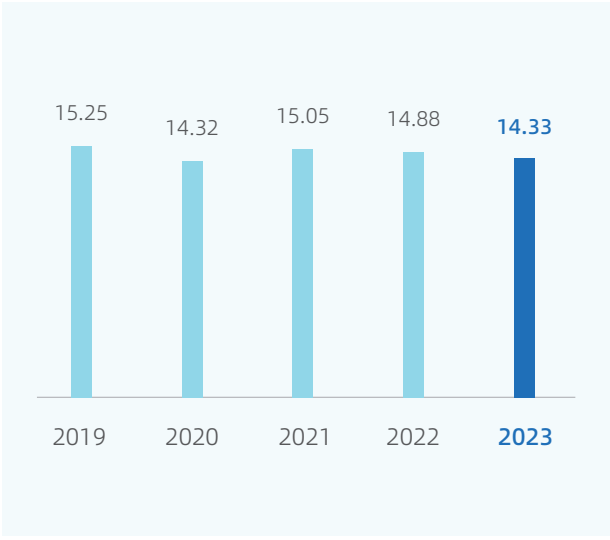
Industry average 300 kW·h/1,000 m^3



Leakage ratio*

Unit: %

Industry average 23.22%



Source: The industry average is extracted from Urban Water Supply Statistic Yearbook (2019) of China Urban Water Association

* Associates are no longer included due to a change in reporting scope

HONOURS

China Water Affairs Group Limited was awarded the title of "Excellent ESG Enterprise of 2021-2022" from Hong Kong Economic Times.

China Water Affairs Group Limited received the "Best ESG Award" at the 7th Zhitong Caijing Listed Company Awards.

China Water Affairs Group Limited was rated BBB in MSCI ESG Ratings.

China Water Affairs Group Limited won the "2022 Sina Finance Hong Kong and U.S. Stocks - Best Investment Value Listed Company" award.

Huaihua Silver Dragon Water Affairs Co., Ltd, one of our subsidiary, ranked first in the rating for business environment optimisation in Hunan Province in terms of "Water and Gas Usage", and was also awarded the title of Advanced Unit in Optimisation of Business Environment in 2022".

Shenzhen Jinda Environment Holding Co., Ltd., one of our subsidiary, was awarded the "Most Professional Operating Service Enterprise in Water Industry in 2022".

Zhoukou Silver Dragon Water Affairs Co., Ltd, one of our subsidiary, ranked second in the rating for business environment optimisation in Henan Province in terms of "Water Usage".

Jian Water Affairs Group Co., Ltd, one of our subsidiary, ranked first in the rating for business environment optimisation in Jiangxi Province in terms of "Water Pricing" and third in terms of "Access to Water".

STAKEHOLDER ENGAGEMENT

China Water insists on inclusiveness and win-win cooperation. It always maintains good relations and effective communication with its stakeholders and facilitates the improvement of corporate governance together. To fully understand the concerns of our stakeholders and listen to their demands and suggestions, the Group has established an open, transparent, comprehensive and efficient communication and engagement mechanism, with which stakeholders' engagement is incorporated into our management system and business processes under the principles of honesty, equality and mutual benefit. The Group's stakeholders mainly include our shareholders, investors, creditors, the government, our customers, consumers, employees, suppliers and the local communities.

The Group defines its stakeholders based on the following four principles:

Responsibility:
Stakeholders associated with the Group in terms of policies, laws, regulations, contracts, financials and operation;

Decision-making:
Stakeholders who have decision-making authority over the Group;

Dependence:
Stakeholders who rely to a significant extent on the Group's operation and governance;

Impact:
Stakeholders in the vicinity of the Group's business who are affected by our operation.

Stakeholders	Means of engagement and communication	Concerned Issues	Frequency or schedule
Shareholders, investors, creditors	General meeting Results announcement meeting Annual/interim report Press release/announcement Roadshow Investor conference Site visit	Economic performance Compliance operation Organisational structure Governance measures	Regularly/as and when necessary Annually/biannually Annually/biannually Regularly/as and when necessary Regularly/as and when necessary As and when necessary As and when necessary
Government and regulatory authorities	Correspondence Regulatory inspection Site visit Themed conference Seminar Progress report	Operational safety Product quality and service Compliant operation Emissions Energy-saving and consumption reduction Labour standards	As and when necessary Regularly/as and when necessary As and when necessary As and when necessary Regularly Regularly
Customers, consumers	Customer satisfaction survey Community services Plant open day Hearing User seminar WeChat official account	Product quality and service Consumer rights protection Anti-corruption	Annually Regularly Regularly As and when necessary Regularly/as and when necessary As and when necessary
Employees	Business meeting Employee seminar Employee representative meeting Interview Team building Training Employee group activity China Water News (internal publication)	Remuneration and benefits Employment Development and training Work environment Health and safety Labour standards	Regularly Year-end/half-year Annually/biannually As and when necessary Regularly Regularly/as and when necessary Regularly Regularly
Suppliers	Procurement tender Site visit Meeting Product briefing	Resources use Procurement behaviours Anti-corruption	As and when necessary As and when necessary As and when necessary As and when necessary
Local community	Plant open day Community service Survey on environmental and social impact Public welfare and charity event	Community investment Community interest protection Environmental protection Charity and relief	Regularly Regularly/as and when necessary As and when necessary As and when necessary

MATERIALITY ANALYSIS

With reference to the requirements of the "Environmental, Social and Governance Reporting Guidelines" of the Hong Kong Stock Exchange and the issues stated in the materiality list in the "G4 Sustainability Reporting Guidelines" issued by the Global Reporting Initiative (GRI) and taking into account the results of stakeholder engagement, China Water has identified, prioritized and verified issues of materiality. It also determined the level of disclosure and reporting boundaries according to the four reporting principles of materiality, quantitative, balance and consistency.

PROCESS OF MATERIALITY ANALYSIS:

Source of issues

- Management discussion
- Analyse operation indicators
- Feedback on assessment results
- Internal and external expert advice
- Experience of industry veteran
- Stakeholder survey

Selection criteria

- Align with the Group's development strategies
- Attended to the concerns of our stakeholders
- Reduce environmental and social impacts
- Enhance the Group's governance

IDENTIFICATION

By rationalizing our policies, setting out clear strategies, reviewing our business and determining our sustainable development goals, as well as considering our stakeholder engagement, the Group has identified 20 materiality issues and determined the scope and boundaries of their impact.

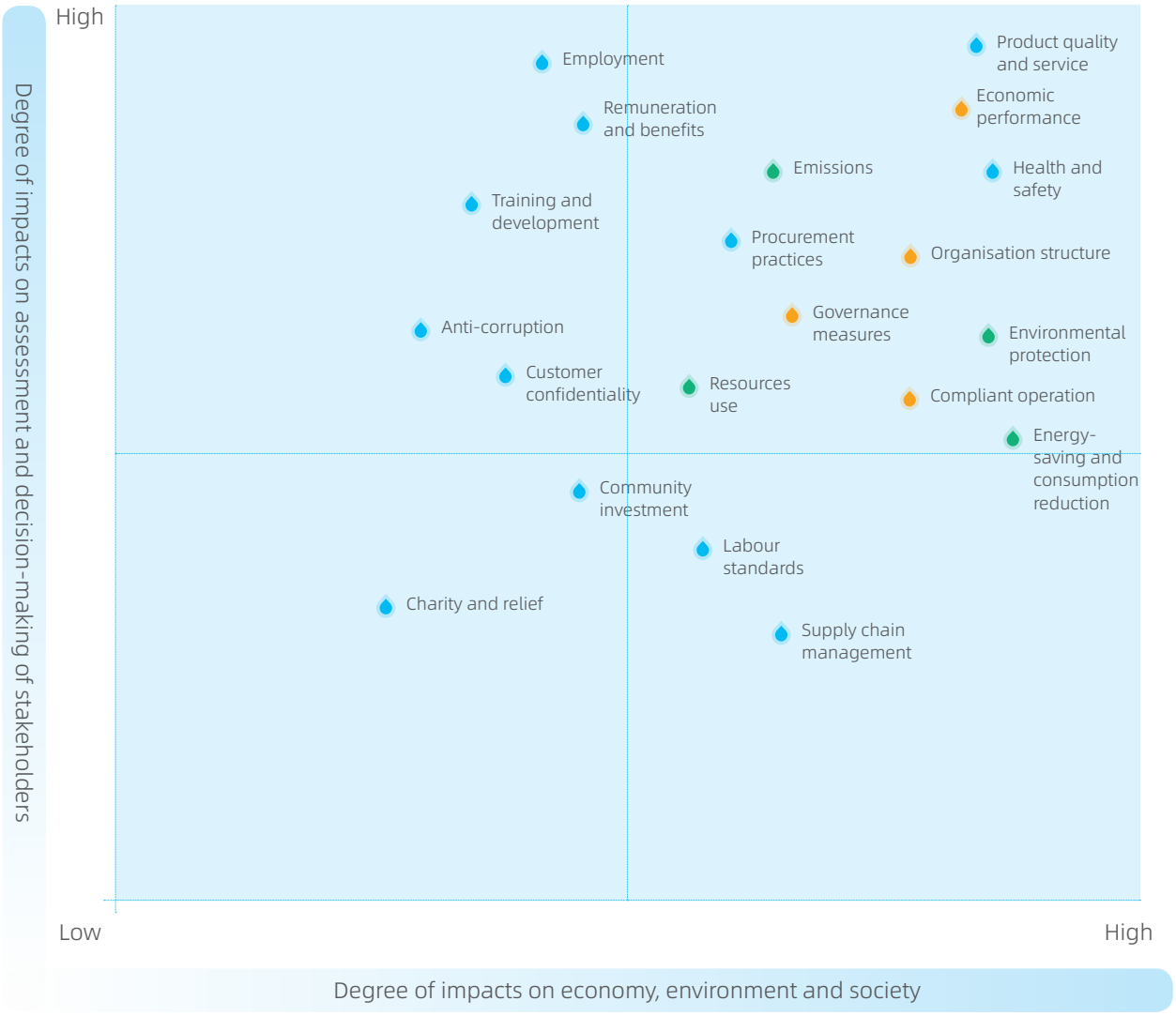
No.	Aspect	Materiality issues	Scope of impact						Boundary
			Internal	External					
				Investors and Creditors	Government	Customers and Consumer	Suppliers	Community	
1	Establish a rational, effective and legitimate management platform	Governance measures	●	●	●	○	●	●	Materiality aspects are applicable to China Water and its subsidiaries
2		Organisation structure	●	●	●	○	●	●	
3		Economic performance	●	●	●	●	●	●	
4		Compliant operation	●	●	●	●	●	●	
5	Actively, comprehensively and sustainably promoting environmental improvement	Emissions	●	○	●	●	●	●	
6		Energy saving and consumption reduction	●	○	●	●	●	●	
7		Environmental protection	●	○	●	●	●	●	
8		Resources use	●	●	●	●	●	●	
9	Practice cooperative development of society with passion, kindness and aggressiveness	Employment	●	○	●	○	○	●	
10		Remuneration and benefits	●	●	●	○	○	○	
11		Training and development	●	●	●	○	○	○	
12		Health and safety	●	●	●	○	○	●	
13		Labour standards	●	●	●	○	○	○	
14		Supply chain management	●	○	●	○	●	○	
15		Procurement practices	●	●	●	○	●	○	
16		Anti-corruption	●	○	●	●	●	○	
17		Product quality and service	●	●	●	●	●	●	
18		Customer confidentiality	●	○	●	●	○	○	
19		Community investment	●	○	●	○	○	●	
20		Charity and relief	●	○	●	○	○	●	

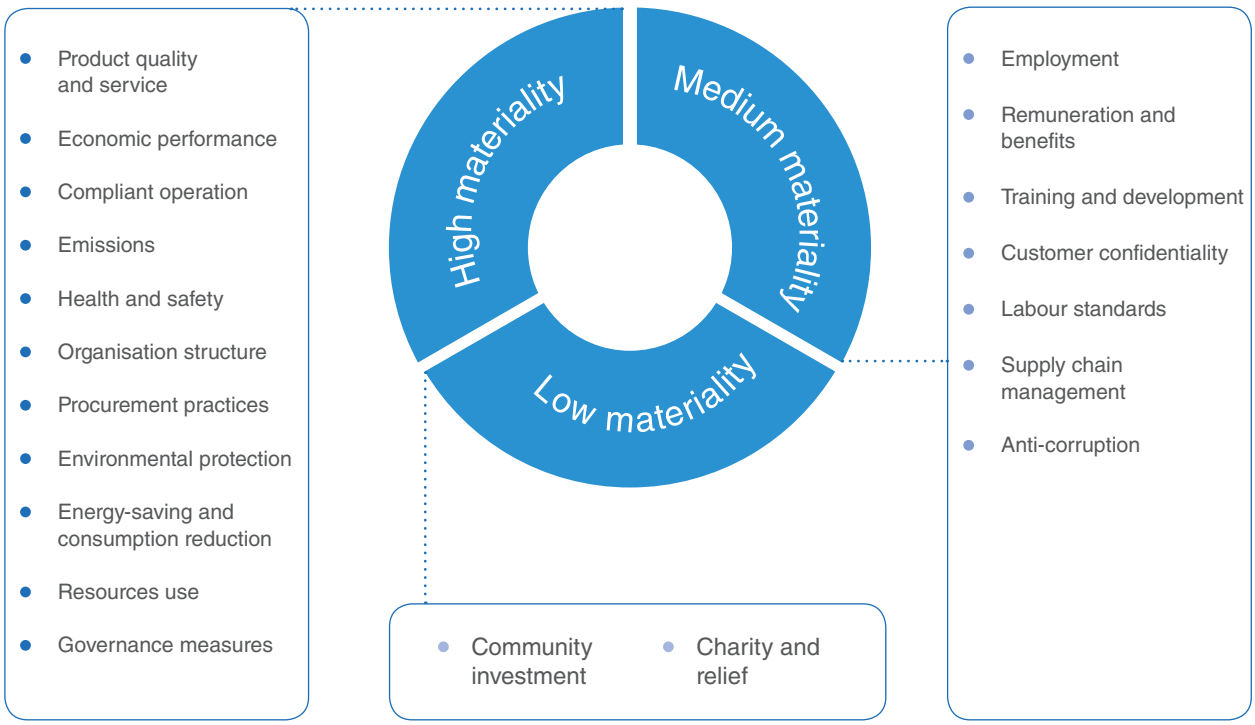
● represents materiality issues with larger impacts on stakeholders

○ represents materiality issues with less impacts on stakeholders

PRIORITIZATION

The identified materiality issues are prioritized in terms of importance according to the degree of impact on the economy, environment, society as well as the assessment and decision-making of our stakeholders.





VERIFICATION

In respect of the identified and prioritized materiality issues, the Group has collected opinions from experts, users and stakeholders and carried out verification in many ways. Meanwhile, the Group formulated administrative measures regarding the indicators involved in the materiality issues to determine the methods and procedures of indicator collection so as to ensure the reasonableness, balance and completeness of the report.

REPORTING PRINCIPLES

Materiality: As determined by the Board, the issues disclosed in the report have material impact on our investors and other stakeholders.

Quantitative: Key operating indicators are presented with historical data as comparisons. Notes to key environmental indicators cited referencing standards, calculation parameters and methods. Targets and explanations are provided for sustainability indicators for the assessment and verification of ESG governance performance.

Balance: The report presents the Group's ESG performance in a fair and objective manner. All contents are supported by verification material to avoid inappropriately influencing a decision or judgment by the report reader.

Consistency: The preparation process and disclosure of information in the report remained consistent with those set out in the financial report.

CONSTRUCTION OF MANAGEMENT PLATFORM

Sound corporate governance is essential to boost investor confidence as it helps to define decision-making procedures and management responsibilities and increase operational transparency. China Water has always been committed to maintaining high standards of corporate governance and strictly complying with national laws, regulations and industry standards in the course of its operation and management as well as its mergers and acquisitions. It has been steadfastly implementing its sustainable development strategy to provide sufficient protection to the interests of its shareholders and create values for society.

The Group's governance policy is in compliance with the relevant guidelines in the Corporate Governance Code as set out in Appendix 14 to the Main Board Listing Rules of The Stock Exchange of Hong Kong Limited. We have built a legitimate, rational and efficient governance model by establishing a sound management structure with comprehensive rules and regulations, conducting regular audits, fully implementing risk prevention and control, and disclosing accurate corporate information in a timely manner.

THE BOARD

As the highest decision-making body, the Board is responsible for formulating and authorising the Group's governance policies, providing leadership and supervising our management, reviewing the Group's business performance, and ensuring effective risk management and internal control. As at 31 March 2023, the Group's Board comprises 12 directors, including 5 executive directors, 3 non-executive directors and 4 independent non-executive directors.

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 mainly responsible for making recommendations on the remuneration policies and systems for senior management of the Company, reviewing the Company's remuneration structure and formulating remuneration incentive plans to ensure that the remuneration level is in line with the Group's long-term interests and risk policies.

RISK MANAGEMENT

The Board is fully responsible for maintaining a sound and effective internal control system for the Group, which include establishing a risk management framework, defining authorities, safeguarding corporate assets against unauthorized misappropriation or handling, ensuring proper maintenance of financial records for internal use or disclosure, and ensuring compliance with laws and industry regulations.

The Group has established a four-level risk management framework comprising the decision-making level (the Board), the executive level (management), the operation level (departments of different functions in the Group's headquarter) and the corporate level (person-in-charge of risk management of the Group's subsidiaries) to meet the requirement for continuous control of risks during our business development. Within the framework, the Board is responsible for implementing controls from the top, while the business level, which includes our operation, finance, engineering, legal and human resources teams, utilize their expertise to help our management to discharge their internal control responsibilities. Meanwhile, the Audit Committee, assisted by our external auditors, is responsible for monitoring the practices of our management and the effectiveness of the internal controls in place.

During the reporting period, the Group's management held risk management meetings with our operation level and identified three types of significant risks, namely operational risk, compliance risk and financial risk. The audit department assessed our potential risks through surveys and interviews to further distinguish our risks and submitted the "Risk Management and Internal Control Report" to the Audit Committee.

GOVERNANCE OF PROJECT COMPANIES

The Group abides by the "Administration Measures for the Concession Arrangements of Infrastructure and Public Utilities" in mergers and acquisitions of new projects. It actively cooperates with local governments to acquire project concession through public tenders or competitive negotiation, and establishes project companies at the same time. A board of directors, board of supervisors and operation and management team are formed within the project companies to perform such duties and exercise such powers of a decision-making organ, supervision organ and management organ respectively in strict compliance with the Company Law of the People's Republic of China.

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

PROMOTING ENVIRONMENTAL IMPROVEMENT

From an international perspective, global climate governance has become an important area to pool the strength of all countries and promote the building of a community with a shared future for humankind. It has become a global consensus to actively prevent and resist climate risks and improve climate adaptability. In recent years, extreme weather events and disasters such as extreme high temperatures, droughts, heavy rainfall and forest fires have occurred frequently, which further highlighted the importance and urgency of addressing climate change.

From the domestic perspective, China has been firmly implementing the national strategy of actively responding to climate change and fully promoting green and low-carbon development, and has become an important participant, contributor, and trailblazer in the construction of global ecological civilisation. After putting forward the ambitious goal of "achieving peak carbon emissions before 2030 and carbon neutrality before 2060", the Chinese Communist Party Central Committee and the State Council released the "Working Guidance for Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy" and the "Action Plan for Carbon Peak Before 2030", and moved forward to rapidly put in place a "1+N" policy framework, all of which helped create an atmosphere for the society as a whole to solidly promote carbon peak and carbon neutrality and actively respond to climate change.

With water supply, environmental protection and pipeline direct drinking water as its core business, China Water has always been a pioneer in promoting environmental improvement, and is, particularly in today's world, deeply aware of the need to place high emphasis on climate risk management and to seize new opportunities brought about by climate issues. With reference to the Hong Kong Stock Exchange's "Practical Net-Zero Guide for Business", the Group has analysed its current situation, identified potentials, and put forward the "China Water Affairs Group Limited Net-Zero Emissions Proposal", which highlights the future path of net-zero emissions. In the past year, the Group continued its efforts in urban water supply and environmental protection, vigorously promoting the pipeline direct drinking water business, the urban-rural water supply integration and the supply-drainage integration, continuously enhancing energy conservation and clean energy development, launching timely ecological restoration and biodiversity protection initiatives, and leading by example to contribute to mitigating climate change and tackling the climate crisis.

SPECIAL TOPIC I

CONFRONTING THE CLIMATE CRISIS IDENTIFYING A PATHWAY TO NET-ZERO GHG EMISSIONS

The Intergovernmental Panel on Climate Change (IPCC) of the United Nations has released its sixth assessment report, Climate Change 2021: The Physical Science Basis, which confirms in unequivocal terms that the growing risks from climate change are caused by human activities and that the outlook is alarming. The mainstream scientific community agrees that limiting global warming to 1.5°C or less above pre-industrial levels is relatively safe and acceptable and that the world must therefore achieve net-zero GHG emissions by 2050.

Following the Chinese government's declaration of its ambitious targets of "achieving peak carbon emissions before 2030 and carbon neutrality before 2060" at the United Nations General Assembly, Hong Kong immediately followed suit with it target of achieving carbon neutrality before 2050. To promote corporate climate action, monetary authorities and market regulators around the world are moving to embed climate-related financial disclosures within their regulations, and the Hong Kong Stock Exchange has issued a "Practical Net-Zero Guide for Business", underlining the urgency in achieving net-zero GHG emissions.

With the core value of "Water-oriented, Kindness to Society", China Water is deeply aware of the long-term impact of climate change and the importance and urgency of reducing GHG emissions, and has immediately launched its own corporate climate initiative with the ultimate goal of achieving net-zero emissions to fulfil its corporate environmental responsibility and demonstrate the Group's commitment to addressing climate change and the Group's determination to pursue the path of low-carbon sustainability (A4.1).

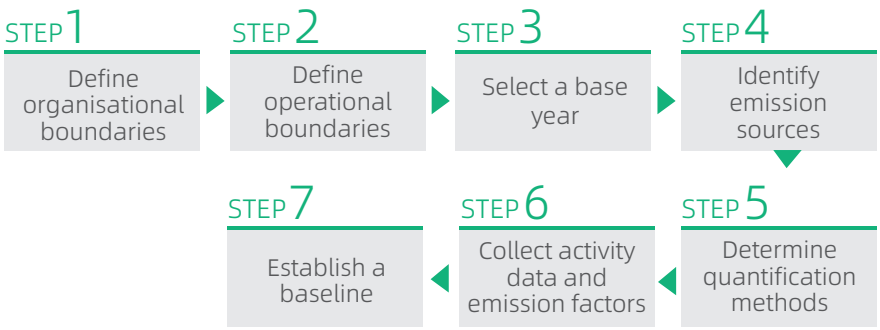
CHINA WATER NET-ZERO EMISSIONS PATHWAY

The Group's "Outline of the Implementation Plan for Carbon Peaking and Carbon Neutrality" for 2021 sets out the overall target of achieving "carbon peak before 2030 and net-zero emissions before 2050", which is 10 years ahead of the Chinese government's carbon neutrality target and is consistent with the carbon neutrality target of Hong Kong and the global decarbonisation pathway set out by the Science-Based Target Initiative (SBTi). To ensure target achievement, the Group has developed a "China Water Affairs Group Limited Net-Zero Emissions Proposal" based on in-depth study of the "Practical Net-Zero Guide for Business" published by the Hong Kong Stock Exchange.

Establishing an Organisational Structure

The Group's commitment to net-zero GHG emissions has been fully supported by the Board and management as a corporate strategy and has been included in the list of important issues, and a dedicated working group, comprising all relevant functional departments and organisations, has been set up.

Establishing a Baseline for GHG Emissions



Identifying Reduction Potential and Developing Reduction Measures

Level	Measure	Function
Control at source	Protect water source	Reduce scope 2 and 3 emissions
	Enhance measurement management	Reduce scope 2 emissions
	Develop pipeline direct drinking water	Reduce scope 3 emissions
Process optimisation	Conduct energy-saving modifications on pumping stations	Reduce scope 2 emissions
	Reduce leakage in the pipeline network	Reduce scope 2 and 3 emissions
	Optimise processes	Reduce scope 2 and 3 emissions
General Management	Replace with new energy vehicles	Reduce scope 1 emissions
	Green Office	Reduce scope 2 and 3 emissions
	Optimise commuting, business travel and transportation	Reduce scope 3 emissions
	Select low-carbon suppliers	Reduce scope 3 emissions

Note: Scope 1: Direct GHG emissions from sources owned or controlled by a company.

Scope 2: Indirect GHG emissions are those generated from the use of purchased energy in the course of business by units owned or controlled by a company.

Scope 3: Indirect GHG emissions from upstream/downstream activities of a company are those generated from units owned or controlled by other organisations within the company's operations.

SPECIAL TOPIC I

Identifying Carbon Offsets and Carbon Neutrality Measures

Level	Measure	Function
Energy use	Construct photovoltaic (PV) power stations	Offset Scope 2 emissions
	Micro-hydro power generation	Offset Scope 2 emissions
	Extract residual heat energy from waste water	Offset Scope 1 and 2 emissions
	Recover chemical energy recovery from sewage system	Offset Scope 1 and 2 emissions
Carbon sink	Greening of plant area	Carbon neutrality
	Afforestation	Carbon neutrality
	Ecological restoration	Carbon neutrality
Carbon credits	Purchase of carbon credits	Carbon offsets

China Water's Net-Zero Emissions Pathway Forecast

	Category	Target	How to achieve
2023 ↓ 2050	Scope 1	Reduce by 60%	• Switch entirely to new energy vehicles; • Reduce the use of diesel generators.
	Scope 2	Reduce by 70%	• China's energy transformation will reduce grid emission factors; • Reduce electricity consumption per unit of water supply by at least 10% and energy self-sufficiency rate of sewage treatment by > 60% in accordance with China Water's "Outline of the Implementation Plan for Carbon Peaking and Carbon Neutrality".
	Scope 3	Reduce by 50%	• China's energy transformation will reduce emission factors for commodities such as steel and concrete; • Reduce chemical consumption per unit of water supply by at least 10% in accordance with China Water's "Outline of the Implementation Plan for Carbon Peaking and Carbon Neutrality"; • Optimise commuting, business travel and transportation; • Dispose of operational waste in a low-carbon manner, or recycle it.
	Residual emissions	Neutralise or offset	• Achieve 40% or more PV power generation in accordance with China Water's "Outline of the Implementation Plan for Carbon Peaking and Carbon Neutrality"; • Enhance greening of plant area by installing vegetated buffer zones, rain gardens, green roofs, bioretention facilities, etc; • Implement ecological restoration initiatives, including afforestation, mangrove restoration, water management and biodiversity protection; • Purchase of carbon credits as backups.
		Achieve net-zero GHG emissions	

CLIMATE RISK IDENTIFICATION AND RESPONSE

Climate change will inevitably have an impact on the Group's business operations in the foreseeable future. In order to respond to climate challenges, the Group has conducted a comprehensive climate risk identification and assessment, performed a risk list and formulated response measures in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

Type of risk		Description of risk	Response measures
Physical risk	Flooding hazards	• Possible flooding of plant or important equipment and facilities, resulting in disruption of water supply; • Possible damage to water pipelines, resulting in water outages and increased maintenance costs; • Possible water quality anomalies at the source.	• Strengthen the flood prevention facilities and emergency drainage capacity in the plant area; fully consider the location for new plants to avoid low-lying areas that are susceptible to flooding; • Develop emergency plans and improve the maintenance capacity of the pipeline network; • Strengthen water quality testing and adjust chemical dosage and other process parameters appropriately.
	Persistent drought	• Water levels at source have dropped, making it difficult to obtain water; • Possible deterioration of water quality at source.	• Take necessary measures to ensure access to water, e.g. extend intake pipes, build weirs, etc; • Strengthen water quality testing and adjust chemical dosage and other process parameters appropriately.
	Extreme high temperature	• Mainly affects outdoor operations and construction projects and may lead to heat stroke; • Possible occurrence of electrical equipment failure and even fires.	• Suspend outdoor operations and construction work; • Implement heat prevention and ventilation measures, ensure fire-fighting equipment is fully maintained and organise fire drills.
	Freezing hazards	• Possible damage to outdoor water meters and pipelines; • Possible damage to equipment and facilities within the plant area.	• Make sure that water meters and pipes are protected from freezing; • Implements anti-freeze measures on equipment and facilities within the plant area, and empty unused structures and pipes to prevent freezing.

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Type of risk		Description of risk	Response measures
Transitional risk	Policy changes	• China is implementing "dual carbon" strategy, promoting corporate low-carbon transformation and actively participating in global climate change governance. New policies related to energy, carbon emissions and environmental protection will be gradually introduced, and the Group may face more stringent energy consumption targets and emission standards.	• Pay close attention to national policies, adjust the Group's strategy in a timely manner and accelerate the efforts to achieve net-zero GHG emissions.
	Technology innovation	• New technologies, materials and processes are bound to emerge as a result of the "dual carbon" policy, and challenges will occur in the acceptance, application and control of these innovative products, including but not limited to input costs, operational difficulties, training and promotion, and stability.	• In applying new technologies, conduct a trial run first to take full advantage of scale economies and management, and then further promote its application after the trial run is successful.
	Investment and mergers	• Some projects are located in areas that are more susceptible to the adverse effects of climate change and may incur higher operational and management costs upon acquisition.	• Conduct on-site inspections and due diligence to reasonably assess the climate risk of the projects.
	Market Regulations	• Government regulators have a higher environmental protection requirements for companies, and consumers have an increasing preference on green and low-carbon products.	• Upgrade sewage treatment plants, raise emission standards and achieve energy recovery; • Accelerate the development of environmentally friendly industries, such as PV power generation and pipeline direct drinking water.

IDENTIFYING CLIMATE OPPORTUNITIES

The Outline of the 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives Through the Year 2035 of the People's Republic of China emphasises the need to "strengthen the observation and evaluation of the impact of global warming in vulnerable areas in China, and enhance the capacity of urban and rural construction, agricultural production and infrastructure to adapt to climate change". Currently, economic transformation and technological innovation have given rise to new infrastructure and new technologies, providing favourable conditions for addressing climate challenges. The Group is actively exploring the new opportunities brought about by climate change and effectively promoting corporate strategic adjustments and low-carbon operational transformation.

Climate Opportunities	Identification	Status and Outlook
Policy level	"1+N" policy framework	The "1+N" policy framework refers to the "Working Guidance for Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy" and the constantly improved supporting policies. The Group's principal businesses contain significant environmental attributes and are the absolute beneficiaries of the "1+N" policy framework, which may provide good development opportunities for such businesses.
Business level	Development of pipeline direct drinking water	The widespread access of pipeline direct drinking water can effectively reduce the consumption of bottled and barrel water in our society, curb the danger of "white pollution" around the world, and is unparalleled in terms of environmental friendliness. China Water is currently the only listed company with a nationwide presence in the pipeline direct drinking water business, now covering 183 districts, counties and county-level cities in 22 provinces, municipalities and autonomous regions and serving an estimated user population of approximately 4.5 million. In view of the leapfrog development pipeline direct drinking water business, a revamped "China Water" is expected.
	Acceleration of PV construction	Solar energy is a clean energy source that does not cause any hazard to the environment. The Group has been building distributed PV power plants at water and sewage treatment plants where possible, with a total installed capacity of 76 megawatts (MW) and an annual power generation capacity of over 65 million kW·h. The Group will also further evaluate the potential of water plants and develop external projects in an effort to increase the proportion of clean energy use.

SPECIAL TOPIC I

Climate Opportunities	Identification	Status and Outlook
Technological level	Water treatment process reformation	With the current trend of emphasising environmental protection, new processes and equipment will emerge, such as energy-saving pumps, energy-saving valves and membrane treatment processes, which are expected to achieve lower energy consumption and better water treatment results. The Group will close monitor relevant information and conduct pilot testing, evaluation and application in a timely manner.
	Energy utilisation in sewage water treatment	Urban domestic sewage water contains an abundant of chemical energy and low-level thermal energy, which can be transformed into usable secondary energy using existing mature technologies. The Group is actively conducting research and pilot testing to accelerate the achievement of carbon neutrality in sewage treatment systems.
	Application of smart water services	Smart water services are undoubtedly a trend in the water industry. It makes use of new-generation information technology, such as the Internet of Things (IoT), cloud computing and big data, to achieve intelligent management of the entire water services system. The Group has been strengthening its information technology construction and has deployed a number of sub-systems such as water supply marketing system, engineering installation system, external work order system and pipeline network location information system, etc. It is accelerating the construction of smart water services, which will optimise resource allocation, reduce operating costs, and enhance corporate efficiency and core competitiveness in the future.
Market level	Green finance	Influenced by climate policies, the green finance market is becoming increasingly mature with the continuous expansion of green financing instruments such as green bonds, green fund and green equity. The Group has established a green financing framework with two issuances of fixed-rate senior unsecured green notes of US$350 million in aggregate, and will continue to leverage on green financing to ease capital pressure and promote business growth and industrial upgrading.

CHINA WATER CLIMATE ACTION

Since the beginning of summer in 2022, the Yangtze River basin in China has been experiencing a severe shortage of rainfall and reduced water flowing, while the water levels of rivers and lakes in the basin have been consistently low, resulting in the most severe meteorological and hydrological drought since official records began in 1961. To ensure water supply, the Group's subsidiaries which are operating in the Yangtze River basin activated water shortage emergency plans in advance, closely monitored water levels and water quality, and coordinated with government departments to ensure raw water supply. The companies have each taken measures such as extending water intake pipelines, adjusting water supply pressure, building weirs and switching to alternative water sources to ensure normal water supply in urban and rural areas. Throughout the drought period, the Group did not experience any serious water supply disruptions or complaints.

The severe drought in the Yangtze River Basin is undoubtedly a direct manifestation of climate change, which has forced us to reflect on the delicate relationship between humans and nature, development and the environment, and modernisation and ecology. The Group will continue to strengthen its climate governance, actively transform toward a green and sustainable growth model, and spare no effort to achieve net-zero GHG emissions in order to contribute our corporate strength to the ultimate victory in this climate battle.

The Group's subsidiary, Chongqing Yongchuan Qiaoli Water Affairs Co., Ltd, conducted a joint emergency drill with the local government and other municipal units on extreme weather emergencies in urban areas

SPECIAL TOPIC II: A LEAPFROGGING DEVELOPMENT IN THE CORE PRINCIPAL BUSINESS OF PIPELINE DIRECT DRINKING WATER

In response to the strategic decision to "improve people's wellbeing and raise quality of life" as proposed in the Chinese government's work report, and in line with the development plan of the Healthy China Initiative (2019–2030) formulated by the National Health Commission, China Water has made pipeline direct drinking water its core business and has entered the nationwide quality water supply market. This is an ambitious strategy that is destined to change the development layout of direct drinking water in China and benefit hundreds of millions of families.

ACHIEVE OUTSTANDING RESULTS THROUGH ACCELERATION IN PLANNING

In 2022, the Group held several meetings in relation to the promotion of direct drinking water, organised special campaigns to promote direct drinking water, and compiled and published the "Implementation Plan for the Comprehensive Promotion of Quality Water Supply and the Construction of Pipeline Direct Drinking Water into Households" to strengthen our faith in development, specify work tasks and coordinate our actions, thereby drawing up a development blueprint to accelerate the planning of direct drinking water business.

As at the end of March 2023, the Group has been operating over 3,600 pipeline direct drinking water supply projects in 183 districts, counties and county-level cities in 22 provinces, municipalities and autonomous regions in the PRC, covering an estimated user population of approximately 4.5 million.

School projects: over **780**

Hospital projects: over **50**

Public projects: over **1,600**

Residential projects: over **1,100**

Cultural and tourism projects: **25**

Provinces in which the pipeline direct drinking water business is located

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EMPOWERING THE INDUSTRY THROUGH MULTIPLE ADVANTAGES

Advanced Technology

China Water has collaborated closely with TORAY, a leading multinational high-tech enterprise, to adopt high-end membrane treatment technology, closed-pipeline disinfection technology, and dual-circulation systems for all of its direct drinking water projects; equipped with well laid-out and aesthetically pleasing sun-lit glass machine rooms with dynamic display of water quality indicators for direct drinking water; and a professional operation and maintenance team in place to provide efficient service protection.

Economical and Affordable

In conducting an old district renovation project, the original water supply facilities are generally retained and a separate set of pipelines is set up to avoid large-scale investment and complete overhaul of water plants and pipeline networks, while industrial-grade high-end technology and equipment and a systematic production management approach are adopted to maintain high water quality standards while keeping water prices at an economical and affordable level.

Environmental Protection and Carbon Reduction

The widespread access of pipeline direct drinking water can reduce the consumption of barrel and bottled water, effectively curbing the emission of "white pollution" and is unparalleled in terms of environmental friendliness. The most common packaging size for barrel water in China is 18.9 litres, and the CO_2 emission generated from the manufacture and transportation of plastic barrels is approximately 1 kilogram*. Currently, the Group's annual pipeline direct drinking water supply is approximately 0.48 million tonnes, which represents an offset of 25.45 million plastic barrels, equivalent to a reduction of 25,400 tonnes of CO_2 emissions.

* CO2 emission generated from the manufacture and transportation of plastic barrels is estimated based on the "Technical Guide to Carbon Accounting and Emission Reduction Roadmap for Urban Water Systems" published by the China Urban Water Association in September 2022.

BENCHMARK PROJECTS ACROSS THE NATION

Pipeline direct drinking water system at Nanchang University was officially commissioned

Nanchang University, located in Nanchang City, the capital of Jiangxi Province, is a "double first-class" university and a key university under the "211 Project" in China. The Group's pipeline direct drinking water supply was officially commissioned in September 2022, covering all academic buildings and various activity centres in both the north and south campuses, with a total investment of RMB18 million, providing quality direct drinking water to 40,000 teachers and students across the university and improving the quality of drinking water on campus.

A direct drinking water demonstration site at the Liangzi Lake Scenic Area

Liangzi Lake is one of China's top ten famous lakes and the largest freshwater lake in Hubei Province, being hailed as a "natural emerald". With its unique wetland landscape and rich historical and cultural atmosphere, Liangzi Lake Scenic Area is popular among tourists and is a national AAAA-rated tourist attraction. The Group's pipeline direct drinking water project in the Liangzi Lake Scenic Area will be commissioned in May 2023 with a total investment of RMB2.8 million, which aim to help Hubei Province to build the first direct drinking water demonstration site at an AAAA-rated tourist attraction and significantly enhance the safety of drinking water for residents in the lake area and all visiting tourists.

ACCELERATING THE PROMOTION OF CITYWIDE DIRECT DRINKING WATER SUPPLY

The Group has been vigorously promoting a “citywide direct drinking water supply” model that covers entire cities, so that all residents of such cities can benefit from high quality drinking water. During the reporting period, the “citywide direct drinking water supply” model has covered 8 provinces, 1 municipality and 49 cities and counties.

On 17 November 2022, the Group’s first “citywide direct drinking water supply” partners conference was successfully held in the ancient capital city of Nanjing. The conference was held online and offline, and was attended by over 200 representatives from the water and investment industries in dozens of provinces and cities across China. The person in charge of China Water’s direct drinking water business gave a detailed introduction and explanation on the strategic planning, business model, application scenarios, standards and regulations of “citywide direct drinking water supply", and shared the successful experience of promoting “citywide direct drinking water supply” in Ningxiang City, Hunan Province. On the day of the conference, 16 representatives signed a cooperation agreement with the Group and became the first batch of city partners of the “citywide direct drinking water supply” model.

PREPARING THE LAUNCH OF URBAN-RURAL DIRECT DRINKING WATER SUPPLY

Leveraging on the full-scale roll-out of “citywide direct drinking water supply", the Group actively explores the feasibility of extending direct drinking water supply to rural areas and has tried implementing the “urban-rural direct drinking water supply” model in suitable areas. On 14 July 2022, the Group signed a strategic cooperation agreement for “urban-rural direct drinking water supply” projects with the People’s Government of Xinhuang Dong Autonomous County to invest RMB120 million in the construction of direct drinking water projects in Xinhuang County and 11 surrounding towns and villages. Upon completion of the project, over 200,000 urban and rural residents will be able to enjoy high quality and healthy drinking water.

ENVIRONMENTAL MANAGEMENT SYSTEM THROUGHOUT THE PROCESS

In order to regulate the environmental and social management of investment and construction projects, the Group formulated the "Environmental and Social Management System" (the "ESMS") in 2011. It was subjected to multiple revisions and the latest version was prepared in September 2020. The ESMS provides that the investment and construction projects under the Group and its subsidiaries shall comply with the system for the purposes of comprehensive identification and analysis of any potential environmental and social risks and formulation of remedial measures. Disclosure of information, discussion about concerned areas and supervision from relevant stakeholders shall be duly conducted throughout the implementation of the projects. Meanwhile, the Group has established a standardised management system which combines five key elements: water production, water supply, safety, service and branding. The Group inspects and supervises the compliance of its subsidiaries with the relevant standards on an irregular basis. An evaluation is conducted every year, whereby reward or punishment is made based on the marks given. Environmental management covering the whole process from initiation to the ultimate operation of a project is basically achieved.

DEEPLY COMMITTED TO THE URBAN WATER SUPPLY BUSINESS

As China enters the 21st century, there is an urgent need to upgrade and expand the scale of water supply facilities to adapt to the healthy and rapid development of urbanisation. Since 2003, the Group has been deeply involved in the urban water supply business for 20 years, establishing a comprehensive system and standards from scratch, conducting evaluation and assessment on its water plants, and building a high-standard, efficient and well-managed garden-style water plant, which has changed the traditional and stereotypical impression of how water supply enterprises and water plants operate. The Group has been unanimously recognised by local governments and the general public for its professional operation team, cutting-edge management model, extensive management experience and strong sense of responsibility and mission, and its water supply business has spread across the country, making significant contributions to the protection of people's livelihood and economic development of the country.

During the reporting period, the Group has supplied a cumulative total of 1,369 million m^3 of clean water*, providing drinking water and water security for 30 million people.

Cumulative total of clean water supplied

1,369 million m^3

Covered an estimated population of more than

30 million people

Liuji Water Plant - "the Best in the Country, without a doubt"

Liuji Water Plant is a water treatment plant managed by Wuhan Xinzhou District Changyuan Water Supply Co., Ltd., a subsidiary of the Group, and is an exemplary model of a standardised, regulated, professional and refined management of rural drinking water safety project in Hubei Province. The plant was completed in 2017, with a water supply capacity of 50,000m^3 per day and serves a population of 156,000. Liuji Water Plant is characterised by high-level design and high-standard construction, with an artistic layout surrounded by numerous gardens, ponds and magnificent views; sound regulations and systems on safety production, water quality monitoring, and inspection, and the maintenance and repair of facilities and equipment being normalised with clearly defined responsibilities, resulting in its water supply service and water security work receiving high praise. When the relevant personnel in charge of the Department of Rural Water and Hydropower of the Ministry of Water Resources made an on-site visit to the plant, they highly praised the standardised management of the plant, calling it as "the Best in the Country, without a doubt."

* Associates are no longer included due to a change in reporting scope

REDUCING THE ENVIRONMENTAL IMPACT OF SEWAGE DISCHARGE

The Group continues to treat sewage effectively to reduce its environmental impact and improve the utilisation of urban water resources, as well as to upgrade and reconstruct the sewage treatment plants to ensure that the effluent quality meets the Grade 1-A standard of the "Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant" (GB 18918-2002). All the sewage treatment projects were installed with effluent monitoring systems to enable timely and reliable recording of water quality data.

During the reporting period, the Group treated a cumulative total of 209 million m^3 of sewage, reducing the discharge of chemical oxygen demand (COD) by 50,863 tonnes, biochemical oxygen demand (BOD) by 23,011 tonnes, suspended solids (SS) by 39,525 tonnes, and ammonia nitrogen (NH_3-N) by 5,704 tonnes.

Cumulative total of sewage treated

209 million m^3

Calculation method for pollutant reduction: difference between pre-treatment and post-treatment average concentration of pollutant × total volume of sewage treated

Laying of the first stone and commencement of the integrated sewage treatment project at Daya Bay Petrochemical Zone in Huizhou

ExxonMobil plans to invest US$10 billion in the construction of a chemical complex in the Daya Bay Petrochemical Zone in Huizhou. To receive and treat the sewage discharge from the project, Huizhou Daya Bay Qingyuan Environmental Protection Co., Ltd., a subsidiary of the Group, intends to build an extension to the integrated sewage treatment project at the Daya Bay Petrochemical Zone in Huizhou. With a total investment of RMB784 million, a new integrated sewage treatment facility with a design capacity of 1,120m^3/h will be built to mainly treat sewage discharge from the ExxonMobil (Huizhou) chemical complex project (including the main production area, liquid terminal and product terminal tank area). A service agreement for the project was signed on 19 April 2022 and the ground-breaking ceremony was held on 29 July 2022. As at the end of March 2023, 19 structural works and all equipment procurement have been completed, and the project is scheduled to be completed and commissioned in March 2024.

PROMOTING URBAN-RURAL WATER SUPPLY INTEGRATION

The integration of urban-rural water supply is an area of high priority for public facilities construction in China's national policy. In almost every year since 2004, the No. 1 Central Document and the Government's Work Report dedicated the government's planning work to rural drinking water, including the planning and investment, water source protection, water quality monitoring, operation and management, and concessions or subsidies for rural drinking water. The "Opinions of the Central Committee of the Communist Party of China and the State Council on Comprehensively Promoting the Key Work of Rural Revitalisation in 2022" reiterated the importance of "carrying out the construction of rural infrastructure in key areas in a practical manner, promoting the construction and renovation of rural water supply projects, and improving the supporting facilities and equipment for purification and disinfection."

The Group responds to the aspirations of rural residents for a better life by upholding the development of urban-rural water supply integration and adopting methods such as "pipeline extension, pipeline connection, upgrading, commissioned operation" to achieve coordinated but phased implementation of planning, management and allocation of water resources, construct urban-rural water supply engineering systems from the source to the faucet and a standardised management system, and continuously improve drinking water safety in urban and rural areas as well as production and living conditions in urban and rural areas.

Commencement of the integrated urban-rural water supply construction project in Huojia County

The integrated urban-rural water supply construction project in Huojia County has been included in the list of major projects in Henan Province, and the project is led by the urban management bureau and the water conservancy bureau of Huojia County, with support from Huojia County Xinshui Water Services Co., Ltd., a subsidiary of China Water. The project plans to extend the urban water supply network to cover 11 towns and most rural areas in Huojia County within two years, basically achieving the interconnection of urban-rural water supply and benefiting a population of over 300,000.

Smooth progress for the integrated urban-rural water supply projects in Jizhou District and Jinggangshan Economic and Technological Development Zone ("Jingkai Zone") of Ji'an City

The integrated urban-rural water supply projects in Jizhou District and Jingkai Zone of Ji'an City were jointly invested by the local government and Jian Water Affairs Group Co., Ltd, a subsidiary of the Group, with a total investment of RMB280 million, and involve four towns and a population of approximately 103,000. As at the end of March 2023, the project was progressing smoothly, with most of the main pipelines in the four towns in Jizhou District being completed, construction orders being issued in 332 natural villages, installation of village pipelines being completed in 243 natural villages, and water supply connection being completed for 7,535 households; whereas in Jingkai Zone, the main pipelines have been completed, construction work have been arranged in 21 natural villages and residential areas, and water supply have been connected to 707 households with a water quality pass rate of 100%.

THE COMMENCEMENT OF URBAN AND RURAL DRAINAGE AND RURAL SEWAGE TREATMENT OPERATIONS

Improving the living environment in urban and rural areas and building beautiful and liveable villages are important initiatives to promote integration in urban and rural areas, promote the harmonious resonance between towns and villages, and implement the concept of ecological civilization. The Group focuses on the issues relating to the urban and rural ecological environment, and vigorously commences drainage and sewage treatment operations to protect our clear waters and green mountains.

Urban and rural drainage integration PPP project in Ninxiang

Ningxiang urban-rural drainage integration PPP project, with a total investment of RMB2.17 billion, comprised two parts: urban and rural areas, involving various types of sub-projects such as the expansion and upgrading of the sewage treatment plant, extension of the sewage network, upgrading of the water system in the old urban areas, construction of drainage pumping stations, and construction of sewage treatment facilities and sewage network in the rural areas. The project is characterized by its extensiveness and complexity of construction conditions, but with the coordination between the Company and the relevant government authorities, progress was steadily made.

Rural water treatment PPP project in Yushui District of Xinyu

The project has a total investment of RMB340 million, involving 11 towns and 126 natural villages in Yushui District, with 131 newly built sewage treatment stations, including 9 in market towns and 122 in villages, all of which have been completed. The project has solved the problem of discharging domestic sewage in the rural areas of the towns, avoiding the possible contamination of soil, water and agricultural products caused by mindlessly discharging of sewage, and significantly improving the living environment in the villages, benefiting more than 100,000 residents.

GREEN BONDS

China Water issued a total of US$350 million of fixed-rate coupon rate senior unsecured green notes on 18 May 2021 and 19 January 2022, the proceeds of which were used for eligible green projects, particularly water supply projects, within a specially established green finance framework.

Our green projects include:

① Sustainable Water Resources and Sewage Management: The construction, modification or upgrading of facilities, infrastructure or systems relating to water supply and sewage treatment.

② Renewable Energy: The construction of renewable energy production units, including solar and wind energy.

List of green projects:

Name of Project	Type of Project	Location	Current Progress of the Project
Henan Province South-to-North Water Diversion Project-Zhoukou Water Supply Supporting Project and Huaiyang Water Supply Project	Water supply	Zhoukou City, Henan Province	In operation
Xinyu Urban and Rural Water Supply Integration	Water supply	Xinyu City, Jiangxi Province	In operation
Henan Luyi Silver Dragon Urban and Rural Water Supply Integration	Water supply	Luyi County, Henan Province	In operation
Reconstruction of Chengnan Water Plant in Yanshan County and Expansion Project of Water Distribution Pipeline Network	Water supply	Yanshan County, Jiangxi Province	In operation
New Construction and Reconstruction Project of Urban Water Supply Pipeline Network in Jian City, Jiangxi Province	Water supply	Jian City, Jiangxi Province	In operation

Note: According to the framework for green finance, all project types listed in this table fall under "Sustainable water resources and wastewater management".

ENERGY-SAVING AND EMISSION REDUCTION

The Group has strictly complied with the Law of the People's Republic of China on Energy Conservation, the Environmental Protection Law of the People's Republic of China and other laws and regulations. Over the years, the Group has incorporated energy consumption indicators into the performance assessment system of its subsidiaries, strengthened the introduction of energy consumption management technologies and technological research, and relied on internal and external experts and third-party professionals to gradually establish and improve energy consumption analysis and assessment methods.

Emissions

The major pollutants emitted during the production and operation of the Group are divided into two categories: The first category represents the sludge produced during the water production process at the filtered water plant, the key components of which are the dissolved substances in the natural body of water and the water purifiers added during the purification process. The second category represents the waste gases, sludge and treated discharge produced during sewage treatment at the sewage plant. Waste gases are CO_2, H_2S and NH_3 produced in the course of bioprocessing; sludge mainly includes silt, garbage and excess activated sludge; major pollutants in treated discharge are COD, SS and NH_3-N.

The Group has in place a comprehensive set of management processes and operational procedures for general emissions that have smaller impacts on the environment under its operation and management standards, covering identification, discharge, disposal and regulation of emissions to ensure up-to-standard emission. Hazardous emissions produced by industrial sewage treatment plants are dealt with by qualified professional companies. During the reporting period, the Group was not aware of any environmental pollution of material nature.

Emission categories and emission data (A1.1)*

Category	Emission		Total volume of emissions during 2023 (tonnes)	Total volume of emissions during 2022 (tonnes)	Total volume of emissions during 2021 (tonnes)	Method of emission	Applicable laws and regulations that are subject to compliance
Water supply	Sludge	Naturally dissolved substances and water purifiers	191,169	199,067	180,296	Up-to-standard emission	"Environmental Protection Law of the People's Republic of China" "Environmental Impact Assessment Law of the People's Republic of China" "Water Pollution Prevention and Control Law of the People's Republic of China" "Atmospheric Pollution Prevention and Control 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" "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"
Sewage treatment	Air emission	H_2S		Below emission limit		Up-to-standard emission	
		NH_3		Below emission limit		Up-to-standard emission	
	Treated discharge	COD	3,592	4,051	3,928	Up-to-standard emission	
		SS	1,284	1,673	1,519	Up-to-standard emission	
		NH_3	146	193	200	Up-to-standard emission	
	Sludge	Silt, garbage and excess activated sludge	87,801	91,597	73,704	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	

Calculation of emission: average post-treatment concentration of pollutant x total volume of sewage treated

* Associates are no longer included due to a change in reporting scope

GHG emission (A1.2)

GHG directly produced by the Group in the course of production and operation (Scope 1) is very limited. It is mainly produced from fuel used in production and office premises; while the indirect generation of GHG (Scope 2) is mainly attributed to power consumption in the course of production. Indirect GHG produced from upstream/downstream activities (Scope 3) mainly comprise purchased goods, third party transportation, employee travel and commuting, and waste from operations. As the measured Scope 3 emissions do not exceed 40% of the total emissions of Scope 1, Scope 2 and Scope 3, the Group may not disclose the status of Scope 3 emissions in accordance with the "Practical Net-Zero Guide for Business" issued by the Hong Kong Stock Exchange.

Direct and indirect GHG emissions are calculated in CO_2 equivalent (in tonnes)

Category	Scope 1	Scope 2	Emission intensity	Total amount
City water supply business	2,296	162,005	0.09 tonnes/ kilotonnes of water	164,301
Environmental protection business	169	38,811	0.19 tonnes/ kilotonnes of water	38,980
Pipeline direct drinking water business	251	8,691	0.02 tonnes/ tonnes of water	8,942
Other businesses	493	6,180	N/A	6,673
Total	3,209	215,687		218,896

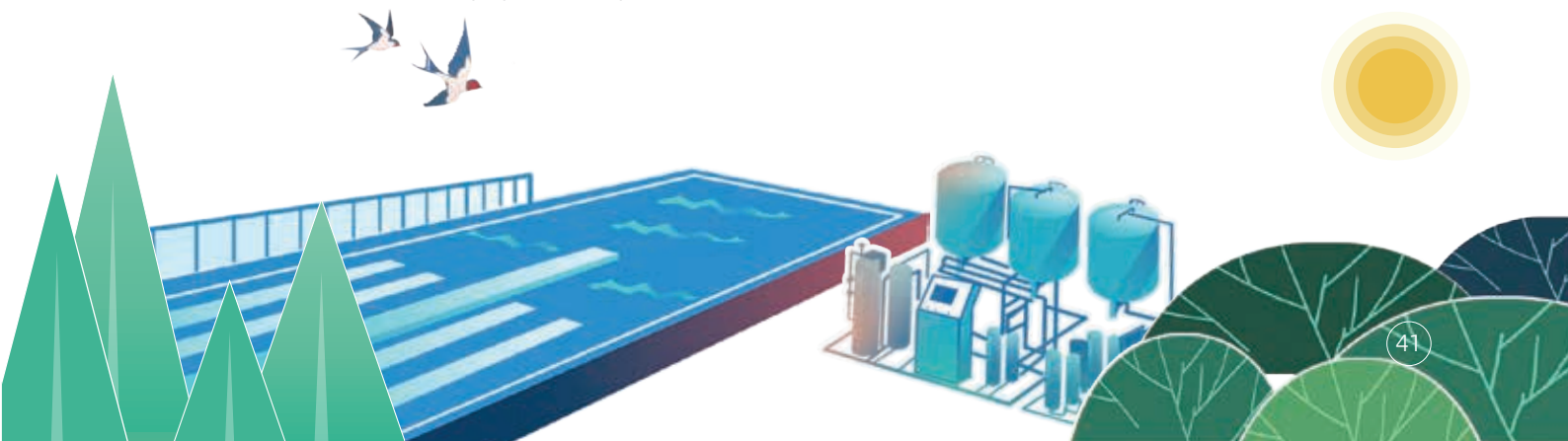
Notes: ① The definition of GHG Indicator Scope is cited from United Nations' Kyoto Protocol and The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard of WRI and WBCSD.
② GHG emissions are calculated based on the "Technical Guide to Carbon Accounting and Emission Reduction Roadmap for Urban Water Systems" published by the China Urban Water Association in September 2022.
③ The calculation of GHG emissions has changed from the operating control method to the equity ratio method.

Hazardous wastes (A1.3/A1.5/A1.6)

The hazardous wastes produced in the course of operation of the Group are mainly sludge produced in our industrial sewage treatment plants. During the reporting period, the total amount produced was 5,787 tonnes, representing an emission intensity of 0.23 tonnes/kilotonnes of water, all of which were collected and properly handled by qualified professional companies. The target for hazardous waste reduction is to reduce its emission intensity by 1.5% per year.

Non-hazardous wastes (A1.4/A1.5/A1.6)

The non-hazardous wastes produced in the course of operation of the Group are mainly sludge produced in filtered water plants and domestic sewage treatment plants. During the reporting period, the total amount produced was 278,970 tonnes, representing an emission intensity of 0.11 tonnes/kilotonnes of water for the water supply business and 0.48 tonnes/kilotonnes of water for domestic sewage treatment. Sludge was dewatered, dried and subsequently collected by the local environmental hygiene departments for proper disposal, which is mainly in the form of reclamation, composting or combustion for electricity generation. The target for non-hazardous waste reduction is to reduce its emission intensity by 1.5% per year.



Use of Resources

The Group actively responds to the relevant national policies on resource recycling and energy conservation, continuously strengthens its internal management, sets stringent assessment standards for all water supply and sewage treatment companies, including unit electricity consumption rate, leakage ratio, self-use rate and clean energy utilisation rate, etc., and adheres to the principle of both conservation and innovation, in order to enhance resource efficiency and energy usage through management, potential tapping and external professional support.

Energy used by the Group was mainly indirect energy (A2.1)

Category	Electricity consumption (MWh)	Electricity consumption per unit (kW·h/1,000m^3)	Fuel consumption (tonnes)
City water supply business	463,069	264	1,158
Environmental protection business	70,091	335	59
Pipeline direct drinking water business	17,133	N/A	144
Other businesses	11,407	N/A	174
Total	561,700	N/A	1,536
The total energy consumption of electricity and fuel was 2,022,930 GJ			

Notes:
① According to the "Notice on Further Work Concerning Non-inclusion of Newly Added Renewable Energy Consumption in the Control of Total Energy Consumption" issued by the National Development and Reform Commission (NDRC) and three other bureaus, solar energy (PV power) is categorised as a renewable source of energy and is not included in the total energy consumption.
② Total energy consumption was converted in accordance with the "General rules for calculation of the comprehensive energy consumption" (GB/T2589-2020).
③ Electricity consumption in the water supply business includes electricity consumption from internal sales.

During the reporting period, energy consumption of the water supply business accounted for 13.98% of production costs, which was lower than 14.12% in the corresponding period of the previous year; energy consumption of the sewage treatment business accounted for 24.32% of production costs, which was higher than 22.75% in the corresponding period of the previous year. The average electricity consumption per unit of water supply was 264kW·h/1,000m^3, which was lower than the industry average of 300kW·h/1,000m^3. In accordance with the green development targets as set out in China Water's "Outline of the Implementation Plan for Carbon Peaking and Carbon Neutrality", the Group's average electricity consumption per unit of water supply will be reduced to 213kW·h/1,000m^3 by 2035; and the energy self-sufficiency rate of sewage treatment plants will reach over 60% by 2035.

Average electricity consumption per unit of water supply

264 kW·h/1,000m^3

Average leakage ratio of water supply

14.33%

Dedicated works to reduce leakage ratio

The leakage ratio is an important indicator which reflects the overall management effectiveness of water business. From July to August 2022, the Group has set up a dedicated task force to provide on-site assistance and guidance to its subsidiaries that have a higher leakage ratio, and provide them with tailor-made work plans, while working with a third-party professional leak detection company to achieve significant results. In accordance with the green development targets as set out in China Water's "Outline of the Implementation Plan for Carbon Peaking and Carbon Neutrality", the Group's leakage ratio for prefecture-level urban water supply companies will be less than 10% by 2035; and the leakage ratio for county-level urban water supply companies will be less than 12% by 2035.

During the reporting period, the average leakage ratio of the Group's water supply business was 14.33%, which was lower than the industry average of 23.22%.

Energy-saving modification (A1.5/A2.3)

Energy-saving modification is the most direct and effective measure to reduce energy consumption, and is an important tool to achieve net-zero emissions. The Group continues to investigate and analyse the water plants and pumping stations of its subsidiaries to identify and determine energy saving potentials, and organises energy-saving modification works in conjunction with third-party professionals.

Pumping stations are the most energy-consuming facilities in the water treatment sector. In order to carry out energy-saving modifications in pumping stations more effectively, the Group has gathered experts to compile an “Implementation Guide for Energy-saving Modification of Pumping Stations", which regulates the working methods of data monitoring, operation and maintenance, energy efficiency analysis, formulation and implementation of modification plans for pumping stations.

Energy-saving modification of the Lishu Water Pumping Station at Liangtou Plant in Yifeng County

The Lishu Water Pumping Station originally had two centrifugal pumps, both of which with a power of 185kW, a flow rate of 1,835m³/h and a hydraulic head of 25m; and one centrifugal pump with a power of 90kW, a flow rate of 825m³/h and a hydraulic head of 25m. A study found that the actual operating efficiency of the pumping station was only at 51%, and that its electricity consumption for water intake was 86kW·h/1,000m^3. The pumping station was modified by replacing the two 185kW pumps with new pumps that have a power of 160kW, a flow rate of 2600m³/h and a hydraulic head of 16m, and replacing the 90kW pump with a new pump that has a power of 75kW, a flow rate of 1200m³/h and a hydraulic head of 16m. The motors were not replaced and the motors for the original 185kW pumps were combined into the new 160kW pumps, while the motor for the original 90kW pump was combined into the new 75kW pump. After such modification, the overall operating efficiency of the pumping station has improved to 80%, and the electricity consumption for water intake has been reduced to 53kW·h/1,000m^3, resulting in an energy-saving rate of 38% and an annual energy saving of 500,000kW·h.

Green office (A1.5/A2.3)

China Water fully leverages on its role as a public utility company to demonstrate and lead in energy saving and carbon reduction, thereby creating a green, low-carbon, prudent and economical office culture across the Group.

Notable measures:

- Installed pipeline direct drinking water to replace bottled water and disposable paper cups
- Implement a “paperless office” policy and used electronic documents for internal reporting
- Standardise the air conditioning management and temperature setting in line with national energy saving requirements
- Registration system established and office supplies are purchased and used as needed
- Waste separation and recycling of batteries and other waste
- Conduct video conferences to reduce travel arrangements
- Increase the number of open workstations to improve the use of natural light
- Purchase new energy vehicles to gradually replace fuel-powered vehicles

Developing clean energy

The Group conducted site investigations of all water and sewage treatment plants, office premises and other vacant land of its subsidiaries. Upholding our "build-whenever-possible" principle, the Group drafted 21 plans for the construction of distributed photovoltaic power stations which will commence simultaneously.

During the reporting period, the Group provided 65,954 MWh of clean energy, accounting for approximately 12% of its total electricity consumption, while the total installed capacity of PV power generation units reached 76 MW, providing approximately 17% of the total electricity consumption under full-load operation.

Adopting a "pool-top" PV power station to help clean water production

While some water plants have limited available space due to their locations, certain types of water treatment structure, such as a horizontal-flow sedimentation pool, has a wide pool surface area, which is ideal for the installation of PV panels on the top. The Group has therefore collaborated with a professional PV company to build a "pool-top" PV power station using a more technically demanding large-span grid structure to maximise the use of space. The "pool-top" PV power station provides shade from the sun, reduces water evaporation from the pool, and prevents equipment failure due to direct sunlight. With the addition of water-proof brackets and gutters, the "pool-top" PV power station can shed rain like a roof, while effectively preventing other debris from falling into the pool, and is also aesthetically pleasing. The Group has built "pool-top" PV power stations at a number of water plants, such as the Nantaihu Water Plant in Ningxiang City, Hunan, the Fenyi County No. 2 Water Plant in Fenyi County, Jiangxi, and the Yanshan County Sewage Treatment Plant in Yanshan, Jiangxi.

PV equipment installed at Nantaihu Water Plant, Ningxiang on top of the reaction pool and the horizontal-flow sedimentation pond

Water Conservation and Water Source Protection (A2.4)

China's water resources per capita represents only a quarter of the world average, and are characterized by uneven geographical distribution and a large disparity between the north and the south. As a cross-regional integrated water services operator, the Group understands the scarcity and importance of water resources, and is an advocate and practitioner of water conservation and efficiency.

Under the premise of ensuring water quality and safety, the Group has been able to maintain the self-use rate under 3%, which is lower than the 5% to 10% stipulated in the Code for Design of Outdoor Water Supply Engineering (GB 50013-2018), through process optimization or renovation, setting up scientific back flush parameters for the filter tank and mud discharge parameters for the sedimentation tank, and the addition of back flush water reflux process for aged water plants. The Group has been actively exploring the feasibility of reusing water from the sewage treatment plant and using the treated water for urban greening, street flushing and landscape watering, which effectively relieved the pressure of urban water in water-scarce areas. On certain festivals in the year such as World Water Day (22 March), World Earth Day (22 April) and World Environment Day (5 June), the Group actively organized water conservation and water-saving campaigns to create a social atmosphere of treating water, cherishing water, saving water, protecting water and being pro-water. We call on the public to start by cherishing every single drop of water and contribute to the development of a green ecological civilization. In accordance with the green development target set out in China Water's Outline of the Implementation Plan for "Carbon Peaking and Carbon Neutrality", the Group's water consumption per unit of water plants will reach less than 2% by 2035.

During the reporting period, the Group withdrew a total of 1,642.49 million tonnes of water, supplied a total of 1,597.34 million tonnes of water and consumed a total of 45.15 million tonnes of water, representing a water consumption per unit of 2.75% (A2.2).

Unit consumption rate

2.75%

* Associates are no longer included due to a change in reporting scope

Environment and Natural Resources (A3.1)

The construction and operation of water projects have certain impacts on the environment and natural resources. During the preliminary stage, it involves the selection of water sources, and the development of land being chosen as a plant site. During the construction stage, the environmental impact mainly comes from the wastewater, waste gases, waste residues and noise generated during the construction, which are generally temporary in nature and can be eliminated upon the completion of construction. During the operation stage, our projects mainly involve water resources extraction and ecological environment restoration.

Water stress assessment

As a cross-regional water service provider with city water supply and pipeline direct drinking water as its core, the Group closely monitors water usage of its projects in order to avoid possible disputes over water access rights, rapid increase in operating costs and disruption of operations due to water shortage. The Group measures water stress of its projects, including those of possible acquisitions, with reference to the "Baseline Water Stress China" report published by the World Resources Institute, and formulates plans to cope with future operations. Baseline water stress is a measure of the ratio of total water intake to available surface water in a given area and acts as an indicator of the risks and opportunities associated with water resources. A total of six of the Group's water supply projects were found to be located in areas of high water stress, representing approximately 4% of the total in terms of water intake. In addition, none of the Group's projects have access rights disputes or is at high risk of operational disruption.

Environmental impact assessment on construction project

The Group strictly follows the requirements of the "Environmental Protection Law of the People's Republic of China" and the "Environmental Impact Assessment Law of the People's Republic of China" to conduct environmental impact assessments for new, renovated or expanded planning or construction projects and to engage qualified third-parties to compile environmental impact assessment reports. Being aware of the time lag between the preparation of the environmental impact assessment report and the actual construction of the project, and that the local ecology may change during that period, the Group will organize expert review to further demonstrate the design and construction plans before the commencement to ensure that the construction will not cause significant impact on the environment. During the reporting period, none of the Group's projects fell into any category of potentially significant impact on the environment under the "Catalogue for the Classified Administration of Environmental Protection for Construction Projects (2021 Edition)" published by the Ministry of Ecology and Environment of the PRC.

Green construction practices

The Group has revised and improved the "China Water Construction Management System" in accordance with the "Code for Green Construction of Building" and "Evaluation Standard for Green Construction of Building", taking into full consideration of the utilisation of resources and energy during the construction process and its impact on the ecological environment, and has been focusing on carrying out the "three changes": the first being the change from a raw construction management system to a refined construction management system, whereby various management measures, such as centralised procurement, dynamic monitoring and continuous rectification, were implemented; second being the change from following others technologies to technological innovation through actively exploring green construction technologies applicable to China Water's projects; the third being the change from a traditional construction organisation design to a climate-adapted construction planning by integrating the characteristics of climate into construction methods, construction machinery, construction sequencing and setting up of construction sites to reduce the consumption of resources and energy caused by the climate and effectively reduce construction costs.

Compliant use of natural resources

The Group strictly complied with the water intake license system as stipulated in the "Water Law of the People's Republic of China" and applied for water intake licenses in accordance with the relevant procedures. During the reporting period, all of the Group's water plants obtained valid water intake licenses. Other natural resources consumed in the course of the Group's project operation are renewable industrial products, which were mainly the water purifiers and disinfectants added in the course of tap water production and sewage treatment. In accordance with the green development target set out in China Water's Outline of the Implementation Plan for "Carbon Peaking and Carbon Neutrality", the Group will reduce the consumption of chemicals per unit of water supply by at least 10% as compared to 2021 by 2035.

Category	Type	Consumption (tonnes)	Unit average consumption (kg/1,000 m3)
Water purifier	PAC	16,153	10.9
	$Al_2(SO_4)_3$	192	6.4
	NaOH	877	4.5
Disinfectant	Liquid chlorine	2,609	2.4
	ClO_2	289	0.8
	NaClO	4,488	2.9

Ecological restoration and biodiversity conservation

Biodiversity is a precious treasure of nature and an important basis for human survival and development. According to the fifth edition of the Global Biodiversity Outlook published by the United Nations, "Biodiversity is declining at an unprecedented rate, and the pressures driving this decline are intensifying". China was one of the first countries to accede to the UN Convention on Biological Diversity and has issued the "China National Biodiversity Conservation Strategy and Action Plan (2011-2030)" back in 2010, and further issued the "Opinions on further Strengthening the Protection of Biodiversity" and a white paper on "Biodiversity Conservation in China" in 2022, which clearly set out the new objectives, tasks and measures to further strengthen the protection biodiversity for the new era.

As a company principally engaged in water supply and environmental protection, the Group's business is closely related to the ecological environment. As such, the Group actively responds to national policies and calls, attaches great importance to ecological restoration and biodiversity protection, which is mainly reflected in three aspects:

All sites selected for construction and operation projects have undergone rigorous examination and passed third-party environmental impact assessments. There had been no cases of occupying or damaging ecological reserves, rare wildlife reserves or natural heritage sites.

Ecological restoration and biodiversity protection are embedded into daily work, local ecological conditions are monitored through water source inspections, pipeline network inspections, water quality sampling and testing as well as during the construction of urban-rural supply-drainage integration, and necessary protection measures are implemented.

Organise special protection work and actively liaise with local government bureaus to formulate ecological policies and action plans.

Carry out effective greening around the plant area

Organise special activities with a view to protect the ecological environment

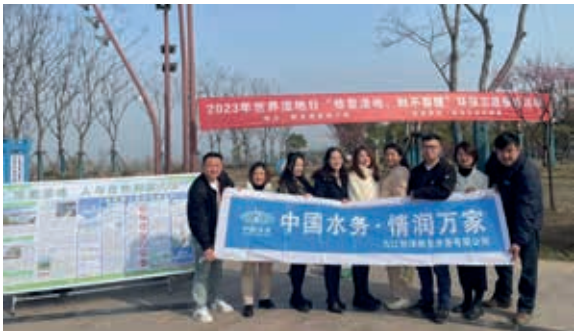
Restoring greenery after the completion of the sun-lit glass machine room for the direct drinking water business

Mangrove restoration by Leizhou Huayang Water Affairs Co., Ltd.

Mangroves grow in tropical and subtropical coastal intertidal zones, and are one of the most biodiverse ecosystems on earth, playing an extremely important role in purifying seawater, providing protection from wind and waves, and storing carbon. Most of China's mangrove resources are found in coastal provinces such as Guangdong and Hainan, with the Leizhou Peninsula accounting for one-third of the country's mangrove area. In response to the Zhanjiang Municipal Government's call for building a "City of Mangroves", in April 2022, Leizhou Huayang Water Affairs Co., Ltd. organised staff to carry out mangrove restoration activities on the tidal flats on the east side of the Nandu River Dam. After a full day of hard work, the company, together with other volunteers, planted more than 4,000 mangrove saplings and cleared the rubbish and debris in the surrounding environment. The company has embodied China Water's core value of "Water-oriented, Kindness to Society" through practical actions, and contributed to the protection of mangrove biodiversity and the building of an ecological barrier on the Leizhou Peninsula.

Wetland conservation volunteering work by Jiujiang Pengze Silver Dragon Water Affairs Co., Ltd.

Wetlands have been referred to as the "kidneys of the earth" and the "gene pool of species", and play an important role in supporting ecosystems, water conservation, climate regulation, environmental improvement and, above all, the maintaining of biodiversity. In order to appeal to the general public to participate in protecting wetlands, on World Wetlands Day on 2 February 2023, Jiujiang Pengze Silver Dragon Water Affairs Co., Ltd. organised its staff to participate in an environmental protection volunteer event called "Restoring Wetlands, No Time to Wait" (修復濕地，刻不容緩), which was held by the Bureau of Ecology and Environment of Pengze County in the nearby Yulongwan Wetland Park. During the event, volunteers from the company enthusiastically handed out brochures to the public and promoted the awareness of the "Wetlands Conservation Law of the People's Republic of China", guiding them to become aware of ecological and environmental protection, and to contribute their bit in creating a beautiful homeland with clear water and green shores.



PRACTISING SOCIAL CO-DEVELOPMENT

"The supreme goodness is like water, which benefits myriad of things without competing." This ancient saying comes from Tao Te Ching, a classic text written by the famous ancient philosopher Laozi, and means that "the highest level of goodness is like water, which is good at nourishing myriad of things without competing with them. It is with this ancient saying that guided China Water for 20 years to build its core value of "Water-oriented, Kindness to Society", to advocate the good use of water, to promote the spirit of water, and to enrich the culture of water.

The country has suffered immeasurable losses in the past three years as a result of the Covid-19 pandemic, which affected every sector and industry to varying degrees. In the face of this unprecedented crisis, China Water has been at the forefront of protecting people's livelihood, maintaining the normal operation of society and improving people's quality of life with safe and quality water supply services, sustainable and reliable treatment of sewage, and economical and environmentally-friendly supply of pipeline direct drinking water, thereby actively fulfilling its corporate social responsibility while achieving steady growth.

Having suffered from the pain and hardship of the pandemic, China Water has strengthened its "people-oriented" staff management philosophy, continued to strengthen its human resources development and investment, attached great importance to occupational health and safety, and spared no effort to create a good working environment and development opportunities for its employees. Through various works and measures, such as training of reserve cadre, construction of online learning platform, the "Water Star Programme" and placement training for management staff, employees are able to continuously self-improve and gain a sense of identity and belonging to the Company.

China Water insists on creating value, achieving results and practising social co-development with the best service possible. The Group's self-developed mobile app, Fingertip Water, has bridged the gap between the Group and its customers by providing comprehensive functions and excellent experience; its work on optimising business environment has won a number of provincial-level accolades; the "China Water – Nourishing Thousands of Families with Love" service brand has been widely recognised and reputed after nearly five years of physical upgrading and cultural fostering, with five projects focusing on brand building launched during the year having played a vital role in safeguarding water, enhancing services, strengthening community construction and promoting local economic development.

During the reporting period, the economic value created by the Group and the wealth distributed to stakeholders:

Stakeholders	Indicator	(HK$'000)	
Investors/creditors	Revenue	14,194,953	Economic value created by the Group
Suppliers (products and services)	Cost	8,848,656	Economic value allocated by the Group
Employees	Remuneration and benefit expenses	1,087,672	
Creditors	Finance cost	633,226	
Shareholders	Dividend allocation	554,990	
Government	Income tax	930,950	
Investors/shareholders	Total equity	21,172,134	Economic value retained by the Group

THREE YEARS OF FIGHTING THE PANDEMIC AND ACHIEVING ULTIMATE VICTORY AT THE END

On 8 January 2023, Covid-19 was formally categorised and treated by China as a "category B" infectious disease, and the work focus of "infection prevention" has shifted to "health protection and prevention of severe illness", and from "control of areas and personnel of risk" to "health services and management". During the three-year fight against the pandemic, China Water always stood at the forefront of safeguarding people's livelihood, strictly complying with the Law of the People's Republic of China on Prevention and Treatment of Infectious Diseases, implementing the Protocol on Prevention and Control of Novel Coronavirus Pneumonia formulated by the government, carrying out protective measures in a scientific manner, and conducting production and operation in an orderly fashion. Three years of perseverance have finally brought about a glimmer of hope and the ultimate victory over the pandemic.

A review of China Water' fight against the pandemic (2020-2023):

Issued the "Prevention and Control Plan of China Water Affairs Group Limited for the Novel Coronavirus Pneumonia Outbreak";

Implemented a remote work policy, and procured and equipped anti-epidemic supplies and equipment;

Accelerated the construction of automation, and ensured the normal operation of the plants and stations through the automatic control system;

Strengthened staff care, called for vaccination, and regular distribution of anti-epidemic supplies;

Expanded online channels, and relied on the marketing system and the Fingertip Water mobile app to conduct the water supply service business;

Implemented regular anti-epidemic measures, strengthened the effort on disinfection, entry-exit registration and conducting emergency drills;

Reached out to the community, paid tribute to anti-epidemic volunteers, and made donations to infection prevention and control organisations;

Supported the construction of mobile cabin hospital and fulfilled our corporate social responsibility.

FINGERTIP WATER SERVICE APP

Fingertip Water is a mobile app developed by the Group that encompasses the characteristics of China Water, integrating a variety of water services functions and carrying the service brand concept of "Nourishing Thousands of Families with Love", with an aim to enhance the dimension of services, enrich the user experience and strengthen community connection. The Fingertip Water App is designed with the concept of "services at your fingertip without needing to leave home", with convenience as the fundamental starting point, and consists of six sections, being payment enquiry, business application, customer service hotline, water services headlines, water services vision and life at the fingertip, in which users can rely on their mobile phone to conveniently check water usage, pay water bills, conduct applications, know the water quality, receive notifications and obtain news, and enjoy timely, comprehensive and continuous access to the Group's quality services.

To protect intellectual property rights, the Fingertip Water App has been awarded a nationally recognised computer software copyright registration certificate (B6.3). In order to protect the security of user information, users of the App are required to sign the "Fingertip Water User Agreement" during registration, which includes the "Fingertip Water User Privacy Policy" which specifies how user's information is collected, used, stored, updated, deleted and protected (B6.5).

The Company continues to upgrade and optimize various functions of the Fingertip Water Service App, constantly improving the user experience and striving to provide the best service to our users. For instance, a new water usage abnormality warning feature has been added, allowing users to customize water usage abnormality thresholds and warning trigger conditions, and the App calculates and analyzes real-time data accordingly. This feature can monitor the daily living conditions of singleton elders. Where water usage abnormalities occur in this group, it is most likely due to illness or accidents. With the feedback through the Fingertip Water Service App, the community can provide timely on-site assistance. In addition, the business processing section has been also upgraded, allowing water supply companies to independently set up business processes and forms based on local conditions, making it more convenient for users to operate and handle affairs.

EMPLOYMENT

Talented staff is the mainstay of an enterprise, and a competition between enterprises in the modern era is essentially a competition for talented staff. Attracting and retaining talents and establishing a sound employment system are the strategic core of human resources management. The Group always upholds the value and pursuit for "customer satisfaction, staff satisfaction, government satisfaction and shareholder satisfaction" as well as the idea of "openness, inclusion, motivation and achieving win-win", and strives to build a harmonious employment relationship and establish a team with strong competitiveness, internal drive and sense of belonging.

Employees

The Group protects and safeguards the interests of its employees by strictly adhering to the Labour Law of the People's Republic of China, and has entered labour contracts with 11,394 employees, representing a 100% contract signing rate.

Remuneration and benefits

The Group implements a performance-based wage system and follows the principles of fixing "work role by position, salary by ability, reward by performance and remuneration by value contribution", advocating for the linkage of staff remuneration to the Company's operating efficiency, establishing a labour value concept of benefit-sharing and risk-sharing, and leveraging on a sound performance management system to ensure fair and equitable staff remuneration.

The Group has established a comprehensive welfare protection system, paying social insurance and housing provident fund for employees in full and in a timely manner in strict accordance with the relevant national regulations. In addition to a fully implemented paid leave system, it also provides various allowances and subsidies for transportation, communication, festivals and working meal.

Anti-discrimination

The Group strictly complies with the Labour Law of the People's Republic of China, the Labour Contract Law of the People's Republic of China and the Law of the People's Republic of China on the Protection of Women's Rights and Interests, and has formulated and issued the "Regulations on Labour and Human Rights Management of China Water Affairs Group Limited", which explicitly implements an equal employment policy, eliminates all forms of discrimination in employment, and treats all employees equally, regardless of gender, ethnicity, marriage status or religious beliefs.

Employee structure by gender and age (B1.1)

Gender ratio / Age group	Male employee		Female employee	
	Number	Ratio (%)	Number	Ratio (%)
Below 25	325	2.9	279	2.4
25 to 30	1,123	10.0	889	7.8
31 to 40	2,621	23.0	2,085	18.3
41 to 50	1,856	16.1	1,324	11.5
Above 50	796	7.0	96	1.0
Total	6,721	59.0	4,673	41.0

Employee distribution by position (B1.1)

Senior management

Male employee	Ratio
785 people	80.3%

Female employee	Ratio
192 people	19.7%

Mid-level management

Male employee	Ratio
881 people	66.3%

Female employee	Ratio
447 people	33.7%

Technicians and operation workers

Male employee	Ratio
4,156 people	56.1%

Female employee	Ratio
3,250 people	43.9%

Others

Male employee	Ratio
899 people	53.4%

Female employee	Ratio
784 people	46.6%

Employee distribution by region (B1.1)

Gender ratio / Region	Male employee		Female employee	
	Number	Ratio (%)	Number	Ratio (%)
North China	891	7.8	619	5.4
Central China	4,234	37.2	2,976	26.1
East China	198	1.7	110	1.0
South China	1,001	8.8	667	5.9
Southwest China	269	2.4	218	1.9
Northwest China	66	0.6	31	0.3
Northeast China	62	0.5	52	0.4

Note: Local employee exceeds 90%

Annual employee turnover by gender and geographical distribution (B1.2)

Gender ratio / Region	Male employee		Female employee	
	Number	Ratio (%)	Number	Ratio (%)
North China	5	0.04	1	0.01
Central China	112	0.98	51	0.45
East China	23	0.20	9	0.08
South China	30	0.26	5	0.04
Southwest China	11	0.10	5	0.04
Northwest China	1	0.01	0	0.00
Northeast China	3	0.03	0	0.00
Total	185	1.62	71	0.62

Annual employee turnover by age (B1.2)

Age group	Turnover	Total amount	Ratio (%)
Under 25	40	604	6.62
25-30	65	2,012	3.23
31-40	80	4,706	1.70
41-50	42	3,180	1.32
Over 50	29	892	3.25
Total	256	11,394	2.25

Note: Out of the 11,394 employees, less than 0.5% were from overseas or from the region of Hong Kong, Macau and Taiwan of the PRC; 382 employees were dispatched labour.

Care for Employees

Care for employees is the "driving force" on the journey of corporate development. The Group provides competitive remuneration and benefits packages for its employees, regular employee seminars are held to fully understand the working and living conditions and practical needs of employees and to solve their concerns. During festivals or in the summer and winter, leaders and executives at all levels visit the frontline to send care and greetings to employees at work. Team activities such as outings, hikes, visits and sports games are organised from time to time throughout the year to strengthen the cohesion of the Group. We provide comprehensive guidance to new employees to help them adapt to work and integrate into the Group as soon as possible. Additional subsidies and holidays are provided to employees who are subject to frequent business trips. We arrange annual medical check-ups and pay attention to the health of employees. In case of any employee or family member suffering from severe illness, executives of the Company would visit the patient in person with solatium provided to solve their urgent needs.

Health and Safety (B2.3)

Always adhering to the safe production concept of "safety first and prevention", China Water strictly abides by the "Law of the People's Republic of China on Safety Production" and other relevant laws and regulations. Under the prevailing principle of "one post, two responsibilities", we take up safety management tasks in our daily operations. We are committed to the safety management system of "universal safety responsibility management", "major risk classification and control" and "continuous improvement and rehearsal of emergency plans".

The Group has in place "Safe Production Regulation Standards" that require each level within all its subsidiaries to enter into the accountability letter for safety targets, specify the person responsible for safety management and organise regular inspection and rectification of potential hazards. Operating procedures and operation guidelines are continuously optimised during routine production. Specific plans are put in place to conduct safety training sessions and tests on employees to ensure that they are familiarised with the management requirements and operating procedures.

During the reporting period, the Group formulated and issued the "2022 Work Plan for Safe Production", "Notice on Safe Production during the Lunar New Year", "Notice on Ensuring Safe Water Supply during the Flood Season" and "Notice on Properly Ensuring Drought Resistance and Water Supply" and other relevant documents and supervised their implementation, with no case of material safety liability incident occurred for three consecutive years (B2.1/B2.2).

Indicators	2021	2022	2023
No. of employees involved in fatal incidents	0	0	0
No. of employees involved in work injury	2	2	4
Ratio of employees involved in work injury (%)	0.020	0.018	0.035
No. of days lost due to work injury	111	108	105

Training and Development

In this era of rapid development of knowledge and information, a workforce that keeps pace with the times is fundamental to the sustainable development of an enterprise. The Group endeavours to carrying out training activities according to job hierarchy and category and in a targeted manner, tailoring training resources for middle and senior management, reserve cadres and general staff, provide a combination of online and offline training, establishing an effective training and learning framework, fully mobilising the enthusiasm of staff at all levels, improving staff efficiency and professional skills, and providing a secured stream of staff and a reserve of talents in terms of quantity, quality and structure for the operation and development of China Water.

China Water Online Academy

The “China Water Online Academy” is a comprehensive online platform developed by the Group in recent years that integrates training and learning, interactive communication and assessment management, to provide internal and external resources of “high quality, full coverage and multiple forms” for all employees. The Online Academy has four major courses in place for different learning targets, namely the new employee training, job training, career advancement training and leadership training, with some skill-based courses requiring to pass an assessment to earn credits. Through credit management, the human resources department can formulate learning plans for employees at all levels, and employees can also perform self-learning and take additional courses. At the end of each year, the Group gives recognition and awards to companies and individuals who have achieved outstanding training results. During the reporting period, a total of 110 courses have been launched on the China Water Online Academy, with a 100% training coverage rate.

Organising training courses for reserve cadres

A reserve cadre is a selected candidate who is prepared for promotion a management position and represents an important talent tool for an enterprise. In September 2022, the Group has organised training courses for the third batch of reserve cadres, with an aim to allow the participants to deepen their understanding of China Water's business philosophy, corporate vision and development strategy, master the basic knowledge of corporate management, encourage them to participate in the development of China Water, and enhance the overall professionalism and business ability of the reserve cadre team.

Launch of "Water Star" campus recruitment and management trainee programme

The Group launched the "Water Star" campus recruitment and management trainee programme for fresh graduates from universities, training management trainees in its designated group companies, with the aim of building a diverse, dynamic and passionate team of young talents, and injecting fresh energy into the rapid and high-quality development of China Water.

Arranging placement training for technical management staff

Placement training allows employees to be exposed to new working environments and management modes, and to learn from the advanced management experience of other regions and enterprises, thereby broadening their horizons, enriching their experience and improving their overall quality, which plays an important role in facilitating the growth of employees and accelerating the construction of the corporate talent team. During the reporting period, the Group adhered to the principles of strict candidate selection, enhanced management and recognition of excellence, and arranged placement training for 63 technical management staff to be placed in various functions covering operation management, engineering construction, water quality testing, customer service and administration and personnel matters, creating a great platform for staff who are passionate about the water business, diligent in learning and thinking, and innovative in spirit. The Group will promote and appoint staff who has demonstrated excellent performance during their placement to provide them with a broader space for development.

Training for employees (B3.1/B3.2)

Employment Type	Gender	Average training hours (hrs)	Percentage of employees trained (%)
Senior management	Male	95	100%
	Female	76	100%
Mid-level management	Male	98	100%
	Female	97	100%
General staff	Male	68	100%
	Female	79	100%

Labour Standards

The Group strictly complies with the "Labour Law of the People's Republic of China", the "Labour Contract Law of the People's Republic of China", the "Social Insurance Law of the People's Republic of China" and other laws and regulations. In addition, with reference to the relevant rules of the International Labour Standards ("ILS"), the "Labor and Human Rights Regulation of China Water Affairs Group Limited" was formulated and issued as our most fundamental human resources policy, so as to safeguard the rights and interests of our employees in earnest.

The Group respects the right of workers to choose their profession freely. Labour contracts are entered into on an equal and voluntary basis, and any form of forced labour is prohibited. The Group does not require employees to provide any collateral for employment. Employees are entitled to resign from work freely in accordance with the law.

The Group strictly complies with the "Law of the People's Republic of China on the Protection of Minors" and the "Provisions on the Prohibition of Using Child Labor", and does not use child labor (aged below 16) in any workplace or work process. Employees are subject to rigorous screening during recruitment, with identity information verified prior to employment and, if necessary, approved by the local public security bureau and the bureau for labour and employment (B4.1).

The Group stipulated the working hours not exceeding the national standards, i.e. no more than 40 hours per week. Regulations for overtime work of employees are put in place. Any overtime work should be unanimously agreed upon with employees and compensated. No physical assault, mental oppression or verbal abuse of employees is allowed. The Group does not discriminate against employees at work because of their age, gender, race and religion.

Each subsidiary of the Group has established a labour union as required. Employees may join a union of their own volition. Representatives of a union may negotiate with the respective company in respect of matters relating to their interests such as employment, wages and benefits, training and development, etc.

Human resources department and audit department have been established under the headquarters and in each subsidiary of the Group to regularly review, rectify and deal with violations of labour standards. During the reporting period, no violation of labour standards was identified (B4.2).

SUPPLY CHAIN MANAGEMENT

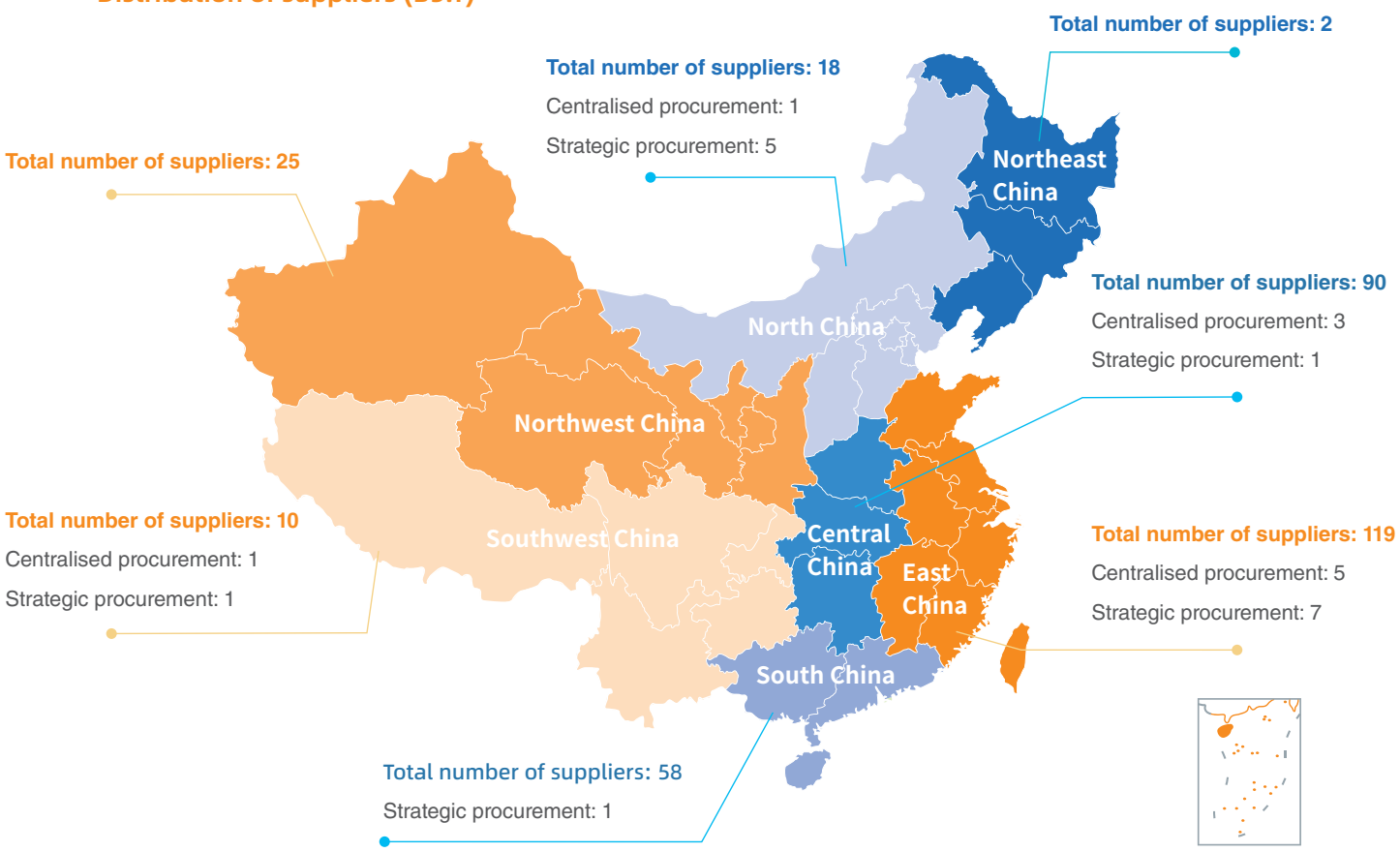
The Group extends its core value of "Water-oriented, Kindness to Society" to the aspect of supply chain and carries out supply chain management in strict accordance with the Government Procurement Law of the People's Republic of China, the Law of the People's Republic of China on Bid Invitation and Bidding, the Contract Law of the People's Republic of China and other laws and regulations.

In order to ensure product quality, reduce procurement costs and enhance risk control, the Group implements centralised and strategic procurement models as a major measure. Our professional procurement department, after the analysis of each subsidiary's requirement, formulates standards and consolidates the Group's resources to conduct centralised tendering for procurement. Continuous multi-circle evaluation of suppliers would be conducted to identify strategic buyers, in cooperation with which progress would be made towards the procurement objectives of the unified brand, specifications, quality and pricing (B5.2).

The Group closely monitors the sustainability performance of its suppliers and incorporates ESG rating criteria into the supplier inspection, admission, management and evaluation process. The Group has formulated the "Measures for the Administration of Procurement of Construction, Goods and Services (for Trial Implementation)" and the "Guiding Opinions on Centralised and Strategic Procurement in China Water". We identify suppliers' ESG risks through measures such as regular product sampling, collecting feedback from subsidiaries, arranging for professional personnel to conduct investigation and evaluation, and reports to the management on significant risks (B5.3).

The Group makes reference to the ESG disclosures of suppliers during the inspection stage, focusing on aspects such as environmental issues, product responsibility and occupational health and safety as evaluation standards. We encourage our suppliers to implement energy-saving measures, extend the application of clean energy, select green materials and ensure awareness of their carbon emissions, with a view to creating a sustainable supply chain and mutual benefits with suppliers who share the same environmental and social concerns (B5.4).

Distribution of suppliers (B5.1)



PRODUCT RESPONSIBILITY

As a public utility company with water supply, environmental protection and pipeline direct drinking water as its principal business, China Water shoulders the prime responsibility of safeguarding people's livelihood and improving the environment. Adhering to the core value of "Water-oriented, Kindness to Society", we consider the quality of products and services as its heart and implement product quality management in strict accordance with national laws and regulations, industry codes and internal control standards.

The quality of tap water provided by the Group's water supply subsidiaries is in line with the Standards for Drinking Water Quality (GB 5749-2022), while the standard for water supply services provided was prescribed under the Customer Service for Public of Urban Water Supply (GB/T32063-2015); the discharge generated by its sewage treatment subsidiaries meets the Standard of Pollutants for Municipal Sewage Treatment Plant (GB 18918-2002); and the pipeline direct drinking water supplied by its direct drinking water subsidiaries meets the Standards for Clean Drinking Water Quality (CJ 94-2005).

During the reporting period, the Group did not record any product recall due to product quality, safety and health reasons (B6.1).

Standardised Management System

The Group established a standardised management system with the "China Water's Operation Management Standards" as its key component, which covers management systems, operating procedures, operational guidelines and record forms. The system also includes three assessment standards, namely the "Water Production Operation Management Standards", "Water Supply Operation Management Standards" and "Safety Production Management Standards", generally covering all aspects of water supply operation management. Over the past year, the Group continued to promote and provide training on the above standards and included standardised management in the annual assessment as a key subject to ensure smooth implementation in both production and operation.

Three-tier Water Quality Testing System

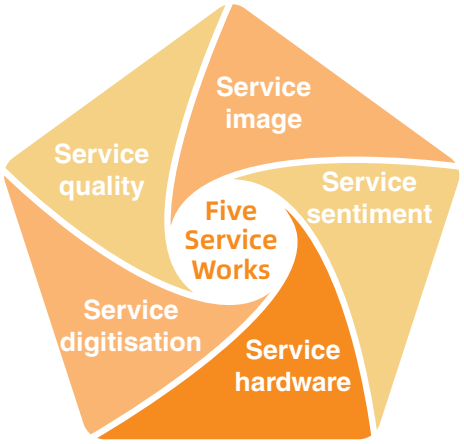
The “Standards for Drinking Water Quality” (GB 5749-2022) will come into effect on 1 April 2023. The new standards impose more stringent requirements on water quality and testing laboratories. The Group has revised the published “China Water Laboratory Technical Standards” in advance to ensure that all water supply companies implement the three-tier water quality testing system, namely central laboratory testing, plant-level laboratory testing and team testing, with a view to ensuring strict control of product quality at all stages. At present, the Group has 2 laboratories which provide a full range of 106 types of tests; and 9 laboratories which provide more than 42 types of tests. We conduct internal or commissioned tests in strict accordance with the “Standard Examination Methods for Drinking Water” (GB/T 5750-2023) (B6.4).

Piloting of Grid-style Water Supply Zonal Management

In order to ensure product quality, improve service efficiency and reduce operating costs, the Group actively explored the development of a grid-style water supply zonal management system with an aim to achieve “grid-style management on everyone and everything", and constructing a new water supply operation model from top-to-bottom and left-to-right. Jiujiang Pengze Silver Dragon Water Affairs Co., Ltd., as a pilot company, divided its water supply zone into three grids. At the same time, the company optimised its staffing level, adjusted its scope of duties, carried out grid-style water quality sampling and pipeline pressure regulation, so as to enable separate assessment of key indicators in each grid, including water quantity, water quality, water pressure, leakage ratio, emergency repair and response time, and has achieved significant results. Six months after the implementation of grid-style zonal management, the company’s water and electricity consumption per unit in the urban area has dropped by 10%, and leakage ratio have dropped by 4 percentage points, resulting in significant improvements in service efficiency and service levels, as well as more standardised field works.

The Service Brand of "China Water, Nourishing Thousands of Families with Love"

The Group continued to build up its "China Water, Nourishing Thousands of Families with Love" brand. In accordance with the "Implementation Plan of Brand Building for 2021-2022", the Group focuses on promoting production and operation, enhancing corporate image and improving service quality. The project mainly consists of five service works for brand building, namely service quality, service image, service sentiment, service hardware and service digitisation.

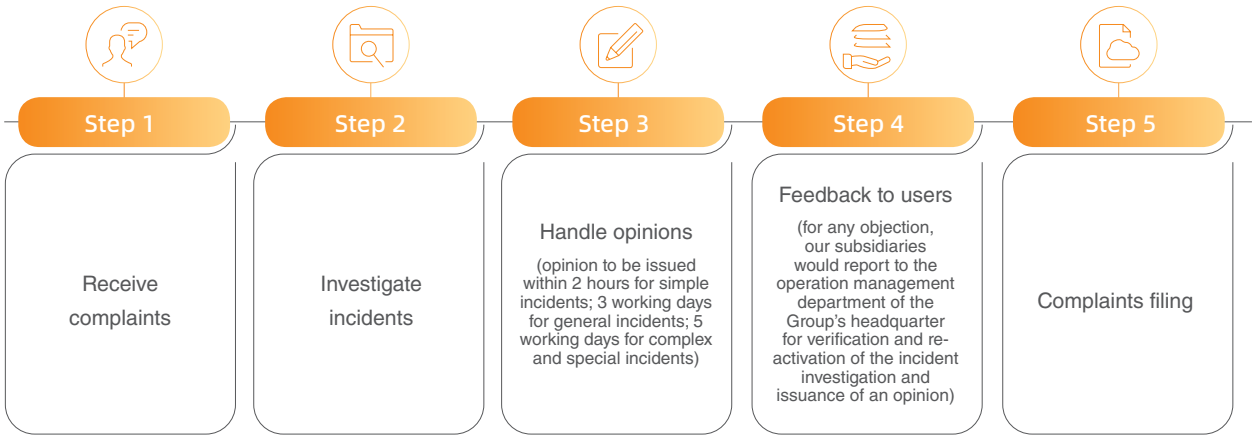


Service Quality

The customer service centre has implemented a commitment system for field services, and maintained transparent business processes, business descriptions, fee rates and processing times; one-stop service is provided to reduce customers anxiety and visits; the customer service centre has set up a 24-hour hotline and a comprehensive complaint feedback mechanism to provide timely responses and proper solutions to any requests from customers; reviews on complaint received are conducted monthly to analyse the complaints and their causes, and rectification measures are implemented in a timely fashion; customer satisfaction surveys are conducted on a regular basis, and public opinions are collected through on-site interviews, questionnaires, telephone call-backs, setting up suggestion boxes and holding seminars to continuously improve service quality. During the reporting period, the Group received a total of 2,808 complaints from customers, with a 100% satisfaction rate in complaint handling (B6.2).

Complaint Handling Process (B6.2)

User complaints: telephone complaints (call the 24-hour service hotline provided by our subsidiaries), letter complaints (obtain the company address by calling the service hotline or via Fingertip Water App), on-site complaints (obtain the address of our customer service center by calling the service hotline or via Fingertip Water App), complaints via Fingertip Water App (one-click dialing to complain after logging in)



Service Image

The service image of staff is unified by uniforms and work badges, and service etiquette trainings are provided; the "China Water Visual Identity System Manual" and "China Water Interior and Exterior Image Identity System Manual" are continuously revised and improved, while at the same time, the customer service Centre has undergone upgrade and renovation, thereby ensuring that customer service meets all business needs and provides a good experience to customers.

Service sentiment

During the year, a brand story contest themed “High Quality, Sustainability, Prospect” was held and outstanding entries were selected to participate in the national contest. With our staff being inspired by the touching brand stories and role models, we completed a solid service sentiment work, and enhance the reputation and influence of our “China Water, Nourishing Thousands of Families with Love” service brand.

Awards from the 10th National Brand Story Contest – China Water

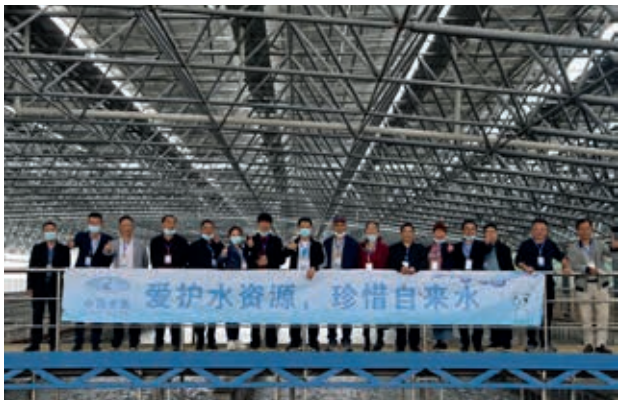
Company	Entry	Award
Gao’an Water Affairs Group Co., Ltd.	《留守》	First prize in microfilm category
Changsha (China Water) Group Co., Ltd.	《孝道》	Second prize in microfilm category
Zhoukou Silver Dragon Water Affairs Co., Ltd	《潤》	Third prize in microfilm category
Huizhou Daya Bay Yiyuan Water Purification Co., Ltd.	《上善若水，水潤萬家》	Second prize in short video category
Zhoukou Silver Dragon Water Affairs Co., Ltd	《周口銀龍管道直飲水宣傳》	Second prize in short video category
Zhoukou Silver Dragon Water Affairs Co., Ltd	《因爲我們是銀龍水務人》	Second prize in writing category
Pingxiang Water Affairs Co., Ltd.	《樹品牌勇爭先，書寫精彩故事》	Third prize in writing category
Zhoukou Silver Dragon Water Affairs Co., Ltd	《青春無悔勇擔當》	Third prize in speech category
Changsha (China Water) Group Co., Ltd.	《星光下的“夜行俠”》	Excellence prize in speech category

Service digitisation

We improve the water supply and marketing management system, the water supply reporting system, the field work order system and the water supply network location information system, etc. to lay the foundation of digitisation so as to improve service quality.

Service hardware

We organise water plant open days to invite the public, including primary and secondary school students, to visit the production works, testing process and distribution facilities of tap water. The visits allow the public to observe the "ins and outs" of tap water at close range and experience the standardised, modernised and garden-style water plant built by China Water.



ANTI-CORRUPTION

The Group attaches utmost importance to building a corruption-free culture and strictly complies with the Criminal Law of the People's Republic of China, the Anti-Unfair Competition Law of the People's Republic of China and the Company Law of the People's Republic of China, and other laws and regulations. By continuously refining our finance, construction, procurement, investment and audit systems to regulate group and individual behaviours, we built a strong moral and disciplinary defence for our staff. The Group upholds zero-tolerance policy towards abuse of power of duties and position for personal gain which damages the interest of customers, suppliers and other third parties. During the reporting period, no litigation relating to corruption was identified by the Group (B7.1).

The Group has formulated the "Regulations on the Management of Clean Practices of China Water Affairs Group Limited" and established the audit committee and audit department to organise anti-corruption inspections in a comprehensive and systematic manner. In addition, we provide our whistleblowing hotline and mailbox address to the public. With reference to the Supervision Law of the People's Republic of China and the "Rules on the Handling of Reports and Complaints by Discipline Inspection and Supervision Agencies", the Group handles all reports in accordance with the applicable laws and regulations, strictly implements confidentiality measures, strives to protect the legitimate rights and interests of whistleblowers, and deals with the leakage of information about whistleblowers or reports in a serious manner (B7.2).

During the reporting period, the Group conducted anti-corruption training for all directors, supervisors, chief financial officers and other management personnel through executive meetings and monthly working meetings, with each person receiving 6 hours of training. Anti-corruption courses were also arranged at the China Water Online Academy and training presentations were given to all staff (B7.3).

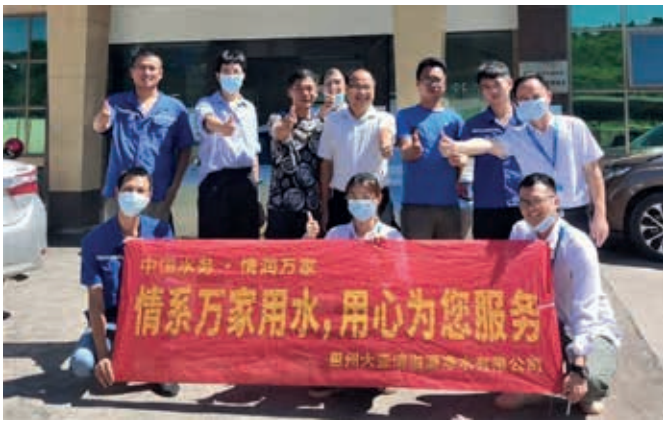
COMMUNITY CONTRIBUTION

As a public utility company with a strong commitment to people's livelihood and environmental protection, China Water has built an inseparable connection with the community since its founding and has always regarded the establishment of a harmonious community-enterprise relationship as an important responsibility and obligation. The Group has integrated community feedback into the creation of the "China Water, Nourishing Thousands of Families with Love" service brand, which has enabled better consolidation of resources and helped professionalise and standardise community welfare undertakings.

Since the outbreak of Covid-19, the community has become more in need of support and care from enterprises than ever. China Water has provided a large number of employment opportunities for the community, with more than 90% of its staff employed locally, and no layoffs whatsoever during the pandemic. In the course of its operations, the Group provides free water supply, maintenance or discounted water to special and underprivileged groups. In addition, the Group also actively carries out various forms of community activities, including but not limited to "service in community", "service in rural area", charity donations, voluntary blood donations, nursing home visits, veteran visits and caring for left-behind children, etc., in order to continuously promote community development and become a true builder of a better future for the community (B8.1/B8.2).

Guizhou Qiandong Water Affairs Co., Ltd. arranged for its staff to participate in voluntary blood donation

Yuncheng Silver Dragon Water Affairs Co., Ltd. and Baofeng Silver Dragon Water Affairs Co., Ltd. presented care packages to local community service centres and social welfare organisations



Heyuan Water Industry Group Development Co., Ltd. launched caring activities for left-behind children

A “caring station” is set up in the lobby area of the customer service centre of water supply companies to provide a free spot for field workers, such as sanitation workers, taxi drivers, couriers and urban volunteers, to rest and recuperate, shelter from rain and cold weather, and get water and hot meal.

Index of the contents of the guidelines on environmental, social and governance reporting of the Hong Kong Stock Exchange

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Note 1: Not meaningful

REPORT OVERVIEW

This report sets out a systematic review and overview on China Water Affairs Group Limited's implementation of its corporate governance initiatives and performance of its environment and social obligations.

Reporting period:

1 April 2022 to 31 March 2023.

Reporting scope:

Consistent with the company and financial reporting of China Water Affairs Group Limited where applicable.

Basis of preparation:

Prepared in accordance with the ESG Reporting Guide of Appendix 27 to the Main Board Listing Rules of the Hong Kong Stock Exchange; with reference to the GRI Standards 2021 issued by the Global Sustainability Standards Board.

Publication:

This report is prepared in both Chinese and English, which is published on China Water's official website.

http://www.chinawatergroup.com

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

Tel: 852-3968 6666

Email: info@chinawatergroup.com

INDEPENDENT ASSURANCE REPORT

ASSURANCE STATEMENT

SGS-CSTC'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE CHINA WATER AFFAIRS GROUP LIMITED'S 2023 ESG REPORT

NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION
SGS-CSTC was commissioned by China Water Affairs Group Limited (hereinafter referred to as "China Water") to conduct an independent assurance of the China Water's 2023 ESG report (hereinafter referred to as "The Report").

INTENDED USERS OF THIS ASSURANCE STATEMENT
This Assurance Statement is provided with the intention of informing all China Water`s Stakeholders.

RESPONSIBILITIES
The information in The Report and its presentation are the responsibility of the directors and the management of China Water.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification with the intention to inform all China Water's stakeholders.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE
The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognized assurance guidance and standards, which including:

- The principles of reporting process contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) as:
  - GRI 1: Foundation 2021, for report quality
  - GRI 2: General Disclosure 2021, for organization's reporting practices and other organizational detail
  - GRI 3: Material Topics 2021, for organization's process of determining material topics, its list of material topics and how to manage each topic
- and the guidance on levels of assurance contained within the AA1000 series of standards.

The assurance of this report has been conducted according to the following Assurance Standards:

- SGS ESG & SRA verification regulations (Refer to GRI Principles and AA1000 Guides)

The Assurance has been conducted at a moderate level of scrutiny.

SCOPE OF ASSURANCE AND REPORTING CRITERIA
The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information as detailed below, and evaluation of adherence to the following reporting criteria:

- HKEX Environmental, Social and Governance Reporting Guide

ASSURANCE METHODOLOGY
The assurance comprised a combination of pre-assurance research, on-site interviewed with relevant employees including the China Water group which is located at 14–15/F, Building 20 Section 16 ABP, Fengtai District, Beijing, PRC; Documentations and records were reviewed and validated with relevant employees of the other subsidiaries as necessary.

LIMITATIONS AND MITIGATION
Financial and GHG data drawn directly from independently third audited has not been checked back to source as part of this assurance process.
Data tracing on headquarters' level, not including original data of all holding subsidiaries.
The on-site verification was only at the China Water group, the assurance process only involved interviews with the heads of relevant departments and certain employees of group as well as consultation with relevant documents, no external stakeholders involved.

STATEMENT OF INDEPENDENCE AND COMPETENCE
SGS is the world's leading inspection, verification, testing and certification company, SGS is recognized as the global

INDEPENDENT ASSURANCE REPORT

benchmark for quality and integrity. SGS is a global leader in inspection, testing and verification, operating in more than 140 countries/ areas, providing services including management systems and service certification; quality, environmental, social and ethical audits and training; environmental, social and sustainability report assurance. SGS affirms that it is a completely independent organization from China Water, and that there is no bias or conflict of interest against China Water, its affiliates and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised of CCAA registered ISO 9001, ISO 14001 and ISO 45001 auditor, SGS recognized ISO 37001, ISO 37301, SA8000 and CSR/ESG lead auditor.

FINDINGS AND CONCLUSIONS

ASSURANCE/VERIFICATION OPINION
On the basis of the methodology described and the verification work performed, the information and data contained within the Report verified is accurate, reliable, and provides a fair and balanced representation of China Water's sustainability activities in 2023.

The assurance team is of the opinion that the Report has referred the KPIs disclosures of the HKEX listing rules appendix 27 'Environmental, Social and Governance Reporting Guide'.

REPORTING RULES

MATERIALITY
China Water presented the methodology for factors' materiality research and analysis, via materiality analysis, the environmental, social and governance significant issues was reported to stakeholders, which could meet the materiality principle requirement.

QUANTITATIVE
China Water conducted the statistics and analysis for KPIs, and reported the disclosures' impacts and purposes. In the Report some datas were compared with historiacal years, which could better help stakeholders to evaluate the effectiveness of management systems and make decisions.

BALANCE
China Water presented the balance reporting rule in the Report and reported the environmental, social and governance issues truthfully.

CONSISTENCY
China Water disclosed the methodologies with consistency for report content and data statistics at all levels in the company, in addition, remarks and interpretations were marked in the Report to assist stakeholders make a clear comparison.

FINDINGS AND RECOMMENDATIONS
Good practices and recommendations for ESG report and management process were described in the internal management report which has been submitted to the management of China Water for continuous improvement.

Signed:

For and on behalf of SGS-CSTC

David Xin
Sr. Director – Knowledge
16/F Century Yuhui Mansion, No. 73, Fucheng Road, Beijing, P.R. China

Jun. 27th, 2023
WWW.SGS.COM

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