



2024 Sustainability Report

Beijing Enterprises Water Group Limited

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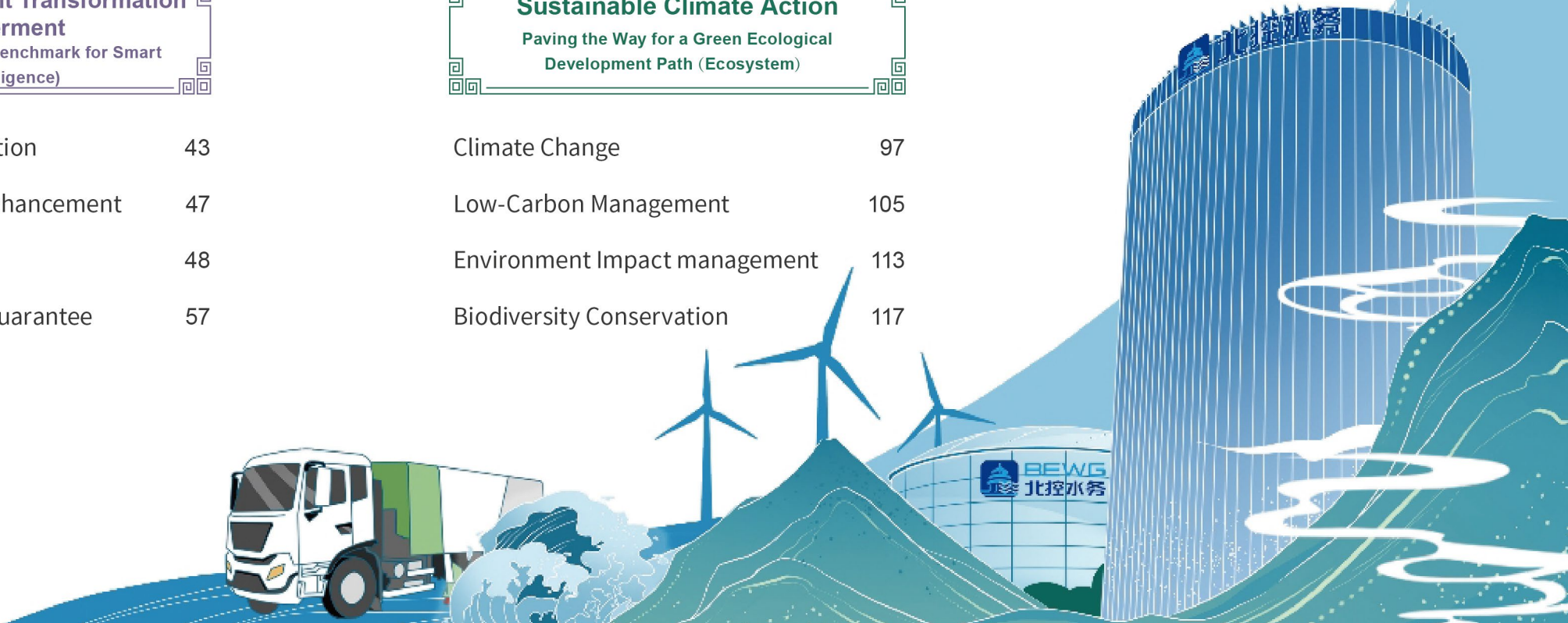
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About this Report

As a non-financial report publicly disclosed by Beijing Enterprises Water Group Limited, this report aims at responding to the expectations of stakeholders and comprehensively demonstrating the Group's concepts, management, actions and achievements in environmental, social and governance ("ESG") and sustainability. This report has been reviewed and approved by the Board of Directors of BEWG (the "Board"), which guarantees that there are no false records, misleading statements or material omissions in this report.

Reporting Period

The reporting period is from 1 January, 2024 to 31 December, 2024. Information beyond this scope will be specified in related sections.

Abbreviations

For the convenience of expression and reading, this report refers to Beijing Enterprises Water Group Limited and its subsidiaries as "BEWG", "the Group" and "We".

Reporting Principles

This report is prepared in adherence to the principles of "Materiality", "Quantitative", "Balance" and "Consistency".

Materiality: The Board and the Sustainability Committee have identified, evaluated and reviewed significant ESG matters. This report published ESG matters based on the materiality assessment results.

Quantitative: This report referred to applicable quantification standards and practices, adopted a quantitative approach to measuring and disclosing applicable key performance indicators. The measurement criteria, methods, assumptions and/or calculation tools and source of conversion factors used for the key performance indicators in this report, where applicable, are described accordingly.

Balance: This report provided the Group's 2024 Sustainability performance and outputs through fair presentation without any misstatement, inappropriate content and omissions.

Consistency: The statistical calibre of the quantitative data has changed compared to previous years, and the changes have been explained in the corresponding positions in this report. The statistical and calculation methods for quantitative data are consistent with previous years.

Scope

All information and data disclosed are from Beijing Water Group Limited and its subsidiaries. The data covers the Group's headquarters and its subsidiaries that hold operational control. Data from subsidiaries with common financial control but autonomous implementation of operational policies is not reported.

Data Explanation

All data disclosed in this report are from the Group's internal collection and statistics, and reports from its subsidiaries. The currency unit in this report is RMB unless specified otherwise. Any discrepancy between the total and the sum of the values listed or the calculation of the percentages of the data and proportions disclosed in the report is due to rounding.

Reporting Guidelines

This report is in accordance with the requirements of *Appendix C2 Environmental, Social and Governance Reporting Code (ESG Reporting Code) of the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited (the "Listing Rules")*, with reference to the *GRI Sustainability Reporting Standards (GRI Standards)* issued by the Global Sustainability Standard Board (GSSB), and other standards.

Confirmation and Approval

After confirmation by management, this report was reviewed and approved by the Board of the Company on 26 March 2025.

Access to this Report

This report is available in Chinese and English on the Company's website (<http://www.bewg.net>). In case of any conflict or inconsistency between the Chinese and English versions, the Chinese version shall prevail; in case of any conflict or inconsistency between this report and the annual report of the Group, the annual report shall prevail.

Statement of the Board

BEWG fully integrates ESG concepts into its business development and daily operation, and has established an effective ESG governance system with a clear division of responsibilities and obligations. With the goal of achieve the goal of "achieve sustainability of the company", we strive to continuously enhance corporate core competitiveness.

Supervision on ESG Matters

BEWG has established a management system covering the Board, sustainability Committee and ESG working group. The Board participates in ESG governance throughout the process and takes full responsibility for the ESG strategy and ESG disclosure of the Group. The Sustainability Committee is responsible for overseeing the implementation and progress of specific ESG issues. The functions of each level of the management system are detailed in Chapter (i) ESG Governance.

ESG Management Guidelines and Strategies

BEWG actively communicates with all stakeholders, keeps abreast of ESG focus areas in the capital market and industry, regularly identifies and assesses material ESG issues, and continuously improves its ESG governance and management mechanisms. The Board is involved in evaluating and prioritizing key ESG issues, and regularly reviews the ESG strategy based on the materiality matrix to assess its potential impact on the group's ESG strategy.

BEWG recognises the significance of ESG-related risks and opportunities and their potential major impacts, including those brought by climate change, and has incorporated these into the group's overall risk management system. The Board oversees the assessment of ESG risks and opportunities, ensuring the group has established sound and effective ESG risk management and internal control systems. This year, the Group has developed and improved processes for identifying, assessing, and managing climate-related risks and opportunities, and has continued to conduct risk identification, assessment, and management for ESG issues such as operational compliance, information security, and human resources management. For more information, please refer to the 'Climate Change' section of this report and the 'Corporate Governance Report-Risk Management and Internal Control' section in the annual report.

Review of ESG Targets

In line with its business characteristics, BEWG has set a series of ESG management targets regarding water saving, energy saving, emission reduction, quality and safety, etc. The Board receives the work progress of ESG-related targets, surprises and evaluates their progress to ensure the facilitation of ESG governance across the Group.

The ESG progress and achievements of BEWG in 2024 have been fully and truly disclosed in this report, which was reviewed by the Audit Committee and approved by the Board on 26 March 2025.



Message from the Chairman



Chairman of the Board of BEWG

Mr. Xiong Bin

Pioneers are forged through trials, charting a sustainable path with innovation and resolve.

At the historic intersection of global sustainable development trends and the critical juncture of new-era reforms, BEWG deeply grasps the pulse of the times, actively responds to the national "dual carbon" strategic deployment, and takes the spirit of the 20th National Congress of the Communist Party of China and the Third Plenary Session of the 20th Central Committee as its guide. With water as our brush, we continue to write a magnificent chapter of sustainable development, embracing challenges in reform and leveraging innovation to enhance quality and efficiency. Over the past year, we have achieved numerous gratifying results.

Steadfast amidst changes, building a transparent and resilient governance system. BEWG relies on a robust corporate governance structure and improves comprehensive risk management mechanisms. We continuously promote integrity culture and anti-corruption practices to foster a transparent, stable, and responsible operating environment. By unlocking the kinetic energy of ESG governance and aligning with the United Nations Sustainable Development Goals (SDGs), we unveiled our "W.I.S.E."—"Water, Intelligence, Satisfaction, Ecosystem" sustainable development actions this year—as our action roadmap of sustainability, firmly committing to this sustainability path. In 2024, BEWG featured in S&P Global's Sustainability Yearbook 2024 (China Edition), making us the sole utility enterprise in China to receive this honor.

Harmonise with nature, practising green solutions for ecological protection. As we confront the era's imperatives of ecological conservation and climate change, BEWG upholds the principle of "Keep the Water of Life Evergreen", and fully integrates green and sustainability into our operations and business

system. We have been deeply engaged in the field of water resource treatment. Through technological innovation and refined management, we safeguard urban water security, restore aquatic ecosystems, and let every drop of water sparkle with new life. Our multi-dimensional low-carbon strategies reduce resource consumption, transforming environmental responsibility into growth momentum. By cultivating green competitiveness amid climate challenges, we aim to drive the industry's low-carbon transition and contribute to China's "dual carbon" goals.

Root in client-centricity, innovating for a sustainable future. BEWG prioritises the principle of "Customer-Oriented", continuously elevating service standards to deliver clean water to thousands of households. We remain people-oriented, strengthen safety production foundations, care for employee well-being, and foster responsible supply chain to advance toward a sustainable future with all stakeholders. In 2024, marking the inaugural year of our asset-light strategic transformation, we accelerated the digitalisation and intensive management of water plants, to enhance operational efficiency for large-scale assets, speed business transformation and remain the leadership in smart water. We actively promote cutting-edge research and practice the principle of "Innovation-Driven", making innovative development the best boost in the journey of sustainability. The innovation case of "X in Water" was selected in Beijing State-owned Listed Companies ESG Bluebook (2024).

Forging ahead into a new era, embracing challenges with vision and resolve. The year 2025 marks the final stretch of China's 14th Five-Year Plan. Standing at this historic threshold, BEWG will maintain strategic focus, scale new heights with perseverance, and strive tirelessly toward a brighter future.

Message from the CEO



Chief Executive Officer of BEWG

Mr. Zhou Min

Looking back on 2024, amid China's modernisation wave, the blueprint for reform unfolded on a grand scale, innovative development improves quality and efficiency. During this year, we witnessed continuous improvements in the policy framework and support system for climate change response. The implementation of regulations such as the Regulation on Water Conservation and the Measures for the Administration of Pollutant Discharge Permits, further solidified the foundation for synergised efforts in reducing carbon emissions, controlling pollution, expanding green transition, and promoting economic growth. Aligning with the demands of the era and its own development realities, BEWG proposed the "W.I.S.E."—"Water, Intelligence, Satisfaction, Ecosystem" sustainable development actions, to continuously enhance and elevate the Group's sustainability practices.

Tracing our origins, striving for "cleaner" water. BEWG prioritised water quality improvement, pipeline network leakage control, and the establishment of sewage treatment operation standards and emergency response mechanisms across the entire water footprint lifecycle. In 2024, we actively explored and applied advanced treatment technologies in water supply projects, launched specialised water quality enhancement initiatives in multiple regions to safeguard safe and clean water access for residents, continuously pursuing higher customer satisfaction. Concurrently, we introduced a series of sewage treatment products and solutions, contributing to water resource protection through high-standard services and fostering long-term ecological sustainability.

Embracing "intelligence", empowering new water utilities. BEWG firmly believes in its strategy and adheres to the digital transformation of the enterprise. With scientific and technological innovation as the primary driving force, we continuously promote the digital construction and intensive management of water plants, improving quality and efficiency to achieve high-quality development of the enterprise. In this year, we established two asset-light technology platform companies, namely "Beishui Technology" and "Beishui Cloud" to further bolster technological development to cultivate new productive forces. Guided by the new operational paradigm of "Cloud-Chain-Unit" and leveraging enhanced operational efficiency of existing assets, we forged industrial connectivity, revolutionised sectoral development, and composed digital transformation and green, high-quality development of the water utility industry.

Aspiring for "satisfaction", fulfilling the responsibility of a corporate citizen. BEWG prioritised stakeholder needs, committed to enhancing satisfaction across all parties. Supported by a robust compliance governance structure, we effectively managed risks and promoted business ethics in this year. We defined the "Precision Empowerment 6-Step Method" for talent management to upgrade human resource effectiveness, while strengthening safety awareness and optimising health and safety management mechanism. Collaborating sincerely with suppliers, we co-created an environmentally friendly and ethical business environment. We have carried out visit and study activities in water supply plants, sewage treatment plants and water environmental education centres in many places across the country in cooperation with primary and secondary schools. Combining our strengths, we used technology to contribute to the construction of beautiful villages and promote rural revitalisation.

Progress through perseverance, fostering "ecosystem" vitality. BEWG promoted sustainable high-quality development in the eco-environmental sector, contributed to climate action. We established a board-level climate governance framework, integrated climate risks into risk management process, assessed and managed climate risks in a standardised manner, and fully considered response strategies in line with the company's development strategy. We actively pursued energy-saving technological upgrades, and adopted renewable and low-emission fuels instead of traditional energy sources to reduce the environmental impact of the water purification process. Committed to full-lifecycle ecological protection, we developed biodiversity-friendly products and technologies, and actively carried out biodiversity conservation and ecological restoration.

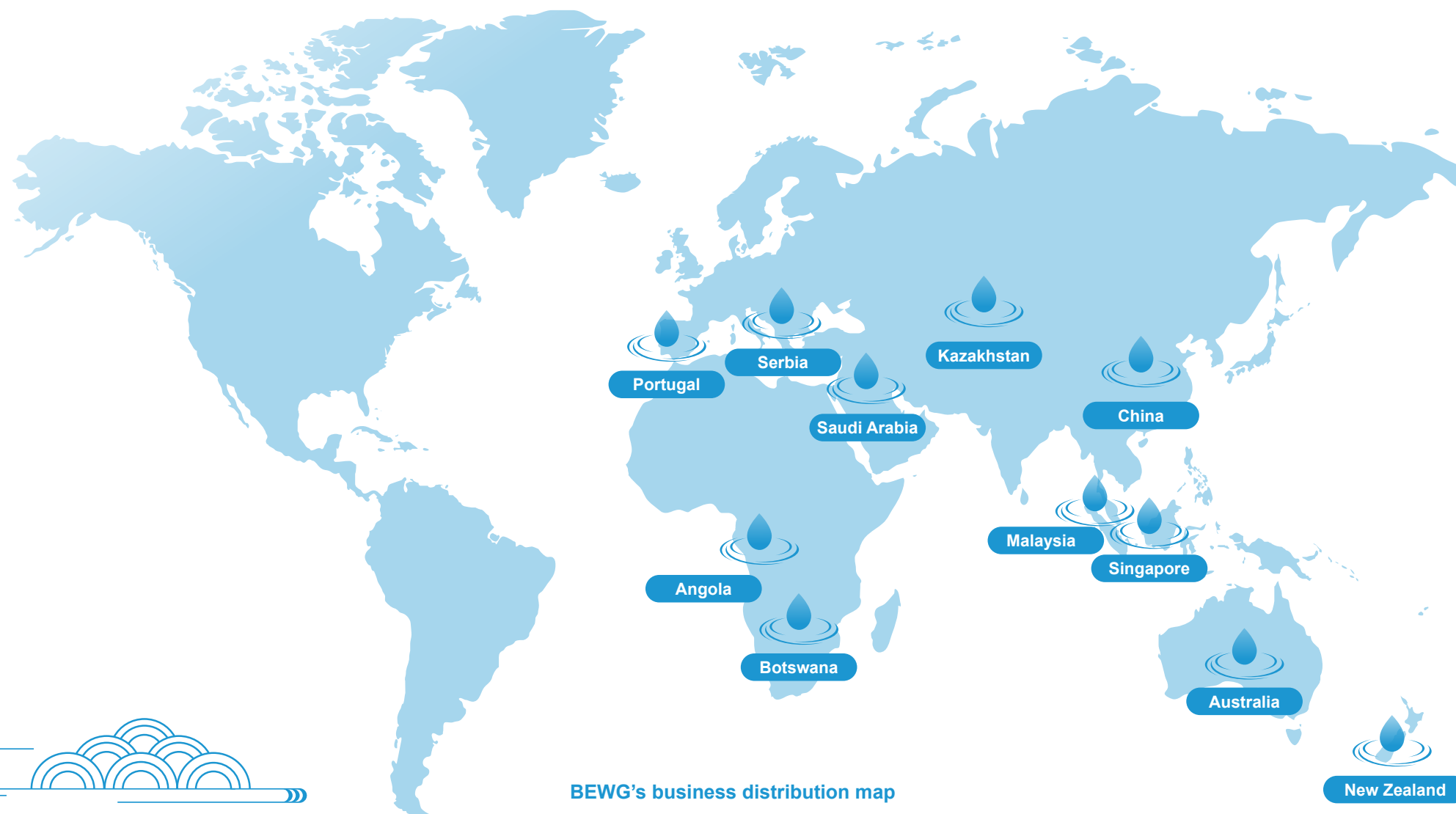
Harnessing the wind of tomorrow, piercing the clouds to carve our legacy into the horizon of possibility. In this epochal journey, BEWG is striding confidently into a new phase of asset-light transformation. Looking ahead to 2025, we will continuously enhance governance efficiency, maintain an unwavering forward momentum, and elevate public well-being through high-quality development. While deepening the integration of the W.I.S.E. sustainable development actions with business growth, we will adhere to the value standard of "conform with fundamental interests of people", strive toward the "aspiration of people for a better life" and deliver more standardised water management, intelligent operations, heightened satisfaction, and improved ecosystem, thereby painting the brighter future.

About Us



BEWG Overview

BEWG is a leading professional water and environment service provider, adhering to the business philosophy of "Customer as the source and innovation as the way". BEWG integrates industry investment, design, construction, operation, technical services and capital operation, and relies on technology and innovative models for new business growth to realise corporate sustainability. The Group focuses on water resources recycling and aquatic ecological environmental protection, with municipal sewage treatment as its core business, involving water supply, sludge, integrated plant-pipe network, reclaimed water and its derivative formats. Meanwhile, we actively developed our presence in the upstream and downstream of the industrial value chain, and our scale of water treatment has steadily ranked first in the domestic water industry. Consolidating strategy, capital and innovation, the Group has set up headquarters in Beijing, Hong Kong and Hangzhou. The water services are provided in 31 provinces and autonomous region (including Hong Kong and Taiwan), covering over 100 prefecture-level cities. Our overseas business covers more than 30 cities in 10 countries or regions, including Malaysia, Singapore, Australia, New Zealand, Portugal, Angola, Botswana, Saudi Arabia, Kazakhstan and Serbia, serving nearly 10 million customers.



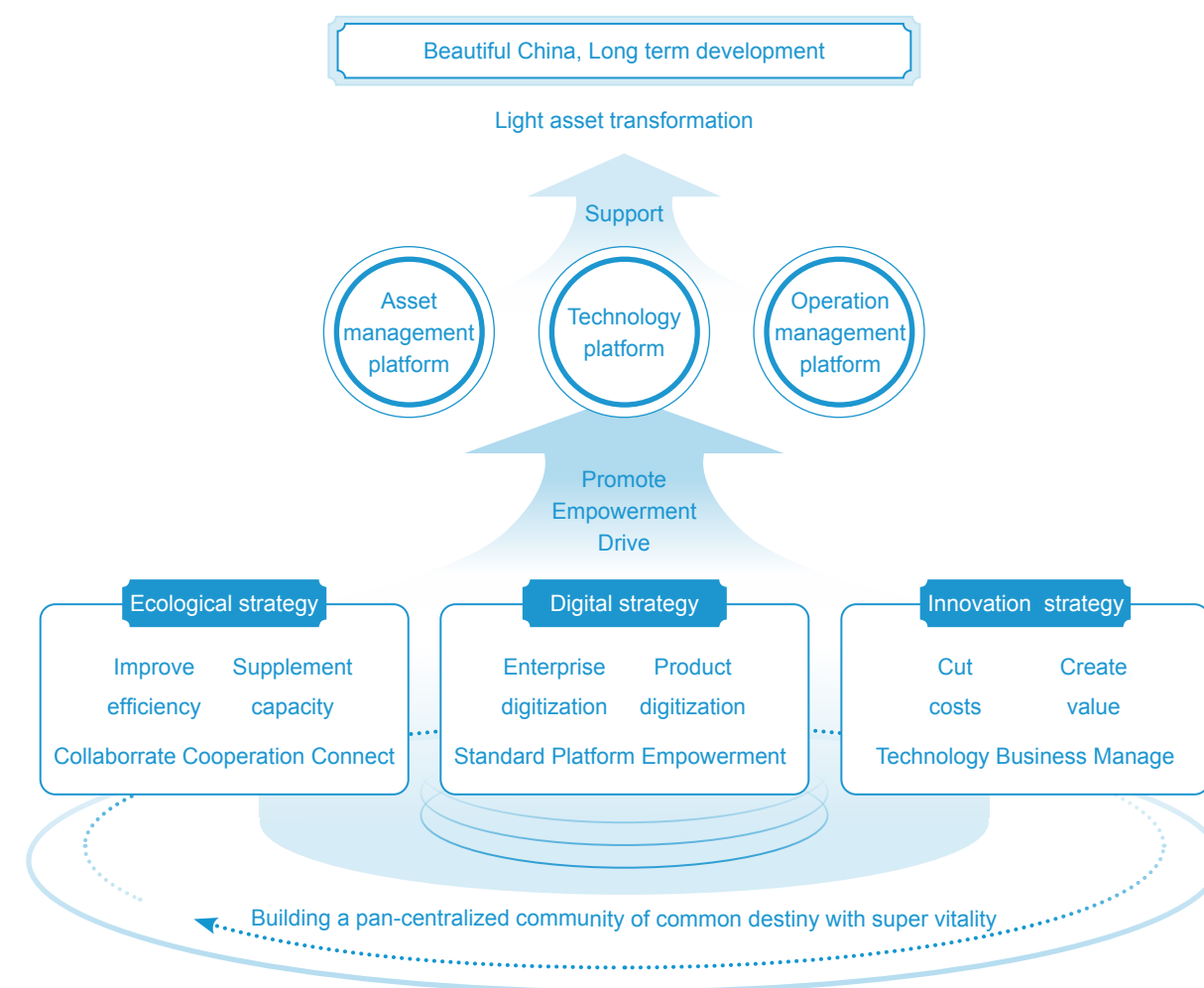
BEWG's business distribution map

Strategy and Business Layout

2024 marks the inaugural year of BEWG's asset-light strategic transformation. The Group will firmly grasp the new mission and opportunities, maintain strategic focus, and with greater confidence, more effective measures, and higher spirits, comprehensively complete the annual goals and tasks. We are committed to continuously making BEWG more innovative, much greener, and more valuable to strive for a future of high-quality and sustainability.

Medium-term and long-term strategic goals

Continue to acquire and manage large-scale assets, rely on technology and model innovation to create new business growth points, improve corporate operational efficiency, and achieve sustainability of the company



In line with the business purpose of "Customer as the source and innovation as the way", the Group has built a new market development system, focused on R&D, and comprehensively promoted smart water while continuously upgrading product quality to lead high-quality development in the water industry. As a leading professional water and environmental service provider, BEWG has used its ecological, digital, and innovation strategies as institutional support, adopted the sustainability concept as a driver, and cultivated new productive forces for development. In 2024, BEWG, after a thorough analysis of its internal and external environment, launched the "Three Platforms" strategy, which includes an asset management platform, a technology development platform, and an operation service platform. This marked the official start of its asset-light transformation. The Group also established two asset-light technology firms, Hangzhou Beishui Future Technology Co., Ltd. ("Beishui Technology") and Hangzhou Beishui Cloud Service Technology Co., Ltd. ("Beishui Cloud"), to accelerate the implementation of the Group's technological and professional capabilities and build new momentum for its high-quality development.

About Us

Operating Performance of BEWG in 2024



Revenue

RMB **24.27** billion



Insisting on giving back to shareholders
Dividend payout totaled HKD

1.61 billion



Total design treatment scale of municipal
water services in operation about

33.86 million tons/day



Number of sewage treatment plants and
town-size sewage treatment facilities in
operation

1,050



Number of water supply plants in
operation

160



Number of reclaimed water treatment plants
in operation

48



Industry Contribution

BEWG actively serves national strategies by deeply engaging in industry associations and research. It promotes industry-wide cooperation and win-win outcomes through its own innovation and development. In 2024, the Group participated in 17 industry associations, strengthening industry integration and industrial cooperation from the Group headquarters down to the subsidiaries, with annual expenses amounting to RMB 1.29 million. Additionally, BEWG actively participated in the formulation and revision of national, industry, and group standards to drive industry progress. This year, the Group took the lead or participated in the formulation of 40 national and group standards.

This year



The Group participated
in **17** industry associations

Annual expenses amounting
to RMB **1.29** million

The Group took the lead or
participated in the formulation of
40 national and group standards

BEWG's Participation in Industry Standard Formulation in 2024

Co-drafting/ Co-editing 10 National Standard

- Evaluation Guidelines for Water-Saving Industrial Parks (published)
- Technical guidelines for river ecological security assessment (published)
- Technical guidelines for evaluation of the aquatic ecological health (published)
- Technical specification for treatment of industrial brine (published)
- Water reuse guidelines—Benefits evaluation of reclaimed water use (published)
- Technical requirements of the operation performance evaluation for domestic sewage treatment facilities (for comments)
- Technical requirements of high-efficiency water pollution control equipment for assessment — submersible mixer (for comments)
- Technical requirements of operation performance assessment for sludge pyrolysis resourceisation equipment(for comments)
- Technical requirements of operation performance assessment for town sewage MBR treatment system (on hold)
- Synergistic evaluation of carbon emission reduction in urban wastewater treatment (in preparation)

Editing or co-editing a total of **30** group standards, among which BEWG edits **7** group standards and co-edits **23** group standards.

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Sustainability Progress

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Honours of BEWG in 2024



Ranked first in the Top 10 Influential Enterprises in Water Industry by E20 Environment Platform for 14 consecutive years.

Selected as one of the "Top 50 Environmental Enterprises in China in terms of revenue".

Selected as the "Top 500 Chinese Brands" by TopBrand Union for 3 consecutive years.

Selected as the "Blue Whale 50 – Global Top 50 Open Innovation List for Large Enterprises"

Won the "Capital Civilized Units" award for the year of 2021 to 2023.

Selected in the S&P Global's *Sustainability Yearbook 2024 (China Edition)*, becoming the only company selected in the utility industry of China.

Selected in the "Best 10 ESG Case of Beijing State-owned Listed Companies", ranked in "China ESG listed Company Beijing-Tianjin-Hebei Pioneer 50 (2024)".

Innovation case of "X in Water" was selected in *Beijing State-owned Listed Companies ESG Bluebook (2024)*.

Yinchuan No.1 Reclaimed Water Treatment Plant was selected as one of the Top 10 Environmental Public Facilities by the Ministry of Ecology and Environment.

Luoyang Jianxi Sewage Treatment Plant, Yuxi Sewage Treatment Plant and Hangzhou Yuhang Treatment Plant (Phase 4) were selected as National Green and Low Carbon Benchmarking Sewage Treatment Plant.

Tengzhou No.4 Sewage Treatment Plant and Guangdong Zhuhai Xinqing Industrial Sewage Treatment Plant were selected in *Compilation of Cases of Ecological and Environmental Innovation Projects under the "14th Five-Year Plan"*.

ESG Governance

Sustainability Governance Structure

BEWG attaches great importance to corporate ESG governance and has always complied with *the Corporate Governance Code* set on *Appendix C1* of the *Listing Rules of The Stock Exchange of Hong Kong Limited* and the relevant domestic and overseas regulatory requirements

BEWG has established a comprehensive and efficient ESG governance framework and built a long-term ESG working mechanism to further implement sustainability management and continuously enhance the Group's sustainability competitiveness.

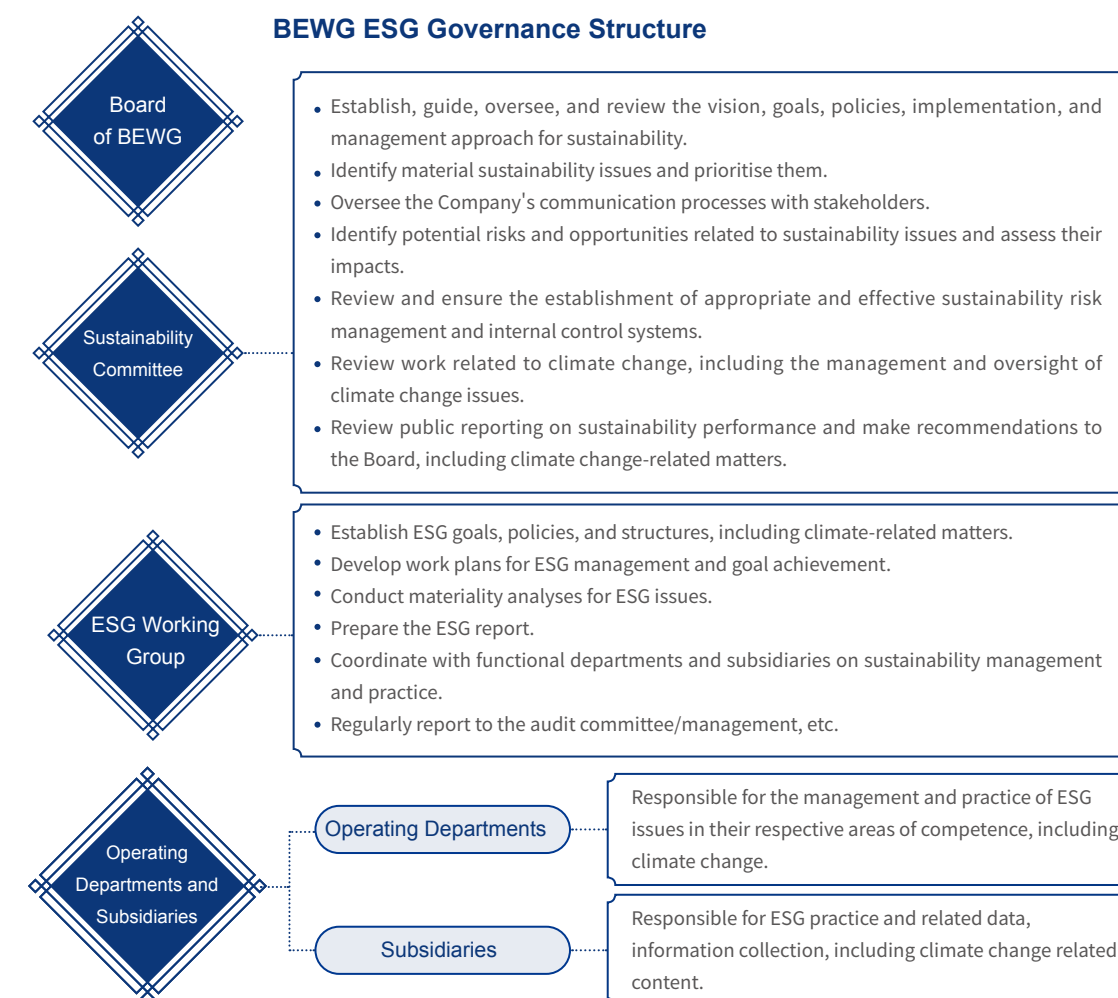
The Board, as the highest decision-making body, is responsible for identifying and determining material ESG matters and proposing recommendations for ESG objectives, policies, and structures. It also oversees the Group's overall strategy and supervises management.

The Sustainability Committee¹ oversees the implementation of specific ESG matters, reports ESG management progress and outcomes to the Board, defines material ESG issues, assesses climate-related risks and opportunities, reviews environmental target achievement, and evaluates the Company's ESG impact on stakeholders.

To ensure effective ESG management practices, an ESG Working Group comprising various business and functional departments has been set up to coordinate and drive the implementation of specific ESG projects, regularly reporting to management and the Board to ensure smooth ESG progress and effective risk prevention.

Additionally, climate change management and oversight functions have been integrated into the Board, Sustainability Committee, and ESG Working Group to continuously improve the effectiveness of climate governance.

BEWG ESG Governance Structure



¹The detailed responsibilities of the Sustainability Committee can be found at:
<https://www.bewg.net/uploadfile/2023/0331/20230331083201354.pdf>

Stakeholder Engagement

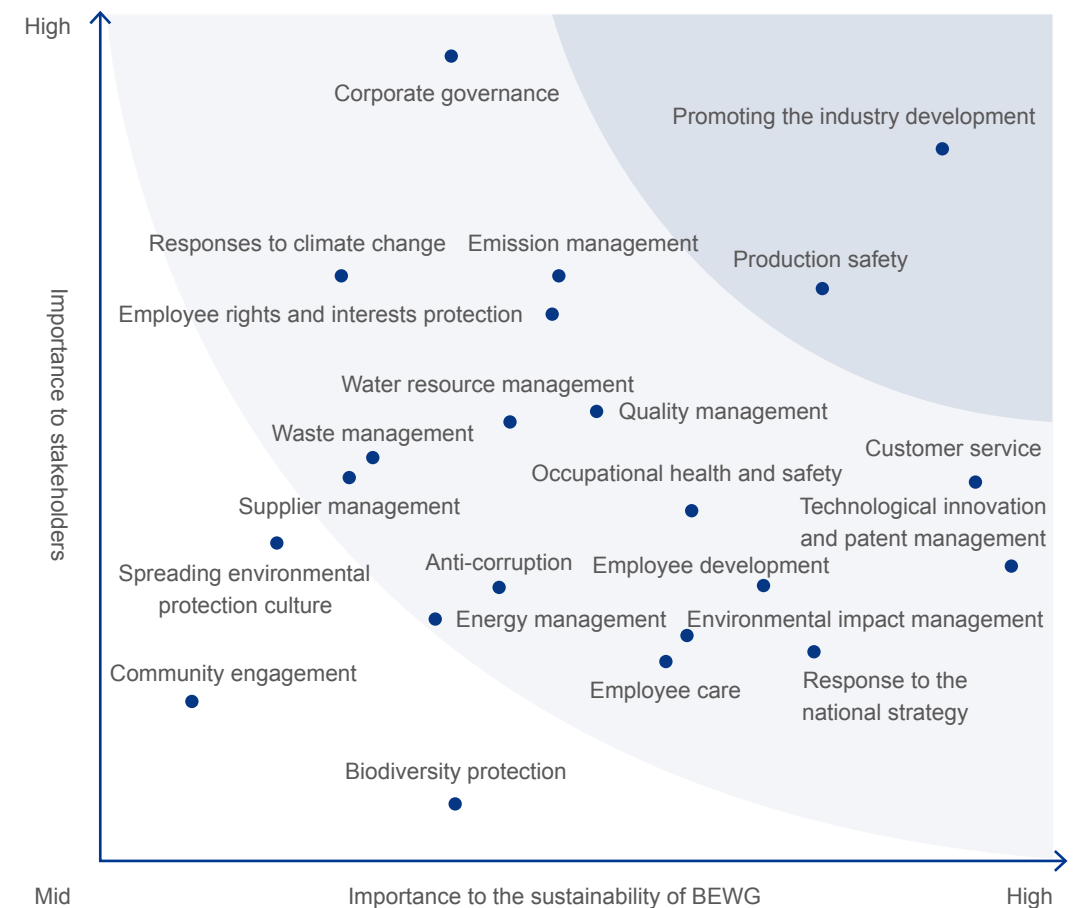
BEWG attaches importance to the expectations and demands of all stakeholders, and listens to the opinions and suggestions of the government, shareholders, customers, communities, employees and other stakeholders through different channels to improve the Group's ESG performance in a targeted manner.

Stakeholders	Communication channels	Expectations and demands
 Shareholders and investors	<ul style="list-style-type: none">General meeting of shareholdersPeriodic reporting and announcementsInvestor communication meeting	<ul style="list-style-type: none">Compliance operationsContinuous and stable investment returnEnhance product and service qualityRisk managementAddressing climate changeCorporate governance
 Government and regulators	<ul style="list-style-type: none">Information disclosureDaily communication and reportsOn-site researchSupervision and inspectionVisit and reception	<ul style="list-style-type: none">Compliance operationsJob creationResponse to national strategyEnhance product and service qualityProduction safety and operation compliance,Scientific and technological innovationEnergy conservation and emission reduction
 Customers	<ul style="list-style-type: none">Customer satisfaction surveyVisits and communicationCustomer activities	<ul style="list-style-type: none">Enhance product and service qualityDisclosure of informationWin-win cooperation
 Employees	<ul style="list-style-type: none">Labour contractsOpinion solicitationCommunication channels for career developmentEmployee care activitiesTailored trainingAnonymous communication channel	<ul style="list-style-type: none">Employee rights and interests protectionOccupational health and safetyProfessional training and developmentEmployee careEmployee communication
 Suppliers and partners	<ul style="list-style-type: none">Public biddingContracts and agreementsSuppliers' meetingSuppliers' training	<ul style="list-style-type: none">Contract complianceMutual benefits and win-win resultsSupply chain managementEcological cooperation
 Industry	<ul style="list-style-type: none">Launch and participate in industrial activitiesSharing research resultsConstructing communication platformsIndustry cooperationTechnical exchanges	<ul style="list-style-type: none">Leading industry developmentScientific and technological innovationEnhance product and service quality
 Community	<ul style="list-style-type: none">Home visit and interviewCharity activitiesCharitable donationsVolunteer activitiesOpen day event	<ul style="list-style-type: none">Community communicationCommunity servicesCommunity investmentPublicity of environmental protection ideasCompliance operation
 The public	<ul style="list-style-type: none">Open day eventCharity activities	<ul style="list-style-type: none">Providing safe and reliable productStable employmentPublicity of environmental protection ideas
 Research and academic institutions	<ul style="list-style-type: none">Industry-academia-research integrationTalent cultivation	<ul style="list-style-type: none">Talent cultivationLead industry developmentScientific and technological innovation

Materiality Assessment

In 2024, BEWG further refined the Group's materiality topics by benchmarking against the ESG rating indices and trends of mainstream international capital markets and the performance of the peers. By incorporating the opinions of various stakeholders, the Group identified and assessed the materiality topics, with no significant changes in the results of materiality topics for the year.

BEWG ESG materiality matrix



Sustainable Development Action



BEWG, aligned with the Group's business and strategic plans as well as stakeholders' concerns, has firstly introduced the "W.I.S.E."-"Water, Intelligence, Satisfaction, Ecosystem Sustainable Development Action Direction" in line with the UN Sustainable Development Goals (SDGs). It covers 4 directions and 19 key actions, clarifying the Group's guide for advancing sustainability.

Action

SDGs

Materiality Topics

Water

Water

We are striving to provide society with reliable water safety by carrying out actions that focus on the entire process of water supply and treatment, with the goal of guaranteeing the sustainable use of water resources.



- Quality Management
- Driving Industry Advancement
- Environmental Impact Management
- Biodiversity Conservation
- Water Resource Management

Intelligence

Intelligence

By focusing on standardisation, intelligent operation and innovation, we can further enhance our operational capability and level and create a business-leading intelligent water platform.



- Driving Industry Advancement
- Technology Innovation and Patent Management
- Responding to National Strategies

Satisfaction

Satisfaction

Continuously promote the modernisation of the governance system to generate financial returns; build a sustainable supply chain to enhance supplier resilience and safety; comprehensively upgrade the customer service system to improve service quality; strengthen the construction of a high-quality talent team to achieve common development between the company and our employees; and actively carry out community activities and increase community investment to help improve the well-being of society and people's livelihoods.



- Corporate Governance
- Anti-corruption
- Safety in Production
- Employee Rights Protection
- Employee Development
- Employee Care
- Occupational Health and Safety
- Customer Service
- Supplier Management
- Community Engagement
- Promoting Environmental Culture

Ecosystem

Ecosystem

Actively responding to the National needs, we endeavour to promote the achievement of the goal of carbon peaking and carbon neutrality, realise the synergy between energy saving, carbon reduction and pollution reduction, improve the quality of the ecological environment, and support high-quality development with a high-quality ecological environment.



- Climate Change Response
- Responding to National Strategies
- Emission Management
- Environmental Impact Management
- Energy Management
- Biodiversity Conservation
- Waste Management
- Water Resource Management

W.I.S.E. KPIs



Water

High-Quality Water Supply

Water Supply Quality Comprehensive Qualification Rate
99.99%

Water Pressure Compliance Rate
100%

Water Pipeline Leakage Rate
10.86%

Timely Repair Rate for Water Pollution/Blockage Incidents Caused by Extreme Weather²
0

Efficient Utilisation of Water Resources

Water Consumption per tonne of Wastewater
0.0006 tonne/tonne

Self-use Water Ratio for Water Distribution Plants
1.39%



High-Quality Sewage Treatment

Wastewater Quality Compliance Rate
100%

Pollutant Reduction
2,140,875 tonnes

Pollutant Resource Utilisation Rate³
15.9%

Rate of Star-rated Water Plants⁴
34.40%

Coverage Rate of Construction Project Inspection
100%

Development of Alternative Water Sources

Reuse Water Contribution Destination

Replacement volume of industrial water
79.49 million tonnes

Replenish natural water bodies
432.48 million tonnes



Intelligence

Intelligent Plant Operation

Water Plant Program Control Rate
64%

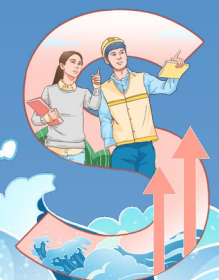
Operating System Module Coverage Rate
100%

Information Security Guarantee

Information Security Certification (ISO 27001, NIST, etc.) Coverage Entity Scope
BEWG passed the annual review of ISO 27001 **Information Security Management System Certification**

Innovation Leadership

83
Obtained Intellectual Property and External Standards within the Reward Scope



Satisfaction

Compliance Operations

Percentage of Employees Covered by Business Ethics Training
100%

Number of Corruption Litigation Cases
0 Cases

Percentage of Female Directors
14.29%

Talent Management

Average Gender Wage Difference Rate
5.39%

Turnover Rate
11.71%

Number of Welfare Activities
81

Safety and Health

Times of Safety Production Inspections
146,778

Lost Time Incident Rate (LTIR)
0.16 case/200,000 working hours



Customer Service

Revisit Satisfaction
99.66%

Supply Chian Management

Coverage Rate of Qualified Supplier Audit
72%

Social Contribution

Total Amount of Charitable Donations
RMB **837,000**



Ecosystem

Climate Change

Greenhouse Gas Emission Density (Scope 1 + Scope 2)
0.46 tCO₂e/RMB 10,000

Percentage of Renewable Energy Consumption in Total Energy Consumption
3.34%

Low-Carbon Management

Energy Consumption Density
0.107 tonnes/10,000 RMB

Environment Impact Management

Hazardous solid waste density
0.39 kg/RMB 10,000

Non-hazardous solid waste density
1.21 tonne/RMB 10,000

Number of Major Accidents in Violation of Environmental Laws and Regulations
0 Cases

Proportion of New, Reconstruction, and Expansion Projects Conducting Environmental Impact Assessment
100%



²The number of water pollution/clog incidents causing more than 10,000 households to suspend production for over 24 hours due to extreme weather (typhoons, floods, droughts, etc.) this year.

³All sludge from the sewage treatment plants of our Group has been safely disposed.

⁴The proportion of water plants that meet or exceed the three-star standard.



02

High-Quality Water Operation: Building A Solid Barrier for Social Water Safety (Water)

Ensuring the supply of clean water resources and protecting water ecological environment are key responsibilities of BEWG. In business operations, BEWG actively conserves water resources and establishes a multi-layered water resource management system focusing on high-quality water supply guarantee, high-quality sewage treatment, efficient water utilisation, and alternative water sources development. BEWG continuously promotes the recycling and reclamation of water resources, reduces the environmental impact of wastewater, and provides society with stable and reliable water resources.

- ◆ In 2024, a total of approximately **2,366.5** million tonnes of tap water were supplied, with a comprehensive qualification rate of **99.99%**
- ◆ In 2024, a total of approximately **5,827.66** million tonnes of sewage were treated, and the sewage compliance rate remained at **100%**
- ◆ Source management to reduce the consumption of natural resources, with the fresh water consumption per unit of revenue decreasing by **4%** throughout the year
- ◆ Resource recycling with the annual reclaimed water supply reaching **511.97** million tonnes, a year-on-year increase of **8%**
- ◆ As of the end of 2024, the Group and **23** projects have passed the ISO 9001 quality management system certification.

○ High-Quality Water Supply	25
○ High-Quality Sewage Treatment	29
○ Resources Recovery	37



To build a high-quality and sustainable water supply and treatment network, the Group has continuously carried out key initiatives such as water quality improvement and pipeline network leakage control, efficiently utilising water resources and establishing a comprehensive emergency response mechanism to provide the public with easily accessible, clean and safe water sources. By the end of 2024, the Group has successfully created 20 three-star water supply enterprises, obtained ISO 9001 Quality Management System certification for 5 projects, ISO 14001 Environmental Management System certification for 3 projects, and ISO 45001 Occupational Health and Safety Management System certification for 4 projects.

In 2024, BEWG stably operated 160 water supply plants domestically and internationally, delivering 2,366.5 million tonnes of tap water, with a comprehensive qualification rate⁵ of 99.99%, satisfying the needs of residential water usage.



Water Supply Quality Guarantee

All water supply plants under our Group strictly adhere to the latest national and regional standards related to drinking water, including the *Standards for Drinking Water Quality* and the *Environmental Quality Standards for Surface Water*, and have achieved a 100% qualification rate upon inspection by external third-party institutions. To further enhance the quality of water supply, we have formulated evaluation criteria for star-level water plants, the *Standard for Design of Outdoor Water Supply Engineering*, which is stricter than the national standards, strengthening the management of internal control standards for water quality. Our requirements include that water supply plants establish at least five water quality control indicators and possess the capability for online monitoring or manual testing, ensuring that the internal control qualification rate remains above 99%. In addition, we attach great importance to handling emergency situations by monitoring water quality anomalies monthly and formulating water quality improvement or emergency response plans for potential risk items, thereby ensuring a stable supply of high-quality water.

Continuous Improvement of Water Quality Management Standards

The Group has continuously optimised its internal management systems and standards. We revised the *Standard for Raw Water Quality Grading Warning* and the *Control Guideline on Water Quality Abnormal Indicator*, in which different raw water quality warning levels (I to IV) are designated for indicators such as turbidity, colour, and pH value, based on national standards. Additionally, these Standards provide various water treatment process guidance for water plants under different raw water quality conditions, while improving standardised emergency response procedures and responses to strictly ensure the water quality of the Group's water supply plants.

In 2024, the Group's water supply projects actively explored and applied advanced treatment processes, and conducted special projects on water quality improvement, aiming to maximise the elimination of raw water quality risks and continuously improve water supply quality.

⁵The comprehensive qualification rate of water supply is the average of the qualified rate of water from the plant and the qualified rate of water from the pipeline network. The standard for water qualification rate is in reference to the *Water Quality Standards for Urban Water Supply* (CJ/T 206). This indicator comprehensively takes into account the self-inspection results of water supply enterprises and the third-party inspection results.

Case Promotion and Application of Water Quality Stabilisation Technology in the South-to-North Water Diversion Project

In Hebei province, which is in the middle route of the South-to-North Water Diversion Project, we fully implemented a green, high-efficiency raw water quality control technology, processing over 400,000 tonnes of water per day. As China's first systematic application of water quality stabilisation technology along the middle route, this initiative reduces coagulant dosage by 8% annually, reduces residual aluminum in treated water by 12%, and comprehensively enhances stability of water quality.

Case Water Supply Technology Optimisation Project in Shandong

To address excessive odour compounds in raw water for the water supply project in Shandong, we optimised traditional emergency treatment processes and piloted advanced UV + hydrogen peroxide treatment technologies. Through various technical parameter adjustments and stability validations, we established a multi-level barrier protection system tailored to local odour issues, ensuring safe water supply quality.

Case Water Quality Improvement Project in Luoyang

In Luoyang, we optimised water source allocation, boosted high-quality water supply and increased water quality by adjusting supply zones of existing plants, increasing output from high-tech water plants, and constructing the Mangling Water Diversion Project, etc. Additionally, we completed and commissioned the UF-NF/RO membrane advanced treatment project at Guanlin Water Treatment Plant, along with hardness removal projects using UF-NF/RO membrane technology for underground water in Jianxi and Jiandong. These targeted process upgrades have enhanced regional water quality in Luoyang, benefiting over 1.5 million residents.



Visualisation of the Guanlin Water Treatment Plant Upgrade Project

Through high-quality services and robust core technologies, BEWG has established a strong professional reputation, contributing its strength to local economic development and social development.

Case Water Supply Projects Recognised by Clients

Our water supply project companies have received multiple letters of appreciation and commendations from clients, acknowledging their commitment to providing high-quality services and efficient operations. Notably, Kaili Beikong Qingyuan Water Affairs Co., Ltd. achieved first place in the Housing and Urban-Rural Development Department of Guizhou Province's urban water supply standardisation assessment. The General Office of the People's Government of Kaili Municipality commended the company for its institutionalised management and standardised operation, which significantly elevated the city's water supply capability and efficiency.

Pipeline Network Leakage Control

The Group continues to establish a life-cycle leakage control and management system for pipeline network. Strict quality control measures are implemented during three key stages of design management, construction management, and operation management of the pipe network. Intelligent tools are utilised to enhance the leakage control, improving water resource utilisation efficiency, and elevating water supply quality.

Network design management

During the design stage, we rigorously adhere to relevant standards and specifications. We conduct a comprehensive assessment of local geographical and hydrological conditions, and perform measurement and analysis on site to ensure the accuracy and rationality of pipeline layout.

Network construction management

During the construction stage, strict control is exercised over the quality of construction materials. Such situations as pipe leaking and dripping are covered in the quality assessment. A video surveillance system is in place for real-time supervision of all construction projects, ensuring timely rectification of potential issues by the project personnel.

Network operation management

During the operational stage, the smart water supply platform enables intelligent leakage control. Information analysis tools such as Geographic Information System (GIS), hydraulic models, and district metering management systems help achieve real-time monitoring and control of the water supply network. The big data model is adopted to predict the probability of network damage, and the dispatch system is used to conduct real-time monitor of pressure distribution. In this way, we can adjust and control the pressure, upgrade leak detection equipment, and enhance the skills of leak detection personnel. We also conducted pilot projects regarding satellite-based leakage detection system. Besides, regular inspections for network leakage are conducted, and aging pipelines are replaced and maintained. An independently developed metering assessment tool is used for precise control of metering losses, covering aspects like water meter selection, installation, and evaluation, thereby achieving precise control of leakage rate.

In 2024, we optimised and upgraded the big data model for predicting the risk of water supply network damage, further improving the model's accuracy to 84%. Meanwhile, we deepened the application of this model in multiple projects within the Group, providing effective support for the renewal and renovation of pipe network.

Case Intelligent Water Resource Monitoring and Leakage Management System Benefits Overseas Business Management

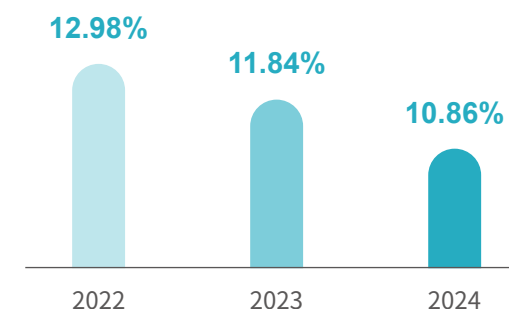
In a water supply project in Portugal, we applied an intelligent water resource monitoring and leakage management system to monitor various indicators of the water supply network in real-time, promoting water supply quality management. Meanwhile, the system can track the frequency of leakages, identify the precise locations of leakages, and assess the severity of leakage issues, providing effective support for subsequent maintenance work.



Pipeline Network Leakage Detection

To reduce pipeline network leakage and improve water quality for users, BEWG continues to strengthen the renovation of old pipeline networks and old residential blocks. This year, we invested a total of RMB 213 million to update and renovate in certain municipal areas and aged residential blocks. The number of leakage repairs decreased by 6,508 throughout the year, representing an 18% year-on-year decrease, and the leakage rate decreased by 8.5% year-on-year. Meanwhile, we optimised the leakage rate assessment standards and set the leakage rate target for the next year at 9.97%. In addition, the water supply mode of constant pressure control implemented for the pipeline network has achieved remarkable results, improving the pressure stability while reducing pipe burst accidents, and significantly decreasing the leakage rate.

Pipeline network leakage rate from 2022 to 2024



Case

Upgrading and Renovation Project of the Main Pipeline Network on Mengjiangnv Avenue in Jinshi

In 2024, we upgraded and renovated the 3.9-kilometer main water supply pipeline on Mengjiangnv Avenue and municipal fire hydrants, main control valves, and other facilities and equipment, with a total investment of RMB 9 million. This effectively reduced the leakage rate of the water supply network in Jinshi and comprehensively enhanced water supply security for residents and enterprise users in the high-tech district and Xinzhou.

Emergency Response

The Group has formulated the *Standard for Raw Water Quality Grading Warning* and the *Control Guideline on Water Quality Abnormal Indicator* to ensure stable operations and the cleanliness and safety of water supply under the regular fluctuations in raw water quality. In response to the impact of extreme weather brought by global climate change, the Group has developed the *Guidelines for Emergency Response to Abnormal Influent*, requiring water supply project to formulate management measures of practical emergency response for influent water shocks based on this guideline, in order to prevent the negative impacts of extreme weather such as droughts and floods on raw water quality, water treatment plants, pump stations, and pipeline networks.

In terms of response measures on floods, we adhere to the *Implementation Measures for Flood Control and Emergency Response Work of Beijing Enterprises Group* issued by our superior entity, Beijing Enterprises Group. We closely monitor rainfall and flood situations and conduct comprehensive inspections to identify potential hazards. Guided by a four-level emergency response mechanism, we prepare sufficient and complete emergency supplies in advance according to the levels, establish and improve full-time (part-time) emergency rescue and relief teams, strengthen emergency drills, and formulate relevant plans for post-disaster recovery and reconstruction. Meanwhile, we require all water supply projects to enhance monitoring and early warning of flood as well as raw water quality, increase the frequency of inspections and patrols of plant areas, pipeline networks, various types of public inspection wells related to water supply within the water supply scope, to ensure the safety of water supply quality.

In terms of response measures on droughts, based on the actual geographical conditions of the projects, we increase the frequency of water quality monitoring for water supply projects in drought-prone areas, focusing on potential water quality deterioration issues caused by lowered water levels, and formulate relevant emergency response plans and water volume guarantee measures.

- Minimise the impact of water shortages during droughts at the source, by actively encouraging and supporting local governments to prepare backup and emergency water sources;
- Reach agreements with water source management entities on prioritising water supply to our projects during droughts;
- Connect with the water supply pipeline network of other surrounding water supply entities to achieve mutual supplementation and ensure water supply safety in the event of insufficient water supply within one's own area;
- Establish plans for emergency water intake when the water level at water sources is low;
- Manage self-use water and reduce the leakage rate in a more effective manner, to better conserve water resources.



The Group delves deeply into the development of a quality culture, emphasizing high-quality services. We focus on developing systematic sewage treatment products and solutions, strictly control the quality of water treatment facility construction, establish sewage quality operation standards and emergency response mechanisms, and ensure the treatment efficiency and stability, achieving high-quality sewage treatment. In 2024, we operated 1,050 sewage treatment plants domestically and internationally, cumulatively treating 5,827.66 million tonnes of sewage.

As of the end of 2024, the Group has a total of 18 sewage projects that have passed the ISO 9001 Quality Management System Certification, 16 sewage projects that have passed the ISO 14001 Environmental Management System Certification, and 15 sewage projects that have passed the ISO 45001 Occupational Health and Safety Management System Certification.

Quality Culture Development

The Group persists in pursuing high-quality project delivery and efficient business operations. To solidify the foundation of quality guarantee, we continuously promote the development of the Group's quality culture and carry out training and publicity activities for employees, suppliers, and other relevant parties, achieving advocacy of the quality culture across the value chain.

During the project construction phase, this year we organised more than 20 online and offline trainings and activities such as "Quality Month", "High-Quality Benchmarking Study", and "Self-Check on Enterprise Standard", specifically promoting and empowering the Group's high-quality standards, covering all business lines, business regions, business units, regional companies, project companies, suppliers, supervision units, and construction units.



We organised a "Quality Month" event for all construction project employees, as well as construction and supervision unit personnel, focused on "Pursuing Engineering Delivery that Meets Customer Needs". In this activity, we comprehensively implemented the *National Outline of Building A Quality-Powered Nation*, addressed pain points in the *BEWG White Paper of Delivery Quality* and implemented core measures for the Group's high-quality development and safe production.



To enhance responsiveness of client demand and assist in high-quality project delivery, we held special quality training for all construction project employees, interpreting key points regarding the 2024 enterprise standards and corresponding standards for areas needing improvement in 2023 projects, promoting the implementation of quality standard requirements among construction project employees.



We conducted 2 pre-job project benchmarking trainings for construction project employees, as well as construction and supervision unit personnels. Through benchmarking learning, we facilitated all parties in mastering the Group's engineering delivery acceptance standards, internal operation client requirements, and delivery requirements of project engineering. Meanwhile, we discussed optimisation directions for project quality with all project parties and exchanged suggestions for quality improvement, providing new perspectives and assistance for the continuous optimisation of construction project quality and the enhancement of client satisfaction.



Benchmarking Learning at Water Treatment Plants



During the project operation phase, we conducted multi-theme online and offline trainings, covering automatic control, mechanical maintenance, sewage testing, and sewage treatment plant operation, comprehensively enhancing the operation skills of technical personnel.



- Released 13 theoretical courses and 7 practical courses on BEWG Cloud Education, with over 3,700 online learning person-times.
- For technician-level automatic control engineer, organised 4 regional offline trainings, and a centralized training with nearly 100 participants, 56 of whom passed the technician assessment.



- Released 15 theoretical courses on BEWG Cloud Education, with over 3,000 online learning person-times.
- Organised 1 training for senior mechanical maintenance worker, with 26 participants, 24 of whom passed the senior worker assessment.



- For junior personnel, conducted online laboratory testing training, covering 776 participants.
- For mid-skilled and high-skilled personnel, offered offline training, covering 47 participants.



- In response to the Group's business development trends and talent needs, conducted primary training for sewage treatment operators, covering 3,087 participants.



Automatic Control Training



Mechanical Maintenance Training



High-Quality Delivery

Combining specific sewage treatment needs and practical scenarios, we have launched multiple types of sewage treatment products and solutions. And we applies digital design platforms to enhance product design efficiency. Meanwhile, we have improved the full-cycle delivery quality control measures for sewage treatment facilities, promoting and implementing quality standards and requirements to employees, suppliers, and other relevant parties, comprehensively enhancing the delivery quality of sewage treatment facilities.

Systematic Solutions

This year, the Group proposed systematic, market-oriented products and solutions. We released a total of 28 products across four categories including 9 solutions, 5 process packages, 13 equipment, and 1 chemical agent, to meet the demands of incremental new construction, existing facility renewal, distributed systems, and sewage treatment plant module +. The application rate of standard product modules in projects has reached 88%, with 85 projects signed and 174 project plans supported.

Incremental New Construction

Applying new products and solutions to provide solid technical support for developing cost-effective and highly integrated incremental new sewage treatment plants. Based on optimised process design and equipment selection, we ensure high-quality treatment effects and improve the quality and efficiency of sewage treatment.

Existing Facility Renewal

Based on the needs of plant expansion and standard upgrading⁶, we provide tailored upgrade solutions for existing sewage treatment plants, selecting appropriate products for upgrading and retrofitting in different treatment process. By applying professional technologies such as reformation technology without water outage, we achieve in-situ expansion⁷ or standard upgrading⁸ of existing plants.

Distributed Systems

Taking full account of the characteristics of distributed scenarios such as small scale, scattered distribution, and proximity to pollution sources during product research and development, we have developed small-scale and integrated sewage treatment equipment that is easy to install and maintain, achieving efficient treatment in limited spaces and ensuring stable compliance of effluent water quality with standards.

Sewage Treatment Plant Module +

Emphasising the standardisation and versatility of plant modules during design and production, we apply modules such as pipeline network, sludge treatment, and ecological systems to new and expanded sewage treatment plant projects. According to different project scales and treatment requirements, we flexibly combine modules to achieve rapid construction and efficient operation.

In addition, we have launched a holographic design platform as an online standardised architectural design platform. It can customise professional solutions based on selected product modules covering conventional operating conditions of sewage treatment. While quickly completing the entire process design work from design calculations, unit modelling, elevation calculations to general layout arrangements, the platform can rapidly generate a complete set of BIM⁹ models and design drawings, significantly improving the efficiency and quality of sewage treatment plant design. To better meet the design needs of industry partners, this year, we have enhanced the convenience for partners to use the system, optimised the user interface for design calculations and parametric modelling rules, and improved the speed of design result previews, bringing digital design solutions to the industry.

⁶Standard upgrading: The discharge standard met by the effluent quality is enhanced.

⁷The expansion ratio of the in-situ expansion project ranges from 20% to 100%.

⁸The emission standard is enhanced from the Class 1A Discharge Standard of GB 18918-2002 to local discharge standards or environmental quality standards for surface water of Grade IV.

⁹BIM:Building Information Modeling.



High-Quality Project Delivery

The Group continuously delves into the key elements of project management, shaping the project quality profile based on the principle of "customer orientation" and orderly updates and optimises project management standards and processes. With adhering to high standards, refinement, standardised processes, and digital management control measures, we empower the full-cycle delivery quality control measures for construction projects, including initiation planning, process control, project acceptance, and post-project evaluation, to achieve high-quality project delivery.

Initiation Planning

Clarify project objectives and key tasks, plan project implementation and quality management schemes before and after project commencement. And identify potential risks and challenges through project key and difficult point analysis, formulating detailed response plans. Sort out complete and systematic management ideas and execution standards to form project operation guidance schemes, ensuring that each stage of the project meets the expected quality requirements.

Process Control

Quality Control Point Acceptance

Based on the existing three-level quality control mechanism, the Group emphasises the quality responsibility of the constructors, requires them to conduct acceptance at specified quality control points¹⁰, and prohibits progress to the next step if unqualified. In 2024, the coverage rate of quality control point acceptance for the Group's construction projects was 100%, with a total of 9,929 quality control points accepted, and a 100% pass rate after acceptance and rectification.

Performance Inspection

Establish a performance inspection team to inspect and evaluate equipment suppliers, design units, supervision units, construction units, and project companies, verifying whether the quality of the constructed facilities is qualified and whether the performance behavior is in place. The inspection is considered passed only if the acceptance criteria are met. In 2024, performance inspections covered 22 projects, with 496 rectification items proposed, and a 100% follow-up rectification completion rate.

Special Inspections

In 2024, to effectively control the cost of construction projects and ensure high-quality project delivery, we conducted special inspections covering professions such as process, architecture, structure, electrical, automation, and landscaping, to ensure the implementation of project design functions, project cost, operational economy, operational convenience, and safety.

¹⁰In the process of project implementation, the Group, region/business department, project company, supervision unit, construction general contractor and other responsible entities verify whether the quality of the engineering construction entity is qualified and whether the performance behavior is in place through acceptance, inspection, self-inspection, testing, testing, etc., and release and control after acceptance, mainly including major nodes, important parts, key processes, weak links, quality shortcomings, customer sensitive points, etc.

High-Quality Sewage Treatment



The Group formulated the *Joint Acceptance Management Measures for Engineering Products*, the *Scoring Manual for Joint Acceptance of Water Supply Engineering Products*, the *Scoring Manual for Joint Acceptance of Sewage Treatment Engineering Products* and the *Scoring Manual for Joint Acceptance of Water Environment Remediation Engineering Products*. Meanwhile, operations, technology, procurement, and delivery departments jointly conduct internal acceptance of completed projects.



The Group formulated the *Interim Administrative Measures for Engineering Products Appraisal*. After one year the project is completed and handed over for operation, the operations, technology, procurement, and delivery departments jointly conduct the project appraisal; Strictly implement energy conservation assessments and evaluate the control level of energy and material consumption during the operation period, such as main electrical equipment like fans and pumps, and chemical agents for sewage treatment plants.

2024 Quality Awards for BEWG's Construction Projects

S/N	Project	Award	Level
1	Yinchuan No. 1 Reclaimed Water Plant Construction Project	Top-Tier Quality in Municipal Engineering	National
2	Phase II Project of Daoxianghu Reclaimed Water Plant	Certificate of Excellence for Beijing Construction (Great Wall) Structural Projects	Provincial
3	PPP Project for the Expansion of Liuqing River Second Sewage Treatment Plant and Its Supporting Pipeline Network in Linyi	"Taishan Cup" Constructional Engineering Award of Shandong Province	Provincial
4	PPP Project for the Construction of the International Ecological City Sewage Treatment Plant and Its Supporting Pipeline Network in Linyi	"Taishan Cup" Constructional Engineering Award of Shandong Province	Provincial
5	PPP Project for the Construction of the Shanggu Sewage Treatment Plant and Its Supporting Pipeline Network in Linyi	"Taishan Cup" Constructional Engineering Award of Shandong Province	Provincial
6	Phase I, Stage II of Yibin Sewage Treatment Plant	Henan Provincial Science and Technology Award for Civil Engineering and Architecture (Construction Safety)	Provincial

Excellent Operation

The Group's main business of sewage treatment involves the deep purification of sewage and wastewater to reduce various pollutants, restore and maintain the natural purity of water bodies. We continuously contribute to water environmental protection and promote the sustainable development of the ecological environment through high-quality sewage treatment. We continuously optimise the implementation details of assessments, emphasise the requirements related to influent management and effluent water quality. The effluent water quality of sewage treatment plants is monitored, tested, and evaluated by internal departments, government departments, and third-party testing agencies commissioned by government departments, complying with relevant national and regional standards for effluent water quality of sewage treatment plants, such as the *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant* and the *Environmental Quality Standards for Surface Water*. In 2024, the effluent water quality compliance rate of BEWG's sewage treatment plants reached 100%.

Meanwhile, to improve the operational quality and efficiency of sewage treatment plants, we formulated the *Guidelines for Inspection and Acceptance of Star-level Enterprises* and established a star-level evaluation system for enterprise operation¹¹, comprehensively evaluating enterprises from five dimensions of process management, operational quality, business results, personnel capabilities, and digital operational capabilities. We continuously improve seven key acceptance aspects, including the guidelines for the acceptance of star-level water treatment plants, data models, and acceptance tools, to carry out acceptance evaluations with a high-standard operational grading evaluation system and strict management measures, assisting sewage treatment plants in continuously improving their operational performance.

In 2024, all BEWG's sewage treatment plants completed the star-level operational evaluation assessments and acceptance, with 34.4% of the plants rated "three-star" and above, while the high-star plants ratio was gradually increasing.

To promote the deployment of the Group's digital strategy, we continue to deepen the construction of standardised and intelligent sewage treatment plants to improve the quality and efficiency of operation. For relevant details, please refer to Chapter 03-Intelligent Plant Operation.



BEWG's Pollutant Reduction in 2022-2024

Indicator	Unit	2024	2023	2022
Water business in the Chinese mainland				
Reduction in suspended solids	tonne	859,752	791,954	749,361
Reduction in COD	tonne	1,092,242	1,027,813	961,112
Reduction in ammonia nitrogen	tonne	143,223	132,510	121,839
Reduction in total phosphorus	tonne	19,679	18,086	16,463
Total reduction in pollutants	tonne	2,114,895	1,970,363	1,848,775
Overseas water business				
Reduction in COD	tonne	25,580	26,566	16,450
Reduction in ammonia nitrogen	tonne	367	373	554
Reduction in total phosphorus	tonne	32	34	100
Total reduction in pollutants	tonne	25,980	26,973	17,104

¹¹Star-level evaluation system for enterprise operation: Based on the comprehensive rating results, enterprises under evaluation are rated in five grades, from the lowest "one-star" to the highest "five-star".

Emergency Response

In response to sudden influent shock and irregular influent fluctuations faced by sewage treatment plants, we have established an emergency management mechanism for influent shock and a long-term management mechanism for influent shock, consolidated internal and external emergency response capabilities, collaborated with government departments and upstream enterprises, thereby effectively enhancing the operational stability of sewage treatment plants.

Emergency Management for Influent Shock

When faced with sudden high pollutant concentration influent or high influent volume shocks, we take a series of emergency management measures inside and outside the sewage treatment plant to quickly restore stable operation of the plant and ensure stable compliance of effluent water quality.

On-Site Emergency Response

- **Activation of Plan and Monitoring:** Immediately activate the emergency plan, timely take influent samples, and conduct continuous monitoring and analysis of the influent water quality.
- **Situation Analysis:** Organise technical experts to analyse the influent situation and the treatment capacity of the current treatment processes and facilities for the influent.
- **Adjustment of Process Parameters:** Based on the influent water temperature conditions, pollutant components and concentrations, adjust technical parameters and chemical dosing amounts of each process.

Off-Site Emergency Coordination

- **Upstream Traceability:** Arrange dedicated personnel to inspect the external pipeline network to identify the source of the influent shock.
- **Reporting and Communication:** Report the abnormal influent situation to the superior competent department at the first time and issue a written report document.
- **Sampling and Testing:** Entrust a third party to conduct sampling and testing to facilitate subsequent tracing of the cause of the influent shock.

Long-Term Management for Influent Shock

Industrial park wastewater often includes various industrial wastewaters such as chemicals, pharmaceuticals, and metal smelting, with irregular and frequent fluctuations in water quality and quantity, posing significant influent shock risks to wastewater treatment plants. Through upstream point source control and internal emergency drills, we take effective long-term management measures for prevention and emergency response to address the challenges posed by influent shocks, achieving process stability, effluent compliance, and cost control.

Strengthening Management Foundations:

- Establish a pipeline network inspection team, formulate and improve the *Pipeline Network Inspection Management System*.
- Utilise instruments, test strips, and other tools to improve the efficiency of pipeline network inspections.
- Establish drainage archives, draw upstream wastewater drainage pipeline network maps, and summarise enterprise discharge points, drainage paths, key checkpoints, and drainage characteristics to guide inspection work.

Government Collaboration and Support:

- Pipeline network inspectors obtain supervision and inspection certificates issued by the environmental protection department, allowing them to take samples from upstream enterprises for influent analysis.
- Law enforcement departments increase supervision efforts and conduct joint inspections with pipeline network inspectors.
- The government organises enterprises to install automatic valves at legal drainage points, which automatically close when emissions exceed standards.

Collaboration with Upstream Enterprises:

- Sign drainage agreements with key upstream drainage enterprises, understand their production characteristics, wastewater discharge patterns, pollutant types and concentrations, in order to provide better targeted wastewater treatment services.
- Understand the needs of upstream enterprises, provide professional training to personnel at their wastewater treatment stations, and help enterprises optimise wastewater pretreatment processes to reduce pollutant discharge concentrations.

Upstream Point Source Control

Internal Emergency Drills

- Develop and improve localised *Operation Guidelines on Water Quantity and Quality Emergency Response* for different abnormal influent situations based on project conditions.
- Through multiple simulated drills, enhance multi-departmental coordination and employees' professional emergency response capabilities to address influent shock incidents while ensuring efficient collaboration among pipeline network, quality control, and operation and maintenance departments.





Resources Recovery

Efficient Utilisation of Water Resources

Based on relevant water resource management policies and regulations such as the *Water Law of the People's Republic of China* and the *Opinions of the State Council on Implementing the Strictest Water Resources Management System*, the Group has formulated the *Measures for Water Resources Management of BEWG¹²* to strengthen water resource management and comprehensively improve water resource utilisation efficiency. For water-related projects within the Group, the Group scientifically manages the entire process of water resource development, utilisation, and protection, adhering to the principle of giving equal importance to increasing water sources and reducing consumption, strengthening the conservation, protection, and scientific utilisation of water resources, and striving to build a water-saving water enterprise.

We have established a three-level water resource management mechanism including the Group headquarter, four major business regions, and subsidiary enterprises, and formed a steering group to oversee and promote the implementation of water resource management-related work. The steering group is mainly responsible for formulating the Group's water resource management rules and systems, implementing responsibilities, and supervising execution; working with relevant departments to formulate water intake targets, water consumption targets, and tracking the target progress, formulating annual plans for water resource management actions to achieve targets, and target adjustments and reporting.

Under the premise of ensuring water quality safety and excellence, BEWG strengthens water resource management from the source and actively explores the utilisation of alternative water sources.

- 💧 We strengthen self-use water management, promoting separate metering of different water use processes in areas such as water treatment plants and office buildings, conducting water quantity analysis, and further controlling self-use water quantities.
- 💧 We continuously optimise production process technologies, upgrade existing technologies, and promote the research, development, and application of new technologies to achieve efficient utilisation of water sources.
- 💧 Strengthen the reuse of water resources in processes, such as optimising the collection of supernatant from reuse water tanks and sludge discharge strategies to improve the collection rates of sludge water and backwash water.
- 💧 We install reclaimed water reuse systems in newly built water treatment plants and encourage the addition of reclaimed water reuse systems in old water treatment plants, stipulating the priority use of reclaimed water in equipment flushing, plant greening, and other processes.

¹²<https://www.bewg.net/uploadfile/2020/1020/20201020105627449.pdf>

In 2024, due to multiple factors such as typhoons and heavy rain in some regions, increased iron and manganese content in raw water, and algal blooms, water treatment plants reduced the amount of reused water to ensure the stability of treated water quality under raw water shocks, thus affecting self-use water quantities. The self-use water rates of most Group's projects still maintained a downward trend, with the overall self-use water rate remaining basically the same as in 2023.

To effectively promote the improvement of the Group's water resource utilisation efficiency, we formulate production water management goals and monitor the annual progress of goal progress.

Production Water Management Goals



The self-use water ratio for plants that engage in process water reclamation should be **≤1%**

The self-use water ratio for plants that do not engage in process water reclamation should be **≤3%**



The proportion of production water¹³ **≤5%**

Achievements of production water management goals in 2024:

Achieved the management goal of production water



The self-use water ratio in the Group decreased from 1.40% in 2023 to 1.39% in 2024, marking an 1% year-on-year decrease. All water supply plants achieved the production water management goals.



The proportion of water used in the production of the Group's sewage plant is controlled to **3%**

In 2025, the Group will continue to pursue this goal and carry out water resource management.

¹³Refers to the amount of tap water and reclaimed water used in the production process.

Fresh Water Consumption of BEWG in 2022-2024

Indicator	Unit	2024	2023	2022
The Chinese mainland water treatment business	m ³	3,711,548	3,731,841	4,172,984
Overseas water treatment business	m ³	743	792	1,846
Solid waste business	m ³	1,146,540	1,415,513	913,331
Office building	m ³	45,947	33,043	61,870
Total fresh water consumption	m ³	4,904,778	5,181,189	5,150,031
Fresh water density	m ³ /10,000 RMB	2.02	2.11	2.40

Note:

- 1.The density of fresh water = the amount of fresh water / the Group's operating income for the year.
- 2.In 2024, the statistical scope of the data in the Report changed, we sort out the indicator scope, and some data of previous year is retroactively adjusted.

The Consumption and Ratio of Self-use Water by the Water Supply Plants of BEWG in 2022-2024

Indicator	Unit	2024	2023	2022
Self-use water consumption	m ³	22,063,448	22,059,279	19,501,896
Self-use water ratio	%	1.4	1.4	1.6

Note:

The national standard *Design of Outdoor Water Supply Engineering* (GB50013-2018) released by the department of housing and urban-rural development in 2018 states that, the self-use water ratio of water plants can be set at 5%-10% of the design scale.

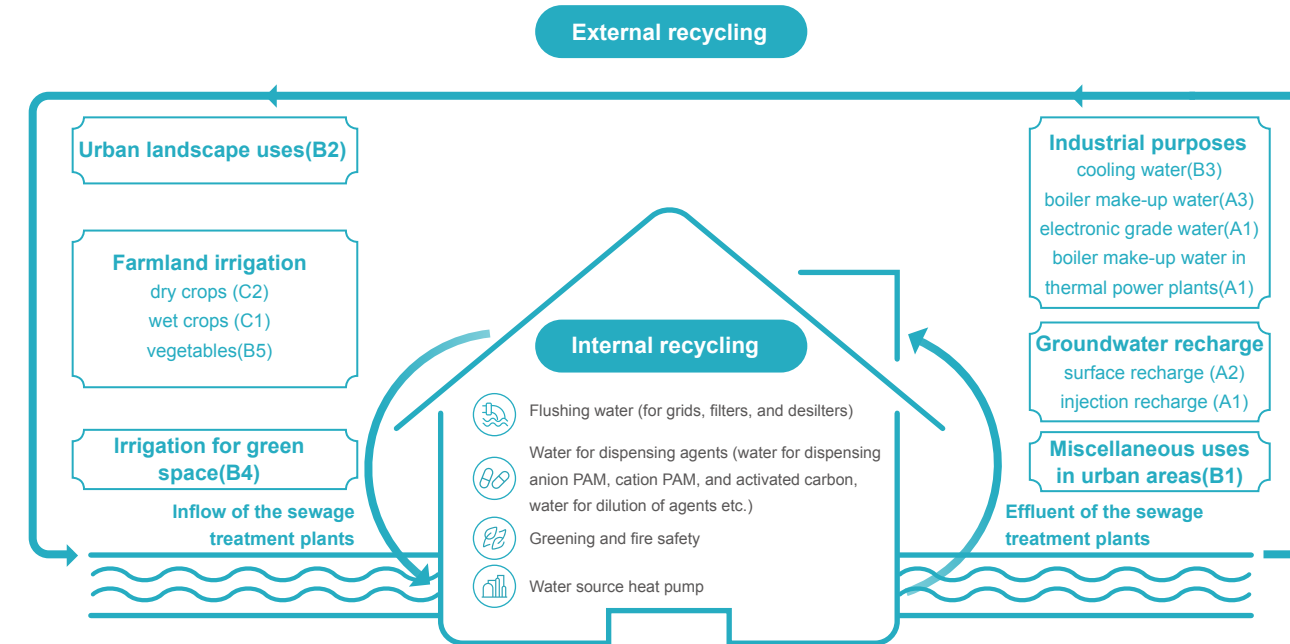
Development of Alternative Water Sources

The Group attaches great importance to the development and utilisation of unconventional water sources. Based on our own business characteristics, we are committed to improving the recycling efficiency of reclaimed water within sewage treatment plants and actively expanding the application of reclaimed water in multiple fields such as industrial production, ecological replenishment, and municipal water use. By exploring and practicing the utilisation of reclaimed water, rainwater, flood water, and seawater, the Group promotes the recycling of reclaimed water resources, increases water supply, alleviates water shortage conflicts, continuously improves the efficiency of internal and external water resource recycling, and forms a sustainable water cycle system.

BEWG's reclaimed water supply performance in 2024

Number of reclaimed water plants		Annual volume of water treated (tonne)	
The Chinese mainland	42	The Chinese mainland	438,148,100
Hong Kong SAR, Macao SAR, Taiwan Province, and overseas regions	6	Hong Kong SAR, Macao SAR, Taiwan Province, and overseas regions	73,825,200

Diagram of dual-cycle reuse of reclaimed water inside and outside sewage treatment plants



Case

Beijing Daoxianghu Reclaimed Water Plant Reclaimed Water Project

The Daoxianghu Reclaimed Water Plant is a modern water resources ecological complex that integrates sewage treatment, advanced water purification, comprehensive resource utilisation, and scientific and technological research and development. The plant is responsible for sewage treatment within an area of approximately 67 square kilometers in Haidian District, Beijing, effectively improving the production and living environment for about 1 million local residents and providing strong support for the enhancement of the local water environment and water ecology. The Phase I and Phase II projects of the Daoxianghu Reclaimed Water Plant continuously optimise and innovate sewage treatment technologies, striving to improve water quality standards in multiple dimensions. The effluent water quality of both Phase I and Phase II of the plant meets the Class B of Beijing Local Discharge Standard, with consistently stable compliance. The effluent is mainly used for ecological water replenishment and discharged into the Nansha River, effectively improving the water environment quality. Meanwhile, the Daoxianghu Reclaimed Water Plant actively expands its reclaimed water users and continuously improves the utilisation rate of reclaimed water. In 2024, the plant supplied a total of 12.71 million tonnes of water for municipal use, landscape environments, and production cooling, with a sewage reclamation utilisation rate of 48%, creating significant economic, social, and ecological benefits.



Beijing Daoxianghu Reclaimed Water Plant

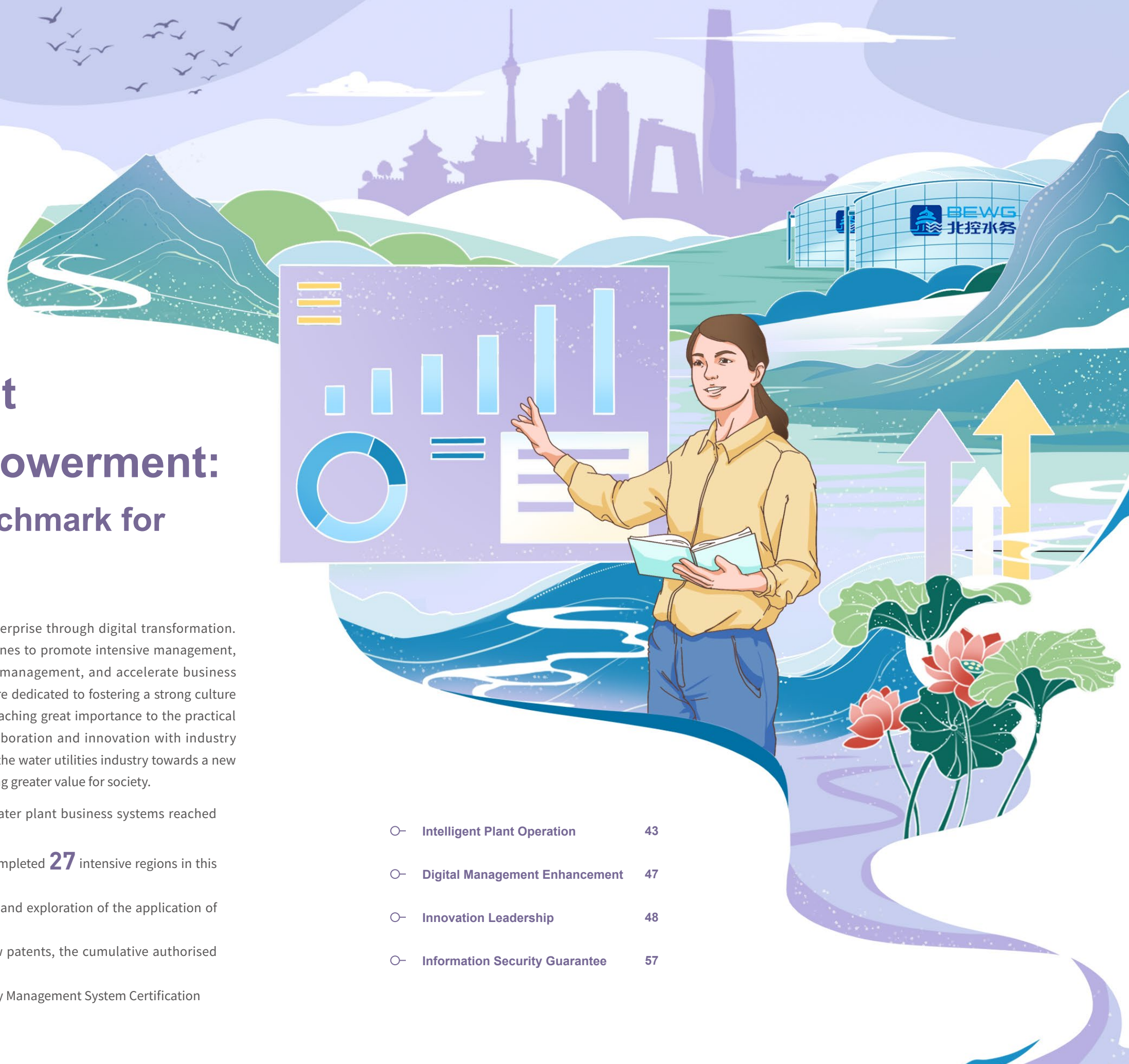
03

Digital and Intelligent Transformation Empowerment: Building an Innovative Benchmark for Smart Water (Intelligence)

BEWG is committed to driving the sustainable development of the enterprise through digital transformation. We leverage standardisation and digital-intelligence integration as engines to promote intensive management, continuously enhance the operational efficiency of large-scale asset management, and accelerate business transformation. In the field of scientific research and development, we are dedicated to fostering a strong culture of innovation, cultivating fertile ground for technological innovation, attaching great importance to the practical application of innovative achievements, and actively promoting collaboration and innovation with industry partners. Through continuous exploration and practice, we aspire to lead the water utilities industry towards a new stage of intelligence, green development, and sustainable progress, creating greater value for society.

- ◆ Constructed a cloud-based IoT platform, the coverage rate for water plant business systems reached **100%**
- ◆ Improved the intensive management system of water plants and completed **27** intensive regions in this year
- ◆ Undertook **2** national key R&D program, focusing on the research and exploration of the application of sewage treatment technologies
- ◆ Added **276** newly authorised patents and obtained **385** new patents, the cumulative authorised patents reached **1,538**
- ◆ Passed the annual review of **ISO 27001** Information Security Management System Certification

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As a leading water utilities enterprise in the industry with a significant scale of wastewater treatment, we have developed a mature methodology centred on "standardisation-digitization-intensification" through the operation of numerous water projects, continuously enhancing the quality and efficiency of sewage treatment plant operation. We develop standardised sewage treatment plants, standardise operations and management, and promote lean business development. On this basis, we establish digital management platforms and intelligent control systems to achieve comprehensive online management of water plant operations and advance intelligent control strategies. Simultaneously, we implement intensive management transformation of water plants to facilitate regional resource sharing.




Facing future challenges, we have proposed a new operational paradigm of "Cloud-Chain-Unit", which will further drive upgrades in the Group and industry operations and lead the development of the smart water industry. For details, please refer to the "Innovation Leadership" section of this Chapter.

Standardised Plant Development

We continuously deepen the development of standardised sewage treatment plants by promoting standardised plant-end operation management through data standards and business process standards, fostering a replicable and scalable standardised management model.

Leveraging the ISO 9001 quality management system and BEWG's extensive operational service experience, we refine our standardised operation management system, providing high-quality standardised paradigms for operation management. As of the reporting period, all BEWG's water plants have completed the implementation of standardised system documents. Additionally, we unify data source standards, data analysis standards, and business process standards across water plants, and integrate standardised operations through our self-developed Smart Execution of Drainage (SED), promoting standardised water plant operations.

In 2024, relying on the star-level evaluation system for enterprise operation, we developed a star-level diagnostic and improvement tool encompassing quantitative evaluation, operational diagnostics, and improvement measures, which has been promoted and applied across the Group. Through a closed-loop management strategy combining online evaluation and offline empowerment, we maintain standardised and lean operational levels at water plants, driving continuous improvement in operational performance.

-  **Quantitative Evaluation:** Monthly online quantitative assessments of water plants based on operational, equipment, and data metrics.
-  **Operational Diagnostics:** Performance analysis of metrics across various dimensions of water plant to precisely identify operational issues.
-  **Improvement Measures:** Offline empowerment and improvement plans for water plants targeting shortcomings identified in quantitative evaluation, with continuous monitoring and analysis to ensure implementation.

Digital-Intelligent Operation Service Empowerment





BEWG achieves systematic operation improvements through digital management and star-level standardised services, continuously enhances water plant operation efficiency and benefits through intelligent control of production operation.



Digital Management

BEWG realizes comprehensive online management of water plant through the Smart Execution of Drainage (SED), including professional control strategies such as star-level models, process diagnostics, energy efficiency evaluations, and "plant-specific plan"¹⁴, enabling professional wisdom to benefit more wastewater projects. With the continuous deployment and application of SED, water plants gradually achieve refined management in production operations, equipment and facilities, laboratory testing, data recording and analysis, thereby improving operational performance, achieving energy savings and consumption reduction, and promoting cost reduction and efficiency enhancement. At present, 100% of the sewage treatment plants of the Group have applied the SED platform.

This year, we optimised and promoted SED to drive the capability development of smart water through project digitisation, creating a future-oriented intelligent operation model for water plants.




-  **Work Order Management:** Integrates standardised operating procedures (SOPs), service level agreements (SLAs), and performance upgrade mechanisms.
-  **Fundamental Analysis¹⁵:** Drives business decisions through data analysis, realising in-depth data-driven empowerment for business.
-  **Budget Management:** Introduces an automatic baseline data¹⁶ import mechanism, enabling dynamic tracking and comparison of budgets versus actual execution, helping water plants monitor and adjust operational costs and promote rational resource allocation and utilisation.
-  **Star-Level Evaluation:** Realise online star-level evaluation for water plants to continuously enhance evaluation efficiency.



Intelligent Operation and Maintenance

BEWG leverages Internet of Things (IoT) technology to connect core water plant equipment to the internet and has constructed a cloud-based IoT platform to enable the collection, interaction, analysis, decision-making, and application of operational big data. This year, we vigorously cultivated an in-house automatic control instrument operation and maintenance team, conducted skill-level training and assessment for frontline technical workers, and utilised internal capabilities to carry out data collection and governance, as well as program control enhancements for water plants. By the end of 2024, the Group's automatic control technicians coverage rate has reached 76%, the average program control rate for core water treatment units has been 64%, the completeness rate for key signal collection exceeded 90%, the coverage rate for water plant business systems has been 100%, the number of online devices exceeded 220,000, and the annual quantity of business work orders exceeded 1.7 million.

In-House Automatic Control Instrument Operation and Maintenance

-  **Data Collection:** Ensures comprehensive and accurate data collection to provide reliable data support for water plant production management and decision-making.
-  **Data Governance:** Conducts in-depth analysis of water plant process flows and operational data to optimise program control logic, improving control precision and response speed.
-  **Program Control Enhancement:** Develops customised automatic control applications based on the specific needs of water plants to achieve automated control of specific functions, enhancing operational efficiency and management levels.

¹⁴Develop customised operational plans tailored to the specific circumstances of different water plants.

¹⁵The analysis of the basic operational conditions of each water plant. The concerned indicators may be adjusted according to management requirements, and generally include indicators such as water volume, water quality, electricity consumption, and chemical consumption.

¹⁶The theoretical values of various energy and material consumptions under the current operational level.

On the basis of consolidating automation control, we deeply utilise big data and model algorithm technologies to enhance process intelligent control levels and predictive maintenance management capabilities for equipment and facilities. Simultaneously, we achieve real-time monitoring of equipment operation status and process data across various operation processes in water plants, enabling precise early warnings, alerts, and emergency responses, effectively improving water plant operational efficiency and management levels.

In 2024, 9 regional companies gradually achieved process automation and moved towards process intelligence for all their projects, effectively achieving the changes in operations, maintenance, and quality control. Meanwhile, projects have optimised human resource allocation, achieving the work mode without on-site night duty, operating with reduced personnel or in an unmanned manner. Currently, 10% water plants have achieved the work mode without on-site night duty.



Intelligent Transformation Creates a "Dark Plant" Management Model in the Water Utilities Industry

Guided by the Group's strategy, to drive management model transformation and efficient management of large-scale assets in regional companies, the Dalingshan project took the lead in completing intelligent transformation in 2018, initiating the development of a minimally manned (or unmanned) sewage treatment plant. It became the Group's first clustered, high-efficiency, intelligent pilot sewage treatment plant.

Currently, the Dalingshan project has completed the development of smart water base, aggregating dynamic information of water plants in its area through digital management tools and industrial control system. This has enabled high-standard operation and maintenance, efficient coordination, intelligent remote monitoring and alarming, and big data analysis and regulation. It has empowered three sewage treatment plants in the Dalingshan area with a total processing capacity of 260,000 tonnes/day, effectively improving quality and efficiency, ensuring the efficient, stable, and refined operation of the sewage treatment plants, providing a replicable intelligent management model for the industry.



"Dark Plant" of Dalingshan Project

Intensive Management Transformation

BEWG actively explores new sewage treatment plant management model transformations, shifting from a "single-plant management" model to a "regional intensive management" model. This year, we continued to promote the "1+N"¹⁷ cluster model and improve the intensive management system for water plants. We compiled and issued 14 specialised intensive management guidelines, such as the *Guidelines for Regional Intensive Management*, and the *Guidelines for Implementing the Work Mode Without On-Site Night Duty*, to clarify the implementation path for intensification. We completed the acceptance of nine intensive pilot regions and added 18 new intensive implementation regions, achieving systematic implementation of regional intensive transformation. With the continuous deepening of regional intensive management, we promote the integration and sharing of regional resources, improve overall regional production efficiency and quality, and achieve optimal resource allocation and efficient utilisation, providing strong support for the high-quality development of the water utilities industry.

By the end of 2024, the Group has completed intensive construction in 27 regions with the intensive coverage rate of 51%.

¹⁷ "1" refers to the regional company, and "N" refers to projects within the region.

Regional Intensive Management System

- Regional Talent Sharing:** Achieve sharing of management and technical talents among projects within the region, optimise human resource allocation, and improve talent utilisation efficiency.
- Operational Task Coordination and Scheduling:** Within the scope of regional companies, uniformly schedule and manage tasks such as laboratory analysis, process control, and major equipment maintenance and replacements, share technical resources such as laboratory centres, and enhance operational efficiency of water plants.
- Digital Tools Support:** Utilise the SED and centralised control centre platform to achieve remote monitoring and management of sewage treatment plants, pumping stations, and other projects within the region, grasp real-time operational data, video monitoring information, energy consumption analysis, and other specific details of each project, thereby supporting regional operational coordination and decision-making, and ensure efficient and stable operation of regional water plants.



Regional Intensive Management at BEWG's Yantai-Weihai Regional Company

BEWG's Yantai-Weihai Regional Company operates seven sewage treatment projects, one pipeline network project, and three pumping stations, with a daily wastewater treatment capacity of 340,000 tonnes. The Yantai-Weihai Regional Company implements regional intensive management in a clustered format, taking Jiaozhou BEWG as the central plant. Based on the deployment of the SED, all projects within the region have achieved interconnected intensive management, including information sharing and process interconnection for management, operation, equipment, inventory, work orders, and other aspects, ensuring efficient management. Meanwhile, the Yantai-Weihai Regional Company has established a centralised control centre platform to collect, summarise, and analyse project data, manage operations, and oversee key tasks. On this basis, it has implemented intensive management for sewage projects and pumping station projects, as well as digital management and operational supervision for the pipeline network system. Through the deep integration of intensification and digital-intelligence, the Yantai-Weihai Regional Company promotes optimal resource allocation and efficient utilisation, enabling multiple water plants to achieve highly efficient operation modes with reduced staffing or even unmanned operations, significantly improving the overall production operation efficiency and quality of the region.



BEWG Yantai-Weihai Regional Jiaozhou Central Plant Control Centre

Digital Management Enhancement

Guided by its digital strategy and focusing on business capabilities, BEWG continues to build a digital development management system, and strengthen digitalisation support for business operations and management decision-making during the process of business development and transformation.

Business-Finance Integration

In 2024, with pursuing the goal of integrating finance and business, we systematically planned special projects for digital transformation and upgrading, focusing on multi-scenario enhancements such as refined financial management, shared operations efficiency, and data service analysis. The special upgrade content covers integration and upgrade tasks for business-finance systems in multiple scenarios, including sales-to-payment, procurement-to-payment, tax management, general ledger, remuneration, and funds. This project collaborates with various business lines of the Group and connects regions, business units, business regions, specialised companies, and projects. A special task force was established, using the ten major business-finance processes as a blueprint to thoroughly sort out business norms in various fields. Meanwhile, special work such as "delivery-phase payables data migration & cleansing", "master data governance", "reconstruction of the financial system", and "upgrade and transformation of supporting front-end business systems" was carried out. The project has covered nearly 800 legal entities within the Group, achieving seamless business-finance process connections, business-finance data linkage, and *business-to-finance rules mapping & provisioning*¹⁸. It supports end-to-end business-finance accounting and various management analysis scenarios, completing the comprehensive digital transformation and upgrading of the Group's business-finance management.

¹⁸Include the functional configuration of document conversion rules, voucher templates, business and finance data mapping, and account influencing factors.

Innovation Leadership

Technology is the foundation of national prosperity. BEWG regards technological innovation as a key factor for the company "survival, efficiency, and development" and it is also a crucial engine for driving the Group's high-quality development. We adhere to innovation leadership, strengthen the practical application of innovation achievements, improve innovation incentive policies, create a favourable innovation atmosphere, focus on talent cultivation, build a resource-sharing platform for industry-education integration, coordinate education and innovation, and promote the water utilities industry to jointly develop new quality productive forces.

Our innovation achievements have received recognition from multiple parties:

- The holographic design platform product of Beishui Technology won the first prize in the construction robot track of the 2024 Xiongan International Service Robot Competition.
- BEWG and its subsidiary Beishui Technology were listed on the "2024 Global Open Innovation Top 100".
- BEWG's project on *Water Quality for Landscape Environmental Use in Urban Wastewater Reclamation and Reuse* received the third prize of the "Huaxia Construction Science and Technology Award" from the Ministry of Housing and Urban-Rural Development.
- BEWG's project on *Research, Development, and Verification of an Air-Lift Sand Removal Aerated Grit Chamber* received the third prize of the "Science and Technology Award" from the Beijing Hydraulic Engineering Society.



Scientific and Technological Innovation

BEWG adheres to the business purpose of "Customer orientation through innovation capability" and regards technological innovation as a key force driving progress in the water utilities industry. To promote the effective implementation of the Group's innovation strategy, we continuously increase R&D investment, carry out innovation work through both internal and external channels, and take multiple measures to integrate cutting-edge technologies with the Group's business, providing clients with more efficient, environmentally friendly, and intelligent solutions, and leading the water utilities industry towards high-quality development together.

Meanwhile, based on business needs, we integrate technological achievements into the entire project process, assisting in business value-added and efficiency improvement, fostering the Group's low-carbon transformation, and enhancing environmental value. For relevant innovation practices, please refer to Chapter 05-Climate Change and Chapter 03-Intelligent Plant Operation.

Innovation Resources Integration

BEWG takes technological innovation as the core driving force for the Group's sustainable development, focusing on the three key goals of "survival, efficiency and development". The Group will formulate the *BEWG Technology Development Three-Year Action Plan 2025-2027*, further focusing on special tasks such as X in Water, product 2.0, new operational paradigm of "Cloud-Chain-Unit", and technology platforms. We are committed to achieving breakthroughs in key technology R&D, accelerating the transformation and application of technological achievements, and providing strong institutional guarantees and clear action guides for the Group's technological innovation work.

We attach great importance to cultivating innovation capabilities. To further stimulate internal innovation awareness, we have established an innovation competition platform within the Group-the "Beidou Award", with the purpose of "Placing equal emphasis on independent innovation and the application of achievements". With the core goal of continuously building BEWG's operational core competitiveness and promoting the optimisation and upgrading of the environmental protection industry structure, we mobilise all employees of the Group to actively participate. While meeting BEWG's actual business needs, we contribute to scientific and technological innovation in China's ecological environment field.

Case The 6th BEWG "Beidou Award" Innovation Competition

On December 10, 2024, the 6th BEWG "Beidou Award" Innovation Competition was concluded. Themed around "promoting efficiency and seeking development", this competition focused on operational efficiency and achievements implementation. It featured three categories: production innovation, management innovation, and achievements application, with a total of 39 awards and 599 innovation submissions received. The competition fostered an innovative cultural atmosphere with participation of all employees, enhancing the enthusiasm and effectiveness of innovation practices.

BEWG takes the Group's scientific and technological progress and development as its long-term core objective. To promote the transformation of the Group's achievements and the incubation of high-tech innovations, as well as to accelerate the introduction and cultivation of innovative talents, the Group collaborates with universities and research institutes. We establish cooperation platforms such as the BEWG Academician and Expert Workstation and the BEWG Postdoctoral Research Workstation, to carry out scientific and technological research, development and application on national key R&D plans and major water utilities and water environment projects, accelerating the pace of transforming scientific and technological achievements into real productivity.

BEWG Academician and Expert Workstation

Established in 2017, the BEWG Academician and Expert Workstation operates with the support of Beijing Association for Science and Technology and the Chaoyang District Association for Science and Technology. Integrating the Group's business operations, it relies on the project foundation of developing and applying advanced AOA technology for wastewater treatment in collaboration with Peng Yongzhen, an academician of the Chinese Academy of Engineering. Focusing on technological R&D, problem-solving, and achievement transformation, the workstation organises relevant scientific and technological activities and cultivates talent team.

As of the end of the reporting period, it has cumulatively applied for 30 patents, including 15 invention patents.

BEWG Postdoctoral Research Workstation

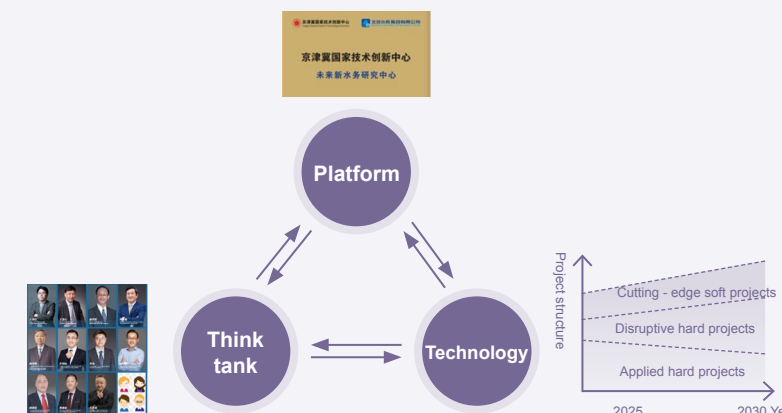
Established in 2015 and approved by the Ministry of Human Resources and Social Security of the PRC and the National Postdoctoral Management Committee, the BEWG Postdoctoral Research Workstation has five postdoctoral researchers complete their research tasks and successfully graduate since its inception. In 2024, there are two postdoctoral researchers working on research in wastewater treatment and process studies.



X in Water Research Centre

In 2023, BEWG introduced the concept of "X in Water", aiming to jointly explore new scenarios and paradigms for the upgrading and development of the water industry with the broader sector, providing direction for the development of the water utilities and ecological environment industries. In the same year, BEWG worked together with the Jingjinji National Center of Technology Innovation to establish the X in Water Research Centre, to conduct interdisciplinary, cross-industry, and cross-sector research. The research centre aims to build a water system that integrates resilience, circularity, and low-carbon attributes, using green infrastructure, low-carbon innovative technologies, and digital solutions as primary means to extend water services to broader environmental domains, ensuring equitable access to water resources and safeguarding the sustainability of human health, environmental health, and natural resources.

In 2024, X in Water focused on think tank construction, technological innovation, and public engagement, established an ecosystem that comprehensively integrates innovative elements such as think tank, platform, and technology. Based on a collaborative and interactive working approach, it pioneered a "leading enterprise + expert network" collaborative innovation model to promote the integration and exchange between think tank and industry frontiers.



Integrating Innovative Elements of Think Tank, Platform, and Technology to Comprehensively Build an Innovation Ecosystem

Through the collaborative innovation model, X in Water will drive two fundamental transformations:

- Changing the paradigm of water technology innovation, promoting a shift from incremental to disruptive technological innovation;
- Changing the high-energy-consumption development model of the water industry, driving the transition from high energy consumption and high emissions to sustainable development.

Through the joint efforts of government, society, business, and academia, X in Water will become an important force in supporting the Beautiful China initiative, transforming water resource endowments, and meeting the needs of new quality productive forces.

Overview of Beishui Technology Cooperative R&D Achievements in 2024

Cooperating Enterprises	Project Overview	Project Achievements
SHIXI TECH	Collaborated with SHIXI TECH to transfer the innovative achievements of BESWIFT and BEAOA. (For product achievements, please refer to Chapter 05)	Assisted in enhancing the technological attributes of SHIXI TECH and improved the market competitiveness of its prefabricated products.
BG Well-Point Environmental	Jointly developed and transformed the Well-point Reaction Tank, based on BG Well-Point Environmental business strategy of "Leachate + Kitchen Waste". (For product achievements, please refer to Chapter 05)	Supported BG Well-Point Environmental in the expansion of market in full-scale transformation of leachate, kitchen waste and biogas liquid, equipment provision, and operational light-asset services.
WECAN TECH	Established collaborative transformation on the BECFBR ¹⁹ process package with WECAN TECH.	Leveraged respective R&D and market advantages to achieve industrial transformation of the CFBR process package.

Intellectual Property Management

BEWG continues to fulfill the Group's commitment to technological innovation and intellectual property protection, actively responding to the national science and technology development strategy. We strictly adhere to laws and regulations such as the *Patent Law of the People's Republic of China* and the *Trademark Law of the People's Republic of China*, and implement internal systems such as the *BEWG Intellectual Property Management System*. We rigorously enforce the processes of intellectual property applications, transfers, management and use, confidentiality, rewards and penalties. We plan centralised procurement of intellectual property agency services to enhance the systematic intellectual property management and continuously improve our intellectual property management capabilities. Meanwhile, we comprehensively promote the construction of the technological innovation organisational system, optimising the top-level design of the R&D system. The Technology Decision Committee, serving as the top-level decision-making body for technological innovation, coordinates and implements the Group's technological innovation management work, to gradually achieve the continuous transformation of R&D achievements into products, and products into marketable offerings.

This year, the Group added 276 newly authorised patents and obtained 385 new patents, further increasing the total number of authorised patents to 1,538, effectively enhancing the Group's intellectual property advantages. Through means such as technological R&D, patent exploration and layout consulting for product lines, patent navigation, and patent search, we have formulated a series of targeted measures conducive to intellectual property management, core technology protection, and the transformation and application of intellectual property. At the same time, the Group continues to increase investment in scientific research funding, ensuring the normal and orderly operation of intellectual property management work from multiple aspects including systems, technology, human resources, and material resources.

This year

Newly authorised patents
276

Newly obtained patents
385

Total authorised patents
1,538

Note: The data covers the Group's consolidated entities for the fiscal year 2024.

¹⁹BECFBR: BECFBR technology is a new generation of enhanced biological sludge-membrane composite treatment process, featuring "low-carbon, high-quality and high-efficiency". It can reduce the energy consumption of filler fluidization by 30-50% and achieve nearly zero addition of carbon sources.

Innovation Achievement Incubation

While focusing on innovation, BEWG also emphasises "promoting" innovation. In recent years, we have undertaken several key R&D and technological innovation projects, explored the application of cutting-edge technologies in engineering projects, and promoted the transformation of R&D achievements of member enterprises. We promote the continuous innovation and development of the water industry through the promotion and transformation of innovation achievements. At the same time, the Group attaches great importance to intellectual property protection and continuously improves intellectual property management to safeguard scientific and technological innovation.

Transformation of Scientific and Technological Achievements

In this year, BEWG has undertaken national key R&D program, focusing on the research and exploration of the application of sewage treatment technologies, and is committed to improving the sewage treatment efficiency and the safety of reclaimed water quality.

Project	Level	Core Achievements
<i>Research and Demonstration of Cutting-edge Technologies for Wastewater Biological Treatment</i>	National	Relying on the pilot test base in Haikou, this project conducted research on denitrification based on endogenous denitrification coupled with partial anammox in municipal wastewater. It focused on the development and optimal control of partial anammox-enhanced denitrification technology for municipal wastewater, achieving stable denitrification under low carbon ratio conditions.
<i>Wastewater Reuse and Risk Control Technologies for Emerging Contaminants</i>	National	This project completed the optimal design of a micro-nano bubble ozone synergistic oxidation reactor. It investigated the impact of influent water quality fluctuations and operating conditions on operational stability and efficiency optimisation. A techno-economic evaluation method for the operation of micro-nano bubble ozone synergistic oxidation was established, and operational strategy for micro-nano bubble synergistic oxidation was proposed to ensure the safety of reclaimed water quality.

Incubation of Achievements by Member Enterprises

We have established a comprehensive innovation incubation system covering the entire process from "R&D needs identification-technology acquisition-product transformation-demonstration and application-industrial incubation". We have formulated the *Guidelines on Technology Incubation and Technology Cooperation Business Operations* to guide innovation teams, including those from member enterprises, in developing and applying innovative technologies and products with significant technological, market, and economic value through independent R&D, cooperative R&D, transfer, or licensing.

Leading Industry Progress

BEWG adheres to driving the steady development of the industry through innovation. While actively developing new technologies, we continuously explore new service models and collaborative industry concepts to meet the evolving market demands, promoting technological advancement, efficiency improvement, and value creation in the water utilities industry. Meanwhile, the Group is committed to deeply integrating industry and education, continuously supporting the integration of industry and education, focusing on cultivating high-quality talent in the water utilities industry, and promoting the coordinated development of the industrial chain. The Group formulates key work plans for university-enterprise cooperation, carries out special services such as new major construction and curriculum material development, and creates a demonstrative benchmark for industrial colleges in the ecological environment field, contributing to the cultivation of high-quality professionals aligned with the future development trends of China's environmental protection industry.

Digital-Intelligent Industrial Interconnection

Guided by the new operational paradigm of "Cloud-Chain-Unit", BEWG is building industrial interconnection in the water utilities sector, continuously promoting model and technological innovation. Through digital technology empowerment, intelligent control upgrades, professional service linkages, and platform-based ecosystem construction, we significantly enhance water assets operational efficiency and resource organisation efficiency. The new operational paradigm of "Cloud-Chain-Unit" represents a disruptive operational model in the water utilities industry, breaking through technological transformations and integrated innovations such as big data and artificial intelligence, new models and software systems, and domestically produced instruments and control equipment. It changes the traditional operational paradigm of water infrastructure, improves the efficiency of urban and social resource utilisation, and enables China's water utilities industry to lead globally in transitioning from large volume to high quality.

"Cloud"

Refers to the intelligent brain, centred on model algorithms, expert systems, and digital tools, continuously undergoing "self-learning" to enhance system intelligence and decision-making capabilities.

"Chain"

Refers to the support chain, centred on resources and services, including information, service, and supply chains. Through a digital work order system, it forms standardised services that can be measured and evaluated, providing guarantees for the efficient operation and high-quality maintenance of water plants.

"Unit"

Refers to water utilities projects, centred on standardised operation, achieving a fully "self-adaptive" production process with few or no workers.

This year, BEWG focused on the new operational paradigm of "Cloud-Chain-Unit" to develop a series of technologies and products, including the Sewage Treatment Industry Cloud-Zhongchongwang²⁰, engineering management robot (BE-EMR), online technological modeling platform (BE-Think), and Intelligent Operations Centre (BE-IOC). In the future, these technologies and products will be gradually shared with the industry after being maturely applied in BEWG's water plant projects, creating new business growth points for the Group and promoting the digital-intelligent transformation of the water utilities industry.

BEWG focuses on research into the industrial interconnection system, striving to build the first water utilities industrial interconnection platform-Yunlianwang. The platform hosts technologies and products under the new operational paradigm of "Cloud-Chain-Unit", assisting industry partners in achieving technological and operational upgrades, promoting the construction of the industrial ecosystem, and jointly enhancing the efficiency of urban and social resource utilisation with industry partners.

²⁰Zhongchongwang: A one-stop management platform for wastewater operation, with functions such as standards, evaluation, early warning, and decision-making.

Promote SaaS²¹ of Operation System

We share our accumulated operational management experience, processes, systems, and tools with the industry. Industry partners can access and apply the platform resources of the "Zhongchongwang" to achieve one-stop online management of sewage operation, fostering their own digital transformation and improving operational efficiency and quality.

Link Industry Supply and Demand

We have built a digital work order system to allocate professional technical services and material supplies as needed and conduct quantitative evaluations for them. Through this system, we connect professional services to facilitate the efficient organisation and allocation of industry service and supply resources.

Build a Model Ecosystem

We develop a Sandbox Model, opening and sharing various mechanism and mathematical models with industry partners, enabling researchers to more easily access, exchange models and corresponding datasets, promoting the efficient application and sharing of industry innovation resources.

Empowering Industry Innovation Practices

BEWG stands at the forefront of industry development, collaborating with industry partners to explore development pathway of X in Water and open a new chapter in the water utilities industry's development.

In 2024, the X in Water Expert Group held three plenary meetings, focusing on advancing the top-level design of X in Water, covering aspects such as overall objectives, blueprint design, path planning, and specific strategies, and initially forming a white paper and a logical framework diagram for X in Water. In terms of research promotion, the X in Water Expert Group held a summit forum with the theme of "Low Carbon and Water Resources" and organised several large-scale special seminars, conducting in-depth discussions and exchanges on key issues such as low-carbon emissions in urban water utilities, seawater desalination, water quality safety and high-quality water supply, to promote innovative development and technological progress in the water utilities industry. The related conferences attracted more than 40,000 participants online and offline.

This year, X in Water organised a series of conferences and industry summit forums, dedicated to exploring core issues affecting industry upgrading and development from the perspective of industry frontiers. In 2024, X in Water actively expanded international scientific and technological exchanges and cooperation, conducted on-site visits of technological innovation projects, and engaged in in-depth exchanges with key platform institutions in the global water industry, learning excellent innovation experiences and best practices, strengthening international cooperation while injecting new vitality into the sustainable development of the industry.

Case X in Water Experts' European Technology Exchange Delegation Participated in IFAT Munich

In 2024, the X in Water Experts' European Technology Exchange Delegation participated in IFAT Munich, traveling to Germany and the Netherlands to engage in in-depth research discussions with international organisations, overseas universities, and leading enterprises, to explore new technologies, new enterprises, new models, and new directions in the water utilities industry. At IFAT, we focused on cutting-edge themes and technological advancements such as resource recycling equipment, emerging contaminant removal technologies, as well as green and low-carbon initiatives. These global innovative pathways and more diverse application scenarios for technologies in the future, will be important research directions for X in Water.



For more industry innovation and collaborative practices, please refer to Chapter 05-Climate Change-Low-Carbon Collaboration.

²¹SaaS: Software as a Service, it is a model for delivering software applications over the internet. Users can subscribe to and use the software online as needed, without installing and maintaining the software themselves.

Innovative Industry-Education Integration

The Group collaborates with higher education institutions, key enterprises, industry associations, and scientific research institutions, adhering to the principles of "voluntariness, equality, cooperation, and win-win results" to explore long-term mechanisms for university-enterprise cooperation and build an industry-education integration ecosystem featuring mutual benefits for multiple parties. By actively building a talent value chain of "government, industry, education, research, application, innovation, and finance", we establish a "Job-Course-Competition-Certificate Integration" talent cultivation model, playing a leading role in enhancing the participation of industry enterprises in education, improving diversified education mechanisms, and promoting collaborative education between universities and enterprises. It supports the integrated advancement of building leading country in education, science and technology, and quality workforce, cultivates diversified, high-level and high-quality industry professionals.

Case Integration between Industry and Education Community of Ecological and Environmental Protection Industry

BEWG, in collaboration with Nanjing University and Changsha Environmental Protection Vocational College, jointly initiated the establishment of the Integration between Industry and Education Community of Ecological and Environmental Protection Industry in 2023. The Community adheres to serving the development of the eco-environmental protection industry, integrating industry-education resources, coordinating the collaborative innovation of vocational education, higher education, and continuing education, and constructing a win-win innovation model for collaborative education among government, industry, enterprises, and universities. It promotes the complementation of market and technical capabilities among participating entities, creating a high-quality industry-demonstrative model for industry-education integration. As of the end of the reporting period, the Community has achieved over 20 work outcomes and released the *Analysis Report on the Development of the Eco-Environmental Protection Industry and Forecast Report on Talent Demand*.



2024 Annual Meeting of Integration between Industry and Education Community of Ecological and Environmental Protection Industry 全国生态环保行业产教融合共同体2024年会

Case The 7th BEWG Water Cup College Students' Ecological Environment Innovation Competition and the 4th Ecological Environment Technology Venture Capital Competition

On November 2, 2024, the 7th BEWG Water Cup College Students' Ecological Environment Innovation Competition and the 4th Ecological Environment Technology Venture Capital Competition concluded successfully. The competition received 2,808 projects from 411 universities and 273 projects from 63 enterprises and entrepreneurial teams, with over 20,000 participants demonstrating outstanding innovative capabilities. Adhering to the concept of "promoting learning, innovation, and transformation through competition", the competition built a cooperative exchange platform for resource sharing and collaborative progress, leading industrial innovation through technological innovation and promoting the formation of more innovative and integrated new quality productive forces.



The 7th BEWG Water Cup College Students' Ecological Environment Innovation Competition and the 4th Ecological Environment Technology Venture Capital Competition

Case Special Training Program of Vocational Education for On-Site Engineer

BEWG jointly implemented the Ministry of Education's "Special Training Program of Vocational Education for On-Site Engineer" with Hebei Vocational University of Industry and Technology, Guangxi Eco-Engineering Vocational & Technical College, and Yellow River Conservancy Technical Institute. BEWG selected representative water plant projects locally to conduct project-based teaching that combines theory and practice. Enterprise professionals are responsible for students' pre-job training, skill certification, internships, and practical training, to help them master professional skills and enhance their professional qualities and comprehensive abilities. As of the end of the reporting period, the program has jointly trained over 120 students.



The second session of "On-Site Engineer for Intelligent Water" jointly organised by BEWG and Yellow River Conservancy Technical Institute

Case BEWG Industry Modern College

BEWG actively promotes an industry-education collaborative education model centred on industry modern college. By integrating resources from the entire industrial chain and eco-environmental-related departments in domestic universities, it creates a digital industry-education integration innovation platform for "education + technology". It continuously promotes the construction of environmental engineering, water supply and drainage, and related interdisciplinary majors, establishing a talent cultivation model that integrates novelty, practicality, and professionalism. In November 2024, the Group's 12th industry college, the "Hohhot Minzu College-BEWG Smart Water Industry Modern College" was officially established. Based on the principle of "resource sharing, complementary advantages, win-win cooperation, and collaborative development", both the university and the enterprise will leverage their resource advantages to support the high-quality development of talent in the eco-environmental industry.



Hohhot Minzu College-BEWG Smart Water Industry Modern College Opening Ceremony

Case Industry-Education Integration Practice Centre

Relying on representative water plant projects and based on the qualification of the Ministry of Education's "National Vocational Education Teacher Enterprise Practice Base", BEWG has established an industry-education integration practice centre that integrates practical teaching, social training, real production, and technical service functions. It supports universities and enterprises in conducting collaborative innovation around key issues in production and operation processes and focuses on the joint cultivation of highly skilled talents in short supply in the industry. As of the end of the reporting period, BEWG has established 10 industry-education integration practice centres, received over 1,000 students for practical training, organised 6 high-level teacher training programs, and offered over 20 training courses, comprehensively deepening university-enterprise cooperation and enhancing the quality of industry talent cultivation.



Hebei Vocational University of Industry and Technology carried out practical training at the Qinhuangdao Industry-Education Integration Practice Centre of BEWG

BEWG is committed to building a secure corporate operational network environment, ensuring the information security and privacy security of users and the enterprise under the trend of digital and intelligent transformation. Meanwhile, the Group continuously optimises its information security management system, enhances the security of technology and operations, focuses on user privacy protection, raises employee awareness of information security, and constructs a systematic information security protection system.

Information Security Management

The Group strictly adheres to laws and regulations such as the *Cybersecurity Law of the People's Republic of China*, the *Data Security Law of the People's Republic of China*, and the *Personal Information Protection Law of the People's Republic of China*, formulates and continuously improves internal policies related to information security and privacy protection.

In terms of information security protection, the Group revised and updated its internal policies and systems in accordance with the latest requirements for information security management in 2024, including:

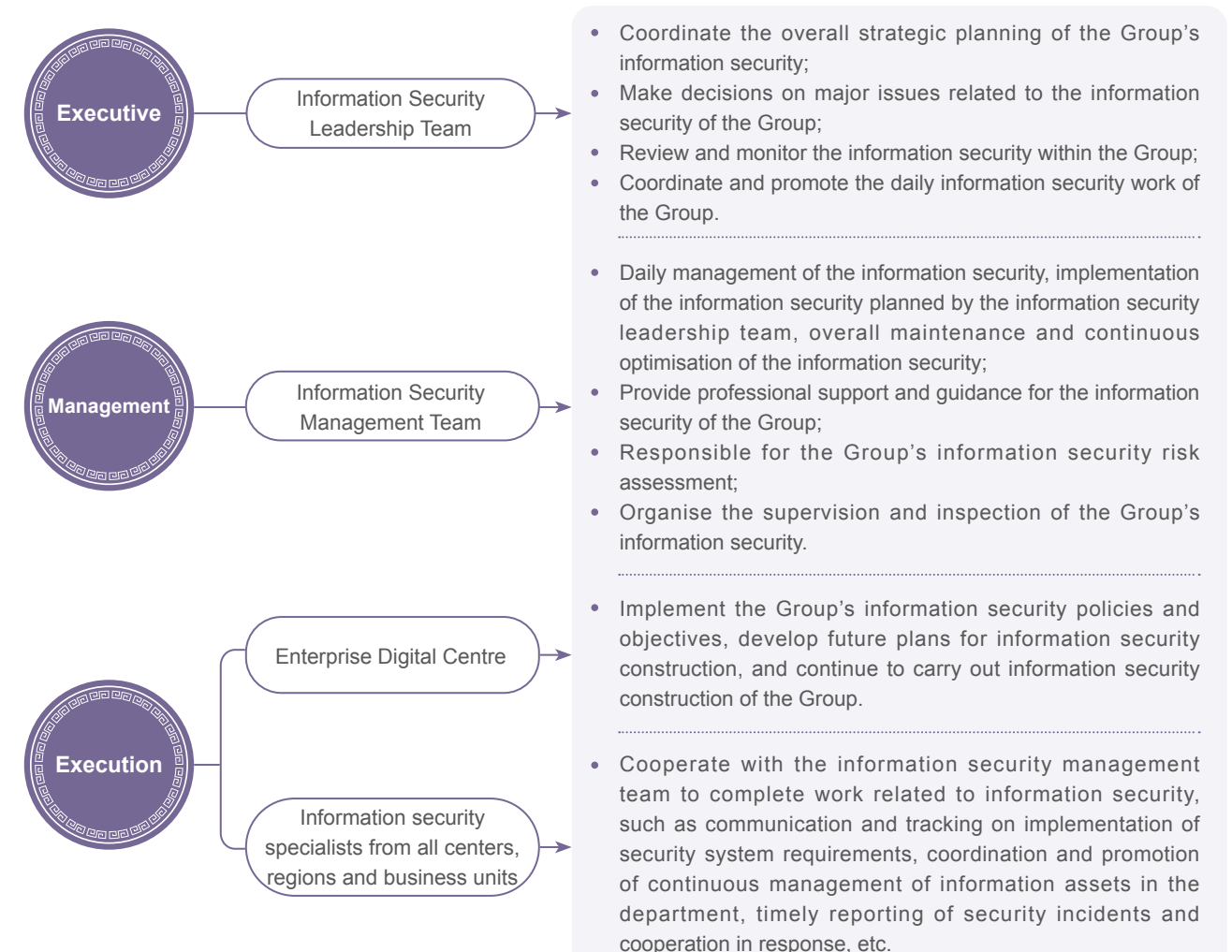
- Added 14 new items to the *BEWG Information Security Management System*, such as human resources security, supplier information security, and system operation, continuously enhancing the Group's information security management capabilities.
- Improved digital operation and maintenance management standards, and business rules and processes in the *BEWG Digital Operation and Maintenance Management System*, providing a more standardised and systematic management framework for the Group's digital operation and maintenance.
- Formulated and issued the *Management Measures for External Personnel Accounts and Digital System Permissions*, which clearly defines the access management for external personnel and the processes for opening external personnel accounts and permissions, ensuring the security and compliance of external personnel accessing the Group's systems.

In terms of privacy protection, we have incorporated relevant policies and procedures into the Group's compliance operation management system and preliminarily established a user privacy data protection mechanism based on internal requirements. Currently, we have standardised the collection, use, storage, and destruction of user data through measures such as access control, third-party management, and incident response. The Group maintains a "zero-tolerance" attitude towards violations of privacy protection regulations and has assigned dedicated personnel to handle privacy protection-related work. Any privacy-related issues or suspicious situations can be reported through internal feedback channels, and upon verification, we will seriously handle them in accordance with relevant regulations.

To strengthen user privacy data management, this year, the Group improved the terminal online hall of the water supply marketing management system by adding a privacy agreement prompt function. Users should read and agree to the privacy agreement before applying for installation services and filling out forms containing personal basic information. The agreement explains how the Group's system will collect, use, protect, and retain user data to ensure the security of users' personal information.

In accordance with the relevant requirements of ISO 27001 Information Security Management System Certification, the Group comprehensively revised and optimised the existing information security management system in terms of policies and processes and completed an external information security audit. In 2024, BEWG passed the annual review of ISO 27001 Information Security Management System Certification. Additionally, we targeted enhancements to the filing system for cybersecurity level protection, refining the filing process, clarifying responsibility divisions, and improving execution efficiency, continuously improving the Group's management capabilities in cybersecurity level protection to ensure that the information security management system meets the requirements of relevant national regulations and industry standards.

BEWG has built a three-tier information security management structure consisting of executive, management and execution and continues to improve the management responsibilities of information security at each level.



Information Security Guarantee

Information Security Technology and Operations

BEWG is committed to advancing the optimisation and upgrading of information security technology, continuously strengthening information security management and operational capabilities, and consistently enhancing the capabilities of user data security and privacy protection.

This year, the Group further clarified the responsible persons for security management of each system in accordance with the requirements for information security management organisation and responsibilities, and continuously followed up on the implementation of these responsibilities. We established an IT infrastructure asset register using automated tools to improve asset inventory efficiency and continuously reviewed and optimised server system antivirus strategies based on business system requirements, enhancing system security protection capabilities. This year, the Group summarised and rectified various information security risk points by reducing internet exposure, adding watermarks to web page accesses, and conducting security terminal deployment inspections, comprehensively enhancing system security protection capabilities.

In 2024, the Group did not experience any significant information security breaches and did not receive any customer complaints regarding privacy issues.

In 2024



0

significant information security breaches



0

customer complaints regarding privacy issues

Cybersecurity



Enhance the cybersecurity technology framework by developing technical safeguards such as firewalls, IPS (Intrusion Prevention System), bastion host, vulnerability scanning tool, antivirus software, online behavior management and WAF (Web Application Firewall) to fulfill the standards for three-level information security prevention and control; review and improve the WAF, IPS, firewall and other security strategies of the business systems in a unified manner to fortify the defense against intrusions.

Vulnerability Scanning and Remediation



Developed a monthly vulnerability scanning and remediation plan in conjunction with cloud-based security management tools, and made vulnerability scanning and remediation a prerequisite for system launch. Tracked the progress of vulnerability remediation through security management work orders.

Data Security



Implemented off-site data disaster recovery strategies and database audit strategies for critical business systems, maintained and optimised the data middle platform, and enhanced data lifecycle security control capabilities. Strengthened sensitive data security protection by adding watermarks to web page accesses and achieved data security isolation through secure spaces to prevent source code leakage and ensure data security.



Key Initiatives for Information Security and Privacy Protection

Information Security Awareness Education

BEWG continuously enhances employees' cybersecurity awareness. In 2024, we organised all employees to participate in online learning activities on cybersecurity knowledge conducted by the State-owned Assets Supervision and Administration Commission of the State Council. We conducted systematic learning of personal information protection laws and regulations such as the *Law of the People's Republic of China on Combating Telecom and Online Fraud*, the *Personal Information Protection Law of the People's Republic of China*, and the *Data Security Law of the People's Republic of China*, comprehensively improving employees' awareness of cybersecurity and personal information protection. Meanwhile, the Group conducted information security awareness training for all employees, covering aspects such as cybersecurity law promotion, data security, email security, password security, Wi-Fi security, and ransomware prevention, and organised employees to complete corresponding assessments.

This year, the Group fully utilised various media such as online office platforms and company website splash screens to conduct cybersecurity promotion activities, to popularise relevant laws and regulations on information security, further strengthen the information security awareness of all employees, and provide solid support for the Group's cybersecurity and information management.



Employee coverage rate of information security awareness training

100%



Disaster Recovery Simulation Drills

Established a disaster recovery system to ensure business continuity, prevent and mitigate operational security risks in information systems. Conducted disaster recovery simulation drills for the financial system; Verified the reliability of the system, disaster recovery capabilities, and the feasibility of emergency response plans for critical information systems; Improved the capabilities of information system disaster recovery and secure operations, and enhanced the organisation's emergency response, crisis communication, and inter-departmental collaboration capabilities.



User Privacy Protection

Encrypted privacy data involved in the Group's data asset management platform and conducted lifecycle tracking and control of external personnel from entry to exit to ensure compliance with the Group's privacy protection requirements and operational compliance.



Operation and Maintenance Service Management

Established a process management platform and optimised the operation and maintenance management process system, covering core processes such as service requests, incident management, problem management, change management, release management, and demand management. Standardised operation and maintenance mechanisms, improved the response speed and problem-solving capabilities of operation and maintenance services, and achieved closed-loop management of the Group's digital operation and maintenance services.

04

Shoulder Our Responsibility: Building a Harmonious Social Well-Being towards Satisfaction (Satisfaction)

BEWG, guided by the business purpose of "Customer as the source and innovation as the way", not only strives for business excellence but also actively fulfills our social responsibilities. We listen attentively to our customers, nurture our employees with care, and safeguard their health and safety. We continuously innovate in supply chain management and serve our communities with dedication, all to honor our commitment as a responsible corporate citizen.

- ◆ Highly focused on building a culture of business ethics, with **100%** employee coverage in business ethics training, including **4** sessions of anti-corruption training for the board of directors.
- ◆ Conducted the first-ever employee survey on HR service satisfaction at Group headquarters, achieving an overall satisfaction rate of **90%**.
- ◆ Emphasized safety awareness training, with a total of **8,511** safety education and training sessions conducted, reaching **261,822** participants.
- ◆ Actively understood customer needs, achieving a revisit satisfaction rate of **99.66%** for the year.
- ◆ Strengthened ESG management of suppliers, with a **100%** ESG review coverage rate for new suppliers.

○ Compliance Operations	63
○ Talent Management	69
○ Safety and Health	79
○ Customer Service	83
○ Supply Chian Management	87
○ Social Contribution	91



BEWG is well aware that compliance operations are essential for sustainable corporate growth. We are committed to building a robust corporate governance framework, a tight-knit risk management system, and taking a firm stance on business ethics. Our efforts focus on the effective functioning of the Board, improving risk management systems, and implementing business ethics training, all aimed at creating a transparent, stable, and responsible business environment.

Corporate Governance

BEWG has established an effective corporate governance structure. The Board is dedicated to maintaining governance quality, enhancing transparency, safeguarding stakeholders' rights, and boosting shareholder value. Under the Group's amended and restated *Bye-laws*, one-third of directors must rotate at each annual general meeting, with each director stepping down at least every three years. Nominees are assessed by the nomination committee before being recommended to the Board for approval. Board elections follow HKEX diversity rules, ensuring a balanced mix of skills, experience, and viewpoints. During the reporting period, 2 female directors were on the Board.

Effectiveness of the Board of Directors of BEWG



- The Board of Directors consists of 5 independent non-executive directors.
- The positions of Chairman and Chief Executive Officer (CEO) of BEWG are held by different individuals. The Chairman takes the lead and ensures the operation of the Board, while the CEO is responsible for business, operation and daily management.
- The Company confirms that each independent non-executive director complies with the independence guidelines under Rule 3.13 of the *Listing Rules*.



- The Board Diversity Policy has been developed.
- The Board members are appointed based on merit to ensure they are talented and can provide balanced skills, experience and diverse perspectives required by the Group.
- When nominating candidates, the Nomination Committee takes multiple factors into consideration, including but not limited to gender, age, cultural and educational background, professional experience, skills, expertise and length of service.
- The Nomination Committee conducts regular reviews on the implementation of board diversity.



- A total of 4 Board meetings were held in 2024.

Diversity of Board of directors of BEWG

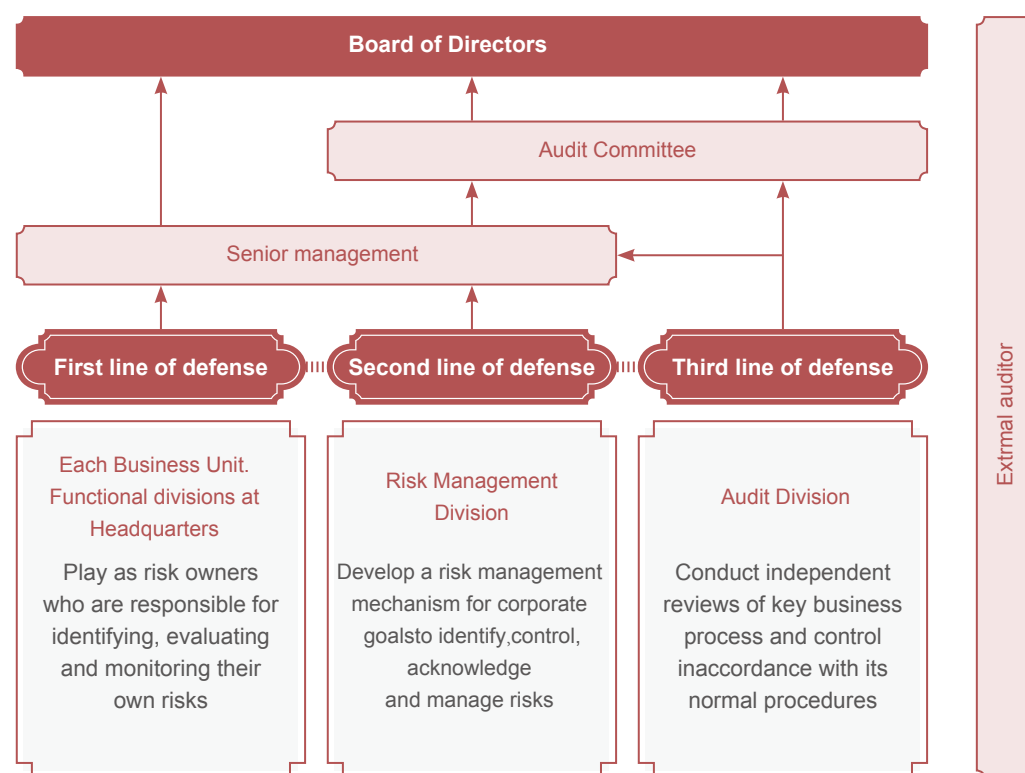
Position		Cultural and educational background		Term of service	
Executive director	8	Bachelor	3	0-4 years	7
Independent non-executive director	5	Master	7	5-9 years	0
Non-executive directors	1	Ph.D	4	10 years or above	7
Age		Gender		Professional background	
46-50	1	Male	12	Finance	4
51-55	4	Female	2	Law	4
56-60	6	Directorship with other listed companies		Environment	3
Above 61	3	0-1 Company	9	Business management	3
		2-5 Companies	5	Others	3

Risk Management

A stable and efficient risk control system is crucial for sustainable corporate growth. We aim to establish an "Everybody Participates" risk management culture, making every employee an active promoter of risk compliance. The Group's Board has overall responsibility for risk assessment and definition, ensuring a sound and efficient risk management and internal control system. The Company clarifies the direction of risk management construction through the *General Principles of Risk Management of Beijing Enterprises Water Group Limited* and gradually improves the system. The BEWG Overall Risk Management System specifies the risk management mechanism, clarifies methods for identifying, assessing, monitoring, and responding to internal and external risks, and helps effectively manage and mitigate risks to protect company interests. In 2024, the Board reviewed key annual risks, assessed the scope and status of risk investigation, and evaluated preventive measures for risk events.

The Audit Committee, mandated by the Board, oversees the design, implementation, and supervision of the risk management and internal control systems by management. Drawing on the COSO ERM framework, BEWG has established a risk management system featuring a "three-tier structure and three lines of defense." This system clearly defines risk management processes and standards for identification, assessment, and response, enabling risk monitoring and early warning. It also forms a closed loop through supervisory and improvement procedures.

Risk management framework



We conduct a comprehensive analysis of the company's business, processes, and environment to form a group-wide risk repository, which underpins our risk management efforts. Every 6 months, we organise risk-responsible entities to formulate risk response plans and track the implementation of major risk management initiatives. We adjust our strategies in a timely manner based on implementation feedback to prevent and mitigate significant company risks.

We are currently exploring effective mechanisms to monitor risk evolution, ensuring timely adjustments to control measures. This year, we completed climate-related risk identification, updated our risk repository with these risks, and clarified the responsible entities and mitigation measures for climate risks.

We are committed to fostering risk awareness among all employees through diverse training and educational activities, creating a proactive risk management culture within the organisation. This year, 215 employees participated in specialised risk awareness training sessions, total of 215 training hours. Additionally, we conducted specialised compliance training for key management personnel and critical positions within audited units, with approximately 16,000 participants and a total of 9,600 training hours.



Business Ethics

Good business ethics are key to maintaining a company's reputation and reflect its social and legal responsibilities. We place great importance on fostering good business ethics as a core part of our corporate culture. We strictly abide by laws and regulations related to anti-bribery, anti-extortion, anti-fraud, and anti-money laundering. We have set up an effective whistleblowing mechanism to encourage employees, partners, and stakeholders to speak up when they detect wrongdoings. Together with our stakeholders, we are building a positive business ethics image and creating a clean business environment.

BEWG complies with the *Anti-Unfair Competition Law of the People's Republic of China* and the *United Nations Convention against Corruption*. In line with systems such as the *BEWG Anti-bribery and Anti-corruption Policy*²², the *BEWG Overseas Anti-corruption System*²³, and the *Implementation Rules for Supervision and Inspection at Critical Milestones*, we standardise anti-corruption and integrity risk prevention efforts.

The Board is responsible for formulating and coordinating the Group's governance codes and anti-corruption strategies, with a commitment to building an incorruptible and compliance management framework. The Group's management is responsible for implementing the Board's decisions, ensuring that integrity and compliance requirements are integrated into every aspect of the Group's production, operation, and talent management. In addition, the Company has established a special leadership group for ethics and compliance to oversee employees' adherence to professional ethics, lawful and compliant conduct, and to handle any violations of professional ethics. Under the leadership of the Group's Discipline Inspection Commission and the Party Committee, the Group's Discipline Inspection Commission Office undertakes the responsibilities of supervision, disciplinary enforcement, and accountability.

The Group's Discipline Inspection Commission strengthens integrity culture, supervises and inspects Party members' lawful duty performance and clean professional conduct, receives and processes mail and visit reports and problem leads, and aims to reduce corruption incidents. The Group signs the Responsibility Document for Party Conduct and Clean Government Development with each direct-affiliated Party organisation, carries out commitment and promise activities for Party members' clean professional conduct, fosters clean government culture, and promotes integrity.

The Group's Audit Centre conducts internal audit work annually, covering business ethics compliance content. This includes reviewing the implementation and results of relevant business ethics systems, achieving full coverage audits every three years, and transferring the discovered integrity issues and clues to the relevant responsible departments of the Group for handling.

Solid Business Ethics Rules System

BEWG operates in China and overseas, and we comply with local laws and international business ethics standards. We have formulated the *BEWG Code of Business Conduct*²⁴ to regulate and encourage employees to enhance their business ethics awareness and make ethical decisions when conflicts of interest arise, ensuring due performance of duties. We have zero tolerance for violations of the code. Any employee found to directly or indirectly violate the code will face disciplinary action, including dismissal. Code compliance is also incorporated into performance evaluations and linked to compensation. In 2024, we issued the *BEWG Action Plan for Building an Integrated Supervision and Coordination Mechanism*. This plan establishes a six-in-one supervision system, led by intra-Party supervision and supported by disciplinary inspection, inspection and patrol, investor, audit, employee democratic, and social supervision. It integrates supervision resources for closed-loop management to enhance supervision and governance effectiveness.



²²<https://www.bewg.net/uploadfile/en/fanhuilu.pdf>

²³<https://www.bewg.net/uploadfile/en/overseas.pdf>

²⁴<https://www.bewg.net/uploadfile/2020/1020/20201020105537427.pdf>

Multifaceted Training on Integrity Awareness

We integrate integrity culture into business management. In 2024, we used diverse media like WeChat official accounts, intranet, boards, bulletin boards, and screens to strengthen integrity education, achieving full coverage and fostering a corruption-resistant atmosphere.

- We organised 4 anti-corruption training sessions for the Board, focusing on Guidelines for listed companies' anti-corruption systems and case studies from the ICAC. Each director spent an average of 2 hours on these sessions.
- We conducted 3 anti-corruption training programs for Group executives, with each executive averaging 90 minutes of training.
- We held a warning-education meeting themed "Learning from Cases to Promote Reform." It analysed illegal and disciplinary cases, covering over 300 key-post employees, including mid-level managers and heads of major regional units, to reinforce anti-corruption awareness.
- We launched a Group-wide "Integrity and Dedication Start with the Heart" campaign. Through diverse educational activities like watching legal-discipline videos, analyzing warning cases, and taking legal-knowledge tests, we enhanced employees' self-awareness of integrity and compliance and their consciousness of abiding by laws and disciplines.
- We carried out varied training and thematic activities on Party-discipline education for all Group Party members, guiding them to prioritise discipline, learn, understand, and clarify it, and promoting compliance, observance, and enforcement of discipline.



Party Discipline Training



Warning Education

In addition, we sent out anti-corruption emails to our suppliers and conduct awareness and training programmes on business ethics for our suppliers to raise their awareness of anti-corruption.



Intact Whistleblower Protection System

We adhere to the *Rules for Discipline Inspection and Supervision Organs to Handle Accusations and Reports* and the *Provisions of the Supreme People's Procuratorate on Protecting the Rights of Citizens to Make Accusations*, and enhance our reporting mechanism through internal systems such as the *BEWG Confidentiality System for Whistleblowing and Accusation*, the *BEWG Whistleblower Protection System*, and the *BEWG False Accusation Investigation and Punishment System*²⁶, to collect clues on corruption issues.

We encourage stakeholders to disclose any issues that violate national laws, regulations, or Group policies, and advocate real-name reporting. We prioritise real-name reports in acceptance, processing, and feedback to enhance resolution effectiveness and reporter satisfaction. BEWG offers diverse reporting channels, publicly displayed in the "Integrity and Compliance"²⁷ section on our official website, including email, telephone, mail, and in-person visits, providing convenient and varied feedback options.

For received reports, we commit to handling them in accordance with laws and regulations through methods such as interviews, preliminary verification, temporary storage, or closure, with zero tolerance for any disciplinary or illegal acts. We also actively identify issues through inspections, audits, and daily supervision, broadening channels for collecting clues to ensure concerns are effectively addressed.

BEWG firmly implements whistleblower protection policies, prohibiting any threats or retaliation, and safeguarding the legal rights of whistleblowers. We require reporting handlers to strictly observe confidentiality, sign Confidentiality Commitment Letters, and prevent leaks. We also firmly investigate and deal with any false accusations.

²⁵Including full-time contract employee, intern and contractors.

^{26, 27}<https://www.bewg.net/en/gywm/ljhg/>

BEWG recognises talent is crucial for development. We adhere to fair, equal, and diverse employment, offering employees career-development opportunities. We stress a people-oriented approach, caring for employee growth, and continuously improving our promotion system. We tailor training programs to employees' different needs, providing diverse training content to promote joint growth between employees and the enterprise.

Employment Management

We actively widen talent sources through social, referral/internal competition, and campus recruitment globally. At each operation site, we foster a fair, lawful, and non-discriminatory recruitment environment, prohibiting forced labor and child labor. We oppose any employment bias and do not tolerate discrimination based on race, nationality, gender, disability, or religious belief. Any violations will be strictly dealt with as required by the Group and relevant laws and regulations.

Fair and Transparent Recruitment

BEWG is committed to creating a fair and transparent recruitment environment. During the recruitment phase, we ensure each candidate is evaluated fairly and objectively through capability assessments, adhering to the principle of recruiting based on capability and performance. In 2024, we revised the BEWG Recruitment Management System, strengthened recruitment process supervision, responded to market changes, and digitised all recruitment management. We deepened "digital and intelligent recruitment" by using advanced AI video-interview tools, improving efficiency and ensuring fairness. No labour disputes had been raised in BEWG during the current year.

In 2024



BEWG had **0** labour disputes



Case BEWG Hong Kong Kai Fat Company Participates in Maritime Employers' Job Fair

In 2024, BEWG Hong Kong Kai Fat Company participated in the maritime industry employer direct recruitment fairs organised by Hong Kong Polytechnic University and Hong Kong Maritime School. The company took this opportunity to introduce various positions, responsibilities, and development prospects to visitors, assisting job seekers in understanding the shipping industry and potential career paths. The event not only attracted outstanding graduates but also showcased BEWG's professional image focusing on environmental protection business to Hong Kong society.



Safeguard our Employee's Rights

We respect employees' basic human rights and work experience, strictly abide by local labor laws and support international human rights standards like the Universal Declaration of Human Rights. We maintain a "zero-tolerance" attitude towards all acts of harassment and discrimination.

The Group and its subsidiaries have established unions to safeguard employees' legal rights, encourage and support employees in voicing their personal appeals, and protect their interests. Regular employee communication activities are organised to promote joint growth between employees and the company. In 2024, we used an online Q & A platform to address 47 sets of employee questions on talent development, technology research and development, and institutional processes, fostering a culture of openness. We also held employee communication events like the BEWG Ideas Exchange Meeting to ensure positive information flow within the Group.

We adhere to the principle of equal pay for equal work regardless of gender, establish a fair and equitable compensation system, and conduct regular market-based salary surveys to ensure competitiveness. This year, we updated the BEWG New Employee Probationary Period Management Regulations to help new employees quickly integrate into the company culture and improve work efficiency.

As of December 31, 2024, BEWG had 18,651 employees, including 17,559 in the Chinese mainland and 1,092 in overseas and Hong Kong, Macao, and Taiwan regions.

As of December 31, 2024



Total Employees

18,651

The Chinese mainland

17,559

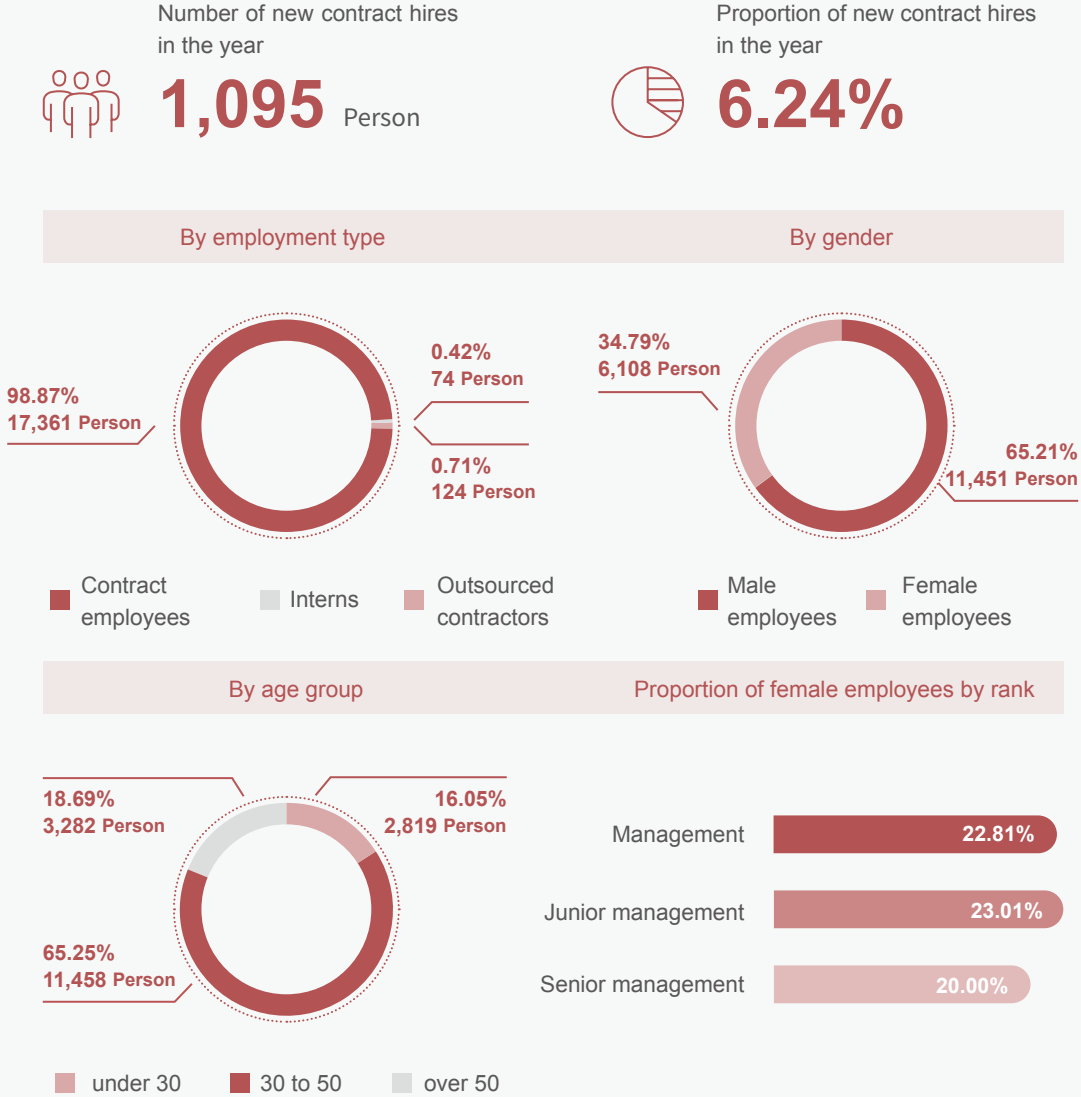
Overseas and Hong Kong,
Macao, and Taiwan regions

1,092

²⁸ BEWG Hong Kong Kai Fat Company is a subsidiary of BEWG which engages in harbour cleaning business in Hong Kong.

Talent Management

Total number and proportion of BEWG employees by category in the Chinese mainland in 2024²⁹



Total number of BEWG employees leaving³⁰ and turnover rate³¹ by gender and age in the Chinese Mainland in 2024

Number of employees by gender			Number of employees by age group		
	Employees Left	Turnover Rate		Employees Left	Turnover Rate
Male employees	1,397	12.20%	under 30	467	16.57%
Female employees	659	10.79%	30 to 50	1,142	9.97%
			over 50	447	13.62%

²⁹Considering that the business of BEWG is mainly concentrated in the Chinese mainland, so only the information of employees in the Chinese mainland is disclosed.

³⁰Considering that the business of BEWG is mainly concentrated in the Chinese mainland, so only the information of employees in the Chinese mainland is disclosed.

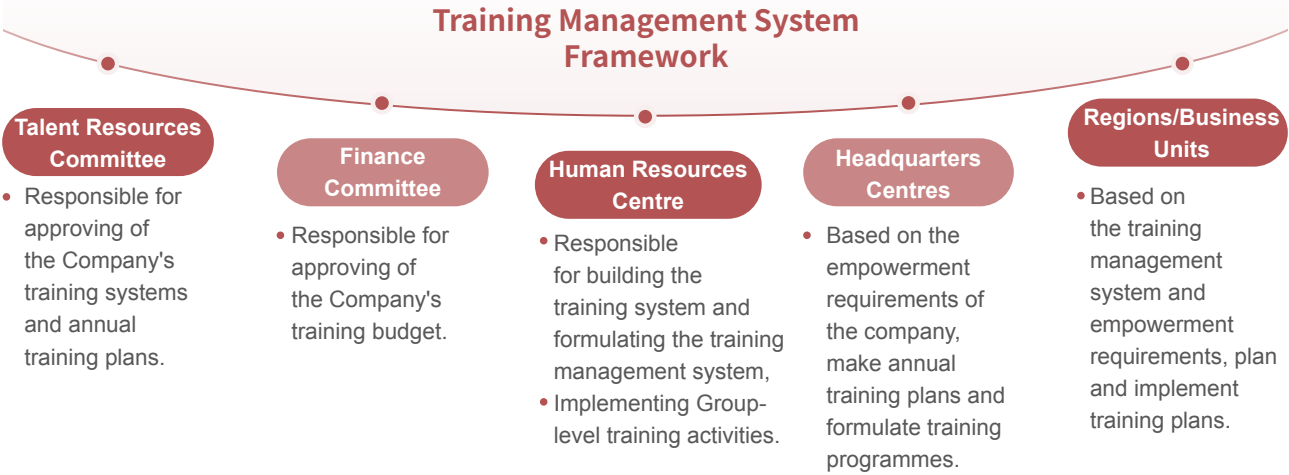
³¹Turnover rate for each category = number of employees in that category leaving / total number of employees in that category * 100%

Talent Development

We are committed to building a comprehensive and systematic talent-development ecosystem. Through a robust employee training system and key training programs, we enhance employees' professional skills and overall quality. Our performance evaluation and feedback mechanisms ensure fair career-development opportunities and promotion channels for all employees, fostering their growth and laying a solid talent foundation for the company's sustainable development.

Training Management System

The Group has established a comprehensive and effective training management system to improve employees' overall quality and meet its development needs.



In 2024, BEWG refined its talent management approach with the "Precision Empowerment 6-Step Method". This method, involving "learning, training, practical experience, evaluation, elimination, and replenishment", creates a closed-loop process to promote capability transfer and drive the upgrading of the existing talent structure.



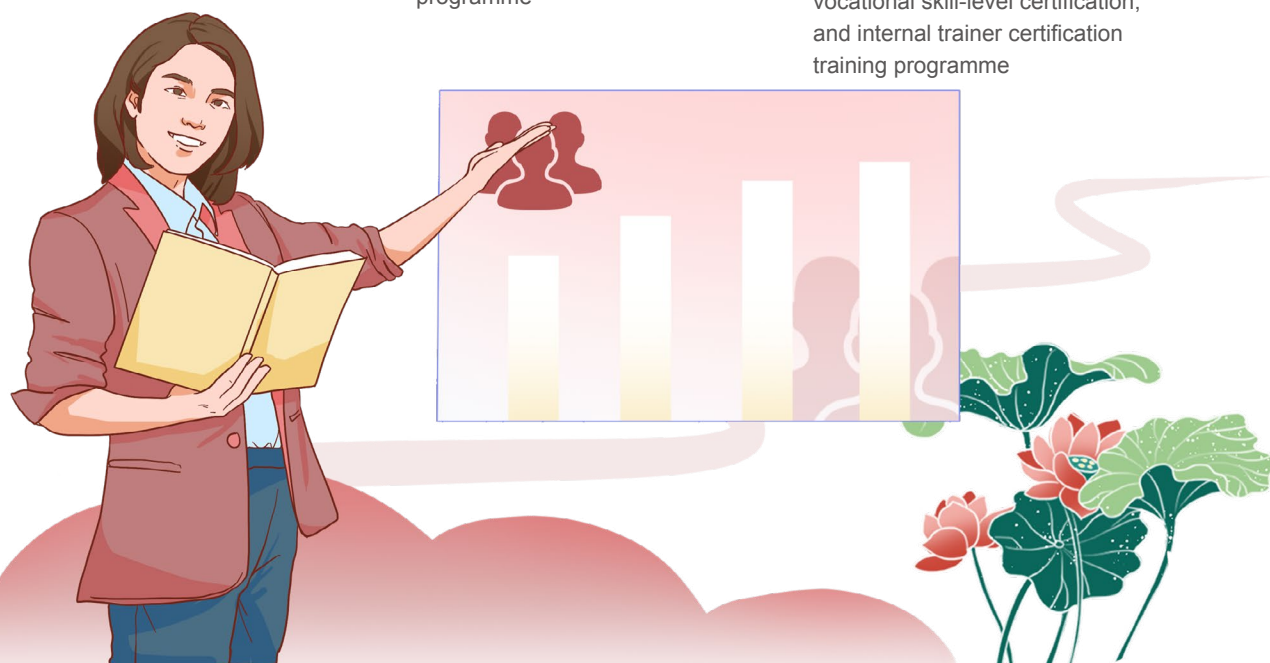
Talent Management

Diverse Training Courses

BEWG combines management methods with its talent training platform, offering employees learning opportunities through initiatives like the Upgrading Learning Academy, Lijian Programme-Regional Business Talent Training, Manager Communication Training Camp, and the Management Trainee Program, focusing on developing young core and high-potential talents. Meanwhile, we've established an internal training mechanism, creating targeted courses to enhance employees' professional quality and skills, and cultivate the company's core competitiveness.

In 2024, 48 course developers and trainers from BEWG launched the "Tempering Plan" Group-wide, developing courses for front-line talent skill levels and regional business talent, laying the foundation for high-quality internal training and improvement programs. Additionally, we conducted front-line skill-level assessments and industrial wastewater treatment worker (intermediate) vocational skill-level certification to boost employees' professionalism and work efficiency, supporting personal career development and strengthening the company's overall competitiveness.

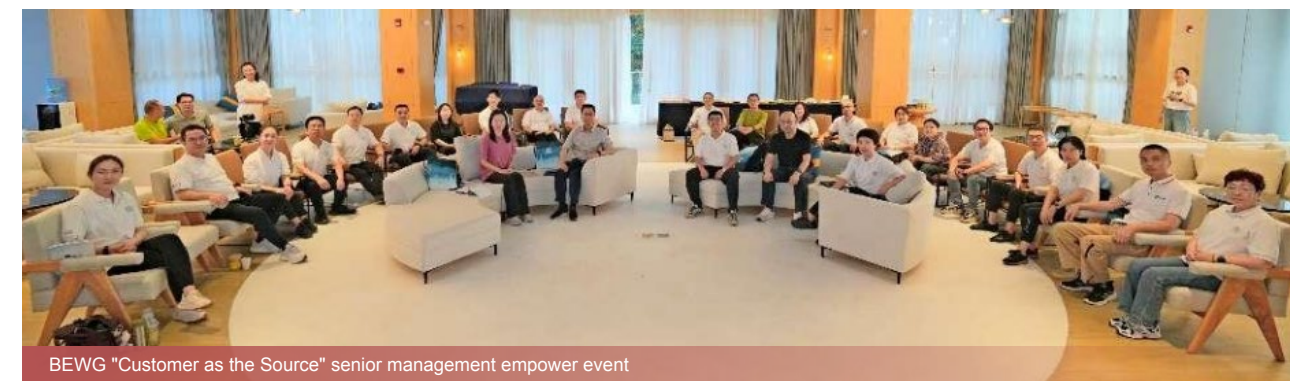
Overview of BEWG Employee Training in 2024



In 2024, our important talent development programmes are as follows:

Case "Mission-Driven, Original Aspiration-Upheld" BEWG "Customer as the Source" senior management empower event

In 2024, BEWG gathered 23 mid-senior managers honored at the Group level and invited 4 external speakers to share on topics like strategic organisational synergy and leadership. This inspired managers to reflect on daily work and customer communication, comprehensively reshaping their cultural literacy and boosting organisational combat effectiveness. The course satisfaction rating was above 4.5 out of 5.



BEWG "Customer as the Source" senior management empower event

Case "Lijian" Regional Operational Talents Training Programme

In 2024, BEWG held the second phase of the "Lijian" regional business talent training, with 73 management and business personnel enrolling. Against the backdrop of the Group's high-quality development transformation, the training focused on strengthening and developing regional business talent.



BEWG "Lijian" Regional Operational Talents Training Programme

Case Manager Communication Training Camp

In 2024, BEWG selected 42 young backbone employees and organised a 21-day manager communication training camp. The training focused on high-frequency communication scenarios in management, team integration, resource acquisition, and influence building. Through course study, post-class quizzes, live interactions, practical assignments, and one-on-one feedback, participants enhanced their communication skills and improved their ability to deliver and accumulate team results.

Case Frontline Skill-Level Certification

In 2024, BEWG conducted skill-level assessments for frontline personnel in key positions such as self-control, operation, and laboratory testing, covering 15,000 people. We developed the *Standardised Operation Manual for Key Positions* and combined it with practical training at training bases to enhance frontline workers' practical skills.

We also provided theoretical and practical training resources for three categories of frontline employees: junior, intermediate and advanced workers, technicians, and senior technicians. These resources covered fields like self-control instrument workers, mechanical repair workers, and wastewater treatment workers. A total of 150,000 person-times participated in course study, and 10,324 employees took online exams. This training and testing improved frontline employees' professional skills and work efficiency, helping them better meet job demands and address work challenges.



Frontline Skill-Level Certification

Case Management Trainee "+ Programme"

In 2024, BEWG completed the selection for its new cohort of the Management Trainee "+ Programme", identifying outstanding talents with strong abilities and willingness from the management trainee pool, suitable for frontline development, and enrolling them in a two-year practical training program. Through internal job rotation, systematic training, hands-on exercises, mentorship, and teamwork, the program aims to comprehensively enhance the skills and capabilities of the Group's future talent pool.

Case "Upgrading Learning Academy"

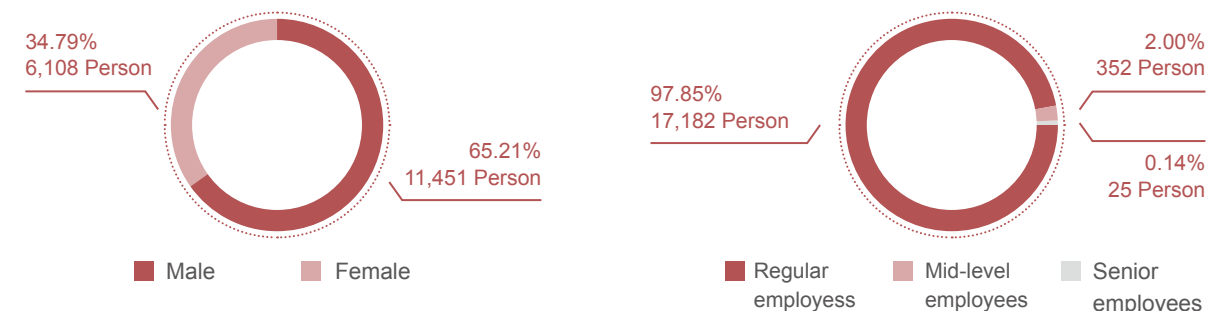
Upgrading Learning Academy, BEWG's key training project, aims to enhance management skills, broaden employee horizons, promote business experience exchanges, and build a learning-oriented organisation. It covers all staff, including member-enterprise employees, interns, and dispatched personnel, via online and offline learning.

In 2024, the Academy held 11 training sessions, covering over 4,000 person-times. The overall course rating was 9.6, up 0.2 from last year. Training topics included low-carbon water resources, generative AI, and women's career development, enhancing employees' strategic perspective and supporting talent sustainability.

Case Industrial Wastewater Treatment Worker (intermediate) Vocational Skill-Level Certification

In 2024, BEWG partnered with the Hebei Environmental Science Society to conduct vocational skill certification for industrial wastewater treatment workers (intermediate level) by combining theoretical and practical exams. Twenty-six employees obtained certification, bringing the total to 130. This initiative enhanced employees' professional technical abilities and helped improvement of their career prospects and competitiveness.

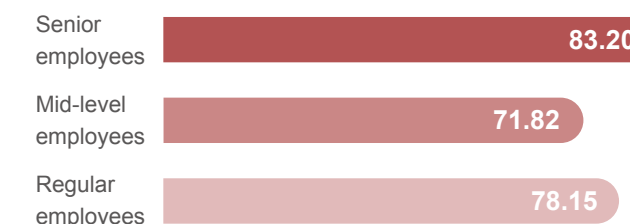
BEWG employee training performance in 2024³²



Average training hours of full-time employees by gender (hour/ person)



Average training hours of full-time employees by employment type (hour/ person)



³²Considering that the business of BEWG is mainly concentrated in the Chinese mainland, so only the information of employees in the Chinese mainland is disclosed.

Just and Fair Performance Evaluation

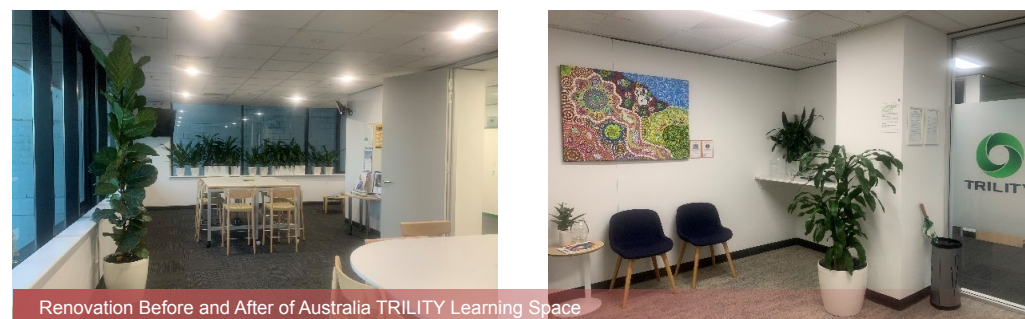
BEWG is committed to building a fair and motivating employee performance management system. It conducts comprehensive and impartial employee evaluations through semi-annual and annual appraisals, combining performance indicators, key task completion, and cultural fit. The Company has established a performance feedback and appeal mechanism. Employees dissatisfied with performance results can appeal to the HR department. Additionally, BEWG promotes employee growth and improves management efficiency through capability-building, training, and performance coaching.

In 2024, BEWG revised its Performance Management System, exploring team-based assessment and incentive models, and piloting work-order based pay. It also studied the key points and risks of work-order pay reform to create practical guidelines, driving pay reform for frontline skilled workers and ensuring a performance-based pay system. This aims to boost frontline talent vitality and maintain stable, harmonious labor relations.

Employee Care

BEWG prioritises employee care, aiming to create a supportive and people-oriented work environment. In line with the *BEWG Welfare Regulations* and the *Management Measures for Organisation and Implementation of Corporate Culture Activities (Interim)*, we organise diverse cultural activities and provide facilities like fitness equipment and reading spaces to enrich employees' daily lives, boost their happiness, and strengthen team cohesion.

We offer a healthy and safe working environment with green plants in office areas and "staff medicine kits" in workplaces for emergency health issues. In collaboration with professional organisations, we conduct mental health education and training to help employees relieve stress.



Renovation Before and After of Australia TRILITY Learning Space

We provide employees with comprehensive medical benefits, including supplementary medical insurance, accident insurance, critical illness insurance, disease-related death insurance, and children's medical insurance, to ensure timely support for employees and their families during health challenges. In 2024, BEWG conducted a medical examination satisfaction survey at its headquarters, with an average satisfaction rate of over 90% among employees who responded. In light of the survey results and recent workplace health issues, we've optimised the annual medical examination plan, adding tests for tumor markers and blood lipids, thyroid, and cervical issues, while relaxing examination-schedule requirements. These steps aim to safeguard employees' health and make medical checkups more flexible and convenient.



International Women's Day lecture The Secret to Workplace Happiness for Women

We establish scientific and reasonable vacation system and offer all employees paid leave (including annual, childcare, and nursing leaves) to promote the work-life balance of employees, and provide corporate pension plans, and various festival benefits. For female employees, BEWG provides special benefits like prenatal, maternity, and nursing leaves, along with mother and baby room in office areas. In 2024, we held an International Women's Day lecture, "The Secret to Workplace Happiness for Women," supporting women's career growth, with over 400 female employees participating online and offline.

In 2024, we conducted our first-ever employee satisfaction survey on HR operations, targeting over 590 employees at the Group headquarters. The survey covered processes related to "social insurance and housing fund" services, household registration services, and personnel files, all of which are key aspects of employee welfare. The overall satisfaction rating from the survey reached 90%.

In 2024

The overall satisfaction rating from the survey reached



90%



We regard safe production as essential for sustainable development. We emphasize safety at production sites, eliminate potential hazards, implement effective safety measures, and establish a broad-based safety consensus. We also provide safety training and foster a safety culture to protect employees' health and lives, ensuring their satisfaction and giving customers peace of mind.

Safe Production

BEWG adheres to the working principle of "Safety first, Prevention-focused, Comprehensive management". We have established a robust safety production governance framework, with safety production committees at the headquarters and each first-tier business unit, achieving coordinated control and standardised management in safety production.

Improve Safety Management Rules

We strictly abide by relevant laws and regulations, including the *Work Safety Law of the People's Republic of China*. In 2024, we updated the *BEWG Identification List of Laws, Regulations and Standards for Safety Production*, in line with current national laws and standards. Combined with the ISO 45001 OHSMS and Group regulations, we revised several safety-related systems, including the *BEWG Responsibility System for Safety in Production*, the *BEWG Dual Prevention System for Safety Risk Grading Control and Hidden Danger Investigation*, the *BEWG Safety Training Management System*, and the *BEWG Fire Safety Management System*. We have been improving our safety management rules and systems for years. These systems cover the Group and its project contractors. We've fully implemented the "three-in-charge and three-must"³³ management requirements, comprehensively reviewed operations procedures, standards, and processes, and improved Group-wide systems and processes. System formulation and revision have incorporated feedback from all Group departments and business units. In 2024, Group units developed or revised a total of 1,648 safety-related systems or rules. At the same time, we have formulated the Safety Management System for Related Parties of BEWG internally, which was updated and revised in 2024, and the system clearly regulates the production activities of related parties, including contractors. According to the requirements of the system, business units should carry out related party safety management work, establish related party safety management accounts and supervise their implementation, propose corrective measures for potential safety hazards and follow up on the related parties' corrective actions.

Enhance Safety Management System

We continuously evaluate the safety management performance of all units, using management as a means to enhance capabilities and further refine the occupational health and safety management responsibility system. We have revised several systems, including the *BEWG Management Provisions on Safety Rewards and Punishments* and the *BEWG Management Provisions on Safety Production Interviews*. Annually, we sign safety management target responsibility documents with each business unit, clarifying safety targets and assessment scopes, and set safety-related annual KPIs linked to project bonuses. This aims to continuously improve the performance of the Group's occupational health and safety management system. We have integrated star-rating management and imposed penalties such as demotion or removal of stars for projects where routine safety production work is inadequate. This strengthens safety supervision and strictly implements the "one-vote veto" system for safety production. By the end of 2024, the BEWG headquarters and 19 water plants have obtained ISO 45001 certification for the occupational health and safety system.

We adhere to the principle of "prevention first and a combination of prevention and control" in managing occupational health and safety. We implement a dual-prevention mechanism of safety risk grading control and hidden danger investigation and management. In line with the *BEWG Hazardous and Harmful Factor Evaluation and Management Regulations*, *BEWG Major Hazard Source Management Regulations*, and *BEWG Management Regulations for Dangerous Materials Safety*, we regularly identify and investigate occupational health risks in the work environment. We maintain a list of occupational disease hazard factors, specifying their sources and control measures.

³³"Three – in-charge and three – must" is guided by the Work Safety Law of the PRC, means that those who are charge of the industry must keep an eye on safety, those who are in charge of the business operation must keep an eye on safety, those who are in charge of production and operation must keep an eye on safety.

Augment Safety Management Measures

In 2024, we revised the *BEWG Occupational Health and Safety Management System* and the *BEWG Labor Protection Articles Management System*, clarifying the responsible department and duties of occupational health within the Group, and refining various control measures for occupational health and safety. We improved on-site warnings, provided and regularly maintained labor protection articles meeting national standards, and offered training on the use of these articles to prevent occupational health hazards. We also engaged third parties to conduct detection of occupational health hazards and publicised the detection reports. Based on the reports and employees' job types, we organized annual occupational health check-ups. As of December 31, 2024, we invested RMB 31.02 million in safety production.

BEWG has established comprehensive procedures for investigating occupational diseases and work-related injuries. In 2024, we revised the *BEWG Production Safety Accident Report and Investigation and Handling Management System*, clarifying accident definitions and levels, and improving emergency response mechanisms. This ensures timely and effective emergency rescue in the event of an incident, minimizing casualties and property damage.

In 2025

Health and Safety Target

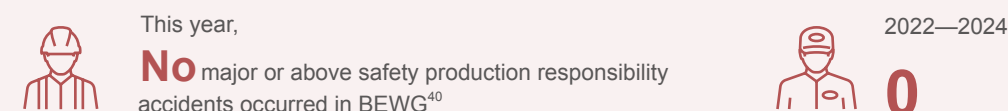
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fatality caused by major or above safety production responsibility accidents.

BEWG 2024 key performance indicators for safety and health³⁴



Number of major work-related fatalities in the past three years



³⁴Considering that the business of BEWG is mainly concentrated in the Chinese mainland, so only the information in the Chinese mainland is disclosed.

³⁵Employee work-related injury rate = Number of injured employees / Total number of employees.

³⁶It involves one non-production safety work-related deaths. According to the *Classification Standard for the Casualty Accidents of Enterprise staff and workers (GB6441-86)*, it is calculated at 6,000 day/person.

³⁷Lost time incident rate = Number of lost-time incident / Total working hours x 200,000.

³⁸Injury rate per thousand workers = 1,000* Number of Injury cases/ Total Employee Amount.

³⁹Injury rate per million working hours = Number of work-related injury cases * 1,000,000/ Total working hours.

⁴⁰In 2024, BEWG experienced one general-level production safety accident resulting in one fatality. Following the incident, BEWG promptly activated its emergency response mechanism, implemented a series of emergency measures, and conducted comprehensive inspections and rectifications across all units. We deeply reflect on the lessons learned from the accident and are resolutely committed to preventing the occurrence of similar incidents.

Safety Culture

BEWG recognises the importance of fostering a strong safety culture and raising safety awareness for sustainable operations. Through ongoing safety training programs, we enhance employees' awareness of voluntarily complying with safety protocols in their daily work. We also focus on enabling employees to actively identify and eliminate potential risks, thereby strengthening and elevating their safety skills.

Safety Training Covers All Employees

In 2024, BEWG organised online safety training, with 16,807 employees participating in the training and assessment. Additionally, safety knowledge training and assessment were conducted for 342 personnel responsible for safety management. Throughout the year, a total of 8,511 safety education and training sessions were held, covering 261,822 person-times. Furthermore, each unit organised one emergency drill per month based on its actual circumstances, including drills for confined space accidents, electric shock accidents, and chemical leaks. In total, 2,678 emergency drills of various types were conducted in 2024. Meanwhile, safety accident warning cases were shared on the Group's intranet every month to strengthen warning education for all employees.



TRILITY conducts laboratory testing and safe use training

Case Work Safety Month

During the 23rd national "Work Safety Month" in 2024, the Group organised relevant activities and campaigns. Through activities such as warning advocacy, education and training, hidden danger inspection, emergency drills, "Work Safety Publicity and Consultation Day", and "Work Safety Five-Way-In", we created a strong work safety culture atmosphere and improved the work safety awareness and emergency response skills of all employees.

Case The 6th Ankang Cup Competition

In 2024, the Group held the 6th "Ankang Cup" Competition. Building on existing activities such as confined space operation and emergency rescue drills, safety knowledge contests, and safety knowledge assessments, the competition added a safety speech contest to enhance employees' safety awareness and promote safety culture. It also increased frontline worker participation, boosting the safety skills and awareness of grassroots safety management personnel and workers.



The 6th Ankang Cup

BEWG continues to deepen its business philosophy of "Customer as the source and innovation as the way". This year, focusing on enhancing customer communication and upgrading customer experience, we have consolidated service quality, innovated service models and communication channels, and conducted responsible marketing. All these efforts aim to strengthen our close connection with customers and strive to continuously improve customer satisfaction.

Responsible Marketing

BEWG establishes long-term and stable customer relationships through a responsible and scientific marketing system. We deeply explore customers' real needs and strictly abide by the Group's integrity and compliance requirements, ensuring the standardisation and transparency of investment and marketing activities. This year, we have formulated the *2024 Regional Company Marketing Four-Pronged Cost Management Details* to further regulate the implementation of marketing activities and empower marketing across regional companies. Meanwhile, we have upgraded the service level of model sites to showcase product and service information in a transparent and real way, ensuring the objectivity and accuracy of marketing activities. We have also conducted multiple customer-demand seminars, service training sessions, and field visits to gain a deep understanding of customer needs and enhance the quality of marketing and services.

In addition, we use digital tools to advance the "integrated business and finance" system construction. Within the customer management system, we have achieved interconnection of business links such as "market-investment-product-delivery-operation", standardised customer-facing operational processes, improved user demand flow between online business systems, and enhanced the efficiency of customer demand response.

Being deeply aware of its social responsibilities as a water-related enterprise, BEWG continuously carries out public environmental science-popularisation activities, promotes the concept of environmental sustainability, and calls for public participation in environmental protection. For more details, please refer to the section on environmental science popularisation in the chapter "Social Contribution".

Enhancing Customer Communication

BEWG establishes close customer ties through exhibitions and senior-level visits. This year, it actively participated in several international expos, such as the China International Environmental Protection Exhibition (CIEPEC) and the BEYOND International Technology Innovation Expo in Macao. These events had been fully shown BEWG's deep-rooted core business and achievements in green transformation and digital-intelligent development.

Case BEWG at the 22nd CIEPEC

In April 2024, BEWG and its eight specialised subsidiaries participated in the 22nd China International Environmental Protection Exhibition. The Group organised two themed dialogues and several innovative product launches, showing its innovations, green solutions, and success stories in the environmental water sector. These efforts provided strong support and inspiration for customers pursuing high-quality development in water environmental protection.



22nd CIEPEC



Case BEWG at the 4th BEYOND Expo

In May 2024, BEWG and its nine specialised subsidiaries and two overseas partners participated in the fourth BEYOND International Technology Innovation Expo in Macao. The Group held a dedicated brand forum focusing on X in Water, showcasing its innovative technologies and service achievements across various business segments, including high-quality water supply, sewage treatment, drainage networks, sludge and solid waste, urban sanitation, smart operations, and equipment manufacturing. During the public open day of the Expo, middle and primary school students from Macao visited BEWG's booth to learn about water pollution control and water ecology protection.



4th BEYOND Expo

BEWG integrates local characteristics and enriches communication channels with customers. In 2024, BEWG Luoyang conducted multi-platform customer satisfaction tracking services. Customers could express their demands via People's Daily Online's local leaders' message board, Luoyang Net's "People's Voices", and multiple social media platforms. For its outstanding performance in handling public appeals, BEWG Luoyang was awarded the honorary title of "Advanced Unit" or "Excellent Unit" for the ninth consecutive year by relevant municipalities.

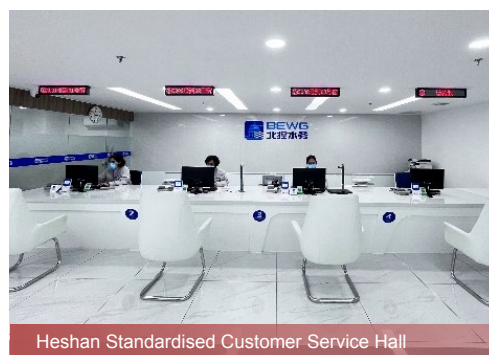
Upgrading Customer Experience

We continuously identify customer experience pain points through diverse technical means, helping B (business) and G (government) customers achieve a more intelligent business experience. We also optimise communication with C (customers) to improve efficiency. In 2024, we upgraded our standardised water plant, star-rating evaluation management, intelligent control, regional intensification, and "dark" water plant solutions. By integrating high-quality products from ecosystem partners, we achieved complementary advantages and provided targeted services. The existing operation management system was upgraded to SaaS to support data sharing across platforms, enhancing data usage efficiency and reducing customers' procurement and maintenance costs.

BEWG refined water supply service management, requiring all water supply projects to establish standardised processes covering customer service, water access, and user payment and others. Diversified payment channels were established to enable individual water users to achieve "zero visit to the service centre" wherever possible.

Case Heshan Standardised Customer Service Hall

BEWG Nanyang built a standardised customer service hall in Heshan to regulate the service environment and enhance user experience. This model was promoted across the Group to uplift service standards and the group's service brand. The branch's "water access" indicator ranked first in Henan Province's business environment evaluation, earning it the "Outstanding Contribution Award for Optimizing the Business Environment" from Nanyang Municipality's Party Committee and government.



Heshan Standardised Customer Service Hall

We strive for customer's satisfaction. In 2024, we conducted an in-depth analysis of last year's customer satisfaction survey results, identified specific needs of customers from various sectors, and developed targeted customer relationship improvement strategies. We also upgraded our satisfaction survey methods, dimensions, and calculation approaches, incorporating process-related indicators and differentiating survey subjects for water supply and sewage customers, to better pinpoint satisfaction focal points and identify areas for improvement.

In 2024, the Group's water supply companies handled a cumulative 446,000 water-supply-related service requests, with 163,000 follow-up service requests conducted as needed, achieving a revisit satisfaction rate of 99.66%.

In 2024



the Group's water supply companies handled a cumulative
446,000
water-supply-related service requests



With **163,000**
follow-up service requests conducted as needed



Achieving a revisit satisfaction rate of
99.66%



BEWG complies with the *Civil Code of the People's Republic of China* and the *Bidding Law of the People's Republic of China*, and continuously improves its supply chain management system. We are committed to building an efficient, stable, and mutually beneficial sustainable development partner network. We integrate ESG concepts into the entire lifecycle of supplier management, creating a responsible and high-quality supply chain. We strictly control key aspects such as supplier admission, review, evaluation, and exit, carefully assess environmental and social risks, and prioritise eco-friendly and green products and services.

As of December 31, 2024, the Group had 861 qualified domestic suppliers in its database.

Procurement from BEWG's direct suppliers in 2024⁴¹

Total tier-1 suppliers (qualified)



Critical tier-1 suppliers (qualified)



Number of direct suppliers by region in 2024



Suppliers from the Chinese mainland

401



Suppliers from Hong Kong, Macao, Taiwan regions and overseas

27

⁴¹The total number of domestic suppliers in 2024 refers to qualified suppliers. 861 suppliers including 428 direct ones and 433 indirect ones. (Direct procurement: productive procurement, such as water treatment and environmental protection facilities directly used for processing water resource; indirect procurement: non-productive procurement, such as procurement for administrative purposes; potential suppliers: suppliers that are not included in the qualified supplier pool of BEWG).

Supplier Lifecycle Management

BEWG has established the *Supplier Management Policies of BEWG*, which sets out regulations for suppliers in four key areas: labour and human rights, health and workplace safety, environmental protection, and anti-corruption. We implement whole-process management in supplier admission, review, and evaluation, and require all suppliers to comply with the *BEWG Anti-bribery and Anti-corruption Policy*. Suppliers must adhere to applicable anti-corruption laws in all countries/regions where they conduct business, act transparently and with integrity, and strictly prohibit any form of corruption, criminal inducement, extortion, and bribery. Suppliers are also prohibited from directly or indirectly offering, promising, paying, or soliciting money or other benefits through bribery and/or facilitation payments, or from obtaining improper benefits directly or through intermediaries. For more details on our anti-corruption and anti-bribery requirements for suppliers, please refer to the Supplier Management Policies of BEWG⁴².

BEWG actively adopts digital technologies to enhance the modernisation of supply chain management. Our online supply chain service platform covers the entire process from procurement contract management, order processing, and goods inspection to payment settlement and financial accounting, supporting flexible adjustments at each stage. This standardised approach to procurement has significantly improved supply chain efficiency. During project implementation, we have platformized engineering quality control and contract performance inspections, achieving full-process management of delivery projects through an integrated delivery platform.



Supplier Entry

BEWG has established a strict and well-regulated supplier admission process and approval mechanism to ensure the transparency, fairness, and sustainability of the procurement process. We conduct detailed assessments of suppliers using the Supplier Access Audit Form, examining key areas such as business qualifications, technical capabilities, production sites, and product cases, and evaluating them across 28 specific dimensions, including R&D design, environmental impact, ESG management systems, and product safety.

At the admission stage, we assess suppliers' ESG performance, with a particular focus on their certification of ESG-related management systems, implementation of regulations, risk identification and management, corrective and preventive measures for EHS issues, handling of waste and hazardous materials, and compliance with the *"BEWG Supplier Code of Conduct"*. We also engage audit teams to provide assurance on the approval and selection process for new suppliers, further ensuring compliance and transparency in procurement. In addition, the Group emphasises suppliers' integrity and anti-corruption efforts, including the Integrity and Self-Discipline Commitment Agreement as part of the bidding documents, which all bidders must sign in their real name, promising to abide by key terms such as integrity responsibilities, honesty, and confidentiality.

In 2024, we achieved full coverage of ESG clause reviews for new suppliers, ensuring a 100% review rate. Meanwhile, 100% of suppliers signed the Integrity and Self-Discipline Commitment Agreement.



⁴²<https://www.bewg.net/uploadfile/2020/1020/20201020105719128.pdf>

Standard Terms of ESG Audits on Suppliers

ESG system certification

ESG management system has been established and environmental, health and safety system certifications have been obtained, such as ISO 9001, ISO 14001 and ISO 45001 certification.

ESG management system

ESG-related management systems have been put in place in compliance with relevant laws and regulations, such as the prohibition of child labour, business ethics and other provisions.

Hazard identification and management

The hazards in the equipment and process are systematically identified and handled, and the management signs and measures to identify the hazards can be seen on the site.

EHS correction and prevention

Cause analysis of environmental, health and safety accidents are conducted, corrective measures are developed and implemented with an objective evaluation on their effectiveness and closed-loop tracking management.

Management of waste and hazardous substances

Management processes or relevant management standards for identifying and controlling hazardous substances such as the three wastes (wastewater, waste gas and solid waste) have been established and strictly implemented.

Compliance with the Group's policies

Observe and comply with the requirements of the *BEWG Code of Conduct for Suppliers*.

Suppliers with ISO certifications in 2024⁴³

ISO9001



ISO14001



ISO45001



⁴³419 suppliers out of the 428 direct suppliers qualified by BEWG in 2024 have obtained ISO 9001, ISO 14001 and ISO 45001 certifications, accounting for 98%, and the remaining 2% are agents and traders.

In 2024



The coverage of Group's audits on the ESG terms of new suppliers reached

100%



100%

of suppliers signed the *Integrity and Self-discipline Commitment Agreement*



Supplier Maintenance and Assessment

BEWG values communication and collaboration with suppliers, holding regular meetings to assist them in enhancing their contract performance. Annual and periodic performance evaluations are conducted, covering quality, safety, progress, and business management, with periodic assessments informing the annual rating.

We encourage suppliers to prioritise environmental protection, properly handle waste, and reduce pollutant emissions. Suppliers must establish processes for identifying and controlling harmful substances like wastewater, exhaust gas, and solid waste. Their environmental performance is a critical "veto item" in ESG assessments, reflecting BEWG's "zero tolerance" for environmental harm.

Based on supplier type and score, regular ESG audits by the Group are conducted to identify and mitigate ESG risks. Suppliers are classified into four categories—"Excellent," "Developing," "To be rectified," and "Non-compliant"—with corresponding management strategies. Suppliers have 15 days to initiate corrective measures for non-compliant issues and 1-3 months to complete them, subject to documentation review or on – site revisit. Failure to meet standards after two corrections or violation of the "Supplier Code of Conduct" leads to immediate contract termination.

Case

Green Procurement

BEWG actively implements and refines its green procurement strategy, prioritizing products and services with environmental certifications to encourage suppliers to upgrade greener and promote sustainable supply chain development.

Given the significant volume and expenditure of raw material procurement, BEWG has incorporated environmental considerations into its purchasing processes. In the procurement of water treatment chemicals, BEWG has increased the weight of "green factory" scores in supplier evaluations. It has established differentiated scoring criteria for national, provincial, and municipal green factory certifications, prioritizing suppliers that meet criteria such as factory intensification, harmless raw materials, clean production, waste resource utilisation, and low-carbon energy use. This approach guides water treatment chemical suppliers toward creating green factories and advancing green development across the value chain.

BEWG adheres to its core values of "Responsibility, Value, and Sharing", actively engages in environmental education and community services to support rural revitalisation and build a harmonious society. In 2024, the Group donated approximately RMB 837,000 to charity donation, managed by the *BEWG Group External Donation Management System* to ensure compliance with donation principles, role definitions, and approval processes.



Ongoing Environmental Education

BEWG combines its business with social responsibility by conducting educational activities related to water resources, environmental protection, and biodiversity. We have established science centres across the country, trained professional tour guides, designed diverse environmental education courses, and opened environmental facilities to the public to raise awareness about water treatment and ecological protection.

Case BEWG Water Science Popularisation Activities in Schools

In 2024, BEWG conducted science popularisation activities in primary and secondary schools across Shanxi Taiyuan, Ningxia Yinchuan, Guangdong Shenzhen, Hebei Xingtai, and Guangxi Guigang. These activities were held in water supply plants, sewage treatment plants, or water environmental education centres, allowing students to observe the transformation of water and understand the importance of water resources. Through these interactive sessions, BEWG aimed to deepen students' awareness of water conservation and cultivate ecological awareness among young people.



Water Science Popularisation Activities in Eastern China

Case

BEWG Yinchuan No.1 Reclaimed Water Treatment Plant Selected as Top 10 Environmental Public Facilities

On June 5, 2024, the national main venue activity for Environment Day, themed "Comprehensively Promoting the Building of a Beautiful China," was held in Nanning, Guangxi. At the event, BEWG's Yinchuan No.1 Reclaimed Water Treatment Plant was honored with the title of "Top 10 Environmental Public Facilities" for 2024 by the Ministry of Ecology and Environment and the Central Social Work Department.

The Yinchuan No.1 Reclaimed Water Treatment Plant, the largest semi-underground reclaimed water plant in Northwest China, integrates wastewater treatment, water reuse, a water technology exhibition, and a water culture heritage and education base. By the end of 2024, it had conducted over 30 educational activities and received more than 1,000 visitors.



Pupils in Yinchuan visits the No.1 Reclaim Water Plant

Contributing to the Community

BEWG emphasises positive interaction with local communities. In 2024, it carried out donation and volunteer activities both domestically and overseas, sponsored numerous events, enhanced corporate influence, and contributed to harmonious community building.

Deeply aware of its social responsibilities, BEWG actively supports public welfare and improves people's livelihoods, demonstrating its commitment as a state-owned enterprise.

Case BEWG Supported Activities in Portugal Communities

In Valongo, Portugal, BEWG actively supported and participated in community activities, demonstrating its strong sense of social responsibility. We supported the traditional Biscuit Festival by donating to enrich the event and promote the local biscuit culture. In poverty alleviation efforts, BEWG donated to improve living conditions for impoverished households and children, sponsoring their education, and lay the groundwork for their future. We also supported mini-marathon events by donating to enhance organisation and publicity, encouraging residents to participate in healthy activities and strengthening community cohesion. In 2024, BEWG donated EUR 10,450 to the Valongo municipal government, showing its active support for community development under different cultural backgrounds and promoting local social harmony.



BEWG Supported Portugal Local Bread Activities

Case Contributing Education across Different Operation Sites

In 2024, BEWG carried out poverty-alleviation and education-support activities in multiple locations across China, investing in education to improve local community educational conditions and fulfill the social responsibilities. For example, the Gong County BEWG Water Supply Co., Ltd. donated 12,000 yuan to the Gong County Charity Federation to help local vulnerable groups. BEWG Yongzhou Water Innovation Investment Co., Ltd. and BEWG Yongzhou Water Purification Co., Ltd. each donated 250,000 yuan to the Yongzhou Education Foundation to sponsor underprivileged students and promote educational equity.

Case BEWG Kai Fat Company Supports CN-HK Cultural Exchange

In 2024, BEWG Kai Fat Company collaborated with local charities to lead 100 Hong Kong students and teachers to Beihai and Nanning for exchanges, enhancing their understanding of mainland development and water conservation. It also sponsored the 15th Asian Dragon Boat Championships, promoting dragon boat culture and traditions.



Hong Kong students visited Guangxi



Hong Kong Capital Faith Sponsored Dragon Boat Match

Empowering Rural Vitalisation

BEWG actively fulfills its state-owned enterprise responsibilities by supporting the rural revitalisation strategy. In 2024, it spent over 460,000 yuan to purchase agricultural products from Inner Mongolia, Shanxi, and Xinjiang, boosting local rural economic development. It also carried out tree-planting and facility-maintenance activities in Yixing, Jiangsu, and Chongming, Shanghai, to enhance the local ecology and living environment.

Case Supporting Village Water Environment Optimisation

In July 2024, BEWG's Chongming branch in Shanghai managed and maintained 40 sewage treatment stations, main and branch pipelines, and household facilities in five villages, including Minsheng Village in Hengsha Township. The local wastewater treatment facilities serve 2,455 farm households. After upgrades, the treated water quality meets Shanghai's "Grade 1A" standard, improving the village's water environment.



Tree Planting Activity in Jiangsu Yixing Wangpogiao Pump Station



Shanghai Chongming village domestic sewage treatment facilities maintenance and management project

05

Sustainable Climate Action: Paving the Way for a Green Ecological Development Path (Ecosystem)

BEWG actively responds to the national "dual carbon" strategic goals, firmly establishing and practicing the concept that "lucid waters and lush mountains are invaluable assets." We integrate green and sustainable development into every aspect of our management and business development. The Group actively addresses climate change, focuses on the environmental impact of its operations, continuously strengthens biodiversity protection, and drives the transformation and upgrading of the environmental protection industry through low-carbon technological innovation. This has gradually transformed the original "municipal infrastructure" into a safer, cleaner, and greener safeguard in the realm of daily life, becoming a clean element in the new quality productivity.

- ◆ Total greenhouse gas (GHG) emissions decreased by **6%** year on year
- ◆ Comprehensive energy consumption decreased by **1%** year on year
- ◆ Annual renewable energy consumption reached **73,300** MWh, up **4%** year-on-year
- ◆ Three of the Group' s water plants were honoured as the **"Green and Low-Carbon Benchmark Wastewater Treatment Plants"** by national ministries and commissions
- ◆ We promoted carbon reduction in the industry by organising an online forum themed by "Low Carbon and Water Resources", with more than **40,000** participants

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Climate change is a common challenge faced by all of humanity. BEWG has deeply recognizes the complex challenges and valuable opportunities presented by climate change, striving to achieve harmonious coexistence between the enterprise and the environment. We refer to the International Financial Reporting Standard for Sustainability Disclosures Standard No. 2 – Climate-related Disclosures (IFRS S2) issued by the International Sustainability Standards Board (ISSB) and the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) to continuously enhance our ability to identify and manage climate-related risks and opportunities, and to improve information disclosure. Meanwhile, we continuously enhance the Group's capacity to respond to climate change, leveraging a more robust climate governance system, more comprehensive climate strategies, more sophisticated climate risk management, and more ambitious climate goals, to drive the industry's low-carbon transformation and upgrading, and contribute to the national "dual carbon" strategic goals.

Climate Governance

BEWG places great emphasis on climate change governance. We integrate climate change-related matters into our sustainability governance system, comprising "the Board-Sustainability Committee-ESG Working Group-Functional Departments and Subordinate Units". The Board is responsible for identifying and determining material climate-related issues, proposing suggestions for climate-related goals, policies, and structures, and continuously enhancing the effectiveness of climate governance. The Board reviews progress on climate-related matters reported by management once a year. For more details, please refer to Chapter 01-ESG Governance.

The Group prioritizes the capacity building of the Board and management in the field of climate-related expertise. When establishing the Sustainability Committee and the ESG Working Group, members with relevant professional knowledge backgrounds are included. External experts are invited to conduct training sessions for the Board and management on climate change-related topics, thereby ensuring they possess the necessary expertise to manage and oversee climate-related issues.

Climate Strategy

BEWG regularly identifies the latest impacts of climate change on the Group's operations and business, and fully considers a response strategy that aligns with its development strategy.

Scenario setting and critical assumptions

With the global transition to a low-carbon economy, BEWG conducted a special research programme on climate change based on different climate scenarios and policies of international organisations and national and local governments. Having selected RCP4.5, a representative concentration pathway developed by the Intergovernmental Panel on Climate Change (IPCC), as the climate analysis scenario of the Group, and made full use of several international authoritative databases including Aqueduct, with the recommendations by our own experts and independent experts and literature studies, we have identified several opportunities and physical climate risks that may have a financial impact on BEWG's business under this scenario.

Climate risks and opportunities

BEWG actively identifies, assesses and manages the possible climate change-related impacts, including material physical risks, transition risks and opportunities, on its global assets and business operations and takes a path of "proactive adaptation, flexible synergy" to adapt itself to and mitigate the impacts of climate change on business operations and sustainable development with effective measures. At the same time, BEWG attaches great importance to the impact of climate change on the development of the water industry and the community of human destiny. The working group of "X in Water" continues to carry out research on cutting-edge topics in the future industry, hoping to help the industry progress based on the pioneering, subversive and applied topics that the Group carried out, and address the effects of climate change.

Climate-related physical risks of BEWG

Risk categories	Risk impacts	Responses
Acute physical risks	 <p>Flood</p> <ul style="list-style-type: none"> •Significantly affecting the sources, quality and volume of water at water supply plants, and bringing pressure to the production capacity of water supply plants and sewage treatment plants; •Causing rise in the water level of the drainage pipeline network, and exerting pressure on the operation stability of the pipeline network; •Interrupting the production and operation of the water plants and increasing the maintenance cost. 	<ul style="list-style-type: none"> •Dynamically monitoring the pipeline network in real time, expanding the maximum discharge thresholding and improving the forced discharge response capacity of temporary pumps; •Developing and applying water treatment technologies with strong anti-shock loading capability, adopting the technology that can achieve overload operation for brown field projects, and formulating emergency plans; •Establishing the plant-pipe network linkage and forced drainage response mechanism; •Formulating monitoring and response systems for abnormal water quality during flood season; •Timely adjusting the production process and allocating water sources based on water quality changes; •Formulating emergency plans for pipeline network repair and water supply to ensure the water use of residents; •Establishing a sound full-time (part-time) emergency rescue team, and strengthening emergency drills.
	 <p>Extremely cold weather</p> <ul style="list-style-type: none"> •Causing the rupture of some water distribution pipes, water metres and sewage pipes; •Reducing the efficiency of the water treatment system and increasing the operating cost. 	<ul style="list-style-type: none"> •Adopting more insulation measures or designs for outdoor facilities (pipeline networks, water metres, backflow tanks, etc.); •Adding insulation measures to the projects in the operation period; •Developing water treatment process in cold regions and improving the water purification efficiency under low-temperature conditions.
	 <p>Extreme precipitation</p> <ul style="list-style-type: none"> •Prone to affecting the quality and quantity of incoming water, and disrupting the production and operation of the water plants; •Increasing the risks of non-compliance with relevant standards in terms of water environment operation and maintenance; •Prone to causing regional waterlog disasters, thus leading to the overload of the drainage system and damage to fixed assets; •Prone to increasing the flooding risk of water distribution facilities in low-lying areas. 	<ul style="list-style-type: none"> •Applying treatment technologies with stronger processing load to new sewage treatment facilities; •Developing emergency plans for the overload operation of existing sewage treatment facilities; •Formulating emergency plans for the prevention and control of outlet overflow pollution for water environment operation and maintenance projects, and strengthening research on CSO treatment technology; •Dynamically adjusting the pipeline network mode to improve drainage capacity, and developing the forced discharge response plans for temporary pumps; •Establishing the plant-pipe network linkage and forced drainage response mechanism; •Formulating emergency plans for drainage and rescue, enhancing personnel training and drills, and formulating contingency water supply plans to ensure water use of residents; •Inspecting the sewage pipeline network; establishing an effective management system to identify potential hazards, inspect and repair buried pipes, and formulate emergency supply plans to ensure residential water supply; •Guaranteeing contingency supply during disasters, enhancing targeted R&D efforts, such as R&D of water supply equipment with ceramic membrane.
Chronic physical risks	 <p>Drought</p> <ul style="list-style-type: none"> •Reduced water resource storage has led to declining river water levels, even drying up and interrupted flow, resulting in a shortage of drinking water; •Intensifying land desertification, and deteriorating ecological environment. 	<ul style="list-style-type: none"> •Developing alternative water sources for business, such as reclaimed water and desalinated seawater, to relieve water shortage; •Developing and applying intelligent whole-process control of sewage treatment, leveraging the smart water of BEWG to offset the rising cost caused by the increase in water concentration, promoting external light-asset services, and expanding new business; •Strengthening production management of water plants, and reducing the self-use water ratio and leak rate; •Researching and developing the enhanced removal technologies for emerging contaminants;
	 <p>Deterioration in water quality</p> <ul style="list-style-type: none"> •Increased concentration of contaminants in water bodies intensifies the difficulty of water treatment; •Emerging micropollutants (such as endocrine disruptors, medicines, and personal care products) accumulate in water bodies, increasing water ecological security risks and affecting water supply quality. 	<ul style="list-style-type: none"> •Increasing the frequency of water quality monitoring, with a focus on potential water quality deterioration caused by lower water levels; •Formulating water source scheduling plans and drought emergency plans, and coordinating with the government to ensure water use of residents through water resource allocation, time-based water supply, and other measures during the drought.
	 <p>Rising sea level</p> <ul style="list-style-type: none"> •Causing the write-off and early retirement of existing assets, particularly the asset value of facilities located in high-risk coastal areas; •The deterioration of groundwater aquifers in coastal areas results in saltwater intrusion, thus affecting the service life of equipment and facilities; •The tidal effects affect river water quality, increasing the operating cost of environmental projects. 	<ul style="list-style-type: none"> •Strengthening the control of investment risk and making timely adjustments to investment strategies in areas with foreseeable sea level rise; •Researching and applying preventive maintenance technologies for equipment and facilities, conducting the regional intensive management of equipment and facilities, reducing marginal cost, and offsetting the impact of saltwater intrusion; •Protecting the water source ecology, making full use of river and lake ecosystems, and building a resilient water purification system.

Climate-related transition risks of BEWG

Climate-related opportunities of BEWG

Climate Change

Transition risks	Risk categories	Risk impacts	Responses
Policy and regulatory risks	Changes in energy policies	<ul style="list-style-type: none">•In response to the national policy of increasing the proportion of clean energy and non-fossil energy, BEWG needs to purchase and apply on-site, e.g., roof-top, solar photovoltaic (PV) power generation facilities in the plants, resulting in additional operating costs.	<ul style="list-style-type: none">•Promoting technological innovation and improving solar PV utilisation efficiency;•Making good use of favourable support from national clean energy policies.
	Tightening of carbon emission policies	<ul style="list-style-type: none">•The government is highly likely to impose carbon tax and expand the coverage of industries that adopt carbon emission quota, affecting the cost of BEWG;•If the requirements of carbon trading and carbon tax become increasingly stricter, BEWG may face punishments for inadequate completion and cooperation, which may damage brand reputation.	<ul style="list-style-type: none">•Formulating carbon emission reduction targets;•Strictly managing the approval of new projects and energy consumption indicators.
Technical risks	Upgrade and maintenance of the pipeline network	<ul style="list-style-type: none">•Reducing the leak rate of the pipeline network is particularly important in areas lacking water resources. More technical manpower, material resources, and financial resources should be devoted to refined pipeline network management and smart pipeline network construction.	<ul style="list-style-type: none">•Developing and applying technology for rapid pipeline network leak detection, rapid repair, and pipeline network leak control;•Maintaining and upgrading the pipeline network, replacing the old pipeline network, and ensuring the quality of new pipeline networks;•Strengthening pipeline network inspection and emergency repair and maintenance management.
	GHG capture, collection and monitoring technology	<ul style="list-style-type: none">•As the government and the water sector strengthen control over GHG management, BEWG will face stricter requirements for GHG capture, collection, and monitoring.	<ul style="list-style-type: none">•Upgrading technology to reduce greenhouse gas emissions;•Promoting research on the technology of recovering GHG from the water treatment process.
	Improved resilience of sewage treatment system	<ul style="list-style-type: none">•The significant variation of the coefficients regarding water quantity and quality between the rainy season and the dry season has a great impact on the existing sewage treatment system, which makes it necessary to develop a treatment system with high tolerance, flexibility, and controllability.	<ul style="list-style-type: none">•Developing a treatment system with high tolerance, flexibility, and controllability;•Monitoring the working conditions of the sewage treatment system in real time, and swiftly take responsive measures and making an adjustment if being affected;•Improving the impact resistance of the sewage system.
Market risks	Growing awareness of green consumption among users	<ul style="list-style-type: none">•With the increasing emphasis on green consumption across all sectors, water companies are facing more direct green transition and low-carbon demands from consumers.	<ul style="list-style-type: none">•Accelerating green transition;•Developing and promoting more environment-friendly green products and services.

Transition opportunities	Opportunity categories	Opportunity description	Responses
Policy and legal opportunities	Innovation of mainstream technologies	<ul style="list-style-type: none">•Enhancing the Company's energy efficiency through technological innovation in processes, reducing energy consumption, lowering operating cost, and actively responding to policy and market demands.	<ul style="list-style-type: none">•Increasing investment in the R&D of new low-carbon technologies in the fields of energy conservation and consumption reduction, energy self-sufficiency, and resource regeneration, as well as technological renovation in operational energy conservation, actively seeking and applying alternative technologies of clean energy, responding to energy policy requirements, and improving the competitiveness of BEWG.
	Development of rural water services	<ul style="list-style-type: none">•The government continuously promotes the improvement of rural sewage treatment standards, policies, and regulations, and emphasises the improvement of the rural living environment, including sewage treatment. This brings more business opportunities and markets for BEWG, bolstered the Group's business revenue, and enhances its reputation and image.	<ul style="list-style-type: none">•Actively responding to national standards and policies, leveraging our leading water treatment technologies, advancing technological innovation, solving the difficulties of rural sewage treatment, and building more high-quality rural water treatment facilities.
Technical opportunities	Improvement of operational efficiency through smart water	<ul style="list-style-type: none">•The smart urban water system represents the megatrend of the water industry, and its effective use can reduce operating cost and improve revenue and industry competitiveness.	<ul style="list-style-type: none">•Effectively improving the efficiency of water treatment and water resource utilisation by capitalising on the strengths of smart water technology and extensive operational experience, and reducing the consumption of energy and chemical agents during operations.
	Development and use of new energy (solar PV, sewage source heat pump, biogas power generation, and sludge recycling)	<ul style="list-style-type: none">•The national policy vigorously supports the development and use of new energy. By actively deploying and utilising new energy, the Group can not only reduce the cost of low-carbon transition but also expand low-carbon business opportunities, develop diverse market types, and increase the revenue.	<ul style="list-style-type: none">•Making deployment in two directions of clean power (solar PV) and clean heating (sewage source heat pump) in advance, and actively conducting the innovation research on related technologies;•Diversifying low-carbon business opportunities and business types, and boosting synergies among sectors. For example, water plants supply or recharge water resources after treatment for domestic, industrial, ecological and agricultural use, and can provide excess electricity or heat generated by clean energy to the surrounding domestic or industrial facilities.
	Resilient sewage treatment systems	<ul style="list-style-type: none">•Enhancing the climate resilience of business units through technology R&D, thereby improving operational flexibility and reliability.	<ul style="list-style-type: none">•Developing and applying new technologies with a strong anti-impact load ability to effectively mitigate climate risks, reduce operating cost, and ensure stable operations.
Market opportunities	Green financing	<ul style="list-style-type: none">•With the growing maturity of the green bond issuance market, the advantages of green financing are increasingly prominent, providing new channels for corporate financing.	<ul style="list-style-type: none">•Through green financing, the Group has effectively increased the amount of financing and alleviated financing difficulties.
	Growing awareness of green consumption among users	<ul style="list-style-type: none">•In the context of the "3060 Dual Carbon goals", the government has put forward stricter requirements for energy conservation and emission reduction in the water industry, and consumers show a growing preference for green and low-carbon products. Should the Group acts swiftly to meet this demand, we will be better adept at seizing market opportunities.	<ul style="list-style-type: none">•By carrying out emission reduction throughout the life cycle and applying more eco-friendly technologies, we meet the green transition and low carbon requirements of more consumers/customers.

Climate change brings both risks and opportunities to businesses. BEWG has not only identified and responded to the climate change risks mentioned above but also has paid close attention to climate change-related transition opportunities, and strived to integrate these opportunities into daily operations and strategies.

We keep researching and updating approaches to addressing climate change, integrating the identification and management of climate-related risks and opportunities into our corporate operations. By doing so, we strive to reduce the impact of climate change on our business. In the future, BEWG will continue to improve the environmental management and supervision mechanisms, explore opportunities for business development and product innovation brought about by climate change, and further improve policies and measures to address climate change. For more details on our response measures and plans for climate change risks and opportunities, please refer to Climate Targets and Metrics, Low-Carbon Management, Environmental Impact Management of this Chapter, and Chapter 02-High-Quality Water Supply, High-quality Sewage Treatment.

Climate Risk Management

We have integrated best industry practices in line with the framework recommendations of IFRS-S2. Based on predictions from authoritative institutions regarding the natural environment and economic and social changes under different warming scenarios, we have systematically identified the climate-related risks and opportunities we face. We have also prioritised these risks and opportunities through discussions with the person responsible for risk management.

To improve the efficiency of climate risk management, the Group has integrated the climate risk management process into its existing risk management process. Guided by the principle of comprehensive risk management, we have clarified the risk control processes, including risk identification, risk assessment and risk handling. This enables us to assess and manage climate change risks in an efficient, systematic and standardised manner, ensuring that the identified climate risks are within a controllable range.

Climate Targets and Metrics

In active response to the "3060" dual carbon goals, BEWG adheres to the development philosophy of "prioritising environmental protection, reducing carbon emissions and improving efficiency". We have set carbon emission targets, continuously explored our potential for carbon reduction, and actively laid out clean production and green and low-carbon business models. Through these efforts, we strive to lead the green and low-carbon development of the water industry.

Energy consumption of BEWG in 2022-2024

Indicator	Unit	2024	2023	2022
Water business in the Chinese mainland				
Non-renewable energy consumption	kWh	1,881,439,864	1,900,571,731	1,763,557,170
Renewable energy consumption	kWh	37,785,199	31,385,096	28,900,222
Gasoline consumption	tonne	1,013	1,016	653
Diesel consumption	tonne	364	483	401
Natural gas consumption	m³	355,550	387,244	164,348
Purchased steam for heating	GJ	312	203	482
LPG consumption	tonne	51	66	73
Overseas water business				
Non-renewable energy consumption	kWh	156,618,309	146,966,730	127,413,922
Renewable energy consumption	kWh	2,363,422	2,124,851	/
Gasoline consumption	tonne	13	15	14
Diesel consumption	tonne	681	640	601
LPG consumption	tonne	/	/	0.48

Indicator	Unit	2024	2023	2022
Solid waste business				
Non-renewable energy consumption	kWh	17,499,857	20,216,999	19,324,147
Renewable energy consumption	kWh	33,163,165	36,969,979	22,617,494
Gasoline consumption	tonne	9	10	10
Diesel consumption	tonne	263	510	620
Natural gas consumption	m³	1,862,425	1,599,575	1,172,065
LPG consumption	tonne	1	1.48	0.88
Office building				
Non-renewable energy consumption	kWh	4,355,280	5,730,888	5,582,805
Gasoline consumption	tonne	463	365	260
Diesel consumption	tonne	29	25	16
Natural gas consumption	m³	26,291	29,461	12,998
Purchased steam for heating	GJ	3,390	3,578	3,605
LPG consumption	tonne	11	5.51	4.95
Total				
Comprehensive energy consumption	tce	260,475	262,249	241,299
Comprehensive energy consumption density	tce/10,000 RMB	0.107	0.107	0.112

Notes:

1. Comprehensive energy consumption is calculated according to the *General Principles for Calculation of the Comprehensive Energy Consumption* (GB/T 2589-2020) by covering the consumption of gasoline, diesel, natural gas, electricity and purchased heat.

2. In 2024, the statistical scope of the data in the Report changed, we sort out the indicator scope, and some data of previous year is retroactively adjusted.



Climate Change



GHG emissions of BEWG in 2022-2024

Indicator	Unit	2024	2023	2022
Water business in the Chinese mainland				
GHG emissions-Scope 1	tCO ₂ e	5,147	5,641	3,821
GHG emissions-Scope 2	tCO ₂ e	1,009,615	1,083,918	1,005,809
Total GHG emissions	tCO ₂ e	1,014,762	1,089,559	1,009,630
Overseas water business				
GHG emissions-Scope 1	tCO ₂ e	2,183	2,056	1,936
GHG emissions-Scope 2	tCO ₂ e	90,991	88,199	82,445
Total GHG emissions	tCO ₂ e	93,175	90,255	84,381
Solid waste business				
GHG emissions-Scope 1	tCO ₂ e	4,883	5,098	4,517
GHG emissions-Scope 2	tCO ₂ e	9,390	11,530	11,021
Total GHG emissions	tCO ₂ e	14,273	16,627	15,538

Indicator	Unit	2024	2023	2022
Office building				
GHG emissions-Scope 1	tCO ₂ e	1,587	1,268	886
GHG emissions-Scope 2	tCO ₂ e	2,710	3,668	3,585
Total GHG emissions	tCO ₂ e	4,297	4,936	4,471
Total				
Total GHG emissions	tCO ₂ e	1,126,506	1,201,378	1,114,020
GHG emissions density	tCO ₂ e/10,000 RMB	0.46	0.49	0.52

Notes:

1. GHG emissions-Scope 1 are generated from stationary sources (diesel and natural gas) and fuel consumption (gasoline and diesel) from transport vehicles. The emission factors of natural gas, diesel and gasoline refer to the *Guidelines for Accounting Methods and Reporting of Greenhouse Gas Emissions from Enterprises in Other Industrial Sectors* issued by the National Development and Reform Commission on 6 July 2015.

2. GHG emissions-Scope 2 are generated from purchased electricity and purchased heat consumption. The emission factors of purchased electricity refer to the *Announcement of the Release of CO₂ Emission Factors from Electricity for 2022* issued by the Ministry of Ecology and Environment on 26 December 2024. The emission factors of purchased heat refer to the *Guidelines for Accounting Methods and Reporting of Greenhouse Gas Emissions from Enterprises in Other Industrial Sectors* issued by the National Development and Reform Commission on 6 July 2015.

3. In 2024, the statistical scope of the data in the Report changed, we sort out the indicator scope, and some data of previous year is retroactively adjusted.

Amidst the global climate change challenge and the strategic call of the national dual carbon goals, achieving low-carbon development has emerged as a common responsibility and an inevitable choice for all industries. BEWG has thoroughly embedded low-carbon management into its entire business framework. By taking effective measures in low-carbon operation, low-carbon technologies, low-carbon construction, low-carbon offices, and low-carbon collaboration, BEWG actively advances energy conservation and consumption reduction, steadfastly fulfilling its corporate mission of green and low-carbon development.

In 2024, three of the Group's water plants were honoured as the "Green and Low-Carbon Benchmark Wastewater Treatment Plants" by national ministries and commissions. Looking ahead, we will continue to increase investment in R&D, driving the adoption and promotion of advanced low-carbon technologies and products throughout the water industry. Through these efforts, we aim to establish more green and low-carbon benchmark water plants.

Low-Carbon Operation

BEWG strictly adheres to relevant laws and regulations. In line with our business characteristics, we have formulated internal management policies such as the *Measures for Low-Carbon Operation Management of Operating Projects*, and the *Enterprise Action Plan for Achieving Dual Carbon Goals*. Additionally, we adopt a lean energy management model to enhance the Group's overall energy management. The Group actively implements energy-saving, efficiency-enhancing and energy recovery measures in its production and operations, and continuously explores application scenarios for renewable energy to reduce energy consumption and GHG emissions.

Energy Management

The Group adopts the lean energy management model to meticulously manage the energy consumption in its production and operations, thereby maximising energy efficiency across all processes. We set energy consumption control targets for the current year based on the actual energy consumption of the previous year, and conduct monthly tracking during operations. For any abnormal energy consumption data detected, we will collaborate with relevant personnel to analyse the root causes. Based on expert recommendations, we will implement corrective measures to further improving energy efficiency. The Group has established a system and equipment evaluation model. We evaluate equipment energy efficiency according to relevant standards, and identify energy-inefficient equipment. Energy-efficient equipment operation has been achieved through multiple paths, such as optimising equipment operation methods, precisely controlling processes, selecting high-efficiency equipment, and adjusting the power supply frequency of motors. In addition, we continue energy-saving upgrading of energy-intensive equipment like submersible centrifugal pumps, submersible mixers, and aeration blowers. By the end of 2024, a total of RMB 20.67 million had been invested in technological renovation projects for energy conservation, with an annual electricity savings of RMB 9.41 million and an annual reduction of 14,930 MWh in electricity consumption.

By fully integrating intelligent operation with green and low-carbon operation, we have developed online process control tools, transforming the most advanced process control methods into platform-based application tools to improve the stability and reliability of the system and promote energy conservation in production. For example, water supply pipeline networks utilise intelligent control and adopt a constant pressure operation mode of water supply network instead of the traditional factory constant pressure operation mode. This change ensures the efficient and stable operation of the water supply system while reducing resource waste.



Case Yuxi City's Benchmark Plant for Efficient Pollution Reduction and Energy Conservation

Yuxi City Sewage Treatment Plant is a semi-underground facility with a daily operational capacity of 100,000 tonnes. Its effluent discharge standard meets the Grade A standard specified in the *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant* (GB18918-2022). A portion of the treated water is reused as reclaimed water, while the remainder is discharged into the Yuxi River for ecological water supplement. This approach significantly reduces the pollutants entering the river. During its operation, the plant implements energy-saving technological upgrades for high-efficiency equipment such as water pumps, fans, and mixers, and employs refined operational process control. This approach achieves zero carbon source addition, effectively reducing power and drug consumption. Additionally, the utilisation of reclaimed water significantly reduces the use of fresh water. A solar PV power generation system will also be built within the plant to improve its clean energy self-sufficiency rate and further cut carbon emissions from its operations.



Renewable Energy Substitution

BEWG is actively seeking opportunities to replace traditional energy sources with renewable energy and low-emission fuels. We make full use of the roofs of the water plants by installing distributed solar PV power generation devices to provide clean power for them. By the end of 2024, the Group had 50 water plants using solar PV power generation.

Case Kai Fat Harbour Cleaning Services Limited Solar-powered Vessels

This year, Kai Fat Harbour Cleaning Services Limited ("Kai Fat") in Hong Kong installed distributed solar PV power generation devices on all refuse removal and oil pollution cleanup vessels. After retrofitting, solar power can replace part of diesel, reducing fuel consumption while lowering the vessel's operating cost. In parallel, the PV panels can effectively reduce the solar radiation heat entering the cabin, thus decreasing the air-conditioning cooling load and energy consumption. In addition, Kai Fat collaborates with shipyards in the Chinese mainland to produce electric-powered clean vessels. This year, three vessels were officially completed and are scheduled for testing in Hong Kong waters in early 2025. This initiative steers the maritime industry toward a more sustainable and eco-friendly future.



Energy Recovery

We continue to advance energy recovery technologies such as water source heat pumps and anaerobic digestion to enhance energy reuse. In sewage treatment projects, the water source heat pumps recycle the heat energy generated from sewage treatment to provide cooling and heating for office buildings, production areas and residential areas in the plants. In sludge treatment projects, we leverage biogas generated through anaerobic digestion to power our production processes. The biogas residue, after deep dehydration, is used as nutrient soil. This method achieves both the harmless treatment and resource utilisation of the sludge. Moreover, we actively engage in research on topics such as temperature changes along the sewage source heat pumps to advance the energy recovery technologies.

Case "New Energy Island" Series Products

Harnessing its extensive water treatment capabilities and wide distribution of water plants, the Group taps into the energy potential of wastewater and reclaimed water. We have developed an integrated energy station based on water source heat pumps, achieving that energy efficiency of the heat pump system exceeds the national Level 1 standard. In addition, the energy station is equipped with an intelligent energy management system that fully exploits the potential of clean energy supply. This approach creates sustainable operating income and also enhances carbon emission reduction and environmental protection benefits.



Case Sewage Source Heat Pump Technology of West Sewage Treatment Plant in Haigang District, Qinhuangdao

Leveraging the sewage source heat pump technology, West Sewage Treatment Plant in Haigang District, Qinhuangdao achieves an annual heating output of 327 MWh and cooling output of 29 MWh by using its raw sewage or reclaimed water/secondary effluent as the heat source. This approach results in a reduction of carbon emissions by 241.23 tonnes.



Case Graded/Phased Anaerobic Digestion Process of Beidaihe New Area Sludge Treatment Plant

Beidaihe New Area Sludge Treatment Plant adopts the graded/phased anaerobic digestion process. The biogas residue, after deep dehydration, is used as nutrient soil for landscaping, agricultural use and soil improvement. After purification, part of the biogas is used for preheating the raw sludge in the pre-treatment process, and the remainder can be used as vehicle gas, thus realising the "reduction, stabilisation, harmless disposal" and "recycling" of sludge.



Low-Carbon Technologies

Over the years, leveraging its extensive experience in the field of sewage treatment, the Group has continuously increased investment in R&D of low-carbon processes and control technologies. As a result, we have successfully developed a series of new low-carbon technological products, significantly improved the efficiency of sewage treatment and effectively reducing energy consumption and operating costs.

Low-carbon Process Technology

BEAOA

BEAOA technology has such advantages as efficient nitrogen removal, energy saving and consumption reduction. Compared with traditional technologies, the BEAOA technology can achieve a reduction of over 30% in excess sludge and reduce energy consumption of aeration⁴⁴ units by over 20%. The technology has been certified by the Environmental Development Center of the Ministry of Ecology and Environment with a certificate of eco-environmental technology assessment, and has been authorised a total of 30 patents. This year, the Group has implemented 3 sewage plant expansion projects in Henan Province, helping to improve the water ecological environment of the Yellow River Basin and maintain the balance of the water ecosystem by implementing the BEAOA technology.



⁴⁴Aeration is a water treatment technology that involves forcibly introducing air or other gases into water to increase the contact surface area between water and air, thereby enhancing the concentration of dissolved oxygen in the water. In wastewater treatment, aeration is primarily employed in aerobic biological treatment processes to provide sufficient oxygen for microorganisms, facilitating the oxidative decomposition of organic substances.

Low-Carbon Management

BESWIFT

BESWIFT Technology is a new technological product independently developed by BEWG based on the characteristics of low-carbon-to-nitrogen ratio sewage in China and based on granular sludge technology. BESWIFT has excellent sludge settling performance. While achieving high-standard removal of COD, ammonia nitrogen, total nitrogen and total phosphorus in sewage, it can reduce energy consumption by more than 20%, reduce the land occupation of projects by 50%, shorten the construction period by 2/3 and save investment by more than 20%. BESWIFT can be quickly applied in scenarios such as decentralized sewage, small and medium-sized urban sewage, industrial point source sewage and sewage in key villages and towns. Moreover, it provides various modes such as prefabricated and mobile ones according to different needs, aiming to provide new efficient and energy-saving technologies for new construction or reconstruction and expansion projects. While achieving high-quality development, it promotes environmentally sustainable development. Till now, BESWIFT has obtained a total of 6 authorised patents, and many operating projects have achieved good results:

- 💧 A 1,000-tonne-level prefabricated project has been in stable operation for four years in Jinan, Shandong;
- 💧 A 10,000-tonne-level renovation project has been in stable operation for more than two years in Foshan, Guangdong;
- 💧 A mobile device has been in stable operation for more than one year at the industrial parks in Chifeng, Inner Mongolia;
- 💧 New projects are carried out in a number of places, such as Qingdao, Shandong and Enping, Guangdong.

Anaerobic Ammonium Oxidation (ANAMMOX)

The ANAMMOX technology is a green and low-carbon technological process developed for kitchen wastewater and landfill leachate, featuring efficient removal of organic matter and nitrogen, as well as energy conservation and consumption reduction. Compared with traditional technology, the operating costs and carbon emissions of the ANAMMOX technology can be reduced by up to 80%.

Low-carbon Control Technology

BE-EMR⁴⁵

BE-EMR significantly saves operating electricity and chemical agent consumption through the intelligent control of key process parameters such as water, sludge, gas and chemicals. It can reduce electricity consumption by 10-20% and chemical agent consumption by 20%-90%, while improving the quality of treated water. By the end of 2024, this technology has been promoted and applied in 46 projects, supporting a water treatment capacity of over 4.2 million tonnes/day.

BELEBC⁴⁶

BELEBC is a biochemical system automation solution developed based on operational thinking. It combines mathematical models with biochemical mechanism models to enhance system stability, ensuring the stable operation of water plants under low-carbon conditions. Meanwhile, it can effectively reduce energy consumption by approximately 10% and chemical agent consumption by around 20%. In 2024, the BELEBC system has been applied in engineering projects in Liaoning, Shandong, Shanxi and other regions, cumulatively reducing energy consumption by 245,000 MWh and chemical reagent consumption by 1,200 tonnes. In the future, this technology will be further promoted and applied in more projects, facilitating the low-carbon and intelligent development of the ecological and environmental protection industry.

⁴⁵BE-EMR (Engineering Management Robot, EMR), i.e., BEWG's Engineering Management Robot.

⁴⁶BELEBC refers to BEWG's low-carbon and efficient biochemical control system.

Low-Carbon Construction

BEWG values low-carbon construction and makes continuous efforts in R&D to improve construction technology and project application, so as to reduce carbon emissions during construction. We have defined requirements on project energy consumption and material consumption during the construction phase in the *Interim Administrative Measures for Engineering Products Appraisal of BEWG*, guiding the optimisation of process design and equipment selection during the construction phase with low-carbon operation standards during the operation period.

Case Fenghe Wetland Park Project

BEWG selected high-efficiency equipment and recyclable raw materials during the project design and raw material procurement stages, enhancing the sustainability and environmental friendliness of the project from the beginning. During the construction phase, we carried out centralized processing of on-site materials, effectively reducing energy consumption and waste generation caused by dispersed on-site work. At the same time, intelligent dewatering technology and solar lighting systems were adopted to further reduce resource consumption. This project integrates environmental governance with urban park construction. While addressing the issue of the explosive growth of sewage volume in the surrounding area, it creates a diversified, public-friendly and ecological comprehensive park.

Case Well-point Reaction Tank

The well-point reaction tanks adopt the equipment-oriented and installation-oriented design concept. The core devices are designed as bolted tanks and skid-mounted equipment, which are prefabricated in the factory and assembled on site. Compared with the concrete-steel structure pool body, the construction period of this product is reduced by more than 60%, and the carbon emissions in the project construction site are reduced by 30% year-on-year.



Low-Carbon Offices

In 2024, the Group updated daily office-related systems such as the *Measures for Regulating the Use of Meeting Rooms and Video Conferences* and the *Notice on Further Strengthening the Standardized Management of Business Trips* and systematically promoted the concept of low-carbon office from multiple dimensions including energy conservation, water saving and material saving.

Low-Carbon Management

Energy conservation in the office

- **Use of new energy vehicles:** In 2024, two fuel-powered vehicles were replaced with new energy vehicles. It is estimated that this can reduce the annual gasoline consumption by 3,400 litres;
- **Update of equipment operation schedule:** Optimize the operating hours of equipment such as water heaters and bathroom water heaters without affecting normal office work, which can reduce the energy consumption of equipment operation. Turn off the power of one water heater on each floor during rest days to avoid the water heater being on standby for a long time;
- **Upgrading the control of air conditioning units:** The power control of certain air conditioners in the office building has been upgraded so that they are set to run for 12 hours per working day during the cooling season, 24 hours during the heating season, and shut down during the transition season, with an estimated electricity consumption reduction of 5,000 kWh in 2024;
- **Strengthening the management of lighting and air conditioning equipment:** Assign a dedicated person to inspect the lighting and air conditioning equipment after work. Install manual control panels for the lighting and air conditioning equipment in unoccupied office areas. Turn off the lighting and air conditioning equipment in meeting rooms promptly when they are not in use.
- **Formulation of environmental protection guidelines:** The guidelines require staff to minimise energy consumption in their daily activities, including switching power equipment off in time, using energy-efficient equipment, as well as designating staff to regularly inspect equipment usage.

Water saving in the office

- **Replacement of water-saving appliances:** Use water-saving appliances and faucets;
- **Enhancement of water-saving awareness:** Post water-saving signs in the office area;
- **Strengthening of inspection efforts:** Strengthen the daily inspection, repair and maintenance of water-using equipment such as faucets and water heaters to reduce waste phenomena such as running, leaking and dripping;
- **Recycling of water resources:** Recycle reclaimed water for flushing toilets;
- **Saving drinking water:** Do not provide bottled water for internal meetings.

Material saving in the office

- **Promoting paperless office:** We vigorously promote the use of intelligent office software, require work communication and meeting notification to be carried out through online office software, and advocate online meetings, to effectively reduced the use of office paper resources and mobile storage media;
- **Paperless human resource process:** Through the paperless contracts and the digital contracting of human resources, we have effectively saved paper resources and reduced carbon emissions;
- **Simplifying off-line meetings:** We recycle table cards and print less.

Low-Carbon Collaboration

The water industry is an energy-intensive industry, and the consumption of electricity and chemical agents directly or indirectly leads to a large amount of GHG emissions. BEWG will uphold the business philosophy of "customer orientation through innovation capability", focusing on ecological environmental protection and scientific and technological innovation. We will use new technologies, new models and new paradigms to promote the better development of the ecological and environmental protection industry, share new opportunities in the green economy, actively respond to climate change and contribute to the construction of a beautiful China.

The Group has established the "X in Water" Expert Group to comprehensively integrate the resources of science and technology, think tanks and platforms. In March 2024, the "X in Water" (Shenzhen) Summit Forum was held at the Tsinghua Shenzhen International Graduate School, and was simultaneously live-streamed on multiple online platforms. With the theme of "Low Carbon and Water Resources", this forum conducted in-depth discussions on the challenges of water resource management and water security guarantee faced by the Guangdong-Hong Kong-Macao Greater Bay Area in the "dual carbon" era. Experts present also delivered keynote reports on topics such as water resource management, GHG emissions from sewage systems, challenges in urban water systems and a roadmap for carbon neutrality in urban sewage, with a cumulative attendance of over 40,000 person-times.

In January 2025, we officially released the *"X in Water" Development Report-New Strategy of Seawater Desalination* and the *"X in Water" Development Report-Urban Sewage Carbon Neutrality Roadmap*. The former reported on the national water resource strategy matching the economic and social development goals in the new era, and the latter presented the world's first industry-level carbon neutrality roadmap proposed by a non-governmental organization, attracting the attention of more than one million people from different groups such as government departments, scientific research institutions and industry enterprises.



Case

EWG and 50 Other Enterprises Jointly Released the "Low-carbon Action Initiative of China's Environmental Enterprises"

To jointly seek low-carbon sustainable development, share new opportunities in the green economy and build a clean and beautiful world, at the 2024 Carbon Neutrality and Green Development Conference, the China Environment Chamber of Commerce, jointly with BEWG and 50 other enterprises, released the "Low-carbon Action Initiative of China's Environmental Enterprises". In five major aspects, namely, firmly adhering to the concept of low-carbon development, continuously carrying out low-carbon production and operation, intensifying innovation in green low-carbon circular technology products, jointly building a green low-carbon industrial chain and deepening international exchanges and cooperation, it called on environmental enterprises and industry colleagues to be participants and practitioners of green low-carbon development.

In this year, based on our professional and technical capabilities in the business field, the Group has actively participated in the compilation of national standards, local standards, industry standards and group standards. Through participation in standard formulation and writing, we have promoted the progress of the company's low-carbon technology and provided standardised guidance for the industry's low-carbon transformation.

- Participated in the compilation of *Requirements of the greenhouse gas emission accounting and reporting PartX: Domestic wastewater treatment enterprises*, promoting the construction of carbon emission accounting standards for sewage treatment plants at the national level.
- Participated in the compilation of *Guidelines for Emission Reduction and Green Low-Carbon Management in Urban Wastewater Treatment*, sorting out the technical options and development paths for carbon emissions from urban sewage treatment, aiming to promote the research on low-carbon technology for sewage treatment.
- Participated in the compilation of *Guidelines for Carbon Emission and Green Low-Carbon Management in Urban Wastewater Treatment*, promoting the construction of carbon emission assessment methods and standards for urban sewage.

Environment Impact management

BEWG has always adhered to the concept of sustainable development, attaching equal importance to economic benefits and environmental benefits, and striving to minimise the impact of its business activities on the environment. In view of the characteristics of different project types, we continuously focus on three major aspects: environmental system management, emission management and chemical agent management, and are committed to realising the modernization of environmental governance capabilities and governance systems.

Environmental System Management

BEWG strictly complies with environmental laws and regulations such as the *Environmental Protection Law of the People's Republic of China*, in accordance with the ISO 14001 standard for an environmental management system, and has developed internal environmental management systems including the *Environmental Index Assessment System*, the *Environmental Factor Identification, Evaluation and Control Procedures*, ensuring that the group can effectively identify and assess environmental risks during its operations and formulate targeted control measures to reduce the impact of production and operations on the environment. By the end of 2024, the Group and 19 projects had obtained certification for the ISO 14001 Environmental Management System.

The Group has set the environmental goals of "saving energy, reducing consumption, reducing pollution, and increasing efficiency". We carry out feasibility assessments and environmental impact assessments in parallel with new projects, and strictly control environmental risks throughout the life cycle of the projects.



This year



No major violations of environmental laws and regulations and significant environmental pollution accidents occurred within the Group.

Case


The Rotating Executive President of BEWG Attended the China Environmental Technology Conference




In April 2024, the China Environmental Technology Conference was held in Shanghai. With the theme of "Innovation, Transformation and Integration for Building a Beautiful China", the conference comprehensively and in-depth explored the future development of the ecological environment industry. Yu Liguang, the Rotating Executive President of BEWG, was invited to attend the conference. Yu said that on the premise of improving the quality and efficiency of the existing market, BEWG continuously seeks development breakthroughs in new kinetic energy conversion, new directions and new opportunities, such as scientific research and development, science and technology productization, and integration of industry and education. Currently, based on niche markets such as ecological water affairs, ecological environmental protection and green low-carbon, BEWG has achieved the light-asset transformation of the enterprise through a group of professional companies, led by science and technology, and has won secondary growth.

Emission Management

In strict accordance with the requirements of the *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste*, *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*, and the *Law of the People's Republic of China on Prevention and Control of Pollution from Environmental Noise*, the Group has formulated internal systems including *BEWG Management Manual on Quality, Environment, and Occupational Health and Safety* and the *Quality, Environment, and Occupational Health and Safety Procedure Documents*. This year, we continuously improve the management of emission-related risks and enhanced routine monitoring of major environmental pollution accidents.


Construction stage

BEWG requires contractors to attach great importance to the emission of environmental pollution such as wastewater, waste gas and noise during construction. During the project construction, with precise control methods, the Group minimises, to the greatest extent possible, the emissions of noise, dust, harmful gases and solid waste at the construction sites, and strictly identify, classify, monitor, control and dispose of the waste. In addition, we continuously improve the recycling rate of recyclable waste such as scrap metal and plastic foam materials, thereby reducing the amount of waste generated at the source.


Operation stage

Solid waste

- The solid waste discharged by the Group is mainly the sludge generated during operation, most of which is the sludge from municipal sewage treatment plants. The Group vigorously promotes sludge reduction, harmless disposal and recycling, reasonably reduces the scale of sludge landfill, and adopts innovative technologies including sludge carbonization and strong oxidation treatment for sludge to promote the utilisation of sludge and reduce the impact on the environment.

Wastewater

- Within the Group's plants, water pipes, rainwater pipes and process pipes and other pipelines operate independently to avoid mutual pollution; laboratory wastewater is treated in accordance with laboratory management standards; facilities and equipment are inspected and maintained regularly to avoid the overflow or discharge of sewage due to the mechanical failure, which may have an adverse impact on the surroundings.

Waste gas

- The Group equips new water plants with waste gas collection and treatment systems in areas such as primary sedimentation tanks, anaerobic tanks, thickening tanks, sludge holding tanks, sludge silos to prevent the overflow of foul odours. We have also supplemented supporting waste gas collection and treatment systems for water plants under operation.
- BEWG installs biological deodorization devices to treat the special gases generated by some production facilities during the operation of the water plants. We strictly inspect and maintain the deodorization systems, avoid operations in confined spaces and improve emission packages to prevent the odour from leaking out and affecting the staff and residents in surrounding areas

Noise

- The noise generated during the operation of the water plants mainly comes from the operation of mechanical equipment, vehicles for transport and maintenance and construction activities on site. BEWG makes every effort to minimise the noise pollution of the water plants by adopting low-noise machinery, installing sound insulation facilities, prohibiting the honking of vehicles in the plants and scheduling maintenance and construction properly, to minimise noise pollution from water plants.

Waste discharge of BEWG in 2022-2024

Indicator	Unit	2024	2023	2022
Water business in the Chinese mainland				
Hazardous solid waste	tonne	932	256	326
Non-hazardous solid waste	tonne	2,876,824	2,764,326	2,704,446
Overseas water business				
Non-hazardous solid waste	tonne	51,821	54,570	30,146
Office building				
Hazardous solid waste	tonne	3	2.32	2.41
Non-hazardous solid waste	tonne	195	142.61	128.02
Total				
Hazardous solid waste	tonne	935	259	328
Hazardous solid waste density	kg/10,000 RMB	0.39	0.11	0.15
Non-hazardous solid waste	tonne	2,928,840	2,819,039	2,734,720
Non-hazardous solid waste density	kg/10,000 RMB	1.21	1.15	1.27

Note:

1. The density of hazardous solid waste = hazardous solid waste/ the Group's operating income for the year.

2. The density of non-hazardous solid waste = non-hazardous solid waste/ the Group's operating income for the year.

Indicator	Unit	2024	2023	2022
Solid waste business				
Sulfur oxide emission	tonne	69	64	48
NOx emission	tonne	522	566	337
Smoke particles	tonne	10	22	7
Boiler residue discharge	tonne	122,743	154,131	87,156

Chemical Agent Management

Chemical agent management is critical for water plants to operate safely, compliance with standards, economically, and efficiently, and remains a crucial step for the low-carbon operation of water plants. In strict accordance with the *Environmental Protection Law of the People's Republic of China*, the *Water Pollution Prevention and Control Law of the People's Republic of China* and other relevant laws and regulations, BEWG has formulated internal management regulations, such as the *Production and Operation Management Measures* and the *Chemical Agent Management Measures*, continuously strengthening the source management of chemical agent use. Meanwhile, BEWG also set up a special working group responsible for reducing chemical agent consumption and implementing strict and precise control over the supply, use and emission of chemicals throughout the life cycle of projects.



This year, the Group organized multi-departmental on-site investigations of several manufacturers of composite carbon source chemicals. Through experiments, we comprehensively compared the performance of composite carbon source chemicals with that of traditional chemicals. Considering multiple dimensions such as production sources, performance, and costs, we selected the most suitable chemicals. Additionally, we hired international water experts to carry out a pilot project on "Optimising the Use of Dephosphorisation Agents" in the Taizhou region. Based on the pilot results, the experts conducted group-level training on the theme of "Optimising the Use and Reducing the Quantity of Dephosphorisation Agents," sharing pilot experiences to facilitate knowledge exchange and application, and to assist in upgrading the Group's chemical management capabilities and promoting sustainable development.

Consumption of chemical agents of BEWG in 2022-2024

Indicator	Unit	2024	2023	2022
Water business in the Chinese mainland				
Consumption of carbon source	tonne	29,727	29,037	27,518
Consumption of dephosphorisation agents	tonne	24,415	26,261	22,542

Note:

1. The usage of major pharmaceutical products covers sewage/reclaimed water plants operated by the Group's subsidiaries in the mainland region.

BEWG insists on the implementation of ecological protection throughout the life cycle of projects, conduct research and development of products and technologies that contribute to biodiversity conservation, and actively engage in biodiversity protection and ecological restoration efforts.

We actively respond to national initiatives such as the *China National Biodiversity Conservation Strategy and Action Plan (2011-2030)* and strictly adhere to regulations like the *Regulations on the Administration of Construction Project Environmental Protection*. Our internal management system, the *Biodiversity Protection Management Measures of BEWG⁴⁷*, is in place to continually enhance biodiversity-related governance system. Our overseas operational sites are also in strict compliance with local biodiversity conservation requirements, shaping the image of responsible Chinese company.

Biodiversity Conversation throughout the Life Cycle of Project



By the end of 2024, the Group had strictly implemented the guidance plans for ecological environmental protection and restoration in all its major operational regions, making positive contributions to the balance and sustainable development of local ecosystems.

Products and Technologies Related to Biodiversity Conversation

Leveraging the expertise in water pollution control and comprehensive environmental management, the Group focuses on green infrastructure construction and in-situ ecological restoration system. Through innovative wastewater technologies, we aim to foster an ecological community where humans and nature coexist harmoniously.



Green infrastructure

The Group develops and applies various green infrastructure products and technologies, represented by artificial wetlands. Combining wastewater treatment with ecological protection, we develop green and low-carbon wastewater treatment processes.



In-situ ecological restoration

The Group continuously promotes the industry-university-research cooperation, conducts research and development of in-situ water ecological restoration technologies, and furthermore applies them in engineering practices. At the same time, we establish aquatic biological ecosystems to rapidly restore riverine ecological stability, enhancing biodiversity protection and aesthetic value.

Case

Ecological Water Replenishment Project of Longfeng Wetland in Daqing City

Longfeng Wetland in Daqing City is the largest urban wetland in China. Due to its location in a water-scarce city, Longfeng Wetland is facing problems such as the decline of groundwater level and insufficient rainfall replenishment. The effluent quality of the Second Sewage Treatment Plant in Dongcheng District, Daqing City, located in Daqing Longfeng Wetland Nature Reserve, meets the water quality requirements for wetland acceptance, which is of great significance for increasing ecological water replenishment for the wetland, improving the water quality and aquatic ecological environment of Longfeng Wetland. In 2024, the Second Sewage Treatment Plant in Daqing City provided approximately 102,000 cubic meters of ecological water replenishment per day.



Longfeng Wetland in Daqing City

Biodiversity Conservation Awareness Activities

We conduct biodiversity publicity and education for employees, and actively convey the concept, progress and achievements of biodiversity conservation to external stakeholders, to advocate green environmental protection and biodiversity protection, raise the awareness of biodiversity conservation among all parties, and call on all stakeholders to jointly protect our green homeland.

Case

Beijing Enterprises Water Group (Danyang) Co., Ltd. Offers an On-the-Frontline Environmental Protection Course

In recent years, many schools have integrated the concept of ecological environment protection into school-based courses and internship practice courses. Based on this, Beijing Enterprises Water Group (Danyang) Co., Ltd. has become a "learning station" for primary and secondary school students in Danyang and surrounding cities to protect water resources and prevent water pollution. In 2024, schools such as Danyang New District Experimental Primary School, Danyang No.3 Middle School, and the School of Engineering of Zhongbei College of Nanjing Normal University have organized students to come to Beijing Enterprises Water Group (Danyang) Co., Ltd. to take a vivid and intuitive on-the-frontline environmental protection education course.



Environmental protection publicity and education activities

Appendix 1: Key ESG Performance

Environmental

Indicator		Unit	2024	2023	2022
Environmental management					
Major violations of environmental laws and regulations		/	0	0	0
Pollutants emissions and discharge					
Total COD abatement in sewage plants		tonne	1,117,822	1,054,379	977,562
Total ammonia nitrogen abatement in sewage plants		tonne	143,590	132,883	122,393
Total reduction of total phosphorus in sewage plants		tonne	19,711	18,120	16,563
Total suspended solids reduction		tonne	859,752	791,954	749,361
Total pollutant abatement		tonne	2,140,875	1,997,336	1,865,879
Total sulphur oxide emissions		tonne	69	64	48
Total nitrogen oxide emissions		tonne	522	566	337
Total smoke particles		tonne	10	22	7
Total discharge of boiler residues		tonne	122,743	154,131	87,156
Hazardous solid waste		tonne	935	259	328
Hazardous solid waste density		kg/10,000 RMB	0.39	0.11	0.15
Non-hazardous solid waste		tonne	2,928,840	2,819,039	2,734,720
Non-hazardous solid waste density		tonne/10,000 RMB	1.22	1.15	1.27
Resource and energy consumption					
Non-renewable energy substitution		kWh	2,059,913,310	2,073,486,348	1,915,878,044
Renewable energy substitution		kWh	73,311,785	70,479,926	51,517,716
Gasoline consumption		tonne	1,498	1,406	938
Diesel consumption		tonne	1,337	1,657	1,638
Natural gas consumption		m³	2,244,266	2,016,280	1,349,411
Purchased steam for heating		GJ	3,702	3,781	4,087
LPG consumption		tonne	62	73	80
Total fresh water consumption		tonne	4,904,778	5,181,189	5,150,031
Fresh water density		tonne/10,000 RMB	2.02	2.11	2.40
Pipeline network leakage rate		%	10.86	11.84	12.98
Proportion of self-supply water of water distribution plants		%	1.4	1.4	1.6
Agent consumption	Total consumption of carbon source	tonne	29,727	29,037	27,518
	Total consumption of dephosphorisation agents	tonne	24,415	26,261	22,542
Comprehensive energy consumption & GHG Emission					
Comprehensive energy consumption		tce	260,475	262,249	241,299
Comprehensive energy consumption density		tonne/10,000 RMB	0.107	0.107	0.112
Total GHG emissions		tCO2e	1,126,506	1,201,378	1,114,020
GHG emissions density		tCO2e/10,000 RMB	0.46	0.49	0.52

Social

Indicator	Unit	2024	2023	2022
Employment				
Total workforce	person	18,651	19,832	20,606
New contract employees	person	1,095	2,393	2,734
Number of employees by region				
The Chinese mainland	person	17,559	18,918	19,537
Overseas, China's Hong Kong, Macao and Taiwan	person	1,092	914	1,069
Number of employees by employment type				
Contract employees	person	17,361	18,664	19,198
Intern	person	74	104	163
Outsourced contractors	person	124	150	176
The proportion of employees by employment type				
Contract employees	%	98.87	98.66	98.26
Intern	%	0.42	0.55	0.83
Outsourced personnel	%	0.71	0.79	0.90
Number of employees by gender				
Male employees	person	11,451	12,330	12,447
Female employees	person	6,108	6,588	7,090
Proportion of employees by gender				
Male employees	%	65.21	65.18	63.71
Female employees	%	34.79	34.82	36.29
Number of employees by age				
Under 30 years old	person	2,819	4,008	4,273
30-50 years old	person	11,458	11,536	11,080
Over 50 years old	person	3,282	3,374	4,184
Proportion of employees by age				
Under 30 years old	%	16.05	21.19	21.87
30-50 years old	%	65.25	60.98	56.71
Over 50 years old	%	18.69	17.83	21.42
Proportion of female employees by rank				
Management	%	22.81	23.76	23.80
Junior management	%	23.01	23.85	24.19
Senior management	%	20.00	21.43	15.63

About this Report Statement of the Board	Indicator	Unit	2024	2023	2022
	Employee turnover				
	Number of employees leaving by gender				
Message from the Chairman Message from the CEO	Male employees	person	1,397	1,681	1,576
	Female employees	person	659	1,258	954
	Number of employees leaving by age group				
	Under 30 years old	person	467	749	788
	30-50 years old	person	1,142	1,101	848
About Us	Over 50 years old	person	447	1,089	894
	Turnover rate by gender				
	Male employees	%	12.20	13.63	12.66
	Female employees	%	10.79	19.10	13.46
	Turnover rate by age group				
Sustainability Progress	Junior management	%	16.57	18.69	18.44
	Senior management	%	9.97	9.54	7.65
	Employee development and training				
	Male employees	%	13.62	32.28	21.37
	Total number of employees trained	person	17,559	18,918	19,537
High-Quality Water Operation: Building A Solid Barrier for Social Water Safety (Water)	Percentage of employees trained in the Chinese mainland	%	100	100	100
	Employees trained by gender				
	Male employees	person	11,451	12,330	12,447
	Female employees	person	6,108	6,588	7,090
	Employees trained by rank				
Digital and Intelligent Transformation: Building an Innovative Benchmark for Smart Water (Intelligence)	Senior Management	person	25	28	32
	Junior management	person	352	696	686
	Non-management staff	person	17,182	18,194	18,819
	Average training hour of employees by gender				
	Male employees	hour	80.02	89.90	95.93
Shoulder Our Responsibility: Building a Harmonious Social Well-Being towards Satisfaction (Satisfaction)	Female employees	hour	74.29	90.02	92.66
	Average training hour of employees by rank				
	Senior Management	hour	83.20	108.00	108.00
	Junior management	hour	71.82	155.31	153.33
	Non-management staff	hour	78.15	87.41	79.23
Sustainable Climate Action: Paving the Way for a Green Ecological Development Path(Ecosystem)					
Appendix					

Indicator	Unit	2024	2023	2022
Employee health and safety				
Employees' work-related injury cases	number	30	15	21
Rate of employee work-related injury rate	%	0.17	0.08	0.11
Lost days due to work injury	day	7,163.5	6,914	18,675
Injury rate per million working hours	case/1,000,000 working hours	0.85	0.40	0.54
Rate of work-related accidents per thousand people	case/1,000 person	1.71	0.79	1.07
Cumulative input in safety production	RMB	31,018,400	31,219,300	29,410,000
Enrollments of safety training	person	261,822	181,645	153,732
Work-related fatalities caused by major incidents	person	0	0	0
Total Recordable Incident Rate (TRIR)	case/200,000 working hours	0.17	0.08	0.11
Lost Time Incident Rate (LTIR)	case/200,000 working hours	0.16	0.08	0.09
Supplier management				
The cumulative number of domestic qualified suppliers	/	861	472	691
The number of critical suppliers by region				
The Chinese mainland	/	401	292	381
China's Hong Kong, Macao and Taiwan regions and oversea	/	27	27	48
Procurement from direct suppliers				
Total Tier-1 suppliers	/	428	319	429
Critical Tier-1 suppliers	/	428	319	278
Certification of suppliers				
ISO 9001 certified	%	98	98	100
ISO 14001 certified	%	98	98	95
ISO 45001/OHSAS 18001certified	%	98	98	90
Customer service				
Customer satisfaction	%	99.66	94.2	-
Research and innovation				
Number of new authorised patents	/	276	280	462
The cumulative number of authorised patents	/	1,538	1,454	1,282
Intellectual property and external standards that fell within the scope of rewards	/	83	115	216
Community welfare				
Total amount of charitable donations	10,000 RMB	83.7	296.3	112.3
Employee volunteer service	hour	940	950	418

Appendix 2: List of Key ESG policies

Category	Name
Environmental	
Environmental management	Environmental Yardstick Assessment System
	Environmental Factor Identification, Evaluation and Control Procedures
	Interim Administrative Measures for Engineering Products Appraisal of BEWG
	Interim Administrative Measures for Engineering Products Appraisal of BEWG
Emissions	BEWG Management Manual on Quality, Environment, and Occupational Health and Safety
	BEWG Management Manual on Quality, Environment, and Occupational Health and Safety
	BEWG Water Management Measures
	Technical Specification for Low- carbon Operation Evaluation of Sewage Treatment Plant
	Chemical Agent Management Measures
Ecological protection	Low-Carbon Operations Management Measures of BEWG
	Biodiversity Protection Management Measures of BEWG
Social	
Employment	Recruitment Management Mechanism
	Management Measures for Campus Recruitment of BEWG
Employee rights and benefits	Statement of Employee Rights and Benefits
	Headquarters Employee Welfare System
	Management Measures for Organisation and Implementation of Corporate Culture Activities of BEWG
Occupational health and safety	BEWG Manual on Safe and Civilised Construction Standard for Project Delivery
	BEWG Management Manual on Quality, Environment, and Occupational Health and Safety
	BEWG Management Regulations for Dangerous Materials Safety
	Supplier Management Policies of BEWG
	BEWG Regulations on Occupational Health Management
	BEWG Regulations on Labour Protection Articles Management
	BEWG Manual on Sewage Treatment Plant Delivery Quality Standards
	BEWG Identification List of Laws, Regulations and Standards for Safety Production
	BEWG Responsibility System for Safety in Production
	BEWG Regulations on Production Safety Accident Reporting and Investigation
	BEWG Comprehensive Emergency Plan for Unexpected Incidents
	BEWG Hazardous and Harmful Factor Evaluation and Management Regulations
	BEWG Major Hazard Source Management Regulations
	BEWG Special Emergency Plan for Production Safety Accidents
	BEWG Dangerous Incident Management Regulations
	BEWG Management Provisions on Safety Rewards and Punishments
	BEWG Management Provisions on Safety Production Interviews

Category	Name
Quality management	BEWG Guidance Manual on 5-4-1 Safety Management for Project Delivery
	BEWG Guidelines for the Operation of Standardised Product Development Systems V2.0
	BEWG Performance Management System for Engineering Construction
	BEWG Implementation Rules for Quality Control Points of Urban Water Construction Projects
	BEWG Handbook of Key Points for Lean Management of Engineering Quality in Urban Water Construction Projects
	Guidelines for Inspection and Acceptance of Star-Level Enterprises
	1+N Cluster Construction Process Guidelines
	1+N Cluster Operation and Management Guidelines
	1+N Regional Cluster Model Organisation Structure and Job Positioning
	Guidelines for Emergency Response to Abnormal Influent
	BEWG Guidance Manual for Sewage Plant Auto-control System Hardware Defect Elimination
	BEWG Guidance Manual for Sewage Plant Auto-control System PLC Programmmering
Intellectual property rights protection	BEWG Guidance Manual for Sewage Plant Auto-control System SCADA Development
	Incentive Programme for Technological Innovation Achievements (2023)
	BEWG Intellectual Property Management System
	BEWG Guidelines for Promoting Technological Innovation Implementation
	BEWG Guidelines for Promoting Technological Innovation Implementation
Supply chain	Supplier Management Policies of BEWG
	Quality Management Rules for Suppliers
	Customer Satisfaction Management Measures
	Supplier Access Audit Form
Information and data security	Code of Conduct for Suppliers
	Integrity and Self-discipline Commitment Agreement
	BEWG Information Security Policy System
	BEWG Information Security Management System
Governance	
Board diversity	Board Diversity Policy
Risk management	BEWG Overall Risk Management System
	General Principles of Risk Management of Beijing Enterprises Water Group Limited
	Detailed Rules for Risk Communication Management of Beijing Enterprises Water Group Limited
Business ethics	BEWG Code of Business Conduct
	BEWG Overseas Anti-corruption System
	BEWG Anti-bribery and Anti-corruption System
	Integrity Commitment
	BEWG Confidentiality System for Whistleblowing and Accusation
	BEWG Whistleblower Protection System
	BEWG False Accusation Investigation and Punishment System
	Confidentiality Commitment
	Implementation Rules for Supervision and Inspection at Critical Milestones

Appendix 3: HKEX ESG Index

Mandatory Disclosure Requirements		
Requirements		Page
Governance Structure	A statement from the board containing the following elements: (i) a disclosure of the board's oversight of ESG issues; (ii) the board's ESG management approach and strategy, including the process used to evaluate, prioritise and manage material ESG-related issues (including risks to the issuer's businesses); and (iii) how the board reviews progress made against ESG-related goals and targets with an explanation of how they relate to the issuer's businesses.	P14
Reporting Principles	A description of, or an explanation on, the application of the following Reporting Principles in the preparation of the ESG report: Materiality: The ESG report should disclose: (i) the process to identify and the criteria for the selection of material ESG factors; (ii) if a stakeholder engagement is conducted, a description of significant stakeholders identified, and the process and results of the issuer's stakeholder engagement. Quantitative: Information on the standards, methodologies, assumptions and/or calculation tools used, and source of conversion factors used, for the reporting of emissions/energy consumption (where applicable) should be disclosed. Consistency: The issuer should disclose in the ESG report any changes to the methods or KPIs used, or any other relevant factors affecting a meaningful comparison.	P01
Reporting Boundary	A narrative explaining the reporting boundaries of the ESG report and describing the process used to identify which entities or operations are included in the ESG report. If there is a change in the scope, the issuer should explain the difference and reason for the change	P01

"Comply or explain" Provisions		
Category	Disclosure requirements	Index
Environmental		
Aspect A1: Emissions	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer.	P114, P116
	A1.1 The types of emissions and respective emissions data	P103-104, P115
	A1.2 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	P115
	A1.3 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	P115
	A1.4 Description of emissions target(s) set and steps taken to achieve them.	P101, P114-116
	A1.5 Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	P114
Aspect A2: Use of Resources	General Disclosure Policies on the efficient use of resources, including energy, water and other raw materials.	P37, P104
	A2.1 Direct and / or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	P101-102
	A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility).	P39

Category	Disclosure requirements	Index
Aspect A2: Use of Resources	A2.3 Description of energy use efficiency target(s) set and steps taken to achieve them.	P101, P105-112
	A2.4 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	P37-40
	A2.5 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	Not Applicable
Aspect A3: The Environment and Natural Resources	General Disclosure Policies on minimising the issuer's significant impact on the environment and natural resources.	P105, P113-114, P116-117
	A3.1 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	P105-118
Social		
Aspect B1: Employment	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer.	P69-70
	B1.1 Total workforce by gender, employment type, age group and geographical region.	P71
	B1.2 Employee turnover rate by gender, age group and geographical region.	P71
Aspect B2: Health and Safety	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	P79-80
	B2.1 Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	P80
	B2.2 Lost days due to work injury.	P80
	B2.3 Description of occupational health and safety measures adopted, how they are implemented and monitored.	P79-82
Aspect B3: Development and Training	General Disclosure Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	P29-30, P72-76
	B3.1 The percentage of employees trained by gender and employee category (e.g. senior management, middle management)	P76
	B3.2 The average training hours completed per employee by gender and employee category.	P76
Aspect B4: Development and Training	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	P69
	B4.1 Description of measures to review employment practices to avoid child and forced labour	P69
	B4.2 Description of steps taken to eliminate such practices when discovered.	P69

Category	Disclosure requirements	Index
Social		
Aspect B5: Supply Chain Management	General Disclosure Policies on managing environmental and social risks of the supply chain.	P87-89
	B5.1 Number of suppliers by geographical region.	P87
	B5.2 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	P88-90
	B5.3 Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	P88-90
	B5.4 Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	P90
Aspect B6: Product Responsibility	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer	P25, P31-36, P43-46, P59, P83-84
	B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons	Not Applicable
	B6.2 Number of products and service-related complaints received and how they are dealt with.	P86
	B6.3 Description of practices relating to observing and protecting intellectual property rights.	P52
	B6.4 Description of quality assurance process and recall procedures.	P25-26
	B6.5 Description of consumer data protection and privacy policies, and how they are implemented and monitored.	P57-60
Aspect B7: Anti-corruption	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	P66-67
	B7.1 Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	P68
	B7.2 Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	P68
	B7.3 Description of anti-corruption training provided to directors and staff.	P67-68
	General Disclosure Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	P91
Aspect B8: Community Investment	B8.1 Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	P91-94
	B8.2 Resources contributed (e.g. money or time) to the focus area.	P91

* We have referred to the International Financial Reporting Standards (IFRS) S2 Climate-related Disclosures issued by International Sustainability Standards Board (ISSB) and the framework of TCFD to improve our climate-related information disclosure. For details, please refer to Chapter 05- Climate Change.

Appendix 4: GRI Index

Statement of use	BEWG has reported in accordance with the GRI Standards for the period [1 January, 2024 to 31 December, 2024].	
GRI 1 used	GRI 1: Foundation 2021	
GRI standard	Disclosure	Chapters Page
GRI 2: General Disclosures 2021	2-1 Organisational details	P01, P05-06
	2-2 Entities included in the organisation's sustainability reporting	P01
	2-3 Reporting period, frequency and contact point	P01
	2-4 Restatements of information	P01, P39, P102, P104
	2-6 Restatements of information	P05
	2-7 Employees	P71
	2-8 Workers who are not employees	P70-71
	2-9 Governance structure and composition	P14, P63-64
	2-10 Nomination and selection of the highest governance body	P63
	2-11 Chair of the highest governance body	P63
	2-12 Role of the highest governance body in overseeing the management of impacts	P63-65
	2-13 Delegation of responsibility for managing impacts	P14
	2-14 Role of the highest governance body in sustainability reporting	P14
	2-15 Conflicts of interest	P63
	2-16 Communication of critical concerns	P15-16
	2-17 Collective knowledge of the highest governance body	P14
	2-18 Evaluation of the performance of the highest governance body	P63
	2-22 Statement on sustainable development strategy	P17
	2-23 Policy commitments	P37, P66, P68-69, P79, P88
	2-24 Embedding policy commitments	P64-68, P87-89
	2-25 Processes to remediate negative impacts	P80, P90
	2-26 Mechanisms for seeking advice and raising concerns	P68
	2-27 Compliance with laws and regulations	P37, P52, P57, P60, P66, P68, P79, P87
	2-28 Membership associations	P10
	2-29 Approach to stakeholder engagement	P15
	2-30 Collective bargaining agreements	P70
GRI 3: Material Topics 2021	3-1 Process to determine material topics	P16
	3-2 List of material topics	P16
	3-3 Management of material topics	P16
GRI 201: Economic Performance 2016	201-2 Financial implications and other risks and opportunities due to climate change	P97-100
	201-3 Defined benefit plan obligations and other retirement plans	P77-78

GRI standard	Disclosure	Chapters Page
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	P09-10, P93-94
	203-2 Significant indirect economic impacts	P10, P91-94
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	P66
	205-2 Communication and training about anti-corruption policies and procedures	P66-68
	205-3 Confirmed incidents of corruption and actions taken	P66-68
GRI 302: Energy 2016	302-1 Energy consumption within the organisation	P101-102
	302-2 Energy consumption outside of the organisation	P101-102
	302-3 Energy intensity	P102
	302-4 Reduction of energy consumption	P106-112
	302-5 Reductions in energy requirements of products and services	P108-110
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	P25-29, P37-40
	303-2 Management of water discharge-related impacts	P33-34, P39-40
	303-3 Water withdrawal	P37-38
	303-4 Water discharge	P33-34
	303-5 Water consumption	P37-39
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	P117
	304-2 Significant impacts of activities, products and services on biodiversity	P117-118
	304-3 Habitats protected or restored	P117-118
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	P103-104
	305-2 Energy indirect (Scope 2) GHG emissions	P103-104
	305-3 Other indirect (Scope 3) GHG emissions	P103-104
	305-4 GHG emissions intensity	P103-104
	305-5 Reduction of GHG emissions	P103-104
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	P103-104
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	P114
	306-2 Management of significant waste-related impacts	P114
	306-3 Waste generated	P114-115
	306-4 Waste diverted from disposal	P114
	306-5 Waste directed to disposal	P114
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	P88
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	P71
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	P77-78
	401-3 Parental leave	P78

GRI standard	Disclosure	Chapters Page
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	P79-80
	403-2 Hazard identification, risk assessment, and incident investigation	P79-80
	403-3 Occupational health services	P79-82
	403-4 Worker participation, consultation, and communication on occupational health and safety	P79
	403-5 Worker training on occupational health and safety	P81
	403-6 Promotion of worker health	P81-82
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	P79-81
	403-8 Workers covered by an occupational health and safety management system	P79
	403-9 Work-related injuries	P80
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	P76
	404-2 Programmes for upgrading employee skills and transition assistance programmes	P72-75
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	P64, P69-71
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	P69
GRI 408: Child Labour 2016	408-1 Operations and suppliers at significant risk for incidents of child labour	P69, P88-90
GRI 409: Forced or Compulsory Labour 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labour	P69, P88-90
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programmes	P91-94
GRI 414: Supplier Social Assessment 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labour	P88-90
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	P25, P29-34
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	P59

Appendix 5: Reader's Feedback

Dear readers,

Thank you for reading the Beijing Enterprises Water Group Limited Sustainability Report (2024). We expect to listen to your feedback on our report and work. Your opinions and suggestions are the important basis for us to improve our sustainability management and practice.

We are looking forward to your reply.

Optional questions (please mark ✓ on your answer)

1.Which of the following stakeholder types your employer belongs to?

- ☐ Shareholder ☐ Employee ☐ Supplier ☐ Customer ☐ Government ☐ Community ☐ Academic institutions
- ☐ Others (Please specify)

2.Is the information you are concerned about disclosed in the report?

- ☐ Yes ☐ Maybe ☐ No

3.Your comprehensive evaluation on the Beijing Enterprises Water Group Limited Sustainability Report (2024):

· Readability (understandable presentation, attractive design and easy information search)

- ☐ Yes ☐ Maybe ☐ No

· Credibility (true and reliable information)

- ☐ Yes ☐ Maybe ☐ No

· Information integrity (positive and negative information that meet your needs)

- ☐ Yes ☐ Maybe ☐ No

4.Can the information you are concerned about be easily searched in the report?

- ☐ Yes ☐ Maybe ☐ No

5.Do you prefer electronic version or hard-copy version of the future report?

- ☐ Electronic Copy ☐ Hard Copy

6.Please give your opinions and suggestions on the Beijing Enterprises Water Group Limited Sustainability Report (2024).

Your contact information

Name: _____ Employer: _____

