

# **Description for Report Preparation**

This Corporate Social Responsibility (CSR) Report truly reflects the effort of Beijing Enterprises Water Group Limited in respect of its economic, social and environmental responsibilities for comprehensive, balanced and sustainable development.

#### **Reporting Period**

This CSR Report mainly covers activities from January 1st, 2018 to December 31st, 2018, as well as some activities beyond this period.

#### **Report Content**

All cases and data in this CSR Report are related to BEWG and its subsidiaries.

#### Source

All data and information in this CSR Report are collected from internal data collection and statistics systems, qualitative and quantitative information collection tool CSR practical cases submitted by subsidiaries. All data and information in environmental and social aspects cover more than 75% of business operations of BEWG headquarters and companies controlled by BEWG.

#### **Basis of Preparation**

BEWG has made every effort to prepare this CSR Report in conformity with general industrial standards on CSR data. Based on BEWG's industry background and highlights of its corporate characteristics, this CSR Report was prepared and complied with the requirement of Environmental, Social and Governance Reporting Guide of The Stock Exchange of Hong Kong Limited ("HKEX") and with reference to the GRI Standards of the Global Reporting Initiative (GRI).

#### **Company Name**

For the convenience of description and reading, Beijing Enterprises Water Group Limited is also referred to as "BEWG", "the Group", "the Company" or "We" in this CSR Report.

#### **Form of Report**

This CSR Report has been released in English and Chinese versions, as well as printed and online editions. To browse or download the online report, please visit:

http://www.bewg.net.

# **Contents**

Message from Chairman

Message from the CEO

02

03

04

07

### **Social Responsibility Management**

Social Responsibility Concept 17
Stakeholder Engagement 19
Materiality Analysis 21

Special Topic: Ten Years of Environmental Protection - The Decade-Long Practice of Sustainable Development of BEWG 23

Special Topic: Safeguarding Life Sources – BEWG Practice of United Nations Sustainable Development Goals 26



About Us

**Company Profile** 

Working Together to Build a More Open Ecosystem

3,000,000,000,000,000,000,000,000,000,0	0.1
Providing Comprehensive Environmental Protection Solutions	37
Promoting Industry Cooperation and Integration	41
Leading Scientific and Technological Innovation	44

Serving National Strategy 31



05

# Working Together to Fulfill Corporate Citizenship

Equal Employment	69
Occupational Health and Safety	70
Career Development	72
Employee Care	77
Community Philanthropy and Service	78

04

Working Together to Protect a More Sustainable Planet

Promoting Green Management 53

Addressing Climate Change 57

Optimizing Resource Consumption 61



Outlook for the Future 84

ESG Index of HKEX 85

GRI Index 88

Reader Feedback Form 89





Message from the Chairman

> It takes a long journey of hardships to reach the cusp of the tide. BEWG fully integrates ourselves with national development strategies. In Yangtze River Economic Belt, we deepen cooperation with China Three Gorges Corporation to promote the green development of the "Golden Waterway". In Beijing-Tianjin-Hebei region, we are creating a model of national ecological civilization construction around "one core and two wings". In Guangdong - Hong Kong -Macao Greater Bay Area, we innovate on project model of combinatory urban areas. We actively respond to the "Belt and Road" initiative by creating a model for the revival of Silk Road with construction of urban water ecological civilization. In 2018, BEWG was awarded the "Top Ten Influential Enterprises in China's Water Industry" for the eighth consecutive year, selected into Fortune China 500 List for three consecutive years, and won the "Most Socially Responsible Company" with industry-leading CSR concepts and actions.

> To build a beautiful China, we must stick to our original goal. We continuously contribute to the country's ecological civilization based on our corporate vision of "Water Always Clean, Business Always Growing" and driven by our mission of "Safeguarding Life Sources and Creating a Green Environment". As a responsible state-owned enterprise, we unswervingly explore environmental protection industries and fulfill our commitment to environmental protection and social contribution with efficient enterprise management, excellent operational capability, high-quality products and services, responsible industrial investment, comprehensive and continuous innovation, and people-oriented talent training.

> Surging rivers relentlessly run into the sea. Impressed by the support and trust of our stakeholders, we thrive in our great cause with pride. In the future, we will continue to push forward for the sake of water, life, and love and with a high sense of social responsibility. We will work together with eco-partners to explore higher-quality products and services and sustainable development models, contributing to the country's prosperity and national rejuvenation!



Mr. Zhou Min



Time rushes like torrents of water and ten extraordinary years have passed. China has entered a new chapter in the construction of ecological civilization in all-around manner and is strengthening ecological environment protection with unprecedented resolve and strength. BEWG has taken root in water environment service after ten years of development, focusing on the two core businesses namely water service and water environment comprehensive renovation. In 2018, our main business income reached 24.597 billion Hong Kong dollars. As of December 31, 2018, our total design capacity reached 36.82 million tons / day, providing quality services to more than 100 million people worldwide. We are striving for progress, committed to implementing the ecological strategy and the "dualplatform" strategy of asset management platform and operation management platform.

We make breakthroughs through innovation and lead the industry going forward. We innovate on development mode, unleash the new dividends of development through cooperation, and deeply integrate industry resources to build a water environment protection ecosystem featuring symbiosis, interdependence and regeneration and thus to enhance the service capabilities and comprehensive value of the industry. We innovate on water treatment concept by putting forward "8 specialties + 7-color projects + 9 water issues" to help the industry pivot from ecological treatment to ecological value. We innovate on financing model, providing a reference for the industry to tackle funding bottlenecks. For the next decade, we have set a goal of 10 billion yuan of profits, 100 billion yuan of market capitalization, and 1 trillion yuan of assets under management, focusing on core competitiveness and leading industry partners to achieve higher-quality development.

We push beyond boundaries and share development results with stakeholders. While practicing our corporate values of "responsibility, valuable, and sharing", we work with all stakeholders to create new horizons for sustainable development. We join hands with customers to provide safe water supply and quality environmental services, promote green management, and build an environment-friendly enterprise. We join hands with the public to support charity and give back to the society by carrying out public welfare activities on ecological civilization and precise poverty alleviation. We join hands with employees to create the corporate culture of unity, progress, and positivity and help employees enhance their own value. We join hands with partners to create a healthy and harmonious community of common destiny on water environment. We join hands with shareholders to share a satisfactory return on value.

A great cause is achieved with ambition and hard work. In the future, BEWG will keep in mind our original intention and mission, continue to push forward with a high sense of social responsibility, and keep abreast of the country and the times to realize people's eternal pursuit of beautiful environment.





Special Topic: Ten Years of Environmental Protection - The Decade-Long Practice of Sustainable Development of BEWG Special Topic: Safeguarding Life Sources – BEWG Practice of United Nations Sustainable Development Goals Working Together to Build a More Open Ecosystem

Working Together to Protect a More Sustainable Planet

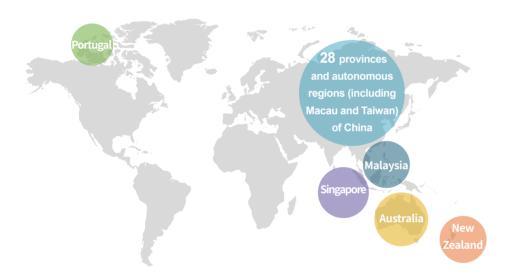
Working Together to Fulfill Corporate Citizenship

Outlook for the Future

### **About Us**

Beijing Enterprises Water Group Limited (BEWG) is a comprehensive and leading professional water environment service provider integrating all aspects of the industrial chain such as industrial investment, design, construction, operation, technical service and capital operation.

Headquartered in Beijing, China, we serve more than 100 prefecture-level cities in 28 provinces and autonomous regions (including Macau and Taiwan) of China, as well as Malaysia, Singapore, Portugal, Australia and New Zealand, employing more than 50,000 employees across the world.



### Our key business scope covers:























#### 2018 Awards and Honors



The Group was for the first time selected into the "Asian Corporate Management Team Rankings" by Institutional Investor as "2018 The Best Corporate Management Team in Hong Kong Market", "The Company with the Best Corporate Governance", "Most Socially Responsible Company" and "Most Honorable Company".



The Group for the first time won the 2018 "Golden Hong Kong Stocks Awards" as "Most Valuable Public Utilities and Infrastructure Company" and the "The 8th China Securities Golden Bauhinia Awards—Best CFO Award for Listed Companies".



The Group won the 2018 E20 Environmental Industry Club membership certificate

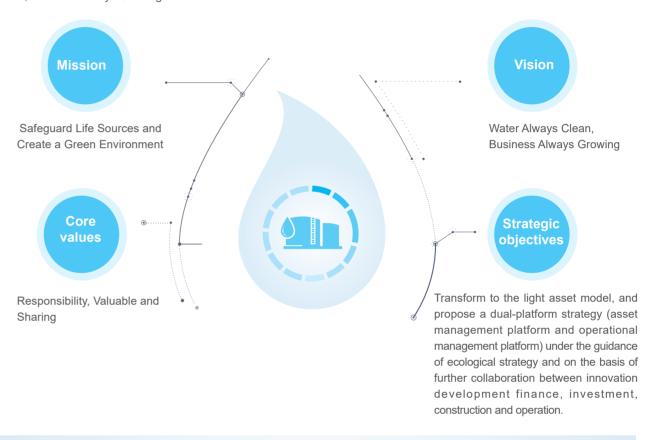


The Group won the 2018 "Lvying Awards" as Global Benchmarking Enterprise in Comprehensive Strength of Water Services.



### **Strategy and Culture**

BEWG adheres to the mission of "Safeguarding Life Sources and Creating a Green Environment", and is committed to "Reassuring Governments, Satisfying Citizens, Making Profit, and Benefiting Employees and Partners". Embracing the core values of "Responsibility, Valuable and Sharing", BEWG is committed to fulfilling its industrial promise of "making water cleaner", and becoming a leading professional water environment integrated service provider with a vision of "Water Always Clean, Business Always Growing".



### **▲ Strategic System**

In 2018, based on summarization of its development experience of the past ten years combined with in-depth thinking on internal and external situations, the Group established a strategic framework and objectives for the next decade. We chose to "unswervingly explore environmental protection", using the light asset model to help grow the business and realize the dream of "beautiful China"; using the "dual-platform" strategy to support the light asset model and draw the blueprint for "RMB trillion scale"; relying on ecological strategy to support the construction of the dual platforms and to weave the "symbiotic and win-win" network; and promoting the innovation strategy to help building the dual-platform and creating momentum

Ecological st for "new development".

Beautiful China
Everlasting
business growth
internal and
ework and
y explore
lp grow
using
del
"Dual-platform" model
n

Supported
by
Innovation strategy



Special Topic: Ten Years of Environmental Protection - The Decade-Long Practice of Sustainable Development of BEWG Special Topic: Safeguarding Life Sources – BEWG Practice of United Nations Sustainable Development Goals

Working Together to Build a More Open Ecosystem

Working Together to Protect a More Sustainable Planet

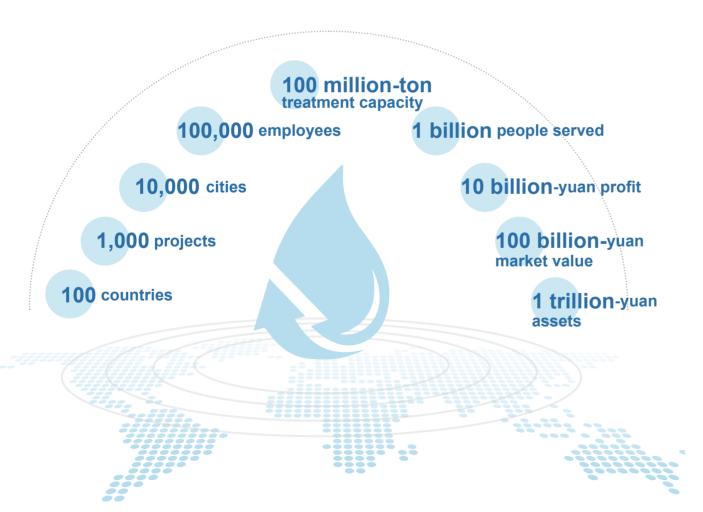
Working Together to Fulfill Corporate Citizenship

Outlook for the Future

In 2018, based on the previous "three core-power drive" the Group implemented a "four core-power drive" development strategy of capital + technology + talent + data.



In 2018, based on summary of its past ten years development experience combined with in-depth thinking on internal and external situations, the Group objectives for the next decade.





### **Compliance Operation**

With a standardized corporate governance structure, BEWG constantly improves the risk management system, continuously enhances the anti-corruption awareness to all employees, and strengthens the management of suppliers. Adhering to compliance operation lays the foundation for the Company to achieve comprehensive and sustainable development. In addition, we have developed the Code of Business Conduct covering corruption and bribery, discrimination, confidentiality of information, conflicts of interest, anti-trust and unfair competition, anti-money laundering and insider trading, environment, health and safety, complaints and reports to eliminate all kinds of violations and ensure the Company's compliance operation.









### **Corporate Governance**

BEWG adheres to the corporate governance principles of listed companies and strictly abides by domestic and overseas regulatory requirements. We have actively strengthened the governance system and policy construction, implemented the concept of safety development, and formed a corporate governance mechanism with clear responsibilities, coordinated operations, scientific decision-making, effective supervision and checks and balances to ensure the company's continued compliance and healthy development.



### Board of Directors

The function of the Board of Directors is to formulate and give direction of the Group's corporate strategies and business development. The Board of Directors met regularly during the year to approve the Group's acquisitions, material contracts, disclosures and/or connected transactions, appointment or re-appointment of directors, significant policies, and to monitor the Group's financial performance in pursuit of its strategic objectives. The Company's chief executive officer and management are responsible for the daily operations of the Company.





Special Topic: Ten Years of Environmental Protection - The Decade-Long Practice of Sustainable Development of BEWG

Special Topic: Safeguarding Life
Sources – BEWG Practice of United
Nations Sustainable Development Goals

Working Together to Build a More Open Ecosystem Working Together to Protect a More Sustainable Planet

Working Together to Fulfill Corporate Citizenship

Outlook for the Future



#### **Committees under Board of Directors**

To strengthen its functions and corporate governance practices, the Board of Directors established three board committees, namely the Audit Committee, the Nomination Committee and the Remuneration Committee. The three committees perform their specific duties in accordance with their respective written terms of reference.



#### Audit Committee 🗘

The Audit Committee is primarily responsible for considering all the relationships between the Company and the auditing firm (including the provision of non-audit services), monitoring the integrity of the financial statements of the Company and the issues arising from the audit, and reviewing the risk management and internal control systems of the Group which is delegated by the Board of Directors.

#### Nomination Committee 🙏

The main duties of the Nomination Committee include: first, reviewing the structure, size and composition of the Board of Directors, and making recommendations on any proposed changes to the Board of Directors to complement the Company's corporate strategy; second, identifying persons with suitable qualifications to serve as directors or select or make recommendations to the Board of Directors on the selection of individuals nominated for directorships; third, assessing the independence of independent non-executive directors; fourth, making recommendations to the Board of Directors on appointment or reappointment of directors and succession to directors, in particular the chairman and chief executive officer.

#### Remuneration Committee 🙏

Members of the Remuneration Committee perform their duties in accordance with the written terms of reference established by the Company in accordance with the from time to time Listing Rules. The Remuneration Committee has adopted the operation model where it performs as an advisory role to the Board of Directors to advise the Board of Directors on remuneration packages of directors and senior management, with the Board of Directors retaining the final authority to approve the remuneration of directors and senior management. The Company's policy is to provide a competitive and sufficient remuneration package for these individuals and no director is involved in determining his/ her own remuneration

### **Risk Management**

The Board of Directors is fully responsible for assessing the nature and degree of the risks that the Group may face and ensuring that the Group has sound and effective risk management and internal control systems to safeguard shareholders' equity and the Group's assets. The Board of Directors has delegated to the Audit Committee to oversee the management's work and monitor the risk management and internal control systems.

The Group established a risk management framework of "Three Layers+Three Lines of Defense" with various risk control policies and procedures. Each functional department conducts self-inspection and evaluation on a regular basis, and takes various actions to promptly correct the problems once they are found. This year, the Group identified three potential risks – policy and regulatory risk, Group management and control and reputational risk – through interviews and questionnaires. We have developed corresponding response plans, and submitted the risk management report to the Audit Committee. Referring to policy and supervision risks, the Group sufficiently analyzed national policy and made specific strategy adjustment on it. Meanwhile, by publicizing related policy updates and corresponding suggestions, we aimed to strengthen risk management



The Group formulated and implemented the *BEWG Overall Risk Management System* to standardize the Company's risk management and prevent, control, resolve and deal with various risks in the operational process. The Group emphasis great importance to the management of environmental and social risks by formulating environmental factor identification and evaluation control procedures to identify and update important environmental factors in products, services or water plant construction, ensuring environmental pollution prevention and effective control of important environmental factors. At the same time, before investing in a project, the Group will identify local environmental and social risks, analyze risk prevention and control measures, and develop targeted implementation plans for risk prevention and measures.

### **Integrity and Anti-Corruption**

BEWG strictly abides by the national and local laws and regulations concerning corruption and business ethics such as the *Criminal Law of the People's Republic of China and the Law of the People's Republic of China against Unfair Competition*, and is committed to creating a corporate culture featuring integrity and anti-fraud.

The Group formulated and carried out *Disciplinary Review Work Management Regulations*, so as to regulate supervision and governance accountability work of discipline inspection. In the way of setting and implementing letters and visits work management regulations, we built open and transparent complaint and informant process. The Group supervised and directed the distribution and implementation of incorruptible responsibility by signing *Commitment Letter of Rejecting to Corruption* with people in charge of business center from headquarters.



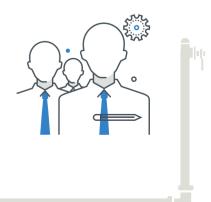
The Group continued developing its incorruptible culture construction, devoting to the constant improvement of employees' awareness of obeying the law and being honest in working, to form an upright and clean development atmosphere. We have launched 5 thematic activities on "integrity in working" and 2 training programs on the topic of discipline inspection and supervision .

In 2018, BEWG was not involved in any legal cases involving bribery, extortion, fraud and money laundering.

### **Management of Suppliers**

BEWG is committed to continuously improving the sustainable development management of the supply chain and promoting the fulfillment of environmental and social responsibilities of suppliers. The Group has developed a *Code of Conduct for Suppliers* covering environmental requirements for suppliers' production processes, products or services, prohibition of child labor, labor rights, working hours, remuneration, occupational health and safety, and anti-corruption. The Group adopts an online procurement system to conduct scientific and efficient management of suppliers. It established a unified qualified supplier database and formulated such systems as *Purchasing Management System and Approval Standards and Business Process Streamlining* to continuously optimize supplier approval process and control environmental and social risks of the supply chain.

In 2018, BEWG had 420 suppliers in mainland China and 166 suppliers in Hong Kong, Macao and Taiwan of China and overseas.















# **Stakeholder Engagement**

····· Stakeholders ·····	Expectations and	Engagement ·····	Stakeholders	Expectations and	Engagement
Shareholders and investors	requirements  Compliance operation Continuous and stable return on investment Product and service quality improvement Risk management Corporate governance	General meeting of shareholders     Periodic reporting and     announcement     Investor communication meeting	Industry	requirements  • Leading industrial development  • Technology innovation  • Product and service quality improvement	Launching and participation of industrial activities     Sharing and transmission of research results     Construction of communication platform     Industrial cooperation     Technical exchanges
	Compliance operation Provision of employment Response to national strategy Product and service quality improvement Safety production Technology innovation Energy saving and emission reduction  • Compliance operation • Disclosure of information • Daily communication and report • On-site investigation • Supervision and inspection • Visit reception  • Visit reception	Suppliers and partners	Compliance with contracts  Mutual benefits and long-term cooperation Improvement of supply chain management	Public bidding     Contract and agreement	
Government and regulators			Community	Community engagement Community service Community investment Promotion of environmental protection concept Compliance operation	Community household interview Charity activities Charitable donations Volunteer activities Open Day event
Clients	Product and service quality improvement Disclosure of information	Customer satisfaction survey     Visit and communication     Customer activities	Environment	Provision of environmental friendly products and services Ecological environmental protection Green operation Promotion of environmental protection concept	Environmental impact assessment     Public investigation about project and environmental impact     Environmental protection charity activities     Communication with environmental protection organizations
Employees	Guarantee of employee rights and benefits     Occupational Health and Safety (OHS)     Vocational training     Personal development     Employee care	Labour contracts     Opinion seeking     Career development     communication mechanism     Employee care activities	The public	<ul> <li>Promotion of safe and reliable products</li> <li>Stable employment</li> <li>Promotion of Environmental protection concept</li> </ul>	Open Day event     Public welfare activities





### **Materiality Analysis**

We constantly improve the process for determining report content based on the *Environmental, Social and Governance Reporting Guide of HKEX*. We enhance interactions with stakeholders in various ways such as questionnaire survey to identify and determine the materiality of their concerns, and finally define the extent of disclosure and boundary of such issues.

#### **Screening Flow for Our CSR Issues**

#### Source of Issues

- Advice from management
- Analysis suggestions from external and internal experts
- Multimedia information analysis
- Benchmarking research on domestic and overseas peers
- Social responsibility criteria guidelines
- Opinions and feedback from suppliersCommunity suggestions

#### Screening Criteria

- Contribution to sustainable development
- General attention from stakeholders
- Focus on social responsibility quidelines
- Compliance with requirements of company strategic development

We use anonymous online questionnaires to rank selected issues by priority to understand the extent to which internal and external stakeholders are concerned about such issues. During the reporting period, we received a total of 1,416 valid questionnaires. After analyzing the questionnaire data, we finally determined the extent of disclosure and boundary of the issues and mapped out the materiality matrix.



Importance to stakeholders

health and safety, and environmental management. These issues affect the Company's business and long-term value. In response to these issues, we took the following actions:

We identified the most important issues at the economic, environmental and social levels: corporate governance, occupational

### Actions

# Corporate Governance

- Complying with laws and regulations and business ethics, we continued to improve internal control and risk management systems by building punishment and prevention systems and formulating the Code of Business Conduct to ensure the compliance operation of the Company;
- A variety of risk management policies and systems were formulated to standardize the Company's business activities and eliminate corruption;
- A monthly risk management magazine was published in the Company, introducing frontier knowledge on risk management, dynamics on system release, risk management cases.

#### Occupational Health and Safety

- Strictly following the Safety Production Law of the People's Republic of China, the
  Law of the People's Republic of China on the Prevention and Control of Occupational
  Diseases and other national laws and regulations and relevant industry standards,
  we prepared the Quality, Environment, Occupational Health and Safety Management
  Manual and formulated Regulations on Management of Labor Protection Supplies
  among other related systems to fully implement safety risk management and control,
  provide employees with a healthy and safe working environment, and protect employees'
  occupational safety;
- The Group established quality and safety centers and safety production management committees at all levels, and clarified the safety management organization personnel and their responsibilities of the Group, regional and business units, project companies, so as to build a safety production management network with clear powers and responsibilities;
- A sound system governing safety production objectives and responsibility management was established. Annual safety production objectives were developed according to actual conditions, and the Responsibility Statement for Safety Production Objectives was signed with all major regional and business units under direct management to clarify safety management responsibilities, objectives and assessment requirements. Regional and business units under direct management set safety production objective indicators in order to meet their safety production responsibilities.

#### Environmental Management

- A comprehensive environmental management system was established to implement strict operational emissions management;
- A clean, low-carbon, safe and efficient energy system was established;
- Green and low-carbon working style and other methods were promoted to minimize the impact of our operations on the environment.







# **Protection**

Sustainable Development of BEWG

In 2008, BEWG was born in time, deeply cultivating the field of environmental protection, and chasing dreams of lucid waters and lush mountains. Over the past decade, BEWG has adhered to its original intentior and mission of "Safeguarding Life Sources and Creating Green Environment" and transformed from a traditional water enterprise to an integrated water environment service provider, providing comprehensive environmental renovation services for the government and society. We actively promotes the ecological culture of symbiosis, interdependence and regeneration and built an open and win-win environmental protection ecosystem, contributing positively to sustainable

2013

for Chinese-funded water

companies to successfully

acquire the assets of

 BEWG built a fully underground
 BEWG created a precedent reclaimed water plant with the concept of "underground sewage plant + aboveground landscape

BEWG took the lead in

BEWG built the largest sewage

/G being as a iented modern corporate 2015

 BEWG successfully applied for the BEWG National Postdoctoral Research Station

 BEWG made comprehensive layout of environmental sanitation, solid waste, and clean energy

project of comprehensive water environment renovation of Beijing City Sub-center to help Beijing-Tianjin-Hebei coordinated development

2016

 BEWG established the BEWG Ecological Strategy 2017

Strategy Initiative for Water Industry

Water Ecology Improvement and Comprehensive Utilization PPP Mode Project, being as the model for urban water ecology improvement in water-stressed cities in western China.

 BEWG co-built the academician expert workstation

2018

 BEWG won the PPP
 BEWG advocated the Ecological
 BEWG implemented the "dual platform" strategy to move towards the strategic goal of becoming a light-asset enterprise

> BEWG signed the Baotou Urban
>  BEWG carried out all-round cooperation with the China Three Gorges Corporation, grasping the opportunity of "Yangtze River Environmental Protection" national action plan

> > • BEWG signed the Qinhuangdao Sewage Sludge Treatment PPP Project, innovatively introduced funds, and revitalized urban core stock assets with the light-asset model

 BEWG launched BEWG NEWater technology branded as "AQENT™"

# **Ecological Improvement Drives the Sustainable Growth of BEWG:**

2014

environment service provider"

Way of BEWG

BEWG defined the strategic positioning of

"a leading professional integrated water

BEWG released its corporate culture – The

BEWG became the only overseas water

For the society, BEWG has over the past decade provided high-quality and efficient sewage treatment, water supply and water environment renovation services for over 100 million people worldwide. As of December 31, 2018, BEWG treated more than 1.500 kilometers of rivers and over 7.000 square kilometers of river basins. BEWG has offered water services in villages and towns in 13 provinces, municipalities and autonomous regions across the country, directly serving more than 3,000 villages. Our sanitation business currently covers 14 villages and has established 12 urban and rural integration projects.

For the industry, BEWG innovatively put forward the concept of comprehensive water environment renovation of "8 specialties + 7-color projects + 9 water issues". helping the industry to realize the transformation from ecological governance to ecological value. BEWG has innovated on the financial development model to provide a reference for the industry to address funding bottlenecks. At the same time, BEWG integrates industry resources, leads the development of the water ecosystem, and enhances the service capabilities and comprehensive value of the industry, in order to build an environmental friendly ecosystem that leads and fosters the industry for winwin outcome.

For the government, BEWG responds to the transformation of local government from administration to service by providing high-quality value-added services in multiple formats that cover the entire industry chain, creating high-quality public goods and services, and improving environmental quality for the people.

For the Company itself, BEWG maintains an open, pragmatic working attitude, adhering to the core values of "Responsible, Valuable and Sharing". Over the past ten years, we have efficiency and has become the industry benchmark.

Past achievements are commendable and the future is full of promises. In the past ten years, rankings. We became the "Top 10 Influential Enterprises in China's Water Industry" for eight consecutive years and was selected into Fortune China 500 List for three times. At the crucial stage of comprehensive launch of high-quality development, high-level operation and light-asset transformation, BEWG will firmly implement the ecological strategy, "dual platform" strategy and comprehensive innovation strategy, activate endogenous drive, consolidate growth engines, and stick to original intention of environmental protection. We will serve the national strategy, help win the three critical battles against potential risk, poverty and pollution, protect lucid waters and lush mountains, and join others in building a better world.





# **Safeguarding Life Sources**

BEWG Practice of United NationsSustainable Development Goals

Water is the most precious and critical natural resource in the world. Clean, accessible water for all is an essential part of a better life and there is sufficient fresh water on the planet to achieve this. However, due to economic downturn or outdated infrastructure, millions of people, most of them children, die every year from diseases associated with inadequate water supply, sanitation and hygiene. The measures we choose to protect, treat and recycle water resources will have huge impact on our future living conditions.

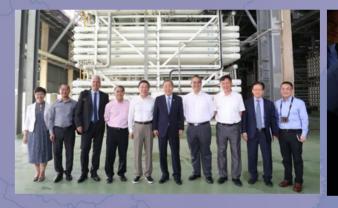


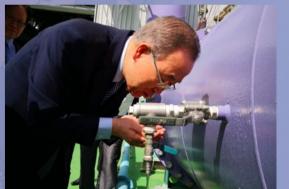
resources of the economy and daily lives but also reduced the discharge of untreated

In July 2018, Mr. Ban Ki-moon, the 8th Secretary-General of the United Nations, visited the Group's Changi NEWater Plant in Singapore. He was informed in detail to the overall situation of the Group and the water plant. He also went to the production line to check the production and tasted NEWater. Mr. Ban Ki-moon said that the United Nations is very concerned about the recycling of water resources to solve major bottlenecks in the development of society, and encouraged BEWG to continue expanding its NEWater service and make greater contributions in solving global water challenges.

Singapore implements a strict high-standard water management system to address its water shortage. BEWG Changi NEWater Plant with the daily design capacity of 228,000 tons is the largest NEWater plant in Singapore, and its NEWater production accounts for more than 30% of Singapore's total NEWater production. The water plant uses the duel membrane process (microfiltration + reverse osmosis) for advanced treatment. By virtue of international leading technology, automatic control design and refined operation management, it provides Singapore with a high-quality supplement to industrial water and running water, playing an exemplary role in the recycling of water resources.

Mr. Ban Kimoon Inspected BEWG Changi NEWater Works in Singapore





Water benefits all things and determines the ecological future. BEWG will continue utilizing its professional technology and experience to offer optimum solutions for protecting and rationally using water resources, managing freshwater ecosystems and sanitation facilities, protecting and restoring water-related ecosystems, and supporting and strengthening the participation of local communities in improving water and environmental sanitation management. We will spare no efforts to safeguard life sources, so as to meet current development needs and ensure future generations have enough resources to develop and prosper.



### **Serving National Strategy**

In 2018, BEWG continued to practice the national strategy of ecological civilization construction and green development, focusing on Beijing-Tianjin-Hebei regions, Yangtze River Economic Zone, Guangdong-Hong Kong-Macao Greater Bay Area and along the Belt and Road, while fulfilling its economic and social responsibilities.

# **Beijing-Tianjin-Hebei Coordinated Development**

The coordinated development of Beijing-Tianjin-Hebei has broad prospects and unlimited potential. However, the Beijing-Tianjin-Hebei region is in serious shortage of water resources which is a major factor constraining urban development. BEWG contributes to the development of Beijing-Tianjin-Hebei regions space by quality engineering in various aspects such as sewage treatment and river regulation.





#### A Reclaimed Water PPP Project in New Aviation City

As the first water company to undertake sewage treatment projects in Beijing new airport area, BEWG is committed to supporting the construction development of the new airport.

BEWG started construction of the PPP-based New Aviation City Reclaimed Water Works in 2017. The project is divided into two reclaimed water plants in the West and East Districts. Both plants adopt A2O+ deep bed filter technology. The produced water quality reaches the Class IV surface water standard. The sludge is dewatered to meet the national standard and then transported for offsite disposal.

The project has both environmental and social benefits, not only providing supplementary water sources for urban rivers, but also improving the investment environment of Daxing District, laying a good foundation for economic development around the new airport.



# Xinfeng River Basin Comprehensive Treatment PPP Project in Daxing District, Beijing

As an important "waterfront landscape belt" of Daxing Water Network in Beijing, Xinfeng River is the key link of water systems in connection with Daxing. Xinfeng water system serves Daxing New City, Yizhuang New City, and New Aviation City. Xinfeng River is the upstream of Tongzhou waterway whose renovation is related not only to the construction of Beijing New Aviation City, but also to the water environment of beijing city sub-center.

BEWG started the construction of the PPP-based Xinfeng River Basin Comprehensive Treatment Project in Daxing District, Beijing in 2017. The project includes river treatment, rural sewage treatment and pollution control, black and odorous water treatment, smart water engineering, and water resources storage and transfer linkage engineering, greenway, waterfront sponge belt, sponge city demonstration project and landscape engineering. Through comprehensive and in-depth cooperation of various disciplines, BEWG has maximized the environmental and social benefits of the project, improved the water quality and surrounding environment of Xinfeng River, and provided strong support for building a beautiful new Beijing.







#### Qinhuangdao Municipal Sewage Sludge Treatment PPP Project

- China's Largest PPP-Based Drainage Facility

In March 2018, BEWG and Qinhuangdao City officially signed the PPP project for sewage sludge treatment in Qinhuangdao City. The project is a prefecture-level project covering the whole drainage business chain integrating the plant and the pipe network. The total investment of the project is RMB 3.68 billion, the largest among existing PPP-based drainage facilities. Implementation of the project will effectively revitalize the infrastructure construction of Qinhuangdao City, spur regional economic and social development, and improve the supply efficiency and performance of municipal facilities. The project has a typical demonstration nationwide.



### **Promoting the Development of Yangtze River Economic Belt**

In 2018, the CPC Central Committee and the State Council clearly demanded the geographical advantage of Yangtze River Economic Belt which spans from the East, Central and Western China was given full play and the coordinated development of the upper, middle and lower streams of the Yangtze River and the high-quality development of areas along the Yangtze River was promoted with ecology as priority and green development as guide. BEWG fully utilized its business advantages, actively participated in the ecological civilization construction of Yangtze River Economic Belt, and promoted the green development of the golden waterway.



# The PPP Project for Comprehensive Water Environment Improvement of Yuhangtang River Basin

The PPP project for comprehensive water environment improvement of Yuhangtang River Basin features full-cycle systemic water quality guarantee, high-standard green ecological building design, and more livable ecological environment experience from the four dimensions of sewage treatment, water treatment, river improvement and mountain parks.

After implementation of the project, the water quality of the Yuhangtang River will be improved as a whole, a river ecosystem established with self-purification capacity improved. At the same time, the landscape greening area will be increased by 750,000 m², landscape leisure space area by 73,000 m², and greenway with slow-moving traffic by 18.5 km, creating a sound living environment for surrounding residents.



Guangdong-Hong Kong-Macau Greater Bay Area is one of the regions with the highest degree of openness and the strongest economic vitality in China. Seizing the opportunity of national strategy, BEWG constantly launches industry-leading high-quality projects with innovation and exploration to help the ecological construction of the Greater Bay Area.



#### **Shaping River Phase II Comprehensive Improvement Project**

The Shaping River in Heshan City, Guangdong Province has a total length of 37.6 km, running through the downtown area of Heshan with several villages and towns around it. It is the "mother river" of Heshan citizens. With the rapid expansion of the city, the industrial and aquaculture industries discharge a large amount of sewage, deteriorating the water quality of the main sections of Shaping River Basin and seriously degrading the ecology. The Shaping River Comprehensive Improvement (Phase I) project covers five major subprojects: urban flood control, road and bridge, landscaping, river clearing and dredging, and sewage interception pipeline network, achieving efficient integration of water supply and drainage facilities and organic combination of traditional water and water environment renovation.

In 2018, BEWG launched Phase II project construction. Through a series of measures, it helped delivering a number of management concepts with advanced demonstration effects such as integration of plant and network, integration of water supply and drainage, integration of urban and rural water affairs, integration of

water and water environment, intelligentization of water industry chain and environmental education on a regular basis.

The comprehensive improvement project of Shaping River has achieved remarkable results, not only improving the water quality and surrounding ecological environment of the mother river essential to Heshan people's lives, but also passing on and carrying forward the traditional water culture of Heshan.











# Practising the "Belt and Road Initiative" to Promote the Ecological Rejuvenation of the Silk Road

2018 is the fifth anniversary of the "Belt and Road Initiative". In the past five years, China has cooperated with the countries along the "Belt and Road" to build a bridge of cooperation and friendship and a road of common prosperity through infrastructure construction. BEWG has responded positively to the "Belt and Road Initiative" by accelerating our globalization, which brings new development and cooperation opportunities for countries and regions along the Belt and Road.



# BEWG and Urumqi Municipal Government Signed a Framework Agreement on Water Industry Reform Project

In 2018, the pilot project of the "Water into the City" program in Urumqi (Shiqihu Wetland, Dazhai Gate Park) was initially completed and the Heping canal treatment project was put into construction.

In the same year, BEWG and Urumqi Municipal Government signed the Cooperation Framework Agreement on Mixed Ownership Reform of Urumqi Water Industry Group. Through teaming up with BEWG superior resources, the project will integrate institutional innovation and existing resources to revitalize the assets of Urumqi Water Industry Group. It is an important task for Urumqi to deepen the reform of state-owned enterprises, a solid foundation for further promoting the implementation of the "Water into the City" program and "Urban Water Supply Construction Project" and help building Urumqi into a livable core city along the Belt and Road.









# BEWG and Portugal Cooperate on the Construction of International Water Industry Exchange Platform Lis Water

BEWG actively involves in the construction of the "Belt and Road" and takes the lead role explore the Portuguese market among Chinese water companies. As early as 2013, BEWG successfully acquired 100% stake of two wholly-owned subsidiaries of Veolia Portugal, creating a precedent for Chinese water companies to successfully acquire the assets of overseas famous water companies.

In December 2018, under the initiative and promotion of the Portuguese Ministry of Energy and Ministry of Foreign Affairs, BEWG signed a memorandum of strategic cooperation with Lisbon International Center for Water and Portuguese National Laboratory for Civil Engineering to jointly build Lis Water, an international training institution focused on the future development of the water industry, to disseminate cutting-edge expertise, deepen exchange and cooperation between China and Portugal, Asia, Europe and even the world's water industry, and contribute to "the Belt and Road Initiative".



### **Providing Comprehensive Environmental Protection Solutions**

BEWG has innovatively proposed the comprehensive water environment improvement concept of "8 specialties + 7-color projects + 9 water issues" to help the industry transform from ecological governance to ecological value.

### **In-Depth Exploration of Water Business**

In 2018, BEWG established a development strategy based on the "1+N" operational excellence model and the whole process operation control system. Guided by business needs and driven by technological innovation, it continued to expand and strengthen the two core businesses of water business and comprehensive water environment improvement.



# Beijing Mayor Made a Field Research of Daoxiang Lake Water Plant after One Year of Operation

Daoxiang Lake Reclaimed Water Plant is one of the key operation projects of BEWG in Beijing. It has been listed as an important supporting municipal project in the construction of an new area in ecological science and technology in the northern part of Haidian District. In May 2018, the Beijing Mayor and his entourage came to Daoxiang Lake Reclaimed Water Plant for field investigation. They inspected patented technologies adopted by the water plant such as multi-level and multi-stage biological deodorization, multi-point water inflow innovation, and immersion ultrafiltration. The Mayor highly praised the plant for the fully underground construction and its important role in regional water environment renovation.





# The Reconstruction and Expansion Project of BEWG Jiangkou Sewage Treatment Plant Finished in Advance, Contributing to the Municipal Water Services

The reconstruction and expansion project of Jiangkou Sewage Treatment Plant in Taizhou City of Zhejiang Province is a key project for people's livelihood which promoted urban function and improved people's living environment. Despite the tight schedule, heavy workload and construction difficulty, the project of Jiangkou Sewage Treatment Plant was put into operation 11 days in advance up to BEWG staff's hard work such as reverse scheduling and clear target setting. The project was well received by local residents and the government. After the extension project finished, the average sewage treatment amount per day of Jiangkou Sewage Treatment Plant increased from 80,000 tons to 120,000 tons, increasing 50% compared to the original, which would largely increase its handling ability to Taizhou's industrial sewage and domestic sewage. Besides, it exerted a profound influence on aspects such as eliminating pollution, releasing sewage treatment pressure, elevating water quality of river, etc.

### **Expanding Water Environment Services**

BEWG continuously improves the ecological environment, enhances urban water environment, and expands the range of water environment services. In addition to traditional black and odorous water treatment, river dredging, water system improvement, and ecological restoration, it undertakes new PPP projects, such as reservoir drainage. By expanding the water environment business scope, we continuously improve water quality, improve the living environment of residents, and contribute to regional development.

At the same time, the Group provides high-quality value-added services in multiple formats across the entire industry chain, and creates high-quality public goods and services in line with the functional transformation of local government from "administration to service".



# Pollution Treatment Project for Black and Odorous Water in 3 Rivers in Zengcheng, Guangzhou Achieves Breakthroughs, Driving Development of the Neighbor Area

In November 2018, the consortium led by BEWG successfully won the EPCO project of water environment renovation of 33 first-level tributaries of Dongjiang River North Trunk in Zengcheng District, which was to treat the black and odorous waters of the 33 tributaries. Through a sustainable ecological restoration model, the project completely eliminated black and odorous waters and improved water quality within the treatment scope of Zengcheng. This district is an important demonstration area of Guangdong, Hong Kong and Macau Dawan Area, the Pearl River Delta city agglomeration and Guangzhou and Shenzhen economic belt. It includes33 primary tributaries, which was the major water-supply source for the east of Guangdong, Shenzhen, Heyuan, Huizhou, Dongwan, etc, as well as for Hong Kong. The Zengcheng project has met the water demand of nearly 40 million people and ensured that the water quality of discharge into Dongjiang River is up to standard and that the drinking water is safe, making Dongjiang River "important water in political, economic and life senses" for the Guangdong-Hong Kong-Macao Greater Bay Area and Guangdong Province, and built Zengcheng District into a more competitive ecological model within the Guangdong-Hong Kong-Macao Greater Bay Area.







The Water System Comprehensive Renovation in the Central Area of Gulou and Taijiang Districts, Fuzhou was Selected into the Fourth Batch of PPP Demonstration Projects by the Ministry of Finance

Since the launch of the water system comprehensive renovation project in the central area of Gulou and Taijiang districts in Fuzhou in 2017, BEWG has worked for more than two years to eliminate 10 black and odorous water bodies in the treatment area, helping Fuzhou create a water environment with "lucid water, green banks, beautiful landscape, and harmony between man and water". At the same time, the Group put emphasis on both construction and management. It established a corporate river chief system to enhance the comprehensive effectiveness of water renovation. allowing the whole society to contribute to and share the healthier and more beautiful waters.







### **Promote Business Innovation and Development**

In 2018, Beijing Enterprises Water Group actively expanded its desalination business in overseas markets, providing high-quality water security for local residents in Australia and solving the problem of fresh water shortage. At the same time, the Group continued to pay attention to rural environmental protection. This year, the Group officially established the Village and Town Division to promote rural water services and rural environmental protection, thereby contributing to China's rural revitalization.



# Australian Desalination Plant Improves Drought Resistance in South Australia

In April 2018, BEWG officially completed the acquisition of Adelaide Desalination Plant. Adelaide Desalination Plant supplies 100 billion litres of water a year, providing a continuous supply of water to South Australians. It isequivalent to half of the water used in Adelaide, which greatly improves South Australia's ability to cope with drought. The application of innovative technologies such as ultrafiltration membrane pretreatment and innovative reverse osmosis (RO) membrane not only ensures that it has one of the lowest operating costs among Australia's large desalination plants, but also meets environmental sustainability requirements.





# "Yixing Model" Realizes All-Formats Ecological Infrastructure Service as a New Model of Rural Pollution Control

The Yixing Rural Wastewater Treatment Project is the largest project in rural China. Since BEWG and the Yixing Municipal Government officially launched the cooperation for the rural sewage treatment PPP project and the urban and rural sewage pipe network PPP project, BEWG has continuously explored new models for rural pollution control. BEWG has formed a set of governance models for "ecological infrastructure all-formats service", providing a series of infrastructure services such as sanitation, water, gas, photovoltaic and energy for villages and towns and realizing the coordinated development of village and township industries and ecological conservation.





# Promoting Industry Cooperation and Integration

Committed to achieving "crossover cooperation", BEWG promotes crossover cooperation in business, technology, talent and capital aspects. In terms of "resources development, capabilities aggregation, joint innovation, and value creation", it works with all walks of society to develop together.



### **Co-Building an Environmental Friendly Ecosystem**

BEWG continuously promotes the integration of industry resources, and enhances the service capabilities and the comprehensive value of the industry to build a community of shared eco-destiny with local ecological environment undertakings and various stakeholders.



# Huai'An Water Research Institute Implements Ecosphere Construction with "Four Circles Sharing the Same Center"

Through the construction of "Survey and Design Ecosphere", Huai'an Water Resources Survey and Design Institute abandoned the traditional conservative thinking and signed cooperation framework agreements with six enterprises and institutions. The institute formulated the development plan based on corporate characteristics and the new requirements raised by the comprehensive environmental renovation project. The "Ecosphere" strives to build "Seven Functional Modules" of traditional water conservancy, municipal water services, garden landscape, water environment treatment, project management, survey and mapping, and EPC by working with universities, companies, government, and industry chain ("four circles sharing the same center"), in order to promote the common development of all parties in the environmental protection industry.



# BEWG Seized the Opportunity of "Great Yangtze River Protection" to Carry Out Strategic Cooperation with the Three Gorges Group

In September 2018, the Group signed the Framework Agreement on Strategic Cooperation for the Protection of the Yangtze River with China Three Gorges Group. Taking urban sewage treatment as a pilot, the Three Gorges Group established Yangtze River Eco-Environmental Industry Alliance and China Yangtze River Green Development Investment Fund. As a core member of the Yangtze River Eco-Environmental Industry Alliance, BEWG was involved in the formation of the alliance, and will further promote the cooperation between the two sides in solid waste treatment and create a model for urban infrastructure cooperation and development. The two sides will give full play to their respective advantages, create a new model of all-round cooperation and joint development of central and local enterprises and continuously expand cooperation space for common development.

### **Promoting Industry Integration**

As China has fully ushered in a new era of ecological civilization construction, the water industry is facing new tasks and new requirements. Facing the new environment, BEWG constantly innovates and changes itself, actively promotes industry integration and explores the development path with the industry to build a more open ecosystem.



#### **BEWG Co-Organized the 16th Water Industry Strategy Forum**

In April 2018, the 16<sup>th</sup> Water Industry Strategy Forum, hosted by the E20 Environmental Platform and co-organized by BEWG and other companies, was held in Beijing. With the theme of "Follow Through the Reform: Building Ecological Future Based on 20-year Development of Water Industry", the forum emphasized the construction of ecological civilization from the height of the five-in-one national strategy, and called on strengthening ecological conservation with unprecedented determination and intensity and reforming and improving the ecological environment management system.

At this forum, industry leaders, outstanding financial institutions, industry media, industry research institutions, governments and water industry stakeholders gathered to interpret the status quo of Chinese water environment market in terms of industry ecosystem, industry integration and industry-finance integration. Also, the implementation of the theory of "clear waters and green mountains are as good as mountains of gold and silver" was discussed. All participating parties explored the road to systematic water industry innovation together.



#### **BEWG Established Technical Committee on Water Environment**

On January 26<sup>th</sup>, 2018, the BEWG Technical Committee on Water Environment was formally established by the Group's Water Environment Research Institute. It is dedicated to strategic planning and business development of the Group's water environment business. With the help of experts, the Committee will actively promote the Group's Research and Development (R&D) on key and supporting technologies in the field of water environment and effectively solve difficulties in water environment services. It will support the development of BEWG's water environment business, and promote the Group's construction of technology ecosystem and the common progress of the industry.







#### BEWG Debuted at the 8th China Water Industry Academician Forum

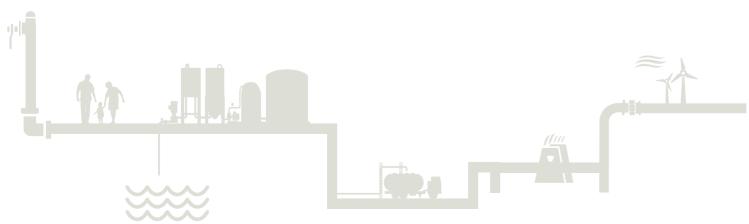
During April 21<sup>st</sup> -22<sup>nd</sup>, the 8th China Water Industry Academician Forum cum Water Ecological Civilization Construction Summit was held in Shanghai. BEWG Senior Vice President and Dean of Water Environment Research Institute Yang Guang, Chief Consulting Engineer and Director of Technical Committee Hang Shijun, and Director of Operations Liu Weiyan, attended the forum where they made keynote speeches and participated in panel discussions.

At the forum, BEWG debuted in several sub-forums such as "Comprehensive Treatment and Sustainable Development of Watershed Water Environment" and "Smart Water Construction and Operation" to share industry experience, to discuss ways and means of deepening water environment treatment, and to show BEWG's win-win plan for smart water construction, exploring a win-win model for the industry. At the opening ceremony, BEWG was awarded the "Management and Industry Contribution Award", which represented the industry's unanimous recognition of BEWG for its contribution and achievements in recent years in promoting the development of water environment industry.



# BEWG Joins Chinese Academy of Sciences and Chinese Academy of Engineering in the Industry Top-Level Design

On January 6, BEWG held the "Expert Forum of Water Environment Research Institute", inviting Liu Changming, an academician of the Chinese Academy of Sciences, and Wu Fengchang, an academician of the Chinese Academy of Engineering, to share new perspectives on the top-level design for comprehensive water environment improvement. Academician Liu Changming elaborated the relationship between climate change and hydrological response. Academician Wu Fengchang explained the river basin water environment risk assessment and early warning technology research and engineering demonstration. BEWG, the Chinese Academy of Sciences and the Chinese Academy of Engineering discussed the topics of water environment service, smart water environment exploration and practice, etc. and shared industry dynamics and cutting-edge research. They work together to continuously promote the common development of the industry.

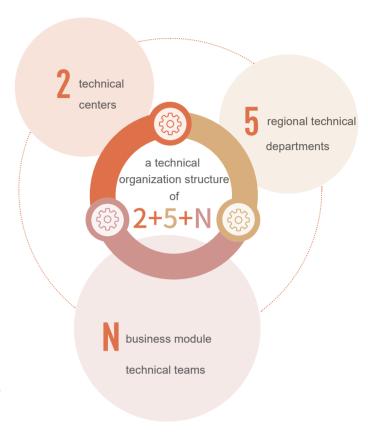


# **Leading Scientific and Technological Innovation**

Technological innovation is an important path to business progress and to serving the country and society. BEWG has built a technical system with a strategic orientation, formulated a blueprint for technology, continued to strengthen institutional guarantees for technological innovation, and actively promoted the use of smart technologies for multiple businesses.

In order to improve the independent R&D and technology identification system, BEWG built a technical organization structure of "2+5+N", namely 2 technical centers, 5 regional technical departments, and N business module technical teams, aiming to build a technical system with top-level design and cross-discipline integration with the Technical Committee as the core.

This year, the Group promoted the standardization of technical systems. On the one hand, the traditional water technology segment was realized for hierarchical management of projects. BEWG implemented the policy of "designer responsibility", and established emergency mechanism. On the other hand, the Group issued three major workbooks and the *Technical Support Procedures Document for Water Environment* 2018 Edition to guide the technical practice of projects throughout life cycle, and dispatched technical staff to support the capacity building of regional units.





At the same time, the Group participated in the preparation and revision of six national, industry and local standards, including the Application for Sewage Permits and Issuance of Technical Regulations for Water Treatment (Trial) (HJ 978-2018), Quality of Water from Urban Sewage Recycling for Landscape Environments, Clean Production Evaluation Index System for the Industry of Sewage Treatment and Recycling, Technical Regulations for Restoration and Operation and Maintenance of Urban Landscape Lake Water Ecology, Design Regulations for River and Lake Ecological Restoration, and Technical Regulations on River and Lake Environmental Dredging and Sediment Treatment and Disposal.







#### **BEWG Co-Builds a National Water Environment Big Data Integration Platform**

On January 6, 2018, the major project of water pollution control and treatment science and technology was officially launched, namely the "National Key Technology Research for the Construction of Big Data Platform for Water Environment Monitoring and Watershed Environment". To meet the new requirements for water environment quality management raised by the Action Plan for Water Pollution Prevention and Control, BEWG will focus on cracking key technologies such as monitoring and assessment of water ecological environment, quality prediction and early warning, urban water environment remote sensing monitoring, and water environment integrated simulation, etc.. The Group will co-build the national water environment monitoring and management big data integration platform to achieve information-based national watershed water environmental quality management. By participating in the construction of the platform, BEWG promoted the innovation of basin water environment treatment and achieved refined management, which is of great significance for effective basin protection under the new normal.



#### **BEWG Officially Launched the Technology Brand AQENT**<sup>™</sup>

On November 16th, 2018, the Group officially launched the technology brand as AQENT<sup>TM</sup> which aims to achieve efficient development and recycling of water resources. Also, AQENT<sup>TM</sup> was designed to to provide customers with professional services throughout the life cycle from investment, financing, design, construction to operation. AQENT<sup>TM</sup> uses its own core technology, and the water produced has passed 189 tests with the quality far beyond the standards for drinking water of China, the World Health Organization, and the US Environmental Protection Agency and can meet most industrial production requirements. The AQENT<sup>TM</sup> concept has been successfully in use in Singapore Changi II NEWater Project and is highly recognized by the Singaporean government.



### **Driving Smart Applications**

In 2018, the Group continued to promote the development of smart products for water, water environment, and sanitation services based on business needs, and supported by the independent projects and existing technology systems.

Since 2017, BEWG has launched several smart water construction projects and gradually transformed to an enterprise based on intelligence and digitalization. The Group completed the construction of such systems as Dongguan Dalingshan "Cluster High-Efficiency Intelligent Water Plant", operation expert system, and "river chief connect" system and released digital twin concept versions, laying a solid technological foundation for operational excellence building in such businesses as traditional water supply, drainage, water environment renovation, village sewage treatment, etc.



On April 22nd, at the 8th China Water Industry Academician Forum, BEWG announced the concept version of the independently developed "Digital-Twin of Sewage Treatment Plant". Based on the actual water plant, the "Digital-Twin of Sewage Treatment Plant" integrates static data, dynamic data and production management data. It visually presents the past and present status, and predicts future status of the water plant through mechanism model analysis, big data analysis and other methods. Combined with expert system, the "Digital-Twin of Sewage Treatment Plant" provides advice and support for operational management decision-making. Through this intelligent technology, such functions as water quality prediction, water volume prediction, biochemical analysis, and equipment fault diagnosis can be realized, and a data-driven intelligent machine-led model can be formed to provide support for the efficient operation and management of BEWG.







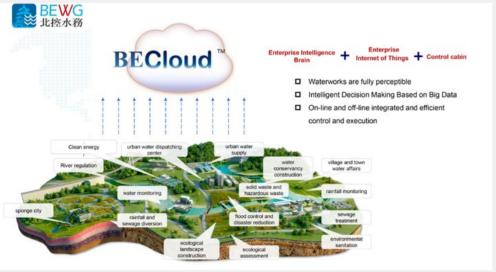
#### **Enhancing the Intelligent Applications in Traditional Water Services**

Through the application of cloud computing, big data analysis, Internet of Things, artificial intelligence and other technologies, BEWG has built a number of high-efficiency intelligent water plants in Dongguan, Guangdong.

Through intelligent technology, intelligent control of the whole process of sewage plant, centralized monitoring of regional centers, intelligent management of mobile inspection, and information management of the operation and maintenance platform, manpower-starved water plants have replaced manual labor with automatic control system which automatically complete such key processes as aeration, lifting, and dosing, realized the connectivity of operation, equipment, facilities, inspection, maintenance, etc., while continuously improving the intelligent applications in traditional water services.







In terms of intelligent applications in water environment, in 2018 BEWG carried out the planning of water environment product system, built an overall technical structure, formulated product development standards, and formed a product system of two core products, eight business systems, and two supporting systems.



# BEWG Launches a Handheld Cutting-Edged Technology: River Chief System Smart Platform

On December 11th, 2016, the central government formulated and issued the *Opinions on Comprehensive Implementation of the River Chief System*, and many provinces, municipalities and autonomous regions such as Beijing and Tianjin responded positively. In order to make the "river chief system" to be more convenient and efficient, the River Chief System Smart Platform came into being. The platform is one of the results of BEWG's exploration in the field of smart water including several features of WeChat account for public participation, river chief patrol mobile, river chief administration for PC, and river chief information collection and interaction bulletin. It is a working platform for river chiefs integrating river basin treatment and control, regional cooperation, and city-wide resource sharing, and can effectively solve the major problems of river chief system administration.



In terms of smart sanitation, BEWG has implemented a strategic principle of "integration, intelligence, and all-formats", using technologies such as smart garbage sorting and smart sanitation to "reduce the burden" on government and "free the hands" of urban sanitation departments.



#### Kunming Community Set Up Intelligent Garbage Sorting Room

Since 2017, the Xishan District Government Building in Kunming has set up the BEWG intelligent garbage sorting rooms, becoming the first pilot unit for garbage separation in Xishan District. The room is equipped with devices for deodorization, sterilization, induced placement, wireless scanning, intelligent weighing, remote monitoring. After people dump garbage at the designated point, the deodorizing equipment starts automatically combining with intelligent weighing equipment, achieving networking across the board. Intelligent sanitation equipment helps improving the work efficiency of sanitation departments and staff "freeing the hands" of sanitation departments. In the first half of 2018, the Xishan District Government Building collected nearly 800 kg of recyclables.







# Actively Carrying out Cooperation of Production, Education and Research

In 2018, the Group carried out important measures for comprehensive ecological cooperation in the technical field. It formally established an academician expert workstation and China Eco-Environmental Industry and Education Alliance, taking new steps in cooperation of "production, education, research, and application" and giving play to the leading role of enterprises in the reform of vocational education and higher education.



#### **BEWG Launched an Academician Expert Workstation**

On May 24, the opening ceremony of BEWG academician expert workstation was held at the headquarters of the Group. BEWG introduced the recent scientific and technological work of the Group and the construction of the academician expert workstation, including scientific research system construction, R&D team building, technological innovation platform, technology R&D output, and workstation management, as well as the development and the latest digital results of the Group. Academicians and officials from the Beijing Association for Science and Technology expressed their congratulations for the official unveiling of the BEWG academician expert workstation, and said that they would continue to pay attention to the work of the workstation and provide comprehensive and full-process supporting services.







#### China Eco-Environmental Industry and Education Alliance was Established

In November 2018, BEWG and Hebei University for Environmental Engineering (formerly the Environmental Management Cadre College of China) teamed up with similar institutions, industry associations, enterprises and institutions, and social groups in establishing a national environmental industry and education alliance - China Eco-Environmental Industry and Education Alliance (hereinafter referred to as "the Alliance"). Bonded by



specialty and industry, the "Alliance" gathers and expands the comprehensive strength of the environmental industry and higher education in terms of personnel training, teaching and research, practical training, skill appraisal, project R&D, information consultation, and technical services, and on the basis of connecting government, universities and colleges and environmental enterprises, serves as a platform for exchanges and resources sharing at home and abroad to meet the needs of environmental industry for high-quality professional talents and further promote the development of environmental protection industry.



# BEWG and Beijing Normal University Launched Cooperation in Scientific Research

On January 6, BEWG officially launched strategic cooperation with Beijing Normal University to build a "Future Urban Water Environment Research Platform". Through this strategic cooperation, the two parties combine the BEWG's abundant practical experience with Beijing Normal University's technology R&D capabilities to jointly build a model and benchmark for industry-university-research cooperation. Through resource sharing and mutual cooperation, BEWG will promote the landing of water environment research projects of Beijing Normal University and provide a practical platform for industry researchers. At the same time, Beijing Normal University's technology R&D capabilities will enhance the core competitiveness of BEWG, and provide a good opportunity for the Group's talent training. The two parties will build a high-end think tank for future urban water environmental protection as leaders in ecological and environmental protection.



# BEWG Held the First "Internet +" Water Environment Innovation and Entrepreneurship Competition

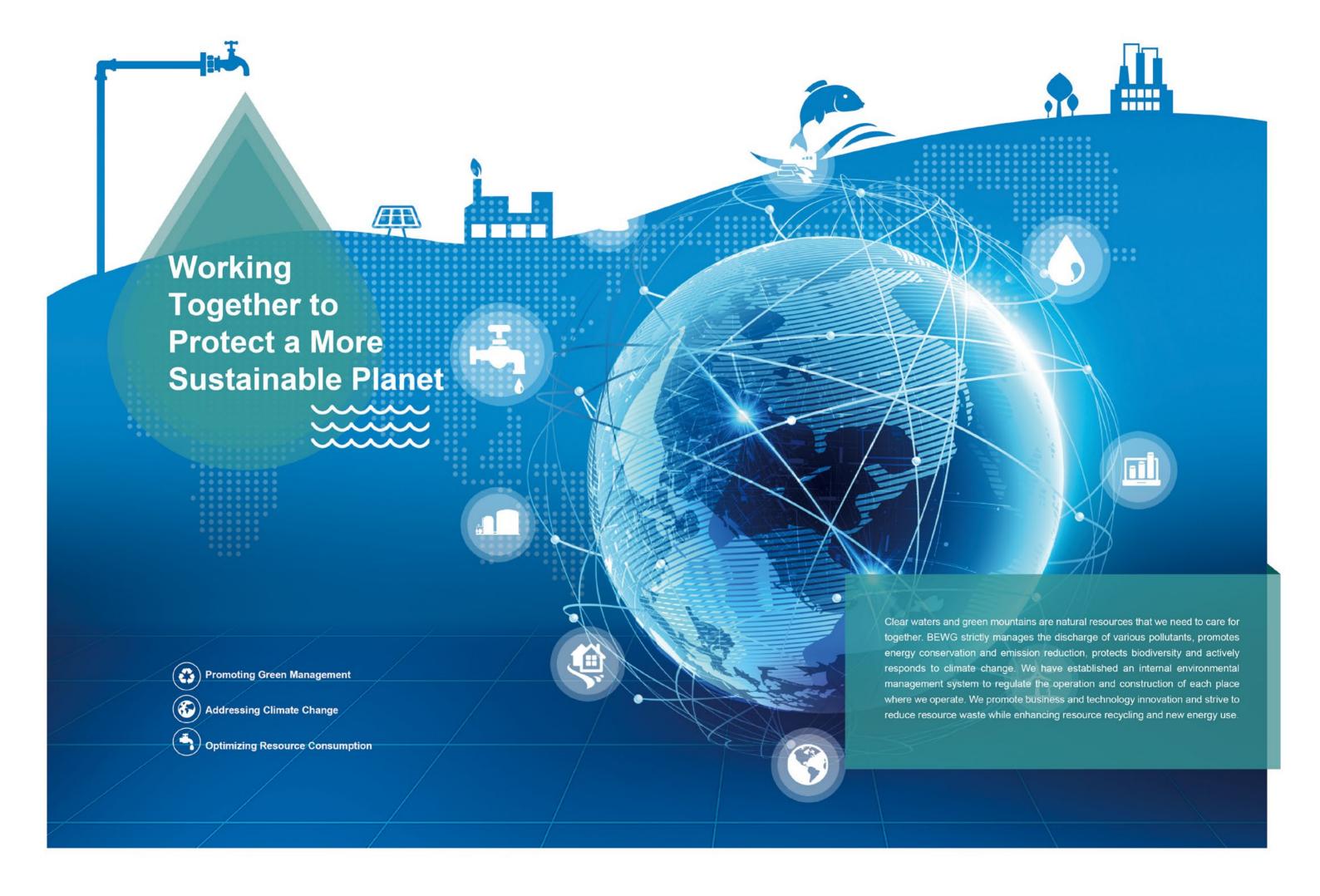
In 2018, the Group held the first "Internet +" Water Environment Innovation and Entrepreneurship Competition with the theme of "Water Benefits All Things, Innovation Defines the Future" to promote reforms of higher education and enhance the core competitiveness of the industry. The event set up a platform for water environment innovation and entrepreneurship projects to dock with industrial resources, promoting environmental protection concepts and environmental education to the whole society. The competition drew



great attention from Beijing Normal University, Huazhong University of Science and Technology, China University of Geosciences, Harbin Engineering University and many other national colleges and universities. Through level-by-level selection and rigorous review, 19 project teams stood out and entered the national finals.



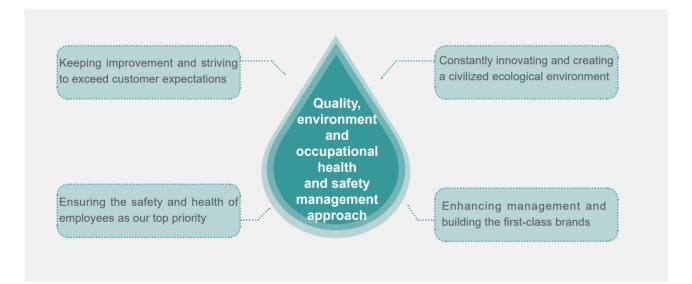




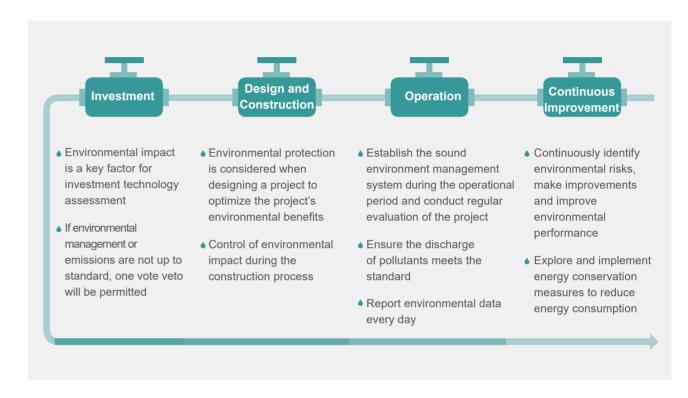
## **Promoting Green Management**

### **Environmental Management System**

BEWG actively fulfills its environmental responsibilities and strictly abides by various environmental protection laws and regulations such as the *Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste, the Law of the People's Republic of China on Prevention and Control of Water Pollution the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, to reduce the environmental impact of its business activities. BEWG established a strict environmental management and product liability management system. According to the ISO14002-2000 environmental quality management standards and other relevant requirements, we established corresponding environmental and quality management systems, such as the Quality, Environment, Occupational Health and Safety Management Manual, Quality, Environment, Occupational Health and Safety Procedures Document and Practice and Measures of Key Control Nodes in Traditional Water Construction Projects.* 



We have implemented environmental management throughout the entire process, minimizing negative environmental impacts and maximizing environmental benefits from investment to design and construction. We strictly implement the operation management system, adhere to up-to-standard discharge and must not cross over the red line for ecological protection, and are committed to continuous improvement to save energy, lower consumption, reduce pollution and increase efficiency during the entire process.



As an environmental protection company, BEWG attaches great importance to every detail of environmental protection in the operation and construction process. We standardize environmental management measures in our operations and strictly control all types of emissions. Our work is divided into five segments: preventing air pollution, preventing water pollution, preventing light pollution, preventing construction noise pollution, and waste management.







#### BEWG Measures for Environmental Protection and Energy Conservation of **Construction Projects (Partial)**







#### **Preventing Air Pollution**

- Construction waste shall be cleared and transported in time, and water sprayed as appropriate to reduce dust.
- On-site temporary roads must be paved with hardened concrete or cement hexagon blocks to prevent road dust.
- Measures must be taken to sprinkle water and reduce dust on the construction site, and supervision must be in place.

#### **Preventing Water Pollution**

- ♦ Where there is need for mixing operations involving concrete mortar, a sedimentation tank must be set up so that the wastewater from machinery and transport vehicle cleaning can be discharged into municipal sewage pipeline after being precipitated.
- Warehouses where oil is stored must be treated for leak prevention. Measures shall be taken to prevent running, dripping, and leaking of oil from polluting water bodies during storage and use.
- Simple and effective grease traps shall be set up • on the construction site and drained on a regular basis to prevent pollution.





#### Waste Management

- ▲ Temporary storage sites for wastes shall be set up at the construction site. Wastes shall be sorted before storage. Wastes that may cause secondary pollution shall be stored separately with safety precautions and eye-catching signs should be posted.
- Wastes shall not be scattered or mixed in transportation, and shall be sent to government-approved unit or site for treatment and consumption. Recyclable wastes shall be recycled.



#### **Preventing Construction** Noise Pollution

- Construction units must offer safety construction education for workers on the construction site, and establish and improve a management system that controls man-made noise. Supervision units must test the noise during the construction process to avoid noise pollution.
- Supervision units must strictly monitor the working hours of operations with loud noise. Construction on special sections should start only after filing with relevant environmental protection authorities.

# Preventing Light Pollution

- ▲ There shall be no everlasting lamps at the project site, and excessive lighting shall be avoided during construction at night except necessary lighting.
- Lighting at the construction site shall be concentrated to cover only the scope of site and avoid the impact on adjacent traffic.



### **Protecting Biodiversity**

Biodiversity is the foundation of natural resources and impacts the health of ecosystems. Biodiversity helps conserving water, improving water quality, and buffering the pressures that pollutants bring to ecosystems. BEWG values biodiversity by focusing on biodiversity conservation throughout the life cycle of the project, while striving to reduce the impact of operations on protected areas and areas of significant biodiversity value. In the process of designing, building and operating the project, we adhered to an environmental friendly attitude and promised to apply release level approach while developing business in regions with global or national important biology diversity. We established and implemented a strict environmental supervision system for project construction, aiming to minimize our impact on ecosystem. At the same time, we invited local environmental protection agency to have a daily supervision on the project, ensuring to reach the best environmental standard and protect biodiversity and ecosystem. In addition, we took environmental factors into account during the planning phase of water environment treatment projects. We applied ecological technologies such as artificial wetlands and low-impact development. We used grey-green combination measures to improve live conditions for animals while purifying water resources, creating a harmonious symbiosis between man and nature.



#### Protecting the Ecological Environment around Erdaosha River in Baotou

In 2018, we used ecology blocks to build river retaining wall in Erdaosha River in Baotou, creating an ecological shelter for amphibians and fish. On one hand, the river retaining wall increases riverside porosity to promote the growth of aquatic plants in the river. On the other hand, water permeability in the retaining wall increases, which is conducive to the increase in plant density. The river retaining wall respects biodiversity, maintains nutrients and water cycles, and maintains the quality of plant and animal habitats.



#### Protecting the Egret Habitat around Shaping River in Heshan City, Guangzhou

In 2018, we restored the beach in the center of river in Heshan to protect the egret habitat. We adopted various measures to improve the water quality of Shaping River. As a result, the number of fish and shrimp in the river has gradually increased. We reconstructed river course and repaired the shrinking natural beach, building a good habitat for egrets - the national second-class protected animal. The restoration project created a beautiful scene of egrets flying over lush aquatic plants in Shaping River, Heshan.







# **Addressing Climate Change**

Closely related to water resources, climate change has exacerbated imbalance of water resources among regions. We strive to strengthening water infrastructure to mitigate the effects of climate change. We developed an independent climate change strategy, identifying climate change risks such as extreme weather associated with our business. This climate change strategy is also closely related to the Company's business strategy. We fully protect the safety and efficient operation of water infrastructure, such as enhancing urban drainage and timely treating sewage to reduce the negative impact of extreme weather. At the same time, we took advantages of our business to offer effective water supply facilities in arid areas. In addition, we are committed to promoting clean energy sources to reduce greenhouse gas emissions and address climate change from the source.

We comply with emission standards in all localities where we operate. We adopt various effective measures for energy conservation and emission reduction and combine such measures with employee performance. In 2018, our total greenhouse gas emissions were 996,198.91 tons of carbon dioxide equivalent.

#### Greenhouse Gas Emissions in Major Business Segment of BEWG in 2018

Unit	Greenhouse Gas Emissions
tCO <sub>2</sub> e	963,732.12
tCO <sub>2</sub> e	1,965.84
tCO <sub>2</sub> e	964.05
tCO <sub>2</sub> e	7,231.00
tCO <sub>2</sub> e	22,279.11
tCO <sub>2</sub> e	996,198.91
	$tCO_2e$ $tCO_2e$ $tCO_2e$ $tCO_2e$

1: Overseas business GHG emissions only includes GHG emissions from operations in Portugal.

#### **Waste Generation in Office Buildings in 2018**

Waste Type	Unit	Amount
Hazardous waste generated in office process (e.g. waste ink cartridges, waste lamps, etc.)	tons	7.84
Office garbage	tons	979.23
Other general waste	tons	99.14



### **Sewage Treatment and Recycling, Water Supply Services**

BEWG provides comprehensive solutions for investment, construction and operation management of water sources, water transmission, water supply, sewage treatment businees, reclaimed water, and pipe network operations. At the same time, its comprehensive water environment improvement segment continuously optimizes the concept of water ecology renovation innovation to provide a green and livable living environment for the society and to deliver the vision for a better ecosystem.

#### **Environmental Performance of Water Business**

Pollutants Type	Unit	Pollutant Reduction in 2018
COD reduction	tons	667,009.1
Ammonia nitrogen reduction	tons	68,400.1
Total phosphorus reduction	tons	9,970.2

#### **Emission Types and Emissions of Water Business**

Emissions type	Unit	Emissions in 2018
COD emission	tons	76,946.03
Ammonia nitrogen emission	tons	6,260.35
Total phosphorus emission	tons	1,589.9
Hazardous waste from sewage treatment process	tons	37,748.24
Sludge	tons	1,847,305.96
Office garbage	tons	2,658.37





#### **Overseas Business**

BEWG implements the "going global" strategy steadily. With Singapore's international business headquarters as the center, BEWG has operations in Asia-Pacific market, Europe, America, Africa and the Middle East. Relying on strong capital strength, leading technology and rich management experience, it expands business in international water market. BEWG actively implements "the Belt and Road Initiative", using its strength to shape the "China Label" in global water and environmental protection market.

#### **Environmental Performance of Overseas Business**

Type of Pollutants	Unit	Pollutant Reduction in 2018
COD reduction	tons	20,600.97
Ammonia nitrogen reduction	tons	401.87
Total phosphorus reduction	tons	48.37

#### **Emission Types and Emissions of Overseas Business**

Emissions Type	Unit	Emissions in 2018
Total wastewater discharge	tons	108,835,438.10
COD emission	tons	2,406.87
Ammonia nitrogen emission	tons	7.44
Total phosphorus emission	tons	3.72
Sludge	tons	12,169.87

#### **Environmental Sanitation and Solid Waste**

We actively work towards the management objectives of "harmless, reduction, and resourceful" treatment of solid waste in China, and develop environmental sanitation and solid waste segment including treatment and disposal of hazardous waste, kitchen waste, sludge and other solid wastes. We own a number of inventions and utility model patents in the field of solid waste treatment, and have passed ISO9001 quality management system, ISO14001 environmental management system and OHSAS18001 occupational health and safety management system certifications.



#### **Environmental Performance of Environmental Sanitation and Solid Wastes**

	Type of Pollutants	Unit	Pollutant Reduction in 2018
Environmental sanitation	Municipal solid waste treatment	tons	289,759.65
	Annual sludge treatment	tons	10,344.21
	Annual domestic waste treatment	tons	449,842.83
Solid waste	Annual kitchen waste treatment	tons	14,141
	Annual medical waste treatment	tons	2,071.75
	Annual hazardous waste treatment	tons	10,372.63

#### **Emission Types and Emissions of Environmental Sanitation and Solid Wastes**

	Emissions Type	Unit	Emissions in 2018
Environmental sanitation	Total amount of waste for landfill	tons	125,203.60
	Wastewater discharge	tons	39,851.12
	COD emission	tons	2.35
0.17.11	Ammonia nitrogen emission	tons	0.57
Solid wastes	Sulfur dioxide emission	tons	17.14
	NOx emissions	tons	211.97
	Office garbage	tons	21.71

### **Seawater Desalination**

Since 2009, BEWG has included seawater desalination into our development strategy. We constantly innovate to advance the progress of desalination technology and strive to provide fresh, clean and safe water resources for water shortage areas.







# **Optimizing Resource Consumption**

Natural resource consumption reduction, energy conservation and emission reduction is the driving force for BEWG to persist. We monitor the resource consumption data of each business segment, strive to improve the efficiency of resource use, and reduce the environmental impact of the Company's business. In 2018, we promoted technological innovation, developed new energy businesses, adopted new technologies to intelligently manage construction projects and optimize office environment, and contributed new ideas for environmental management to sustainable development.

Energy Type	Unit	2018 Consumption
,	Water Business	
Power consumption	kWh	943,755,996.87
Consumption of renewable energy	kWh	18,565,288.60
Gasoline consumption	tons	424.42
Natural gas consumption	m3	148,656.70
Diesel consumption	tons	223.92
Outsourcing steam heating	GJ	8,757.00
Reclaimed water	tons	20,434,042.24
Fresh water consumption	tons	148,203,665.51
Comprehensive energy consumption	10,000 tons of standard coal	12.96
	Overseas Water Business	
Power consumption	kWh	157,845,256.53
Diesel consumption <sup>2</sup>	tons	4.81
Fresh water consumption	tons	26,604.40
Comprehensive energy consumption	10,000 tons of standard coal	1.94
	Solid Waste Solid Wastes	
Power consumption	kWh	658,384.00
Gasoline consumption	tons	9.14
Diesel consumption	tons	45.49
Fresh water consumption	tons	311,567.00
Comprehensive energy consumption	10,000 tons of standard coal	0.02

2: Diesel consumption only includes diesel fuel consumption in Singapore.



#### **BEWG Energy and Resource Consumption of Each Segment in 2018**

Energy Type	Unit	2018 Consumption	
	Environmental Sanitation		
Power consumption	kWh	507,510.00	
Gasoline consumption	tons	251.4	
Diesel consumption	tons	246.74	
Fresh water consumption	tons	8,333.00	
Comprehensive energy consumption	10,000 tons of standard coal	0.08	
	Seawater Desalination		
Power consumption	kWh	26,922.50	
Fresh water consumption	tons	6,103.78	
Comprehensive energy consumption	10,000 tons of standard coal	0.0004	
	Energy Consumption in the office		
Office power consumption	kWh	21,945,771.44	
Power consumption of renewable energy	kWh	250,000.00	
Gasoline consumption	tons	723.68	
Diesel consumption	tons	113.54	
Natural gas consumption	10,000 m3	32,081.14	
Outsourcing steam heating	GJ	454.00	
Fresh water consumption	tons	549,623.07	
Comprehensive energy consumption	10,000 tons of standard coal	0.40	

Note: The energy use statistics includes companies controlled by BEWG.







#### Shahe Phase I Project Renovated the Anoxic Tank Mixer to Achieve Low-Energy Operation

In 2018, the Shahe Phase I Project switched to vertical hydrofoil-blade mixer in anoxic tank to achieve low-energy operation while ensuring the mixing effect of the anoxic tank. It is estimated that this measure helped us save about 46% of power consumption per year, or 300 kWh per day, about RMB 70,000 in electricity bill per year.



# Promoting Technical Transformation of Equipment to Improve Performance in Energy Conservation and Emission Reduction

Each business region of BEWG has promoted energy-saving technical transformation of wind turbines and pumps and phased out high-energy-consuming equipment. For example, the eastern region gradually replaced low-efficiency and high-energy-consumption roots blowers and multi-stage centrifugal fans with high-efficiency air-suspended fans and magnetic levitation fans, improving operating efficiency by more than 15%. At the same time, the eastern region worked to improve economic operation and make energy-saving technical reform of pumps, so that pump operation is controlled within high-efficiency range, which improved pump efficiency by more than 10%. The energy-saving technical transformation not only realized energy saving and consumption reduction, but also improved the operational reliability of equipment, ensuring the safe and economic operation and stable water quality of water plants, thereby gaining the trust and praise of local government.





### **Clean Energy**

BEWG responds to the national clean energy policy by promoting the development of new energy business. We actively develop photovoltaic, wind power, clean heating supply and other clean energy projects to provide a green, clean and sustainable energy supply to the society, and to provide solutions to global climate change and greenhouse gas emissions.



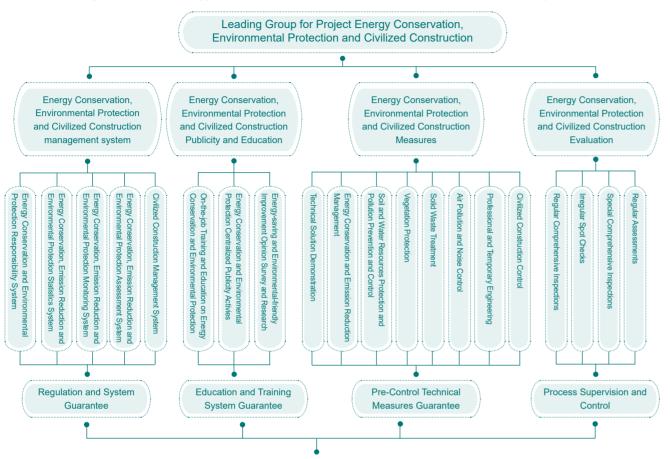
#### **Green Construction**

During the process of project construction, BEWG pays attention to energy conservation and emission reduction management. We set targets for energy conservation, land saving, water saving and material saving, and formulated such systems as *Project Operation Control Procedures, Performance Monitoring and Control Procedures, and Chemicals Management Measures*. Under the premise of meeting the basic requirements of quality and safety, we actively adopt new technologies, new materials, new processes and new products to achieve scientific management and technological advancement. Meanwhile, we set up an energy conservation and emission reduction team for construction projects to ensure the implementation of energy conservation and emission reduction measures..





#### Diagram of the Energy Conservation and Emission Reduction Guarantee System

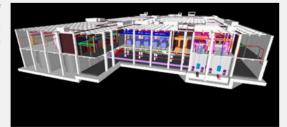


Achieve of Energy Conservation, Emission Reduction, Environmental Protection and Civilized Construction Objectives



# Implementing Building Information Modeling (BIM) Technology to Reduce Rework and Raw Material Waste

In 2018, BEWG actively responded to the call of the country to promote green design guidelines and implement BIM (Building Information Model) technology in projects. BIM uses visualization to check the collision between pipelines and structures of various specialties, and proofreads the defects and omissions in the design to reduce rework and raw material waste during construction, reduce construction cost, and improve project quality, providing a reference for energy saving and green construction.



#### **Green Office**

BEWG promotes green office and strives to create a green, healthy and comfortable working atmosphere for its employees. We use green plants to decorate the office area and beautify the office environment, and upgrade the direct drinking water system in the Group office building to improve water use efficiency. At the same time, we encourage employees to practise low-carbon life through water conservation, power saving, recycling and other measures.





# **Group Office Building Direct Drinking Water Transformation to Improve Water Resource Utilization**

In 2018, we upgraded the direct drinking water system of the Group office building. We replaced the membrane treatment process of direct drinking water equipment with nanofiltration, and changed the return position of return water pipeline to re-filter and reuse the return water. This measure effectively improved the treatment efficiency and water resource utilization of the direct drinking water system, providing employees with healthier and safer drinking water.











## **Equal Employment**

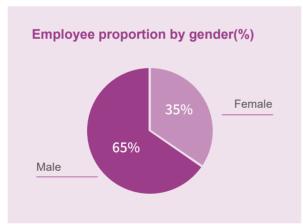
BEWG adheres to the principle of equal employment and follows relevant national laws and regulations such as the *Labor Law of the People's Republic of China* and the *Labor Contract Law of the People's Republic of China*. At the same time, we formulated labor employment systems such as the *Recruitment Management System* to ensure fair, just and open recruitment and resolutely put an end to all forms of discrimination based on gender, ethnicity, religion, age and political stance in relation to recruitment, remuneration, training, and promotion. We also clearly prohibit the employment of child labor and forced labor.

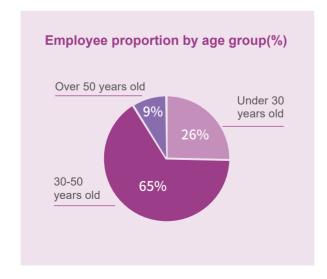
We are committed to respecting all internationally recognized human rights related to our business by establishing *BEWG Human Rights Policy*. The system covers respect for the fundamental rights of employees, respect for human rights in our operations and provision of products and services, requirement for suppliers and partners to respect human rights, and actions and procedures taken to fulfill our commitment.

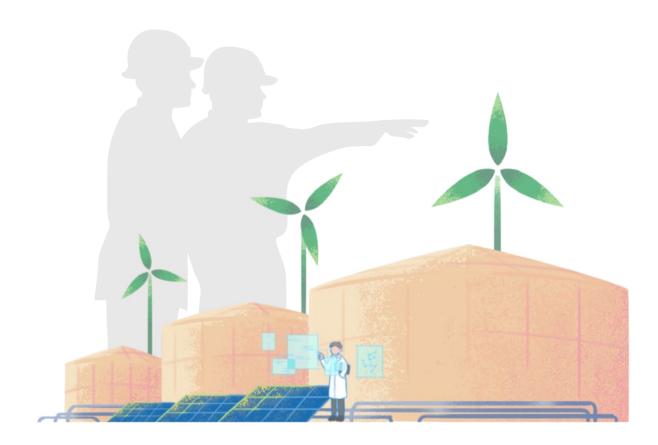
In 2018, BEWG employed a total of 16,490 employees, and no child labor or forced labor was employed. In 2018, we had a turnover of 91 employees, including 68 males and 23 females. We encourage employees to protect their rights and interests and support employees to join independent unions or negotiate collective agreements.











## **Occupational Health and Safety**

Employee health and safety are the prerequisite and primary responsibility for the stable development of our business. The Group complies with laws and regulations such as the *Safety Production Law and the Law for Occupational Disease Prevention and Control* to protect employees' occupational health and safety. In order to safeguard the personal safety and health of employees in the production and service process, we provide comprehensive protection from the aspects of regulations and systems formation, safety management practices and safety training. In 2018, we established safety production committees at all levels and formulate safety production systems such as *BEWG Safety Production Responsibility System, BEWG Administrative Regulations on Safety Education and Training, and BEWG Administrative Regulations on Hazard Source Identification and Risk Assessment* that clarify employee responsibility for safety production and safety risk handling process.

### **Safety Production**

The Company has a paramount responsibility for safety production. In 2018, we established the Quality and Safety Center of the Group Headquarters to provide a strong organizational guarantee for more systematic and professional safety management. A safety production committee was established at our headquarters and all ground-level business units. The Group Safety Production Committee is the highest decision-making body for the Group's safety production. It mainly studies and reviews material safety production matters of the Group and supervises the implementation of safety production of the ground-level business units. The establishment of safety production committee at all levels promoted the building of an organizational system with clear right and responsibilities and further standardized the safety management of BEWG.





The Quality and Safety Center of the Group Headquarters set annual safety production targets according to actual conditions, and signed *Responsibility Statement for Safety Production Objectives* with all major regions and business units under direct management to clarify safety management responsibilities, objectives and assessment requirements. We strengthened the control of safety risks, eliminated safety risks from the source, and carried out various safety projects and activities to promote safety awareness to every employee.

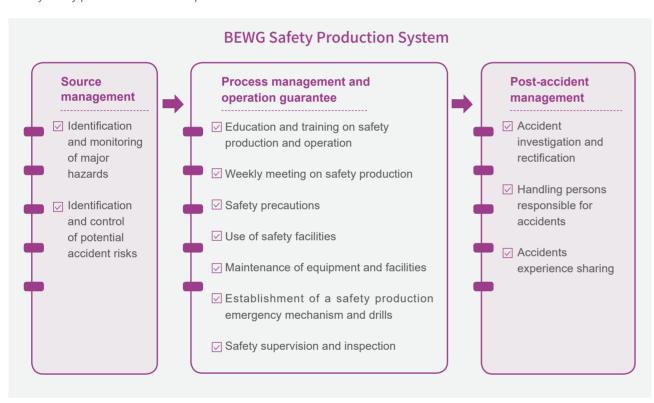
The Group in 2018 invested a total of approximately RMB 28.96 million in safety production, including employee safety training and education, labor protection supplies, special equipment management, safety signs, fire protection facilities management, emergency management, safety hazard rectification and other aspects, which ensured overall stable and orderly safety production of the Group.



The Group in 2018 invested a total of approximately RMB

28-96 million in

safety production



#### **BEWG 2018 Highlights of Safety Production (Partial)**

"Safety Production Month" activities All levels of the Group and branches strengthened safety production publicity and education and safety inspections. Regional cross-checks, direct regional inspections were organized to comprehensively improve employees' safety and emergency awareness and maintain our vigilance in safety production management.

First "Changqing Cup" Employee Skills Competition on Limited Space Operations

The first "Changqing Cup" Employee Skills Competition on Limited Space Operations was held. Teams from five major regions participated. While improving the skills of limited space operations, the event promoted the safety training and drills of all elementary units to strengthen limited space operations, creating a good safety culture.

### **Occupational Health**

In order to fully protect the occupational health of all employees, we have formulated and improved the *Responsibility System* for Occupational Hazard Prevention and Control clarifying the relevant responsibilities of various functional departments. In order to prevent the occurrence of occupational hazards in a timely manner, we entrust a qualified third-party service to conduct regular occupational hazard detection and assessment in workplaces with occupational hazards, and assign personnel dedicated to daily monitoring of occupational hazards in workplaces.

For different occupations, we identified different occupational hazards and established corresponding standards for personal protective supplies. We regularly arrange medical examinations of employees. In 2018, our occupational health examination rate of employees was 100% and occupational disease incidence rate was zero. Our health record coverage rate is expected to reach 100% in 2019.

In order to enhance employees' occupational safety awareness, we regularly carry out various types of occupational health and safety training sessions. Each business unit formulates an education and training plan based on the characteristics of occupational hazards and production practices. New employees must receive corresponding occupational health education. For process equipment and instruments with potential occupational hazards, we indicate the methods and specifications for their use in eye-catching locations, emphasizing measures and precautions for occupational hazard prevention.

# **Career Development**

The Group continuously pays attention to employees' career development and personal growth, and contributes to the Company's talent development and training through strict performance management, smooth promotion channels and abundant professional training.

In view of the special characteristics of different employees and posts, we conduct personal target KPI management, 360-degree evaluation and comparison of employees at the same level to try to ensure fairness and impartiality in employee promotion.



#### A working group to inspect and interview with managers was established

Managers are inspected in such forms as on-site or phone interviews, 360 leadership assessment, democratic recommendation and ballot, etc. Nominated managers receive full attention in terms of performance, ability, direction of career development, and areas to improve, and so on, which provides an important basis for appointment decision-making.

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# Performance integration in major regions

The planning and implementation of individual performance integration for all employees was completed in 2018. In order to better support the company's strategic development and create a sound human resource management system, after investigating the needs of more than 10 second-level units and project companies in the five regions, we completed the design and implementation of the individual performance integration plan in all regions to achieve a more systematic and standardized performance management system.



# The Group built a competency model

According to the planning and talent demand of functional centers, a supplementary modeling plan was formulated and implemented accordingly. Application of the competency model was promoted to key positions to support programs for talent development.





Special Topic: Ten Years of Environmental Protection - The Decade-Long Practice of Sustainable Development of BEWG Sources – BEWG Practice of United
Nations Sustainable Development Goals

Working Together to Build a More Open Ecosystem

Working Together to Protect a More Sustainable Planet

Working Together to Fulfill Corporate Citizenship

Outlook for the Future



#### **BEWG's Internal Promotion Initiative**

From the beginning of April to May 2018, the Group for the first time attempted to form a team by internal competition promotion to assist the talent building of various departments within the group. The internal competition promotion is designed for the group headquarters, major regions, business areas and other related business units. The initiative has revitalized the company's internal talent potential, providing existing personnel with development platforms and internal career opportunities, and improving overall talent turnover and retention.

#### **Employee Training**

Employees' abilities form corporate capabilities. In 2018, in order to build a "learning organization" we strengthened development and innovation of training content and strived to meet the needs of employees for their own professional development.

#### **BEWG 2018 Training Performance**



Training coverage 100%



Training hours per employee

Average training hours by employee type





Senior employees

Middle-level employees Regular employees

Total investment in training



In 2018, we launched a senior manager training program which organized multiple professional trainings for different types of managers. At the same time, we organized various types of professional training and special exchanges for management trainees, which improved their comprehensive management ability, risk control ability and strategic decision-making ability, while reserving excellent talents for the Group.

#### **Professional Training for Senior Managers**

#### **Training Type**

**Performance Highlights** 

Tsinghua University Advanced Workshop for Managers in Environmental Industry

In addition to covering the management cadres of the Group's headquarters and business units at all levels, the trainees also enrolled students from the Group's external eco-cooperative partners to lay the foundation for the future development of environmental education.

Advanced Workshop for Operation Managers

The training strengthened the ability in management and technical replication of water plant managers, improved the management capability of operating companies and reserved management talents for smart water plant development.

Advanced Workshop for Managers of **Water Supply** Enterprise

The training established a competency model for water supply enterprise management personnel, highlighting the forward-looking, thematic and operational nature of the course, comprehensively improved the management capability of water supply management personnel and disseminated the BEWG culture for water service management.

#### **China Environmental Industry Senior Manager Training Course**

In 2018, the Group held the seventh training session of the China Environmental Industry Senior Manager Training Course and the first four training sessions of the eighth period. In addition to covering the group headquarters and the personnel from various regions and business areas, the Group continued to recruit students from the eco-sphere partner companies outside the group. The training adopts a variety of innovative forms including case demonstration, experts sharing, coaching techniques, visits, and thematic training to improve the experience of students and achieve remarkable training results.









#### **Online Learning Platform: Online University**

In 2018, the Group continued to promote the use of "Cloud Classroom" network platform, which was added with more than 300 excellent courses, 9 colleges and 10 categories of knowledge achieving a total of more than 1,300 courses on the platform. The online university effectively supports the development of training, knowledge precipitation and extraction within the enterprise. The online university currently is available for all employees.





# Case

#### The Group launched the "Huizhitang" Salon Series

In order to enrich employees' work and life and enhance their professional skills and capabilities, the Group conducts monthly salon series "Huizhitang" (wisdom gathering hall). This program conducts in-depth analysis of domestic and international industry trends and science and technology through lectures, dialogues and other forms. In 2018, "Huizhitang" invited a number of environment and water industry experts and representatives from academic institutions to share knowledge with employees. From this program, employees learned the latest knowledge inside and outside the industry and were greatly inspired at work.

#### Special Events of "Huizhitang" Salon in 2018

Event Theme	Guests Invited
	Mr. Nie Yongfeng, professor and doctoral tutor of Tsinghua University School of Environment
Smart Water and Technology Support Platform	Professor Shi Hanchang, School of Environment, Tsinghua University
Implementing the Rural Revitalization Strategy	Mr. Zheng Fengtian, professor, doctoral supervisor and associate dean of the School of Agriculture and Rural Development of Renmin University of China

# BEWG attaches great importance to new power talents, sending management trainees to the front line to accelerate professional growth



According to the construction of the talent development system of the four-level structure of "new power talents, high-latent talents, key talents and core talents", BEWG has continuously improved the growth battlefield and training path of management trainees of new power talents, attached great importance to young people, optimized their utilization and provided them with practice opportunity. BEWG gradually help the energetic and creative new force go into the mainstream. It innovatively proposed the "Management trainees + Cultivation" program, which sends management trainees to production frontline to improve their comprehensive management capabilities on all fronts.

After graduating from university, Ms.Wang Haoyu entered BEWG as a management trainee and worked in the operation and management of the group headquarters. After a period of study and practice, she gradually felt that she can quickly and comprehensively improve her management ability and lay a solid foundation for future career development through going in the production frontline to accumulate practical experience. Therefore, Ms. proposed to the Group that she go to the production frontline.

# A Story about Responsibility

Wang's idea coincided with the concept of "management trainees + cultivation" program. Therefore, Ms.Wang came to Chaoyang Wastewater Treatment Plant in Xianyang, Shaanxi Province for rotation. She first served as deputy plant manager of the plant responsible for daily production management to build the plant into a one-star enterprise. Now she served as general manager responsible for the operation management of the water plant, team building, government relations and brand promotion. The comprehensive practice enabled Ms. to achieve transformative progress in her career.

"Practice is the best teacher. Rotation on the frontline sharpens the skills of management trainees and lets them understand the reality, priority and difficulties of the frontline. At the same time, their professional skills were quickly improved by participating in process adjustment, operation scheduling, on the frontline every day. In addition to daily production and operation management, I continuously explore personnel management, optimize the talent structure of the team, and lead the team to achieve production goals. The 'management trainees + cultivation' program is very helpful for enhancing employee management ability on all fronts."

"I feel very fortunate. As the first management trainee to go to the elementory level as the deputy plant manager, I sincerely feel gratitude towards the Group for the training policy for management trainees, which enabled me to achieve personal growth. I will continue to practice the Group's three values "responsibility, valuable, and sharing", innovate and go ahead with courage, help the Company realize high-quality development while realizing my life values."

--- WangHaoYu





### **Employee Care**

Improving the sense of belonging and happiness of employees is the goal of our development. The group headquarters and the subsidiary companies of the independent legal entities have established independent trade unions, of which the group headquarters coverage rate exceeds 95%.

We have established the *Headquarters Employee Benefit System* to clarify that in addition to statutory benefits and insurance, we provide various subsidies for employees. At the same time, we provide supplementary medical benefits to employees.

We actively carry out various activities to enrich employees' lives, such as birthday parties, gift-sending on Spring Festival, speech contests, calligraphy and painting exhibitions to encourage employees to express themselves and to achieve balance between work and life.



# BEWG Carried Out Various Cultural and Sports Activities to Celebrate the 10th Anniversary of the Group

In 2018, on the occasion of celebrating the 10th anniversary of the founding of the Group, the Human Resources Center of BEWG carried out colorful cultural and sports activities to create a learning and sportsmanship culture, such as a painting and calligraphy competition with the theme of "Writing A Glorious Chapter with Ink", power walking with the theme of "A Joint Journey of Youth".

The calligraphy and painting competition attracted employees to participate with enthusiasm, spreading a positive corporate culture and creating a good corporate atmosphere.

"A Joint Journey of Youth" power walking activity was held in Beijing Olympic Forest Park. Hundreds of young people exercised their body and mind and embraced youth in a green and lively environment.



### **Community Philanthropy and Service**

As a member of society, BEWG always have the local community and public in mind. We utilized core advantages and resources of water industry and actively complemented our responsibility as civilians through various measures as popularization of environmental protection knowledge, industry poverty alleviation, community investment, etc. to promote community's harmonious development.

#### **Popularization of Environmental Protection Knowledge**

BEWG devoted to the dissemination of water and environmental protection knowledge for more communities and people. In 2018, we mainly developed activities such as water treatment knowledge popularization and made environmental infrastructure available to the public. In the form of open education base, healthy walking, "world water day" publicity, going in primary school, we spread the knowledge and concept on environmental protection and water resources protection, to contribute to community's environmental protection and ecological development.



#### BEWG Hainan Business Area Carried Out "World Water Day" Publicity Activity

The 26th session "world water day" was on 22 Mar 2018, which was also the first day of the 31<sup>st</sup> session "China water week". BEWG Hainan Business Area cooperated with Haikou Affairs Bureau held a publicity campaign in Wanlv Garden, Haikou. The activity guided the mass to form habit of saving water, cherishing water and scientifically using water so that more people could be promoter, practitioner and demonstrator of water saving actions and water resources protection.









#### Central Region of BEWG Launched "A Drop of Water's Journey"

In Jan 2018, Central region of BEWG launched "A Drop of Water's Journey" charitable activities. Employees of the Company respectively stepped into two classes of the grade three in Chengdu Garden Primary School (International) to popularize knowledge on water treatment, water quality purification and water situation on the earth which was favorable to the cultivation of student's awareness on cherishing water resources and environmental protection.





### **Targeted Poverty Alleviation**

In 2018, we sequentially constructed 6 environmental projects in the poor districts and counties of Shanxi, Tibet and Yunnan, covering water supply, sewage, garbage clearance, ecological remediation, etc, with over RMB 720 million investment in total and beyond 471 thousand people served.

# BEWG Supported the Green Poverty Project in Country's Targeted Poverty Alleviation Strategy (Partial)

Tibet Duilongdeqing Industry Park Sewage Treatment Project



By investing RMB 65.06 million in Lhasa Duilongdeqing Industry Park Sewage Treatment Plant, including all of its industrial sewage and domestic sewage, and served over 50,000 people, which had changed the current situation of disordered discharge of rain and sewage's combination and the direct discharge of industrial sewage and domestic sewage in the park.

Yunnan Fengqing Ecological Treatment Project



By investing RMB 340 million with a 15.5 kilometers regulation scope, projects within the red line scope of Yinchun River and its South Jing River, which included ecological treatment for beach and river bank, channel's transfer, bright project, urban road alone river and affiliated project, over 170 thousand people benefiting from them.

Mingning Town of Yongning
County, Ningxia domestic
sewage demonstration
project



The treatment water amount designed was 15 tons a day and the demonstration projects which had been basically completed were No.9 and No.10 terminal sewage treatment stations of Wuhe Village's Group one, covering 82 villagers. The project could improve the local infrastructure, which exerted a significant influence on the building an exquisite environment as "villages in the forest, man in the scene".



# A Donation Activity of "Devoting to Philanthropy to Win the Future with Love" Launched by Northern Area of BEWG

In 2018, Northern region of BEWG developed a donation activity called "Devoting to philanthropy to win the future with love". Every unit and employee actively responded to it, donating over 200 books, over 300 pieces of clothes and over 40 electronic products and stationary. In Aug 2018, representing Northern region, general management visited China Children's Charity Relief Foundation and accomplished on-site donation to its beneficial to children's growth project. Employees who joined the donation not only realized minimalism life through "cutting off meaningless things", but also showed love for those poor children.





#### BEWG Qinhuangdao Branch Visited Villagers form Shanghe Village

In November 2018, about 20 cadres from Qinhuangdao Branch of the Group walked into Heshang Village in Zushang Town, Qinglong County and visited 30 poor families. The representatives of the company carefully inquired questions such as health condition of the elderly from poor families in winter, solutions for heating in winter, etc, and collected ideas and suggestions from recipients. The cadres took these information down and provided feedback to the working group stationed in village, to improve villagers' living condition.







### **Community Service**

In China, BEWG vigorously invested in community construction and enthusiastically served local clients and public, to realize community's harmonious development through sincere communication and mutual assistance. Internationally, our subsidiaries supported local community's development in various forms, thus elevating universal environmental protection awareness to make contribution to local economy and ecological environment development.



#### **Guigang BEWG Solves Water Difficulties for Community Residents**

In 2018, Guigang BEWG positively invested funds and made further investigation. By adopting effective measures, the Company solved domestic water problem for community residents, including handling low water pressure problem in some area for residents in the old city of Guigang and settling water difficulties for Nanping community of Guigang and for several Five Guarantees, etc. The Company's practical action on handling citizen's domestic water problem received social affirmation and got grateful pennants of "enthusiastic service, solving problem for people" sequentially from Nanping community of Guigang, Guigang Bi Gui Yuan Real Estate Development Company Limited and residents in the old city of Guigang.





In 2018, Australia Company TRILITY and Portugal Company Be Water launched the following thematic activities. Through projects as maintaining community relationship, public donation and improving students' environmental protection awareness, BEWG constructed harmonious community abroad with local residents hand in hand.

Company

Topic

Content



Providing employee training for Australia and Vietnam water association project, TRILITY helped local government apply water treatment technology and water quality investigation facilities better for better assessment and management on water

quality risks in the future.



Australia TRILITY

Public Donation In the local annual ceremony, representing all attendants at the dinner party, TRILITY donated to Water Aid, a nonprofit water resources environmental protection organization.





Popularization of Environmental Protection Knowledge Be Water-Águas de Valongo allied with local government and carried out clearance activity at the river bank of Ferreira, reminding and educating merchants near the river to protect it.



Community
Communication
Portugal
Be Water

authority organized
1,200 elderly to celebrate
the Day of Senior People
at City Park. Be Water

Pareses municipal

- Águas de Paredes offered drinking water facilities at park to support local activities.



Popularization of Environmental Protection Knowledge We had developed multiple educational courses on environmental awareness training for students in various cities. In the form of lecturing urban water recycling process, performing daily environmental protection behaviors and workshops, we aimed to promote teenagers' environmental awareness.







Company Profile

Social Responsibility
Management

Special Topic: Ten Years of Environmental Protection - The Decade-Long Practice of Sustainable Development of BEWG Special Topic: Safeguarding Life Sources – BEWG Practice of United Nations Sustainable Development Goals Working Together to Build a More Open Ecosystem Working Together to Protect a More Sustainable Planet

Working Together to Fulfill Corporate Citizenship

Outlook for the Future



# **Outlook for the Future**

By the end of 2018, BEWG had gone through an extraordinary decade. In 2018, the Group seized the opportunity and explored the road of systematic water industry innovation under the impetus of the "four-core power drive" strategy so that all business segments achieved fruitful results.

As a leading company in China's environmental protection industry, BEWG has unswervingly fulfilled its corporate social responsibility. In terms of business development, we actively served the national ecological strategy by providing comprehensive environmental protection programs, promoting industry integration, and leading scientific and technological innovation to jointly build a more open ecosystem. In terms of business operations, we adhered to green development and strived to create an environmental-friendly, low-carbon operation model. In terms of talent development, we comprehensively protected employees' rights and interests with emphasis on talent cultivation and common growth. In terms of community relations, we continued our efforts in targeted poverty alleviation, devoted ourselves to social welfare, and gave back to the society.

In the future, BEWG will continue to build a community of shared eco-destiny with local ecological environment undertakings and all stakeholders to fulfill our mission of "Safeguarding Life Sources and Creating a Green Environment" and vision for "Water Always Clean, Business Always Growing", which is in line with the national strategy of urbanization and industrial development. We will spare no efforts to integrate clear water into urban development, win the recognition of partners with sincerity and trustworthiness, and deeply root the concept of low-carbon environmental protection in the minds of the public.





# **ESG Index of HKEX**

Environ		mental, Social and Governance Reporting KPIs	Page
	A1:	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.  Note: Air emissions include NOx, SOx, and other pollutants regulated under national laws and regulations.  Greenhouse gases include carbon dioxide, methane, nitrousoxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.  Hazardous wastes are those defined by national regulations.	P53
	Emissions	A1.1 The types of emissions and respective emissions data.	P58-60
Environment		A1.2 Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	P57
		A1.3 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	P57-60
		A1.4 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	P57-60
		A1.5 Description of measures to mitigate emissions and results achieved.	P54-55, 57-60
		A1.6 Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	P54-55, 59-60
	A2: Use of Resources	General Disclosure Policies on the efficient use of resources, including energy, water and other raw materials.  Note: Resources may be used in production, in storage, transportation, in buildings, electronic equipment, etc.	P64-65
		A2.1 Directand / orindirect 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) <sup>1</sup> .	P61-62
		A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility) <sup>1</sup> .	P61-62
		A2.3 Description of energy use efficiency initiatives and results achieved.	P63-66
		A2.4 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	P64-66
		A2.5 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	N/A
	A3: The Environment	General Disclosure Policies on minimising the issuer's significant impact on the environment and natural resources.	P53
	and Natural Resources	A3.1 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	P53-56

<sup>&</sup>lt;sup>1</sup>Note: The environmental data is calculated by different business data in aggregate. Due to the different nature of business segments, the calculation of intensity is not applicable in A2.1 and A2.2.



	Envir	onmental, Social and Governance Reporting KPIs	Page
	B1: Employment	General Disclosure Information on: (a)the policies; and (b)compliance with relevant laws and regulations that have a significant impact onthe issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	P69, 72, 77
		B1.1 Total workforce by gender, employment type, age group and geographical region.	P69
		B1.2 Employee turnover rate by gender, age group and geographical region.	P69
	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.	P70
		B2.1 Number and rate of work-related fatalities.	-
		B2.2 Lost days due to work injury.	-
Social		B2.3 Description of occupational health and safety measures adopted, how they are implemented and monitored.	P70-72
	B3: Development	General Disclosure Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.  Note: Training refers to vocational training. It may include internal and external courses paid by the employer.	P72-76
	and Training	B3.1The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	P73
		B3.2The average training hours completed per employee by gender and employee category.	P73
	B4: Labour Standards	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	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
		General Disclosure Policies on managing environmental and social risks of the supply chain.	P14
	B5: Supply Chain	B5.1 Number of suppliers by geographical region.	P14
	Management Management	B5.2 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	P14



	Envir	Page	
		General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	P53-54
Social	B6: Product	B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons.	N/A
	Responsibility	B6.2 Number of products and service related complaints received and how they are dealt with.	-
		B6.3 Description of practices relating to observing and protecting intellectual property rights.	P44
		B6.4 Description of quality assurance process and recall procedures.	P53-54
		B6.5 Description of consumer data protection and privacy policies, how they are implemented and monitored.	N/A
	B7: Anticorruption	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.	P14
		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.	P14
		B7.2 Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	P14
	B8: Community Investment	General Disclosure Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	P78-82
		B8.1 Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	P78-82
		B8.2 Resources contributed (e.g. money or time) to the focus area.	P78-82

# **GRI Index**

Description for Report Preparation         Incompany Profile         Incompany Profile         Page 100-14, 102-16         Page 100-14         Page 100-14         Page 100-14, 102-16         Page 100-14         Page 100-1	Contents		KPIs	Page
Message from the CEO	Description for Report Preparation		102-1, 102-50,102-53	
About Us	Message from Chairman		102-14, 102-16	P3
Company Profile         Strategy and Culture         102-14, 102-15, 102-16         P10-11           Compliance Operation         102-9, 102-17, 102-18, 102-19, 205-2, 205-3, 206-1, 308-1, 419-1         P12-14           Social Responsibility Management         Social Responsibility Concept         102-16, 102-20         P17-18           Special Topic: Ten Years of Environmental Protection - The Decade-Long Practice of Sustainable Development of BEWG         102-16         P23-24           Special Topic: Safeguarding Life Sources - BEWG Practice of UN SDGs         Serving National Strategy         102-12         P23-26           Working Together to Build a More Open Ecosystem         Providing Comprehensive Environmental Protection Solutions         Providing Comprehensive Environmental Protection Solutions         P14-43           Working Together to Protect a More Sustainable Planet         Promoting Industry Cooperation and Integration         P44-50           Working Together to Protect a More Sustainable Planet         Promoting Green Management         103-2, 103-3, 303-1, 303-3, 304-1, 304-2, 305-6, 305-7, 306-2         P57-60           Working Together to Fulfill Corporate Citizenship         Equal Employment         102-8, 401-1, 405-1, 412-2         P69           Occupational Health and Safety         404-1, 404-2         P77-72           Career Development         404-1, 404-2         P77-72           Community Philanthropy and Service <td>Message from the CEO</td> <td></td> <td>102-14, 102-16</td> <td>P4</td>	Message from the CEO		102-14, 102-16	P4
Compliance Operation   102-9, 102-17, 102-18, 102-19, 205-2, 205-3, 206-1, 308-1, 419-1   P12-14		About Us	102-2, 103-3, 102-6, 102-7	P7-9
Compilance Operation   205-9, 102-17, 102-18, 102-19,   P12-14   205-2, 205-3, 206-1, 308-1, 419-1   P12-14   Social Responsibility Concept   102-16, 102-20, 102-40, 102-42,   102-40, 102-42,   102-43, 102-40   P19-21   Materiality Analysis   101, 102-47, 103-4, 103-2, 103-3   P21-22   P23-24   P23-25   P2	Company Profile	Strategy and Culture	102-14, 102-15, 102-16	P10-11
Stakeholder Engagement   101, 102-21, 102-40, 102-42, 102-41, 102-42, 102-43, 102-44, 102-42, 102-43, 102-44, 102-42, 102-43, 102-44, 102-42, 102-43, 102-44, 102-42, 102-43, 102-44, 102-42, 102-43, 102-44, 102-42, 102-43, 102-44, 103-2, 103-3   P21-22		Compliance Operation		P12-14
Stakeholder Engagement   102-43, 102-44   P19-21		Social Responsibility Concept	102-16, 102-20	P17-18
Special Topic: Ten Years of Environmental Protection - The Decade-Long Practice of Sustainable Development of BEWG         102-16         P23-24           Special Topic: Safeguarding Life Sources – BEWG Practice of UN SDGs         102-12         P23-26           Working Together to Build a More Open Ecosystem         Serving National Strategy         P70-10         P31-36           Promoting Comprehensive Environmental Protection Solutions         Promoting Industry Cooperation and Integration         P41-43           Working Together to Protect a More Sustainable Planet         Promoting Green Management Addressing Climate Change Sustainable Planet         103-2, 103-3, 303-1, 303-3, 304-1, 304-2, 416-1, 416-2         P53-56           Working Together to Protect a More Sustainable Planet         Addressing Climate Change 305-1, 305-2, 305-6, 305-7, 306-2         P57-60           Optimizing Resource Consumption         302-1, 302-3, 302-4, 302-5         P61-66           Working Together to Fulfill Corporate Citizenship         Equal Employment 404-1, 405-1, 412-2         P69           Working Together to Fulfill Corporate Citizenship         Career Development 404-1, 404-2         P72-76           Community Philanthropy and Service         203-1, 203-2, 413-1         P78-82	Social Responsibility Management	Stakeholder Engagement		P19-21
Environmental Protection - The Decade-Long Practice of Sustainable Development of BEWG         102-16         P23-24           Special Topic: Safeguarding Life Sources - BEWG Practice of UN SDGs         102-12         P23-26           Working Together to Build a More Open Ecosystem         Serving National Strategy         Providing Comprehensive Environmental Protection Solutions         P31-36           Promoting Industry Cooperation and Integration         Peromoting Industry Cooperation and Integration         P41-43           Working Together to Protect a More Sustainable Planet         Promoting Green Management Addressing Climate Change         103-2, 103-3, 303-1, 303-3, 304-1, 303-3, 304-1, 303-3, 304-1, 304-2, 416-1, 416-2         P53-56           Working Together to Protect a More Sustainable Planet         Equal Employment         302-1, 302-3, 302-4, 302-5, 305-6, 305-7, 306-2         P57-60           Working Together to Fulfill Corporate Citizenship         Equal Employment         102-8, 401-1, 405-1, 412-2         P69           Working Together to Fulfill Corporate Citizenship         Career Development         404-1, 404-2         P72-76           Employee Care         401-2         P77-72           Community Philanthropy and Service         203-1, 203-2, 413-1         P78-82		Materiality Analysis	101, 102-47, 103-1, 103-2, 103-3	P21-22
Sources - BEWG Practice of UN SDGs   Serving National Strategy   P31-36	Environmental Protection - The Decade-Long Practice of Sustainable		102-16	P23-24
Working Together to Build a More Open Ecosystem         Providing Comprehensive Environmental Protection Solutions         P37-40           Promoting Industry Cooperation and Integration         P41-43           Leading Scientific and Technological Innovation         P44-50           Working Together to Protect a More Sustainable Planet         Promoting Green Management 304-2,416-1, 416-2         P53-56           Optimizing Resource Consumption         302-1, 302-3, 302-4, 302-5         P61-66           Working Together to Fulfill Corporate Citizenship         Equal Employment 102-8, 401-1, 405-1, 412-2         P69           Occupational Health and Safety Care Community Philanthropy and Service         404-1, 404-2         P72-76           Community Philanthropy and Service         203-1, 203-2, 413-1         P78-82			102-12	P23-26
Working Together to Build a More Open EcosystemEnvironmental Protection SolutionsP37-40Promoting Industry Cooperation and IntegrationP41-43Leading Scientific and Technological InnovationP44-50Working Together to Protect a More Sustainable PlanetPromoting Green Management Addressing Climate Change Optimizing Resource Consumption103-2, 103-3, 303-1, 303-3, 304-1, 304-2,416-1, 416-2P53-56Working Together to Fulfill CorporateAddressing Climate Change305-1, 305-2, 305-6, 305-7, 306-2P57-60Optimizing Resource Consumption302-1, 302-3, 302-4, 302-5P61-66Working Together to Fulfill CorporateEqual Employment102-8, 401-1, 405-1, 412-2P69Occupational Health and Safety403-2P70-72Career Development404-1, 404-2P72-76Employee Care401-2P77-76Community Philanthropy and Service203-1, 203-2, 413-1P78-82		Serving National Strategy		P31-36
P41-43 and Integration   P41-43	Working Together to Build a More Open	Environmental Protection		P37-40
Technological Innovation   P44-50	Ecosystem	, ,		P41-43
Working Together to Protect a More Sustainable Planet         Addressing Climate Change         304-2,416-1, 416-2         P53-56           Optimizing Resource Consumption         302-1, 302-3, 302-4, 302-5         P61-66           Equal Employment         102-8, 401-1, 405-1, 412-2         P69           Occupational Health and Safety         403-2         P70-72           Working Together to Fulfill Corporate Citizenship         Employee Care         401-2         P77           Community Philanthropy and Service         203-1, 203-2, 413-1         P78-82				P44-50
Sustainable Planet         Addressing Climate Change         305-1, 305-2, 305-6, 305-7, 306-2         P57-60           Optimizing Resource Consumption         302-1, 302-3, 302-4, 302-5         P61-66           Equal Employment         102-8, 401-1, 405-1, 412-2         P69           Occupational Health and Safety         403-2         P70-72           Working Together to Fulfill Corporate Citizenship         Career Development         404-1, 404-2         P72-76           Community Philanthropy and Service         203-1, 203-2, 413-1         P78-82		Promoting Green Management		P53-56
Consumption 302-1, 302-3, 302-4, 302-5 P61-66  Equal Employment 102-8, 401-1, 405-1, 412-2 P69 Occupational Health and Safety 403-2 P70-72  Working Together to Fulfill Corporate Citizenship Employee Care 401-2 P77  Community Philanthropy and Service 203-1, 203-2, 413-1 P78-82		Addressing Climate Change	305-1, 305-2, 305-6. 305-7, 306-2	P57-60
Working Together to Fulfill Corporate Citizenship  Career Development  Employee Care  Community Philanthropy and Service  Control of the August 1 of the Augus			302-1, 302-3, 302-4, 302-5	P61-66
Working Together to Fulfill Corporate Citizenship  Career Development 404-1, 404-2 P72-76  Employee Care 401-2 P77  Community Philanthropy and Service 203-1, 203-2, 413-1 P78-82		Equal Employment	102-8, 401-1, 405-1, 412-2	P69
Citizenship  Employee Care 401-2 P77  Community Philanthropy and Service 203-1, 203-2, 413-1 P78-82		Occupational Health and Safety	403-2	P70-72
Community Philanthropy and Service 203-1, 203-2, 413-1 P78-82		Career Development	404-1, 404-2	P72-76
Service 203-1, 203-2, 413-1 P78-82	Citizenship	Employee Care	401-2	P77
Outlook for the Future P83-84		1	203-1, 203-2, 413-1	P78-82
	Outlook for the Future			P83-84





# **Reader Feedback Form**

Dear readers,

Thank you for reading 2017 CSR Report of Beijing Enterprises Water Group Limited. We value your and expect to listen to your feedback on corporate social responsibilities, practices and information disclosure of BEWG. Your opinions and suggestions are the important basis for us to carry forward corporate social responsibility management and practice. We are looking forward to your reply.

Optional questions (please mark √ on your answer	<b>Optional</b>	questions	(please	mark $\sqrt{}$	on	your	answer
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1. Do you think this report can reflect material impact of BEWG or Yes $\hfill\Box$ Probably Yes $\hfill\Box$ No $\hfill\Box$	n economy, society and environment?
2. Do you think this report can identify stakeholders and correct BEWG?	ly and comprehensively analyze their relationships with
Yes □ Probably Yes □ No □	
3. Do you think the information in this report is comprehensive?	
Yes □ Probably Yes □ No □	
4. Do you think the information in this report is readable?	
Yes □ Probably Yes □ No □	
Open-ended question	
You are welcome to make comments and suggestions for 2018 C	SR Report of Beijing Enterprises Water Group Limited.
Your contact information	
Tour contact information	
Name:	Tel.:
Employer:	E-mail:





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