



BEIJING ENTERPRISES WATER GROUP LIMITED

THE WAY OF WATER – NURTURING A GREEN FUTURE SUSTAINABILITY REPORT 2016

Theme Interpretation



About this Report

This report is the second Sustainability Report released by Beijing Enterprises Water Group Limited ("BEWG", "the Group" or "We"), covering BEWG's economic, environmental, social and governance performance relating to sustainability for the reporting period from 1st January 2016 to 31st December 2016. The report also contains certain information before 2016.

Version

This report is prepared in both Chinese and English, and released both online and hard copy. This report can be viewed or downloaded at: http://www.hkex.com.hk and http://www. bewg.com.hk.

Report Guidelines

This report is prepared in accordance with major sustainability reporting guidelines and reflected specific characteristics of our industry and the Group. This report refers to the following guidelines: The Environmental, Social and Governance Reporting Guide issued by The Stock Exchange of Hong Kong Limited ("HKEx"), and G4 Sustainability Reporting Guidelines issued by the Global Reporting Initiative (GRI).

Report Content and Boundary

In accordance with the G4 Sustainability Reporting Guidelines of stakeholder engagement, sustainability context, materiality and completeness, we performed a materiality analysis to identify our material issues and their boundaries.

Report Scope

Unless otherwise stated, all cases and data disclosed in this report are collected from BEWG and its subsidiaries.

Data and Information Disclosure

Data and information contained in this report were collected through BEWG's internal data collection and statistics system, quantitative and qualitative questionnaires based on the reporting framework, and sustainability practices submitted by its subsidiaries.

Currency

Unless otherwise stated, all monetary figures shown in this report are expressed in Renminbi (yuan).

The Way of Water - Nurturing a Green Future

The greatest virtue is like water, whose character is so near of water resources. Instead of the traditional way of "end to the Way of Nature. Water symbolises both where we treatment", we should expand our perspective to focus on started from and what we want to become. We adhere to the entire watersheds and ecosystems, and focus our attention Way of Cleanness to keep the environment fresh and clean, on the complete ecological system of water. Furthermore, adhere to the Way of Good Governance to create values for as a leading water and environmental protection enterprise, shareholders with outstanding performance, and adhere to we also need to gather the capabilities of our partners to the Way of Mutual Benefit to create shared values for our forge an ecological enterprise system in order to fulfil our stakeholders. commitment to green development.

The government attaches high importance to green The transition from focusing on "water" to focusing on development, which has created a lot of opportunities for "ecological system" symbolises our sustainability strategy: our industry. As we are becoming increasingly involved We will practice The Way of Water under a broader context with the urban water business and the water environment and strive to create a green future full of life for the public, renovation business, we have gained a more profound making contribution to the environment and society; We are understanding of The Way of Water: Water, is more than a committed to becoming a respected ecological enterprise, cluster of molecules. It is an organic system that is running working together with industry partners to create value and in cycles and creating benefits for all during the process. contribute to a green future for all. Looking forward, a new concept is needed for the protection

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Management Statement

"Lucid waters and lush mountains are invaluable assets." symbolises the strong resolution of the Chinese government to promote ecological progress. For BEWG, it is our mission and an unprecedented opportunity to leverage our industry advantages and contribute to promote ecological progress.

As a member of the water environmental protection industry, BEWG has been adhering to our corporate mission to "protect vital water resources and create a green environment." We actively developed our industry layout to cover the whole water and environmental protection industry chain, explored innovative environmental protection fields, provided leading environmental comprehensive solutions, and ensured there are "lucid waters and lush mountains" for our future generations.

Regarding our major businesses of urban water and water environment renovation, we treated domestic and industrial sewage to protection and reuse water sources, allocated and treat source water to provide safe and reliable water supplies, and treated black and odorous water and built sponge cities to improve local environment and landscape and allow local residents to enjoy a greener and more liveable environment. We actively adjusted our development strategy and technologies extensively in our operations to reduce our innovated on business models, gradually shifting our focus environmental footprint and achieve green operation. from single project to regional or watershed comprehensive We took employees as our most valuable asset and renovation projects, providing comprehensive solutions wealth and strove to support their personal growth and and innovative services to governments to serve their career development, and ensure they led balanced and regional development needs. Besides environment happy lives. We also focused on community needs and renovation, we also contributed to local industrial upgrade, provided extensive support to public charities, supported such as what we did with the Beijing Sub-city Centre environmental education, cared for disadvantaged Project and the projects in Inner Mongolia. We were social groups, and became a champion to raise public also actively transforming ourselves into an ecological environmental awareness. enterprise and continuous optimising our existence in environment sanitation, solid waste, clean energy and other Looking forward, we are going to grasp market environmental protection industries, so as to collaborate opportunities, innovate on development models, further with industry partners to achieve symbiotic development open our mind, and build and improve the BEWG and leverage industry-wide innovations and capabilities to ecological system in collaboration with our stakeholders. promote the development of the environmental protection The road to achieve our sustainability goals is identical industry. with the road to fulfil our business principles of achieving "government's trust, citizen's confidence, company's Meanwhile, we actively fulfilled our responsibilities and profitability, employee's rewarding life, and win-win for all duties. We invested in scientific research and technological partners".

Meanwhile, we actively fulfilled our responsibilities and duties. We invested in scientific research and technological innovation, explored innovative capital cooperation models, and shared our development outcomes with industry peers and partners to promote industry development. We applied energy conservation and emissions reduction



Li Yongcheng Chairman of the Board Beijing Enterprises Water Group Limited





Group Overview



BEWG is a leading provider of professional comprehensive water environment services covering the full industry chain. Our services include industrial investment, design, construction, operation, technological service and capital operation, and our business fields include urban water services, watershed water services, industrial water services, seawater desalination, environment sanitation and solid waste, clean energy and technological services. BEWG is listed on the main board of HKEx. It has been selected for Hang Seng China-Affiliated Corporations Index, Hang Seng Mainland 100, Hang Seng Composite MidCap Index, Morgan Stanley Capital International Index, and selected to participate the first round of Shanghai-Hong Kong Stock Connect programme.

Region	Main Subsidiaries and Joint Ventures
Eastern China	Taizhou, Huang Yan, Tongling, Xu Zhou, Xiangshui, Fu Ning, Zongyang, Huaining, Qianshan, Yatong Taizhou, Luoyang, BCEG, Nanyang, Jiangsu Huitong, Yatong (Anqing), Puyang, Ganyu, Nanjing Municipal Design and Research Institute, Huaian Research Institute of Water Investigation and Design
Shandong	Jiaonan, Heze, Qingdao, Shangma, Jinan, Binzhou, Binhai, Weifang, Jiaozhou, Guanxian Jiacheng
Southern China	Zhongye, Nansha, Changsha, Sanshui, Shenzhen Feng Tai, Lei Yang, Shenzhen Chuang Xin, Hengyang, Liuyang, Dongguang Houjie, Zhongtang, Hainan Baishamen, Changliu, Heshan, Yongzhou, Hainan, Yueyang, Dongguan, Quanzhou Anping
Western China	Mianyang, Jiangyou, Huayang, Shuangliu, Pengzhou, Qingbaijiang, Guizhou, Wulumuqi, Hu Tu Bi, Kaili Jiacheng, Baise, Songming, Anning, Guigang, Hezhou, Guiyang Qingzhen, Guangan, Yunnan, Kunming Konggang, Gatewin Taifu, Luqiao, Yuxi Gatewin, Yuxi, Yibin, Zun Yi, Gui Yang
Northern China	Beijing Hongtai, Fuxin, Qi Qi Har, Changping, Jinzhou, Dalian, Caofeidian, Beizhen, Linghai, Yixian, Goubangzi, Anling
Overseas	Malaysia: Loyal BEWG, BEWG (M); Portugal: BEWG (PT); Singapore: BEWG International, BEWGI-UE



- Ranked the 1st in the Top Ten Influential Enterprises in the Water Industry for six consecutive years.
- Won the "Outstanding Water Treatment Leader with Comprehensive Capabilities" award of the "Green Hero Awards" for Chinese environmental enterprises.
- Enterprises".
- Won the "Most Influential Green Bond Issuer" award and the "Largest Corporate Bond Issuer" award at the 2016 Bond Investment "Jiefu" Awards selected by the financial media CaishiV China.
- Awarded 9 winner titles for the Public Utilities segment by Institutional Investor in 2016.
- Singapore Changi Project won the 2016 Water Deal of the Year award.
- Listed in the China Fortune Top 500 for the first time, ranking the 432nd.



Dimension	Indicator	2016	2015	2014
8	Revenue (HK\$'000)	17,354,833	13,502,957	8,925,942
5 9	Profit for the year (HK\$'000)	3,672,982	2,767,793	2,073,322
Economic	Income tax (HK\$'000)	970,733	777,766	593,855
Environmental	Number of water plants	452	388	326
	Aggregate daily design capacity (10,000 tons/day)	2,717	2,462	2,015
	Number of employees (person)	16,952	7,905	5,467
Social	Number of domestic suppliers in compliance with the supplier management system	330	348	164
	Total donations (HK\$'000)	3,620	256	1,309

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• Listed as members of the "2015 Top Ten Water Treatment PPP Project Investors in China", the "2015 Outstanding PPP Project Investors in River and Lake Treatment in China" and the "2015 China Top 50 Water Treatment

Topic: Nurturing the Ecosystem for a Better Future

As the world's largest water consumption country, China's per capita water resource is only 1/4 of the world's average. Facing threats from both insufficient supply and severe pollution, ensuring water resource security becomes a must for economic and social development. The Chinese government has promulgated a series of environmental laws and regulations and included "green development" in the "13th Five-year Plan" for the first time, creating opportunities for the environmental protection industry to help improve the ecological environment and break the resource constraint.

BEWG is committed to satisfying people's need for water, energy and good environment in eco-friendly and sustainable ways by transforming itself into an ecological enterprise and forming an ecosystem with its partners. We develop our green businesses based on the understanding of the conditions and demand of the public and the ecological environment. Instead of the traditional way of "end treatment", we expand our perspective to focus on entire watersheds and ecosystems, focus our attention on the complete ecological system of water, and expand our business to include urban sanitation and solid waste, membrane business and industrial wastewater, clean energy, planning and design, seawater desalination and other green services. We also actively innovate on business models, upgrade our products and services, and promote the transformation into an ecological enterprise with open corporate culture and open management mechanism. Meanwhile, we are committed to supporting our partners to grow together with us to forge a competitive BEWG ecological system by transforming simple contractual relationship into collaborative value network that spans across sectors of "industry, capital, investment, technology, construction and operation". Together with our ecosystem partners, we will continuously pursue green development by building an open platform for win-win cooperation, establishing complementary and mutual beneficial mechanism, and creating a prosperous and highly efficient ecosystem.

Looking forward, we will continue to focus on urban water and water environment renovation as our core business to ensure urban water supply safety, promote water reuse, and restore the ecological environment to harmony, innovate on business models and expand business scope to cooperate with governments to provide environmentally friendly comprehensive services, collaborate with our value chain partners to promote industry development, and grow together with employees, communities and other stakeholders to contribute to a better ecological environment for all.

The BEWG Value Network of "Industry, Capital, Investment, Technology, Construction, and Operation"



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Goals of the Ecological system

BEWG advocates the establishing of a prosperous and highly efficient ecological system that benefits both BEWG and our partners, promoting the Chinese water and environmental protection industry to become more efficient and create greater value.

BEWG implements the sustainability concept of "to base our business on water and follow the Way of Water, in order to help solve ecological challenges in an ecological way and by forging an ecological enterprise".



As a water environment service provider, we use our green products and services to help keep water and the environment clean and promote resource conservation.

As a provider of comprehensive water environment service, we promote our transformation into an ecological enterprise, provide comprehensive environmental solutions and collaborate with our partners to deal with environmental challenges and promote the coexistence and harmonious development of mankind and the environmental.

As an advocate for the industry ecological system, we actively explore development models around the concepts of "innovation" and "sharing", creating shared values with our stakeholders as we pursue our own sustainable development.

Focusing On Green Services of Water **Environment Protection**

Sustainability Background

Water is of vital importance for the survival and development of mankind. China's per capita water resource is only a quarter of the world average. While the distribution of water resource is uneven in China, further exacerbated the challenges to balance water supply and demand. Meanwhile, pollution from industrial and domestic sewage becomes increasingly severe, and water environment problems such as black and odorous water and damaged to the ecosystem become increasing imminent. By stabilising water supply, improve water use efficiency, and effectively treating sewage, we are able to meet the common expectation of both the government and the public to have a clean, liveable and sustainable environment.

Our Practice

For BEWG, it is our responsibility to satisfy the demand for water, promote the recycle and reuse of water, and improve the water ecological environment. We are committed to providing governments and communities with high-standard sewage treatment service, water supply and distribution service, and water environment comprehensive renovation service, so as to fulfil people's dream for a better environment by making polluted water clean again, enabling still water bodies to flow again, allowing sewage to be treated and reused, and promoting the conservation of water

Our Performance

- million tons per day. The actual processing volume for the year was 4,204.1 million tons; and
- and Terengganu in Malaysia.



• We had 20 comprehensive renovation projects under construction during the year, mainly situated in Tongzhou in Beijing, Luoyang in Henan, Foshan in Guangdong, Yuxi in Yunnan, Suining in Sichuan, Wuhai in Inner Mongolia



Water is a necessity to people: people can live a normal life only if the sewage they generate can be properly treated, and people can stay healthy only if they have safe and clean drinking water. We focus on the needs of the people and strive to solve the water supply problem by extending our business scope and innovating on technologies to treat and reuse sewage and provide people with safe drinking water.



Reducing the Impact of Sewage

If not treated properly, domestic and industrial wastewater and agricultural runoff will pollute the ecosystem, weakening its ability to provide water resource, and waste water. We strive to apply advanced treatment technologies to make sewage clean, and actively develop the reclaimed water business to promote water conservation and reuse. We also expanded the urban water business through the PPP model. In 2016, we signed or won the bidding of over 20 PPP projects in total. As of 31st December 2016, we owned a total of 335 wastewater treatment plants.

We not only treat the sewage but also attach importance to the recycle and reuse of the treated water. We used reclaimed water in street cleaning, vegetation watering and toilet flushing, promoting water conservation and recycling. As of 31st December 2016, we owned a total of 8 reclaimed water plants.



Expansion of Reclaimed Water Plant

There are a number of universities and enterprises clustered in the Shahe area in Changping, Beijing. As the local population continued to grow, the phase I project of the Shahe Reclaimed Water Plant had reached its capacity and could not accept the increased sewage. In May 2015, we started the phase II project of the plant. Once completed, the project could not only handle the increased wastewater treatment needs, bringing significant improvement to the urban ecological environment in nearby areas and ensure the health of local residents, but also achieve the recycle and reuse of reclaimed water resource, mitigating the water shortage in local areas.



Urban Sewage

- · Components remain relatively stable, low concentration, high content of solid material.
- High nitrogen and phosphorus concentration, causing eutrophication. • High volume, causing pressure on

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treatment capacity.

We actively collaborated with governments to expand our urban sewage treatment business. As of 31 December 2016, we owned a total of 335 sewage treatment plants and 8 reclaimed water treatment plants, with the actual processing volume reached 31,500,000 tons during the year.

Anning Sewage Treatment Plant

Anning city, Yunnan Province, is faced with increasingly serious environmental pollution as its urban development accelerated in recent years. In 2012, we signed a cooperation agreement with Anning city to build a sewage treatment plant with a daily treatment capacity of 50,000 tons per day that enough to serve the need of 300,000 people. In 2016, the Anning City Sewage Treatment Plant treated a total of 14,449,400 tons of sewage, reduced COD amount by 2,394 tons, and reduced ammonia and nitrogen content by 245 tons, successfully meeting all pollution control targets of the local government.



difficult to treat

Industrial

sharp range.

We conducted in-depth research on leading technologies, such as industrial wastewater treatment technology, zero discharge technology, water resources reuse and advanced treatment technology etc. These technologies allowed us to provide one-stop solutions for treating wastewater for industrial parks or particular industries. As of 31 December 2016, we had been granted nearly 20 independent intellectual property rights in the field of industrial wastewater treatment.

Tuyou Banner New Industrial Park Sewage Treatment Plant

treat

We applied the advanced ozone catalytic oxidation and advanced oxidation technology and built a sewage treatment plant for the industrial park with a daily treatment capacity of 10,000 tons per day. This plant effectively cut the wastewater discharge of the industrial park and reduced the pollution to crops and soil. And the reclaimed water could be used for industrial and greening uses, reducing the consumption of clean source water.

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Wastewater

• High content of suspended solids, high COD content, PH value varies in

- Volume and content varies greatly among industries.
- Complicated content and composition.

Tuyou Banner New Industrial Park was one of the pilot circular economy demonstration industrial parks of Inner Mongolia. It had attracted companies in a variety of specialty and new industries, such as photovoltaic, LNG, metal processing and food processing. However, the complex industry layout in the park made the wastewater difficult to

Rural Sewage

- Small volume, consists mainly domestic sewage and industrial wastewater from small businesses.
- Volume and content varied greatly.
- Difficult to collect, easy to cause surface runoff.

To help rural residents improve their living environment and support the development of villages and towns, we actively expand the rural sewage treatment business and gave priority to building sewage collection and treatment facilities in the 8 pilot provinces and 100 pilot counties of rural sewage treatment of the Ministry of Housing and Urban-Rural Development. As of 31 December 2016, we owned a total of 13 rural sewage treatment projects consisting of over 300 treatment facilities, treating 550,000 tons of sewage daily.

Sewage Treatment Stations in Bazhong City

The Township Sewage Treatment Station and Pipe Network for Siling Township and 12 Other Township Project was named one of the key livelihood project of Bazhou district in Bazhong City, Sichuan Province. For this project, we applied the highefficiency, low-consumption biological FM-DBR treatment technology to achieve the results of high discharge quality, reliable operation, low environmental impact, and near "zero sludge". Furthermore, the intelligent operation and maintenance model allow the equipment to operate automatically with centralise monitoring, requiring no personnel onsite and better fitting the need of rural areas.

Ensuring Water Supply Safety

As we expand our business scope and innovate on technologies, we also provide quality and healthy municipal water for domestic and industrial uses in many regions to ensure the stable supply of fresh and healthy water, contributing to both the development of local economy and the improvement of the livelihood of local residents.

Number of municipal water plants	Design capacity of municipal water plants 1,116.1 10,000 tons per day	Actual volume of water supplied by municipal water plants 1,054.1 million tons
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Solving Water Supply Problem for Village Residents

Gaoqiao village is situated in Maba township, Xuyu County. When asked about the change happened in Gaoqiao village, village committee secretary Chen Fulong remarked, "Previously, there were only 200 households among the 800 in our village had municipal water. And the quality of the water was not good, either. Only after BEWG came here that each household in our village got municipal water in their home."

Maba township has 25 administrative villages and a total population of more than 100,000 villagers. Due to severe shortage in water supply, the township municipal water used to run only during cooking hours. During the dry season, township residents could only use well water, which was difficult to get, not healthy, and tasted poorly.

All these difficulties became history in November 2016. After learning about the water shortage situation in Maba township, we included the township into the coverage of the newly built Xuyu County City East Municipal Water Plant, providing abundant clean water to all 25 villages of the township. Nowadays, the residents of Maba township no longer worried about water supply disruption and poor water quality.

"Almost all residents of Maba township now use the water from the City East Municipal Water Plant. The water taste much better than the water we had before, and it runs 24 hours a day."

- Wang Jun, Resident of the Chudong neighbourhood



In Nanan, we implemented water supply projects for the three coastal townships to effectively mitigate the water shortage in the area.

Exploring Overseas Market

The Belt and Road Initiative is rooted in history, but oriented toward the future. The Belt and Road Initiative originates from China but belongs to the world. We have every reason to draw wisdom and strength from the ancient Silk Road, advance cooperation in the Silk Road spirit of peace and cooperation, openness and inclusiveness, mutual learning and mutual benefit, and work together to build an even brighter future.

As a Chinese water enterprise, we actively adhere to the Silk Road spirit and are determined to become a model of China's water investment sector. We followed the Belt and Road Initiative and explored overseas market with our advantage and expertise in the water environmental protection industry. Pursuing both business development and social benefit to local communities, we set a good example of Chinese water environmental protection enterprises and contributed to the Belt and Road Initiative with our industry capabilities. As of 31 December 2016, our overseas business had covered to Malaysia, Singapore and Portugal, serving a population of 4.8 million.

In the future, we will continue to uphold the concept of open and win-win ecological cooperation, and strive to create new history with the Belt and Road Initiative and bring the Silk Road spirits overseas.







In Singapore

We built the Kuala Lumpur Pantai II Sewage Treatment Plant Project, which was the largest sewage treatment plant and the first underground sewage treatment plant in Malaysia. We completed its construction in June 2016 on time. The project was widely recognized by the Malaysian government and public. Meanwhile, we were awarded a municipal water plant expansion project in Terengganu, Malaysia, which would greatly ease the supply shortage in local area.

In November 2016, the Changi II Reclaimed Water Plant project jointly implemented by BEWG and Singapore United Engineering Co., Ltd. passed the completion inspection. It was the first water project opened to overseas market and designed, built and operated by foreign companies. The plant applied to the double membrane technology to effectively treat municipal wastewater and industrial wastewater, which used to be discharged into the sea, into high-quality reclaimed water. After a UV disinfection process, the plant could supply 228,000 tons of water per day, which could fill 92 standard swimming pools, greatly mitigating the water supply situation in Singapore. In 2016, the Changi II Reclaimed Water Plant was awarded the 2016 Water Deal of the Year award at the Global Water Summit.

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- Xin Jinping, President of China



In Portugal



With the acquisition of two wholly-owned subsidiaries of the Portuguese water company CGEP, we managed over 30 water plants and over 130 pumping stations by the end of 2016 in Portugal, providing municipal water and sewage treatment services to more than 20 cities in Portugal and serving 7% of Portuguese population.

Renovating River Ecology

River is an important component of ecological system, both as an irreplaceable factor in the ecological system and as a vital resource. As a steward of water, we take advantage of our advanced technology, innovative management model and high-standard construction requirements to ensure the ecological environment which remains green and healthy with our water environmental comprehensive renovation services.



Reviving the Rivers

Rivers and mankind are mutual dependent. As many rivers became "weak" or "diseased" nowadays, we strove to repair river bed and improve the environment to bring them back to life with our expertise in water environment renovation.

Improving City Environment

Beautiful environment, whether it is clear rivers, beautiful scenery or smells of nature, make people feel pleasant and stay healthy. With our water environmental comprehensive renovation service, we are committed to improving natural ecological environment and urban landscape environment, creating better and more liveable environment for urban residents.

Building a Liveable Ecology

The Yuzi Creek is located near the Yangtze River and Tuojiang interchange, and Luzhou City across the river. The surrounding area was included in the Luzhou National High-tech Zone and started construction, the renovation of the comprehensive water environment of Yuzi Creek became imminent. In 2016, we undertook the PPP project of Luzhou City Yuzi Creek River Renovation and Supporting Projects. Turning the city into a water ecological civilisation city and a sponge city, we are committed to improving the overall flood control situation and the urban ecological landscape of the Luzhou High-tech Zone and promoting the transformation and ecological environment improvement of Luzhou City.



Enhancing Urban Functions

We would establish a sound urban infrastructure system with improvement in water system, road system and landscape, so as to improve the quality of water environment, control pollution, improve and protect the environment, protect people's health, and create better urban environment to attract investment.



Creating Ecological Benefits

This project would allow buildings, roads, vegetation and water system to play a role in the collection, storage and discharge of rainwater, so as to achieve effective control of surface rainwater and ensure flood control safety, drainage safety and ecological environment safety with the natural collection, natural accumulation and infiltration and natural purification of rainwater.



Improve Environmental Quality

The project would create about 300 mu of lake and about 1,300 mu of waterfront vegetation landscape based on urban water system. Local residents could live closer to water, enjoy better urban landscape, and have better quality of life.

Renovating the River Environment in Heshan

Shaping River is a tributary of the lower reaches of the Xijiang River. Running through the city proper of Heshan City, Guangdong Province. It was the "mother river" for the residents of Heshan. Due to the decades of development of industries and animal husbandry along the river, water quality of the river had dropped significantly and the ecological environment kept deteriorating. Therefore, the government made the Shaping River Basin Comprehensive Renovation project one of its key project to improve the livelihood of local residents.

In April 2016, we started the construction of the Shaping River Basin Comprehensive Renovation project. Adhering to the principle of "comprehensive planning and step-by-step implementation", we focused on urban roads and bridges, flood control works, landscaping and beach upgrades, ecological wetlands and sewage interception pipe network projects during the phase I stage of the project. More projects would follow to create an ecologically friendly landscape for local residents with "running river, clear water, green banks and beautiful scenery", transforming the Shaping river into a liveable 1iving space and enjoyable leisure space for the residents of Heshan.





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Comprehensive Renovation of Luo River

The 467-kilometer the Luo River dates back in history and it is an important tributary of the Yellow River. Fertile soil and abundant water attracted settlers from ancient times. The crude development model along the Luo River resulted in damaged dams and severe water pollution.

During the renovation process, we adopted a variety of technologies to minimize the impact on the river bed, such as ecological dredging, ecological renovation and ecological shoreline. Besides strengthening the river bed to ensure safety, we also focused on the restoration of the ecological carrying capacity of the River with technologies such as ecological slope, plant restoration, floodplain reconstruction, and ecological island reinforcement, etc. Meanwhile, we redesigned the landscape to improve the accessibility and the leisure experience of the park area, making the Luo River not only an important water and soil conservation project but also a beautiful recreational area.

Upon the project was completed, the Luo River became a popular recreational area for local residents with many famous sites of attractions opened to public, bringing back the glamour and elegance the river used to give the city with the beautiful river view and flowers.







Sustainability Background

Blue sky and white clouds, clear water and green mountains, clear water, fresh air, clean streets...Environmental challenges are among the most discussed topics for all. As China accelerated its transformation of economic development model facing growing resource constraints, the Chinese government had promulgated a series of environmental laws, regulations and policies and for the first time "Green Development" was included in the 13th Five-year Plan, creating plenty of opportunities for the environmental protection industry, such as in the fields of ecological environmental renovation and increase the supply of society. of resources.

Our Practice

As a leading professional integrated water environment service provider, BEWG provides government and businesses with comprehensive solutions including multiple formats of operations and management spanning over the full value chain. Meanwhile, we continue to expand our business areas into other environmental protection businesses such as environment sanitation business, solid waste management and clean energy, providing diversified and comprehensive support to the green development



- Implemented the Beijing Sub-city Centre Water Environment Comprehensive Renovation Project;
- Implemented over 20 municipal sanitation projects; and
- CO₂, 378.34 tons of SO₂ and 378.34 tons of nitrogen oxides.

Supporting Green Development with Comprehensive Services

Promoted environmental comprehensive renovation projects in Chifeng, Wuhai and Baotou in Inner Mongolia;

• Total capacity of clean energy power station we invested, constructed and operated reached 2GW; 2016 ne energy power generation to grid reached 257,373,000 kwh (including both photovoltaic and wind power), equivalent to the saving of 805,576,200 tons of standard coal, with an emission reduction of 2,200,535,600 tons of



Supporting Urban Development

Cities are where people work, live and fulfil their dreams. With the rapid economic development, cities are frequently pestered with a number of environmental problems such as smog, waterlogging and black and odorous water, seriously affecting the quality of life of their residents. BEWG is committed to contributing to the solution of resource and environmental challenges for cities, improving the ecological conditions in cities and making cities more liveable by actively implementing its ecological strategies to forge an industrial ecological system that provides comprehensive water and environmental solutions.

Urban environmental challenges

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Water environment deterioration

Deteriorating water quality in major watershed, severe challenges of black and odorous water problems in cities



Air pollution

Severe air pollution with only 84 cities in China passed air quality standards in 2016.



Soil pollution

Severe soil pollution around industrial and mining sites with heavy metals and organic pollutants.

Damages to the ecosystem

Diminishing sizes of forests and grasslands; weak protection of the ecosystem.



Environmental incidents

Public concerns over site selection of waste incineration and chemical projects and the disposal of polluted land.



Our environmental renovation approach kept evolving as our industrial expertise on the water and environmental protection industry grew. We adopted an ecological perspective and transformed BEWG from a provider of individual water or water environmental project to a provider of comprehensive environmental renovation projects covering a region or an entire watershed, providing comprehensive protection of the ecosystem with solutions to environmental challenges for the entire region or watershed.

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Beijing Tongzhou: Ensuring Clear Water and Green Banks at the Sub-city Centre of Beijing

Tongzhou is the starting point of the historical Grand Canal that connected Beijing and Hangzhou. It plays an important role in Beijing's flood control, sewage treatment and other related work, with almost all sewage of Beijing is collected here. In July 2015, Tongzhou was officially named as the Sub-city Centre of Beijing. Both the Beijing municipal government and its related organisations were going to move to Tongzhou, creating tremendous pressure on the local ecological environment. From the Liangshui River (Tongzhou section) and Xiaotaihou River Renovation projects we participated in before, to the newly won bid of the Tongzhou Water Environment Comprehensive Renovation PPP Project in Beijing Tongzhou (hereafter referred as to "the Tongzhou Water Environment Project"), BEWG was making continuous efforts to support the water environment renovation of Tongzhou.

In future, our efforts are going to bring significant improvement to the water quality of the key river system within the Beijing Sub-city Centre, with key water quality indicators of key water areas reaching the Class IV standards for surface water. With all these improvements, waterfront areas are going to be open to the public, creating large areas of ecological forest landscape wetlands and bringing along the beautiful ecological system of "clear water and green banks" in which people live in harmony with nature.



Inner Mongolia: Improving the Regional Environment and Promoting Industrial Upgrade

Inner Mongolia is one of the most important steel and coal industrial base in China. Consequently, its ecological environment has undergone severe damages as its economy benefits from the mining industry. It became an imminent task for Inner Mongolia to improve its urban ecological environment, explore new industries, and pursue green development. BEWG continuously invested in cities in Inner Mongolia such as Baotou, Chifeng and Wuhai, providing customised comprehensive environmental renovation services to help these cities improve their environment and promote sustainable development.





Beijing Tongzhou: Ensuring Clear Water and Green Banks at the Sub-city Centre of Beijing



Tongzhou has always been both a focus and a challenge of Beijing's water environment management. It is also a key area for our business development. From the Liangshui River (Tongzhou section) and Xiaotaihou River Renovation projects we participated in before, to the newly won bid of the Tongzhou Water Environment Comprehensive Renovation PPP Project in Beijing Tongzhou, BEWG has already developed a strong connection with Tongzhou.

We have evolved from participating in individual river renovation projects to the comprehensive renovation of regional and water systems. We will give full support to the improvement and renovation of the water environment in the sub-city centre, significantly improve the flood control and drainage capacity of Tongzhou District, as well as improve the ecological environment and water system of the Beijing Sub-city Centre, building an ecological city with "clear water and green banks" and "coexists in harmony with the water systems" and reshaping the ecological environment for people to live in harmony with nature.

- Yang Zhenshan, General Manager, BEWG Beijing Sub-city Centre Water Environment Management Company





Innovative Concepts

We are committed to creating values for all stakeholders to achieve win-win cooperation and mutual development as we promote the comprehensive improvement of regional ecological environments.



and birds.



We provide our employees with the opportunity to prove their capabilities and talents by participating in an industryleading showcase project.

We used the project to explore business opportunities in the comprehensive environmental renovation projects of cities and whole regions and develop our core competency in multi-model and multi technology compound projects.

BEWG

Innovative Technologies

We leveraged our scientific and technological advantages in water environmental protection and actively explored the application of cutting-edge technologies in the Tongzhou project, aiming at not only effectively solving the ecological renovation needs but also making the project a forerunner in industry technologies such as sponge city and intelligent water.

Sponge City Prevents Water Logging in the City

We applied the sponge city technology to control waterlogging and would pilot the proposed solutions in the Two-River Zone. We would build green sponge facilities (such as green roof and grass ditch) and grey sponge facilities (such as pervious pavement) to collect and store rainwater. In low area, we would adopt both biological retention effect and the retention effect of buffer to increase the net flow rate of rainwater. Therefore, we would prevent waterlogging after storms and effectively collect and utilise rainwater resource.

Protecting City Water Environment with Intelligent Water

We would work together with government agencies to develop the Tongzhou Intelligent Water Platform that consists of two categories: a water environment monitoring system and a water environment management system. With the application of Internet of Things Construction devices, we could realise real-time monitoring and collection of data of water quality, hydrology, rainfall, vegetation coverage, bird and fish species, aquatic organisms, etc. The collected data would be consolidated, reported and managed in eight modules, including the Flood Control and Drainage Management System, Water Environmental Management System, Sponge City Management System, and so on, not only providing convenient help to various urban management agencies, but also contributing to the effectiveness of water environment renovation by enabling centralised management and decision making across the district.

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leading technology and experience to renovate the regional ecological environment of clear water green vegetation by the water, and natural habitat for fishes

Innovative Model

During the implementation of this project, we innovated on project models from the perspective of regional comprehensive environmental renovation by integrated all water related businesses except for water distribution into one project, creating wholistic improvement to the utilisation of water resources and protection of water ecological environment.



Overview of Projects in Inner Mongolia

Our environment renovation projects in Inner Mongolia have both similarities and unique challenges. First of all, the resource-dependent economy and rapid urbanisation in Inner Mongolia heightened the shortage of water, which was already in short supply there. Secondly, the combination of industrial pollution and municipal pollution increased the difficulty of treatment. Meanwhile, these cities all have different hydrological and geological conditions and different industrial layouts, which made it necessary for us to develop customised environment renovation plans for each city to address their unique challenges.

In Inner Mongolia, we applied environment renovation approaches to address regional and complex environmental challenges more often. We started from solving point source problems first, then area source problems, and finally the problems for the entire region. We developed our solutions for improve the regional ecological environment based on an overall understanding of the city or region and an integrated analysis of its actual problems.

- Yin Bin, General Manger, BEWG Wuhai Co., Ltd.

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Baotou: Connecting the City Water System and Promoting Economic Transformation

Baotou is famous for its steel industry and rare earth industry. Rapid industrialisation and urbanisation created tremendous pressure on its urban water resources and ecological environment. How to deal with the challenges in water source and water ecology was the key issue whether the city could improve its ecological environment and transform its development model. After a thorough analysis of the water ecological situation in Baotou, we developed a "five-in-one" comprehensive project approach. Our goal was to transform Baotou into a "showcase of water system construction, ecological development and water efficiency for cities with water shortage in West China" and a "model of the transformation from an industrial city to an ecological city".



The Five-in-One Project Approach for Comprehensive Renovation in Baotou

To prevent flood hazard

Ensure the safety of rivers for "once a century" level floods.

To improve the ecological environment

Cover river banks with vegetation to conserve water and soil and reduce pollution.

To support green development Build water reclamation plant to increase water

reclamation rate to over 90%.

To promote tourism Improve the

Baotou

Wuhai

water ecological environment and the image of the city.



summer.

In response to this problem, we carried out in the Chifeng City Centre Flood Control and Water System Renovation PPP Project. We adhered to the concept of ecological conservation and focused on renovating four major rivers in the city proper of Chifeng in terms of their ecological landscape and water replenish functions. By building flood protection embankment and connecting the river system, heavy rainfalls in the summer could be collected in natural reservoirs to be used later to avoid extracting groundwater. We also planted a variety of water plant in the river system to help restore its natural purification function, which would greatly enhance the flood control capability of the city water system and create a beautiful water landscape for local residents.

Wuhai: Comprehensive Renovation of Mining Sites

Chifeng

Wuhai is a major coal production region in China. Dust from the open mining site and the toxic gases from the spontaneous combustion of gangue had severe impact on local air quality, while the mining site, waste site and tailing sites caused severe land waste and damaged top soils. The renovation of mining areas in Wuhai is an extraordinary pilot project in China because of its massive scale and tremendous difficulties. We applied an innovative and thorough treatment approach, extinguished the open fire on the waste site, adjusted the shape of the waste pilings, installed sprinkler system to reduce the internal temperature to prevent spontaneous combustion, and covered the waste site with green plants to bring the "Flaming Mountains" back to life. This project was highly recognised by both the Inner Mongolia Autonomous Region government and local mining companies. We are committed to actively promoting the Wuhai Model and providing support in the comprehensive renovation of mining sites in other regions of China.

The Wuhai Mining Site Comprehensive Renovation Project is going to:

Treat **136.000** mu of mining area, Extinguish fires and prevent future spontaneous combustion at 36 gangue tailings and mining waste sites,

Extinguish **12,000** spontaneous combustion fires, and Clear over 200 solid waste sites.

To beautify the city

beautify the rivers

that looked poorly.

Clean up and

Chifeng: Switching Water Sources and Creating Interconnected Water System

Chifeng relies heavily on groundwater for its water supply. Due to its dry climate and chronic over-extraction of groundwater, Chifeng has severe water shortage with a per capita water resource amount only at 1/4 of the national average. However, it also suffers from frequent heavy rains and floods in the

The Chifeng City Centre Flood Control and Water System Renovation PPP Project is going to:

- Renovate **40.8** kilometres of rivers,
- Build **55.3** kilometres of flood protection embankment,
- Improve **39.5** kilometres of riverside landscape,
- Create **1.87** million square metres of water surface, and
- Cover 8.64 million square metres of area with plants.





As a leading professional integrated water environment service provider, BEWG actively explored business opportunities in the environment sanitation business, solid waste and clean energy, aiming at establishing a whole environmental protection industry chain and providing a wide range of high-quality comprehensive environmental protection services.

Cleaning Urban Environment

BEWG established a comprehensive sanitation business system including investment, technology and service, making the urban and rural sanitation service an active factor serving the transformation of cities. We also applied the "Internet+" concept and ITC technologies such as big data and cloud computing to develop an intelligent environmental sanitation information platform that consisted of vehicle GPS positioning, intelligent management of an Internet of Things garbage collection system, and the monitoring of key areas, achieving end-to-end monitoring of the full domestic garbage collection process.

Making Cities Clean

We have developed a number of efficient urban cleaning operation models that combined the advantages of human operators and professional machinery and equipment, which could effectively reduce the dust level on urban roads and reduce the concentration of respirable particulate matter in the air, ensure a clean urban environment with less dust in the air.

Garbage Collection

We applied advanced operation management and designed our garbage collection system, and customised it in many cities in accordance with each city's specific needs. Our system minimised the impact the impact on city residents with a series of advanced features, such as real-time monitoring, end-to-end transportation in sealed containers, and using a mist sprinkler system to reduce odour.









Providing Sanitation Service for Orienteering Competition

In July 2016, the Southern Guangdong Ancient Post Road Orienteering Competition (Shaoguan Renhua Segment) kicked off in Shitang Village of Renhua County, Shaoguan City. As the most famous orienteering competition series in the province, the competition attracted more than 600 orienteering lovers to participate. In order to ensure the smooth implementation of the event, we conducted a thorough sanitation clean-up of the areas along the route of the competition. Our outstanding work was highly recognised by the organising committee for creating a good environment for competition participants.

Dingxing: Keeping the City Clean and Tidy

In July 2016, a storm hit Dingxing County, Hebei Province. Heavy rainfall caused waterlogging in many places which disabled multiple roads in the city. Power supply was also disrupted because fallen trees cut off power transmission lines. Our sanitation workers remained on streets to fulfil their duties undaunted by the severe weather, ensuring the rainwater was properly drained into the sewer system. They also worked overnight to drain the waterlogged streets and clean up the mud and sludge caused by waterlogging, losing no time to bring back a clean and tidy urban environment for local residents.

Promote Recycling

Solid waste is often referred to as "misplaced resources". The proper disposal of solid waste was a focus of our business. We actively developed disposal processes to treat sludge generated in the treatment process of wastewater and household food waste and promote the recycle and reuse of resources.

Turning Sludge into Fertilizer

In Zhoukou, we started the construction of our central city sludge disposal project with a daily treatment capacity of 200 tons of dewatered sludge with 80% water content. With our high-temperature oxygen-consuming composting process, we could turn sludge into nutrient-rich base soil, which was widely used as gardening nutrient soil, a raw material for compound fertiliser, or the replacement soil used in the treatment process of soils polluted by industrial uses, turning sludge from a waste to resource.

In Binzhou, we built and operated the Binzhou Municipal Sludge Treatment Centre and developed the industry leading technology of sludge treatment, including the processes of "reducing harmful content & stabilisation - deep dewatering - resource-based incineration or land use". The Phase 1 project had a daily treatment capacity of 400 tons of sludge per day and was able to effectively handle the sludge treatment needs for Binzhou City and nearby counties.

In Haikou, we built the Haikou Bio-resource Utilisation Demonstration Centre. This facility could treat 120 tons of dewatered sludge with 60% water content every day and produce approximately 20,000 tons of organic fertilisers used in gardening and soil treatment each year.

Organic nutrient soil

Recycling Food Waste and Ensuring Food Safety

In Changshu, our treatment process turned food waste into harmless resources. Food waste was fermented to generate different kinds of organic matters, which were disposed in different ways subsequently, such as biogas fuel for boilers or materials to produce biodiesel. With this process, food waste could be treated safely and efficiently, and to generate higher values. Furthermore, it also enhanced food safety by preventing food waste from being treated illegally and reused in the food supply chain.



Utilising Clean Energy

Our subsidiary Beijing Enterprises Clean Energy Group Limited focuses on the utilisation of new energy, mainly photovoltaic power generation, with wind power generation and geothermal energy as supplements. As of 31st December 2016, our clean energy business had been expanded to 10 provinces and 2 autonomous regions with the overall clean energy power generation capacity we had invested, constructed and operated reached 2GW cumulatively.



In Hebi City, Henan Province, we built an 100MWp photovoltaic power plant on the barren hills near the Baisi village in Miaokou Township, to tap this place's potential in rich solar energy. Recognised as a key solar energy project of the province, this project not only made good use of the barren hills but also generate jobs and contributed to the development of local economy.

In Binzhou City, Shandong Province, we invested and operated the Lusa 48MW wind power generation project, which officially launched in May 2016. As of 31st December 2016, this project had generated 35,397,000 kwh of electricity.

In Yingshang County, Anhui Province, we designed and built a 150MW photovoltaic power plant over a fish farm, covering 500 hectares of water surface of the Jiaogang Lake. By installed photovoltaic power generation units on top of fish farm and achieve the dual production of electricity and fish, we achieved an innovate approach Phase I project of the Jiaozhuang Lake Fish to optimise space use and save land resource. Farm Photovoltaic Power Plant in Yingshan Furthermore, the photovoltaic power generation units County. were adjustable to create optimal environment for fishes in the water beneath and increase the yield of the fish farm, achieving the comprehensive and fulldimensional development of photovoltaic power generation and fish farming.

The phase I project of this project started generating power in June 2016. Its actual power generation exceeded the designed capacity because of its outstanding quality of its construction and excellent performance of its equipment. It was estimated to be able to generate 70,000,000 kwh of electricity each year.

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ated	to	grid	

Amount of wind power generated to grid 35,397,000 kwh



The 100MWp photovoltaic power plant in Miaokou Township of Qin County.



Lusa Wind Power Project in Chengkou Township, Wudi County, Binzhou City.



Sustainability Background

In the context of severe ecological situation and macroeconomic transformation in China, the environmental protection met mang opportunities because of its benefits to the environment and its attraction to investors. Furthermore, the extensive promotion of the PPP model not only offers huge opportunities for the environmental industry, but also helps ecological enterprise system that leads industry to reform the industry by better regulating and nurturing the professionalism of its development. In such circumstances, companies with their established platforms and integrated operations will be in a better position to tap the development potential. In order to adapt to these changing circumstances, businesses need to adjust the relationship between business and society and pursue mutual development with stakeholders by forging supportive, win-win cooperative models with partners, employees, communities and the operates. environment.

Our Practice

Aiming at achieving "government's trust, citizen's confidence, company's profitability, employee's rewarding life, and win-win for all partners", BEWG collaborates with government, scientific research institutions and business partners to forge an innovation, explores intelligent water management and promote energy-saving technological transformation to reduce its own environmental impact, protects employee rights and supports their career development to enhance its internal driving force to sustainable development, and engages with communities with corporate charity programmes that integrates its business with communities where it

Our Performance

- Issued RMB6.3 billion green bonds;
- Completed 18 energy-saving equipment transformation;
- 16,952 employees in total, with average training hours at 98 hours per year;
- Donated HK\$3.62 million to charities.

Advocating for the Ecosystem and Creating Shared Value

• R&D and innovation investment reached nearly RMB35 million; 22 patent applications were granted in 2016;

• Carried out 656 workplace safety emergency drills and achieved 100% coverage of employee safety training; and



Businesses need both the support of their upstream and downstream partners and an optimistic, open and forward-looking industrial environment to grow. BEWG places high importance on scientific and technological innovation, explore innovative capital cooperation models, and share the successes of our development with our partners and industry peers.

Driving Industry Growth with Technological Innovation

Following our "twin-engine" development strategy that focused on both capital and technology, BEWG keeps on strengthening scientific and technological innovation and consolidating innovation resources. Aiming at stronger independent innovation capability and core competence, we overcame a number of key technical constraints during the process of industrial transformation and the development of the environmental protection industry.



Improving Technological Capabilities

In 2016, we formulated the BEWG Science and Technology Development Plan for the 13th Five-year Plan Period and identified five key technological areas, including urban water services, urban water environment renovation and sponge city construction, industrial waste water treatment and seawater desalination, solid waste disposal and resource recycling, and other relevant technological areas, and 18 key subjects.

We consolidated our innovation resource, enhanced the collaboration among businesses, universities and research institutions and the utilisation of research results, developed a corporate technological research and development platform that centred on the Six Centres and the Six Bases, and achieved a number of breakthroughs in key industrial technologies and the relevant industrialisation of the technologies



We focused our scientific and technological research on areas highlighted by government policies and market demand. Aiming at transforming our technological research achievements into industrialisation, we continuously optimised our independent intellectual property system by participating in research projects of the Ministry of Environmental Protection, Special Water Projects of the Ministry of Housing and Urban-Rural Development and our own research projects.

National and Provincial/Ministry-level Research Projects:

Participated in the Development and Industrialisation of Key Equipment for the Low-Carbon Operation of Sewage Treatment Aeration System project and the Urban Sewage Treatment Plant Energy Saving Stable Operation Technology Integration Research and Demonstration project of the Ministry of Housing and Urban-Rural Development (MOHURD), aiming at promoting energy saving technologies in the water treatment industry.

Participated in the Underground Sewage Treatment Plant Key Equipment R&D and Demonstration project, a key project of the Beijing Municipal Science & Technology Commission, aiming at promote innovation in processes and green energy saving technologies for underground sewage treatment plants.

Industrialisation of Technologies

Ensuring Air Quality with Comprehensive Odour Management

Odour from sewage treatment plants used to be a primary negative impact on the local communities. As an industry leader, BEWG was among the first companies in the industry to adopt a new treatment approach that focused on meeting not only wastewater treatment standards but also odour management standards. We developed the comprehensive odour management process that manages odour from its source to minimise the generation of odour, save on equipment and maintenance cost, reduce carbon emission, and eliminate the secondary pollution during the wastewater treatment process.

We also started the industrialisation of our comprehensive odour management process and implemented 15 projects in 2016. With a total odour treatment capacity of 550,000 cubic metres per hour, these projects had improved the air quality of a total of 2.4 million square metres of neighbouring communities, benefiting 4.2 million community residents in Beijing, Liaoning, Ningxia, Yunnan, Shaanxi and Henan provinces.



The odour treatment project at Shenzhen Hengling Sludge The odour treatment project at Anning Second Sewage Treatment Reduction Project.

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Independent Technological **Research Projects:**

Launched the Building and District Sponge City Renovation Engineering Technology Research project, innovating on district sponge city renovation technologies and applying them to sponge city projects in cities such as Duyun, Changde, Nanjing and Yuxi, in terms of sponge gardens, sponge towns. and so on.

Plant

Supporting Industry Exchange for Win-win Cooperation

We have established long-term cooperation with industry associations and industry peers both in China and abroad and participated in industry exchange activities such as forums, seminars and site visits regularly, sharing our experience and exploring industry outlook together with industry peers.

Brain Talk, focusing on industry frontier

In order to facilitate the growth of our technological talents, we organised the Brain Talk lecture series for our technological personnel in 2016. We invited members of our Technical Committee or well recognised experts in their own fields to speak as lecturers, bringing new ideas to our technological staff and helping them improve their professional capabilities.

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Talk 1: Mr. Zheng Xingcan, Chief Engineer of the National Urban Water Supply and Drainage Engineering Technology Research Centre, gave a lecture on Technologies and Engineering Cases on How Urban Sewage Treatment Plant Reach Level A Standards.

Talk 2: Mr. Bei Dou, a famous industry expert, gave a lecture on Black and Odorous River Renovation Technology and Case Studies.

Talk 3: Ms. Wang Juhong, Vice President of Tencent, spoke on Tencent's Innovation at the Internet+ Age -Practice and Outlook.

Talk 4: Mr. Tang Jianguo, Chief Engineer of the Shanghai Municipal Construction Design and Research Institute, gave a lecture on Urban Black and Odorous Water Renovation - Key Technologies and Case Studies.

Organised the first National Forum on Intelligent Environmental Sanitation, exploring the application of intelligent system, big data and the Internet of Things in the environmental sanitation business.

Participated in the 17th China Environment Expo and the 18th China International Hi-Tech Fair, exploring industry trends and presenting our business and research results.

Participated in the 2016 Water Award Ceremony, China Environmental Protection Industry Summit Forum and China Ecological Civilisation Forum, exploring the PPP model and other trends with industry peers.

Organised visits to Macao, Japan, and GE Global R&D Centre (Shanghai), and established communication mechanism with industry peers on global industry trends in sewage and sludge treatment and energy saving and emissions reduction technologies.





We actively explore new development models and apply the innovative approach of financial-industrial integration. We have transformed the focus of our business model from an investment-based model to a new model based on "investment, technological services, build and operate" that combines both light and heavy assets. Our new business model allows us to continuously optimise our business development and asset management capabilities.

Establishing Industrial Investment Funds

In 2016, we established a number of investment fund management companies, such as the Beijing Tongzhou Water Environment Fund Management Co., Ltd., BE Zhongkecheng (Ningbo) Investment Management Co., Ltd., Yadong SunVision BEWG Co., Ltd., and BE South-South (Tianjin) Investment Management Co., Ltd., etc. These fund companies provide specialised financing services to water and environmental protection PPP projects. Meanwhile, we focused our efforts on key investment funds for PPP projects such as the Tongzhou Fund and Chifeng Fund.



Management Co., Ltd.

Piloting Green Bond Issuance

In 2016, we issued a total of RMB12.3 billion of corporate bonds in the domestic bond market, including RMB2.8 billion in renewable green corporate bonds, RMB2.8 billion in green long-term cum-rights medium-term notes and RMB700 million in green Panda Bonds. The fund raised with green bonds would be used to support the building and operation of green industry projects. We were awarded the Most Influential Green Bonds Issuer Award and the Largest Corporate Bond Products Issuer Award at the 2016 Bond Investment "Jiefu" Awards selected by the financial media CaishiV China.



We established the BE South-South Investment We established the Water Environment Equity Investment Fund in cooperation with SunVision Capital.



The Most Influential Green Bonds Issuer Award The Largest Corporate Bond Products Issuer Award



As a company in the environmental protection industry, BEWG not only provides government and corporate customers with services that contributing to better environment for all, but also actively practices green and low-carbon operations from all aspects of our business operations.

Intelligent Water Services for Intelligent Cities

With the application of Internet and communication technologies such as the Internet of Things (IoTs) and big data, we used a wide range of online monitoring devices, such as data collection units, mobile Internet equipment and water quality and water pressure gauges, to provide real-time performance information of the water distribution and sewage system of cities. As the results, we developed a visualised platform that connects water management authorities and water distribution and sewage facilities, which allowed us to adjust the water system to improve the utilisation efficiency of water.



We developed a reporting system and a water plant energy efficiency management system on the intelligent water platform. The reporting system could collect water and environment management data through physical network and conduct monthly and multi-dimensional analyses based on data collected. The water plant energy efficiency management system could help water plants or water management authorities optimise shift arrangement and reduce energy consumption, and achieve the goal of reaching both water quality standards and energy conservation standards when used in combination with the multi-water plants centralised monitoring system and the operational process diagnostic system.

Intelligent Water Management Platform

In Changle, Shandong Province, we developed and optimised the Intelligent Water Distribution Management Platform. We installed 201 remote metre readers that monitored over 80% of the daily water use of the city. We also set up 25 water pressure testing points where pressure data were collected online and remotely. With this new platform, we were able to achieve unpressured supply of water during the full process from source water allocation to tap water treatment and distribution.



Remote Desalination Monitoring System

In Sansha, Hainan Province, we developed the Island Seawater Desalination Monitoring System to overcome the challenges for managing desalination systems on islands, such as long distance, high cost, difficulty in maintenance and long service cycle. The system consists of a remote desalination information platform based on mobile technology, allowing the monitoring, collection, control, storage, display, archiving and diagnosis of data readings from the desalination equipment.

Intelligent Water Supply – Drainage Operational Management Information Platform



Conserving Energy with Comprehensive Environmental Management

As a provider of water and environmental protection services, we attach great importance to managing the environmental impact of our business operations. We continuously upgraded our construction, production and operation standards, actively promoted energy-saving technological transformation and the management and disposal of polluting materials, and reducing the dependency on traditional energy by installed photovoltaic power generation units in available spaces in our facilities.

Promoting Energy Conservation

We focused our energy conservation efforts on the economical operation and energy-saving technological upgrades of key equipment, such as pumps, fans, aeration systems and dewatering systems, to pursue our energy conservation targets.

In 2016, we completed 18 equipment energy-saving technological transformation projects:



Establishing Model Water Plants

We developed the Evaluation and Construction Plan for Model Water Plants and actively promoted the piloting and certification of model sewage treatment plants and model municipal water plants in Shandong, South China, Guangxi and other regions. Model water plants were evaluated against their impacts to our shareholders, our customers, our industry and our employees based on their management and operation performance, and outstanding performers would be awarded to encourage them to continuously improve their operational performance.





Utilising Clean Energy

We built distributed photovoltaic power plants in unused places such as over pools and roofs or in the greenbelt in our water plants. As an industry leader in developing the new model of "sewage treatment plant + distributed photovoltaic power generation", we reduced the dependency on traditional energy by utilising clean energy generated at our own plants.

Conserving Energy with Photovoltaic Power Generation

We built a photovoltaic power plant on top of the wastewater treatment pool of Jiacheng wastewater treatment plant in Shenzhou, Hebei Province, which neither affected the normal operation of the plant nor took up extra land, allowed the building of photovoltaic power plant in wastewater treatment plants that needed span over wide distances, achieving both economic and environmental benefits by utilising the electricity generated at the site. The project was expected to generate 341,000 kwh of electricity, which was equivalent to an annual savings of 106.7 tons of standard coal each year, significantly reducing our energy consumption without affecting our normal wastewater treatment operation.



Distributed photovoltaic power station at the Shenzhou Wastewater Treatment Plant



Talent is the most precious asset of an enterprise, and the driving force supports its growth. At BEWG, we protect the occupational health and safety of our employees, respect employee rights, support employee career development, fostering corporate culture, create a welcoming and supportive workplace for employees, and strive to create opportunities for our employees to growth together with us and fulfil their values.

Ensuring Workplace Safety

Workplace safety is a must for an enterprise. It also shows how an enterprise respects and protects its employees. BEWG attaches great importance to workplace safety, continues to optimise our safety management structure and relevant systems and regulations, implements a workplace safety accountability system that covering all employees, and organises safety training and awareness raising activities for our employees.

Clarifying responsibilities and designating

amining and eliminating safety hazards

Training and awareness raising

We urged senior management staffs in charge of business units to sign a letter of safety responsibility that specified safety accountabilities and established safety objectives. We also carried out surveys on the safety management team composition of each business unit, and required them to establish dedicated safety management positions with specific job descriptions and accountabilities.

We adhered to the concept that "Hazards are accidents" and carried out regular, specific, comprehensive and seasonal inspections as well as special inspections before special events or holidays to identify and eliminate safety hazards.

We carried out the Safety Month event and focused on raising the safety alertness and safety accident preparedness of our employees through training and education, safety hazard screening and elimination, emergency drills and safety knowledge contest, etc. We also used on-site electric displays, safety knowledge competition, safety education videos to help our employees learn safety knowledge and develop stronger safety awareness.



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Employees learning how to use fire extinguishers.

Enhancing Awareness on Fire Safety

To continuously improve the awareness of fire hazards of employees and help them better protect themselves and put out fire in case fire accident happened, BEWG Henan Co., Ltd. worked together with local fire brigade and financial institutions and carried out a series of fire safety education programmes, including fire hazards inspections and fire emergency drills. Employees of participating organisations learned about fire safety tips, fire alarm information, fire distinguishing skills and safe escape tips.



BEWG Henan Co., Ltd. conducted fire safety training.





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Training on Operation Safety

In July 2016, BEWG Shenzhen Co., Ltd. organised a one-day training on operation safety at its Hengling Sewage Treatment Plant. Industry experts were invited to give lectures on the new Safety Law and safety hazards in sewage treatment plants, as well as analysed safety hazards in daily operation details, such as temporary electricity connection, climbing operation and hoisting operation. The training helped our employees gain deeper understanding of safety measures, raise their safety awareness, and enhanced they safety management at the company.



BEWG Shenzhen Hengling Plant organised operation safety training.

Training and Career Development Support

We keep on expanding the scope of our employee training system and innovated on training formats to help our employees better improve themselves and fulfil their lives. We also actively developed career development channels to help our employees grow.

Innovating on Training Formats

With both internal and external training resources, we have established a comprehensive employee training system that offers different training tiers and skill categories to meet the different training demands of employees from all levels and all functions.

Basic training	To brief new employees on our projects and businesses, help them understand corporate policies and regulations, and train them on basic industry knowledge and skills, aiming at help new employees better prepare themselves for their positions.
Skills training	To coach existing employees on work-related professional fields such as quality control, financial management, etc. to help them become more efficient and productive.
Management training	To coach management and key personnel on management skills to help them develop leadership and coordination skills.

Key Training Programmes in 2016:

Offline – Specialty Training

We organised a series training for management track personnel to help them develop their professional skills, such as the Fifth Tsinghua University - China Environmental Industry Senior Managers Seminar, the Third Senior Operational Manager Seminar, Senior Seminar for Financial Directors, Management Trainee Orientation Training, etc.

Online- Online University

We renewed our cooperation with the Cloud School online leaning platform, which gave our employees access to our internal knowledge set, internal training courses, company policies and regulations, corporate culture, etc. All employees could log in and study at any time. Training content were updated regularly, allowing us to improve our knowledge management and sharing.





Role playing training for professional communication skills. Online University.

Optimising Career Development Platform

We strive to build and continuously improve career development platform to help our employees develop their professional skills, clarify their career goals, and achieve their career goals.



Talent review

We conduct talent review and link business performance with the career development of employees, building a comprehensive and systematic talent management and evaluation system.



Competency model

We develop ability and quality requirements for various positions and use measurable, observable and coachable criteria to evaluate and manage the performance of employees.

New Driver Programme

We select outstanding middle and senior management staff as tutors for management trainees, provide rotation training opportunities, promote communication and training and expand related research topics, all aiming at help our management trainees grow their professional skills.

Cooperating with Universities to Develop Talent Pool

We have developed talent reserve programmes with educational institutions such as Guizhou Industry Polytechnic College and Erdos Vocational College of Eco-environment to cultivate water environmental protection industry youth talents by leveraging each parties' advantages in education and on-the-job training.



Promoting Inclusive Corporate Culture

Identifying with our corporate culture is a necessary condition for the demonstration development of the company and our employees. We continuously promote our corporate culture, organised a variety of employee activities to foster a positive and harmonious cultural foundation within the group.

Promote Cultural Integration

We continuously promote corporate culture and advocate for positive corporate values to provide positive guidance to our employees, creating a harmonious workplace and encouraging our employees to be more proactive, positive and creative.

Guiding employee values	Cultural integration and training	Establishing culture norm
We provide our employees with a profound interpretation of our corporate values, and guide them to identifying with the values with cultural activities, role models, and the demonstration effect of outstanding employees.	Implementing corporate cultural integration activities and customised trainings targeting different types of audiences to promote the recognition of our values.	Effectively imbuing employee with our corporate culture throug multiple channels, such a corporate portal upgrade, forur revision, posters on corporat values, guidance on cultura
Starting from small st contributions Carrying out the Rudolph programme to encourage grassroots employees to contribute to corporate development	Corporate cultural performance at our subsidiary in Kaili, Guizhou.	culture, employee photograph contest, and employee interes groups. We also actively engage with cultural experts and organise outstanding management staff t visited leading businesses bot in China and abroad to exchang ideas and learn from each other o
with suggestions in management, technology and operations. Promoting the practicing of Queues Encourage employees to focus on their respective fields and become	Corporate cultural performance at our subsidiary	the subjects of corporate strategy operations and management, an technological research.
practitioners of our values based on their involvement with the value creation process. Showcase with outstanding models Encouraging management staff to	in Wuhai, Inner Mongolia.	BEWG 2016 annual award ceremony.
grow in their professional fields, contribute to our overall values, and become industry pioneers.		

Corporate cultural performance at our subsidiary in Binzhou, Shandong.

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BEWG organised outstanding management staff to visit Veolia's treatment plant.

Encouraging Life-Work Balance

We organised a variety of employee activities to help them relax their mind and body, develop teamwork, explore their talent, so as to develop a positive attitude in both work and life.



BEIJING ENTERPRISES WATER GROUP LIMITED

Our employees are from different provinces and different families. But they all have a common name – a BEWGer. With each other, we can both ask for help and share our happy stories. We are a warm family that grow with each other.



Contributing to Community Harmony

The sustainable development of an enterprise needs the support from the community and public where it operates. We continue to support social welfare, engage in environmental education, and actively contribute to community harmony and development.

Caring for the Disadvantaged and the Distressed

Everywhere we operate, we also actively extend our support to help the government with disaster relief efforts and care for disadvantaged groups.

Supporting Disaster Relief

Participating in Flood Relief Efforts in Beijing

From 19th to 20th July 2016, a heavy stormed hit Beijing. We allocated a 345-person emergency team, 15 excavators and other flood control materials to ensure the safety of our projects under construction. Meanwhile, we extended our full support to the flood control work of local government and water management authorities and dealt with a number of dangerous incidents.

After the flood, we immediately carried out safety inspections of our projects and organised our employees to clean up debris and sludge caused by the flood, ensuring a safe and clean environment for the residents of Beijing.



Carried out safety inspections on our projects after the flood.

Supporting Disaster Relief in Anhui

In the early morning of 1st July 2016, heavy rains and storms hit Jinzhai County, Anhui Province. Water levels at over a dozen local reservoirs exceeded their limits. Flash floods destroyed roads, demolished houses, and cause significant damages.

There was urgent need for disaster relief materials such as tents, blankets, drinking water and instant noodles. Our subsidiary Beijing Enterprises Clean Energy Group Limited acted up to the call for help promptly and mobilised resources to allocate and distribute relief materials to disaster areas, helping disaster victims and fulfilling our social responsibility.

In Hefei

In Beijing

we purchased and 700 boxes of instant noodles and shipped them to Jinzhai County. Overnight.

we allocated 200 tents and 56,000 bottles of drinking water and shipped the materials to Jinzhai and shipped them to County, enough for providing temporary shelter for Jinzhai County. 1,600 people and two weeks' emergency drinking water for 2,000 people.

In Hebei and Shanxi

we allocated 1,000 blankets



Providing Community with Emergency Water Supply

In the early morning on 22nd December 2016, a municipal water main pipeline in the Nanxiong City, Guangdong Province, cracked due to a ground cave in incident, interrupted the water supply for the whole city. Residents rushed to nearby stores to hoard drinking water and emptied the water inventory in no time.



After learning about the situation, we dispatched our tanker trucks to supply water to major residential districts. After work, our employees also volunteered to participate in the relief efforts and came to the Weixin road community, distributing water among community residents to solve their urgent need.

"There is no need for us to wait in crowd to get water from nearby wells!" Local residents expressed their appreciation for our timely help.

Caring for Disadvantaged Groups

Sharing Our Love with Children in Need

Before the International Children's Day, our subsidiary Beijing BHZQ Environmental Engineering Technology Co., Ltd. launched an initiative to call for support for a charity event for children. Many employees participated and lined up to hand in their donations, while those work on projects hundreds of miles away sent their donations via WeChat.

On 31st May 2016, we visited the Sun Village Children's Home in Shunyi district of Beijing and handed over our donations to the over 100 children there, sending a special gift for the children to have a happy children's day.



Donation event at the Sun Village Children's Home.

Helping Lost Elderly

On the afternoon of 5th August 2016, Wang Fuhua, a sanitation worker of Dingxing Beijing Enterprises Environmental Service Co., Ltd., found an old man standing by the road who looked exhausted and bewildered. Wang Fuhua talked to him and learned that he was on the way to visit his daughter but he got off the bus at the wrong stop and got lost. It was already a whole day since he had any food or water and he felt desperate and exhausted. Wang Fuhua gave him some fruits she brought with her as snack and comforted him.

Wang Fuhua reported the situation to the company. Soon we sent our staff to the site with food and water and contacted the police. We also posted a message on the company's internal WeChat group to mobilise our employees and their families and friends to help find the old man's family.

The old man gradually gained some energy and calmed down. With the help of police and our staff, we managed to get in touch with the old man's family and helped to send him back home.



We visited people in poverty with donated supplies.

SUSTAINABILITY REPORT 2016 THE WAY OF WATER – NURTURING A GREEN FUTURE



We visited widowed elderlies before the Moon Festival and brought them festival gifts.

Raising Environmental Awareness to Make the World Green

We leverage our expertise and actively engage with communities to raise environmental awareness and share environmental protection knowledge, so as to mobilise communities to act up and make our world green.

The Garden-like Daoxianghu Underground Water Reclamation Plant

On 14th May 2016, Auntie Liu and a few other residents of her neighbourhood were invited to visit the Daoxianghu Underground Water Reclamation Plant, which was the first fully underground water reclamation plant in operation in North China.

Stepped out of the bus, Auntie Liu was surprised that they were actually in a park with beautiful landscape and various exercising equipment. This was exactly the advanced design concept of "park on the ground and sewage treatment underground" we applied for the Daoxianghu Water Reclamation Plant project. At this plant, the surface ground was turned into a recreational eco-park, while a treatment facility with highly efficient equipment running underground, turning sewage into reclaimed water that could be reused by people.

This plant not only "looks good", but also works very well, as the treated water it discharged all meets the Class IV standards. After discharged into the groundwater and surface wetlands, the water was continuously filtered and treated to meet the Class III standards, which is safe for people to in contact with.

The Daoxianghu Water Reclamation Plant has a designed treatment capacity of 260,000 tons per day, and the Phase I project has already been completed with a capacity of 80,000 tons per day. It not only facilitates with the recycle and reuse of water resource, but also created a brand-new platform for the residents of Beijing to enjoy a close relationship with water.





BEWG sanitary workers conducted joint environmental awareness raising events with local students.

Raising Public Awareness on World Water Day

22nd March 2016 was the 24th World Water Day and the first day of the 29th China Water Week. Our subsidiary Beijing Enterprises Bidu Water Environment Management Co., Ltd. worker together with the Beijing Liangshuihe River Administration Office and Beijing Water Administration and Law-enforcement Office and jointly organised a water environmental awareness raising event. With the theme of "Love Water, Protect Water, and Create a Beautiful Water Environment", this event attracted over 300 residents from areas along the Langshuihe River.

Participants watched promotional videos, learned about the progress of the renovation of the river, inspected the results the renovation at the Yangqiao segment of the project in person, and received information packet on BEWG and on water protection. In addition, the Langshuihe River Administration invited ten volunteers from the participants and officially appointed them as volunteer river inspectors.

Plant Visit for College Students

On 15th March 2016, we organised a plant visit for over 40 students from the Liangning Petrochemical Vocational and Technical College. Our technicians gave the students a guided tour of our subsidiary, the BEWG Jingzhou Nverhe Co., Ltd. They walked through the entire process of sewage treatment, including coarse grille, fine grille, biochemical pool and other processes. Technicians shared insightful industry knowledge with the students, such as the detailed process of sewage treatment, specific treatment technologies, know-hows of electric system operation, and equipment operating procedures, etc. The students were very interested, taking pictures and notes, asking questions, and communicating with each other to sharing their thoughts.



"It is very easy to generate wastewater, but very difficult to treat. I hope to start my career in this industry and contribute to making our environment better." - Remark from a college student





"Little Managers" having career day event at Elementary school students visited our our sewage treatment plant.

sewage treatment plant.



Distributing information packet to community residents.





Our facility served as a big classroom for environmental education.

Environmental, Social And Governance Report

Sustainability Management

As a leading water environment protection enterprise in China, BEWG attaches great importance to society and the environment and communicate regularly with our stakeholders as we implemented our business strategy and grow, aiming at forging a sustainable business ecology.

Corporate Culture





SUSTAINABILITY REPORT 2016 THE WAY OF WATER – NURTURING A GREEN FUTURE

To base our business on water and follow the Way of Water, in order to help solve ecological challenges in an ecological way and by forging an ecological enterprise.



The Way of Good Governance -----

BEWG keep transforming our management models and organisational structure, drive our growth with innovation, apply strict governance,

- optimise management,
- engage in open and win-win cooperation with partners, and create sustainable values for our investors.



Water irrigates and brings benefit to all. BEWG develops in an inclusive and sharing way. We are committed to growing together with our employees, our industry and the communities where we operate, sharing with them our development and value.

In order to promote the sustainable development of BEWG and carry out the sustainable development strategy from top to bottom, we have developed a three-tier sustainability management system.

Corporate Management Centre: As the executive organisation, in charge of organising and coordinating work to establish, implement and improve the BEWG sustainability system, the planning and development of BEWG's sustainability strategy, and the supervision over the

with the Corporate Management Centre to ensure the implementation of our sustainability

Materiality Analysis

Based on the sustainability context, stakeholder engagement, materiality and completeness principles from G4 Sustainability Reporting Guidelines published by the Global Reporting Initiative (GRI), BEWG built its sustainability materiality analysis model. The material issues disclosed in this report were selected through the identification, evaluation and screening processes.

Identification

Evaluation

and industry policies to learn about industry and government policy trends and public attention focus related to the environmental protection industry.

We analysed environmental regulations We analysed internationally accepted standards and guidelines such as the ESG Reporting Guide of HKEX and GRI G4, to understand the specific disclosure requirements.

Screening

(4) Green operation

(5) Offering

We conducted a stakeholder sur vey to learn about how the 23 sustainability issues identified in the identification process were perceived by different stakeholder groups. We used an online survey platform to obtain stakeholders' feedback on their prioritisation results of the 23 sustainability issues through mobile phones and PCs.

We conducted our first stakeholder survey and received 377 pieces of effective stakeholder feedback from 19 provinces.



and prioritised the 23 material issues accordingly. mental protecti 8 Promoting economic deve (9) Adapting to climate change (2) Business compliance (10) Corporate governance (3) Product and service quality) Business performance 2) Employment opportunities

We invited 87 senior employees

internally to rank the identified issues

based on their understanding of

each issue's importance to BEWG.

Combining their results with the results

of stakeholder survey, we built a two-

dimensional materiality analysis matrix

(13) Supply chain management (14) Urban infrastructure for commu 6) Promoting development and inno 5) Product and service innovation 7) Occupational health and safety 16) Industry exchanges and cooperation 7) Employee communication and participat 18) Responsible procurement (9) Employee training and career development 20 Diversity and equal opportunity

We benchmarked with industry peers

both in China and abroad to learn

industry focuses and sustainability best

Importance to BEWG

(21) Public welfare and charity

23 Employee remuneration and benefit:

2 Supporting SMEs

practices.

Report content in response to the issues

Report Content		Corresponding Issues
Торіс	-	Business performance, Product and service innovation, Promoting development and innovation of the industry,
Focusing on Green Services of	Focusing on Urban Water Service	Product and service quality, Offering environmentally friendly products and services, Urban infrastructure for communities
Water Environment Protection	Renovating River Ecology	Offering environmentally friendly products and services, Urban infrastructure for communities
Supporting Green Development	Supporting Urban Development	Promoting economic development, Adapting to climate change, Offering environmentally friendly products and services, Urban infrastructure for communities
with Comprehensive Services	Expanding the Environmental Industry	Offering environmentally friendly products and services, Product and service innovation
	Coordinating Industry Development	Promoting development and innovation of the industry, Industry exchanges and cooperation
Advocating for the Ecosystem and	Practicing Green Operations	Green operation
Creating Shared Value	Supporting Employee Growth	Occupational health and safety, Employee communication and participation, Employee training and career development
	Contributing to Community Harmony	Public welfare and charity, Environmental protection awareness raising

Stakeholder Engagement

As a public utility which is committed to water and environmental protection affairs, BEWG's all businesses have a close tie with various stakeholders. We actively communicated with our stakeholder groups, to build a friendly partnership and construct a win-win harmonised situation.



Environmental

Emissions, Effluents and Waste

We have established a comprehensive environmental management system that passed the ISO14001 environmental management certification and manage our emissions strictly. In 2016, there was no major environmental pollution incident occurred, nor the Group was sued for environmental pollution or violations.

Emissions

For odours generated from sewage treatment, we used specialised facilities to collect and treat the air to ensure it meets standards before being emitted.

We applied international advanced technologies to effectively treat harmful gases generated by the incineration of waste to generate power, such as dioxin. The emissions concentration of our waste power plants was much lower than China's national standards and could meet the more stringent EU standards.

GHG Emissions

We reduced our GHG emissions by controlling energy consumption of our products and services and reducing business travels and paper use, including:

• Developed Energy Conservation Assessment Management Approach for Operating Companies to control the energy consumption related to our products and services;

• Built photovoltaic power plants as supplemental power for sewage treatment plants to reduce the consumption of fossil energy;

• Built a cloud conference system and reduced business travels with remote training and video conferences to reduce carbon emissions.

Our GHG emissions were mainly from energy consumption in our operations, with an insignificant amount of methane gas generated in the sewage treatment process.

Wastes

We have established strict waste management systems to ensure the proper management and handling of waste materials generated in our operations. We also take effective measures to reduce the amount of wastes and dispose of them properly.

For sludge generated from sewage treatment and water treatment process, we developed the Management Approach for Sludge Measurement and Disposal to standardise the measurement and disposal of sludge and prevent secondary pollution caused by the improper disposal of sludge.

For solid waste generated by our environmental sanitation service, we strictly abide by the national standards and apply appropriate treatment or reuse approaches accordingly.

Effluents

Our core business is water treatment, which generate no wastewater. Effluents generated in other operations are mainly small amounts of household sewage, such as sewage from our company canteens, which are usually treated at our treatment plants and discharged back into natural water bodies after meeting discharge standards.

Resource Use

We strive to achieve higher resource use efficiency and operation efficiency by following economic principles and strictly manage the resource use at our projects. Our subsidiaries monitor their energy use and chemical use daily and report the data regularly to our headquarters. And our headquarters review the data and monitor and evaluate the performance of the subsidiaries accordingly.

Energy

To improve energy efficiency, we carried out energy-efficiency upgrades for key technologies and equipment. Regarding equipment upgrade, we focused on the upgrade of equipment with high energy consumption and low efficiency such as lift pumps, blowers and sludge dewatering systems, etc. In 2016, we invested a total of RMB10 million on energy-efficiency upgrades. Regarding energy efficiency technologies, we actively invested in the research and development of new green technologies to reduce the energy consumption of our technological processes.

We had no statistical data on energy intensity as of 31 December 2016. We have the plan to report this indicator in future.

Indicators	Unit	2016
Electricity consumption*	kwh	18,963,075,000
Gasoline consumption*	liter	1,171,729
Purchased heating consumption*	GJ	131,145

* Data is based on available information and does not cover the entire Group as some business units still have not established information collection system for this data.

Water

Our core business is the treatment of municipal and industrial sewage. Our water distribution business only uses source water from natural water bodies after obtaining proper approval from government authorities.

To reduce water consumption, we mostly used reclaimed water for daily uses such as planting and operations except for drinking water use and laboratory use. We actively advocated green office and encouraged water conservation in many ways, such as reusing collected condense water from air conditional units and promoting water conservation behaviours among our employees.

Indicators	Unit	2016
Water Consumption*	cubic metres	10,197,537
Reclaimed water consumption*	cubic metres	3,744,320

* Data is based on available information and does not cover the entire Group as some business units still have not established information collection system for this data.

Materials

As a water and environmental protection enterprise, our products and services do not have packaging materials. Our material uses are mainly water treatment chemicals. In order to reduce chemical consumption, we applied the chemical phosphorus removal unit intelligent control system, which could adjust chemical dosage according to the phosphorus concentration in sewage to ensure optimal chemical use while meeting treatment standards for water quality.

Environment and Natural Resources

We are committed to managing the impacts of our operations on the environment and natural resources responsibly and strive to prevent significant adverse impacts on the environment. In 2016, BEWG had no environmental violation such as being sued for environmental violations or severe leakage incident.

We take thorough consideration of the environmental impact before making investment decisions. We carried out environmental impact assessment in accordance with laws and regulations for all projects we invested in and constructed. We also developed policies such as the Implementation Plan on Workplace Safety, Environmental Protection and Civilised Construction to manage the environmental impacts of our construction projects.

We manage the waste generated in our operations properly to avoid adverse impacts on the environment. Meanwhile, we actively build photovoltaic power generation units in unutilised areas in our plants, and used the generated electricity for lighting to reduce our energy consumption of municipal power.

Indicators	Unit	2016
Amount of photovoltaic power generated to grid*	kwh	221,976,000
Amount of wind power generated to grid*	kwh	35,397,000

* Data is provided by Beijing Enterprises Clean Energy Group Limited.

Social

Employment

We strictly abide by the Labour Contract Law of China and other relevant laws and regulations and signed labour contracts with all of our employees.

We attach great importance to protecting employees' rights in the following aspects:

• We comply with diversity and non-discrimination principles and forbid all forms of discrimination and unfair provisions based on the gender, nationality, marriage status, child bearing status and religion in the recruitment process.

• We sign labour contracts with employees on the basis of equality and mutual benefit. We strictly forbid hiring child labour or forced labour. Once found, any illegal labour relationship will be terminated immediately and those responsible staff will be duly investigated.

• We provide employees with comprehensive benefit programmes, including appropriate insurances, housing fund, lunch subsidies and communication subsidies. We issued the Corporate Annuity Implementation Policies and organised employees to join our annuity plan to ensure and improve their quality of life after retirement. We also provided employees with supplementary insurances such as supplementary health insurance, supplementary retirement insurance, supplementary accident insurance, and employer insurance. In 2016, we provided social security coverage to all of our employees.

• We protected employees' labour rights, regulated employee overtime during public holidays and issued the policy that "no overtime for female employees during pregnancy or nursing" and "avoiding overtime for employees being ill" to protect employee health.

• We regulated our employee leave and vacation policies in accordance with government policies and regulations, such as the Labour Law of China, Regulation on Public Holidays and Memorial Days of the State Council, Special Provisions on Workplace Protection of Female Employees, Notice on Female Workers Maternity Benefits of the Ministry of Labour, Regulations on Population and Family Planning., as well as specific policies on public holidays, marital leave, maternity leave, and blood donation leave. In 2016, all female employees returned to work with a rate of 100% after their maternity leave.

• According to the Labour Law of China and the State Council's Notice on Issues of Employees' Leave, we developed management approaches on paid annual leave with clear related conditions and standards based on our specific circumstances.

• We established a scientific remuneration and performance management system and a performance appraisal system based on performance and capability, developing an incentive and value-oriented performance assessment mechanism. We optimised our comprehensive incentive system by optimising position system, standardising organisational structure and position descriptions, consolidating position and tier systems, standardising remuneration management, and exploring diverse forms of incentives.

Unit	2016
person	9,047
person	16,952
%	38.3%
%	61.7%
%	33.0%
%	57.9%
%	9.2%
%	49.0%
%	46.7%
%	4.3%
%	19.8%
%	3.7%
	person person % % % % % % % % % % % % % % % % % %

* Data does not cover overseas projects.

Occupational Health and Safety

We adhered to the safety principle of "Safety First and Prevention First" and attached great importance to workplace safety. We established a series of safety management regulations, such as Regulations on Regular Safety Meetings, Safety Inspection System, and General Provisions for Safety Operations. There was no major occupational health and safety incident happened in 2016.

In 2016, we issued the Optimising Suggestions on BEWG Workplace Safety Accountability in order to optimise our safety management system and safety management accountability system. We developed a dedicated management module on workplace safety to achieve centralised and coordinated management of workplace safety, clarify safety responsibility, match positions with safety accountabilities, and identify safety hazards. We continuously carried out safety trainings to raise employees' safety awareness and related knowledge, and provide regular health examinations to all employees with a rate of 100% coverage.

Indicators	Unit	2016
Employee participation in safety trainings	frequency	23,110
Total spending on workplace safety	10,000 yuan	2,543
Coverage rate of safety trainings	%	100
Number of emergency drills	frequency	656

Employee Development and Trainings

We established a tiered training model for different employee categories to better meet employees' needs. We also built an employee e-learning platform by integrating our training system with information and communication technology. All our employees were required to participate in related training programmes.

In 2016, we developed the New Driver Programme to cultivate management trainees, and held seminars for management staff to improve our capability in corporate management.

Indicators	Unit	2016	2015	2014
Number of employees trained*	persons	16,952	7,905	5,467
Total training expense*	10,000 yuan	926	592	379
Average training time per employee*	hours	98	108	96
* Data does not cover overseas projects.				

Supply Chain Management

We take suppliers as our important partners. To manage the environmental and social risks in supply chain, we developed a List of Qualified Suppliers based on the cumulative results of regular evaluations of the business, technology and service capabilities of suppliers. We require all suppliers to ensure the products they provide meet safety and environmental requirements.

We made fair selection of suppliers through public bidding, negotiation or comparing prices. We also evaluate suppliers regularly to adjust their qualification status accordingly.

Indicators	Unit	2016	2015	2014
Number of domestic suppliers*	unit	252	262	123
Number of overseas suppliers*	unit	78	86	41
Number of suppliers included in the Supplier Management System*	unit	330	348	164

* Data does not cover overseas projects.

Our procurement system is facing increasing pressure in supplier evaluation, supplier management, tender procurement, price list management, as the number of our construction projects and the equipment procurement amount keep growing. Therefore, in the first half of 2016, we kicked off the development of a new procurement and supplier management system based on procurement requirements for construction projects. In May 2016, the supplier portal and supplier management module were completed and started running online with 157 suppliers registered. We organised regular on-site meetings with our suppliers to help them dragonise causes of existing quality problems and develop solutions and control measures and carried out regular supplier inspections on project quality, workplace management and workplace safety to ensure compliance and encourage improvement. If a supplier was found that its project quality did not meet quality standards in accordance with our inspection criteria, we would require them to redo the work or take back their products, record and report the incident as a quality incident, and update the record information of this supplier.

Product Responsibility

As an enterprise in the public service sector, BEWG attached great importance to the impact of our products and service on public safety and health. We established a strict quality management system and passed the ISO9000 quality management system certification. We launched a special audit on water quality to strictly control quality risks. There was no major incident of product and service safety and health violations occurred in 2016.

Quality Assurance and Emergency Management

We set up strict quality assurance procedures. Our subsidiaries followed national testing standards and the Management Approach for Assay and Inspection in Water Business Management Division and conduct regular tests of all relevant production indicators. We monitored water quality and adjust our processes in real-time to ensure that water quality meets all requirements.

The affiliated operating subsidiaries established their respective emergency plans after taking into consideration of possible emergency scenarios. In case any emergency happens, we would initiate the emergency plan immediately to ensure consumers' safety and health.

Consumer Rights Protection

We encouraged our subsidiaries to regularly conduct consumer satisfaction surveys to protect customers' interests. Regarding customer complaints, we required out subsidiaries to identify reasons and reasonable explanations, and visit the complaining customers to solve the problem. If the complaint were caused by management issues, we would also make internal improvement accordingly.

Intellectual Property Protection

We developed an intellectual property management system to regulate patent application, maintenance and authorisation process of our intellectual properties. Our technological research and development centre was in charge of the intellectual property management for the Group.

Anti-corruption

We attached great importance to anti-corruption and established a sound anti-corruption mechanism including prevention, monitoring, ex-post evaluation and discipline. There was no corruption incident occurred and no employee was indicted for corruption in 2016.

Our anti-corruption and whistle-blowing measures were as follows:

• Applying anti-corruption principles to the audit process.

• Setting up a whistling-blowing mailbox and open whistlingblowing channels.

• Educating employees on anti-corruption and enhancing their self-discipline.

• Conducting due process investigation if a problem was identified and the findings were to be reported to Group management. Incidents violated laws and regulations would be handed over to relevant government agencies.

Regarding audit, we set up a whistling-blowing mailbox at our Supervision & Auditing Centre, and promoted anticorruption at kick-off meetings of project on-site audit by giving anti-corruption warnings at project kick-off and wrapup meetings and incorporating anti-corruption into the project audit process.

Community Investment

We have established a sound communication mechanism with communities. We regularly visited communities to listen their suggestions and appeals to our project. Meanwhile, we attach great importance to ensure that our projects have positive impact on people's livelihood and local economic development.

In 2016, we donated a total of HK\$3.62 million to charitable causes and focused on environmental protection. We leveraged our expertise to raise the environmental awareness of communities, cared for the needs of disadvantaged social groups, and carried out a number of charitable activities such as disaster relief, emergency water supply and environmental education.

Governance

Please find related information on Pages 32 to 44 of BEWG's 2016 Annual Report.

Link: http://file.irasia.com/listco/hk/bewg/ annual/2016/ar2016.pdf

HKEx's ESG Reporting Guide Index

Note: • refers to "Comply or explain" indicators; • refers to "Recommended Disclosures" indicators;

△ refers to indicators that are required by HKEx as "Comply or explain" indicators since 1st January 2017.

Areas	KPIs		Pages/ Explantations
A: Environme	nt		
Aspect A1 : E	Emissions		
General discl	osure	٠	12-13,58
A1.1	Types of emissions and related emissions data.	• Δ	Emissions complied with relevant laws and regulations. The relevant statistical process has not been established
A1.2	Total greenhouse gas emissions (in terms of metric tons) and (if applicable) density (e.g., in terms of per yield unit, or per facility).	• 🛆	The relevant statistical process has not been established
A1.3	Total hazardous wastes produced (in terms of metric tons) and (if applicable) density (e.g., in terms of per yield unit, or per facility).	• 🛆	The relevant statistical process has not been established
A1.4	Total non-hazardous wastes produced (in terms of metric tons) and (if applicable) density (e.g., in terms of per yield unit, or per facility).	• 🛆	The relevant statistical process has not been established
A1.5	Describe the measures to reduce emissions, and the results.	\bullet \triangle	21,58
A1.6	Describe the method of handling hazardous and non-hazardous wastes, reducing the output, and the results.	• 🛆	58
Aspect A2 : l	Jse of resources		
General discl	osure	•	12-13,30-31,41,58-59
A2.1	Total consumption of direct and (or) indirect energies (such as electricity, gas and oil) classified by type (in terms of thousand KWH) and density (e.g., in terms of per yield unit, or per facility).	• 🛆	58
A2.2	Total water consumption and density (e.g., in terms of per yield unit, or per facility).	• 🛆	59
A2.3	Describe the plan of energy use efficiency, and the results.	$\bullet \triangle$	21,31,58-59
A2.4	Describes if there is any problem in seeking for the applicable water source, and the plan of improving the water use efficiency, and the results.	• 🛆	59
A2.5	Total amount of packaging materials used for finished goods (in terms of metric tons) and (if applicable) amount of per production unit.	• 🛆	59
Aspect A3 : E	Environment and natural resources		
General discl	osure	•	59
A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	• 🛆	59
B: Society			
Employment a	and Labor Standards		
Aspect B1 : E	Employment		
General discl	osure	•	59
B1.1	Total number of employees by gender, employment type, age group and the regional division.	0	60
B1.2	Employee turnover rate by gender, age group and the regional division.	0	60
Appant P2	Health and safety		

Areas	KPIs		Pages/ Explantations
General discl	I disclosure		42-43,60
B2.1	Number and rate of work-related fatalities.	0	The relevant statistical process has not been established
B2.2	Lost days due to work injury.	0	The relevant statistical process has not been established
B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	0	7,60
Aspect B3 : D	Development and training		
General discl	osure	٠	44-45,60
B3.1	Percentage of trained employees classified by gender and employee category (such as senior management, middle management, etc.).	0	60
B3.2	Average training hours per employee classified by gender and employee category.	0	60
Aspect B4 : L	abor guidelines		
General discl	osure	٠	59
B4.1	Description of measures to review employment practices to avoid child and forced labour.	0	59
B4.2	Description of steps taken to eliminate such practices when discovered.	0	59
Operational p	ractices		
Aspect B5 : S	Supply chain management		
General discl	osure	•	60-61
B5.1	Number of suppliers divided by regions.	0	60
B5.2	Describe the practices of hiring suppliers, number of suppliers to whom the practices are performed, and the methods of executing and supervising related practices.	0	60-61
Aspect B6 : F	Product responsibility		
General discl	osure	•	61
B6.1	Percentage of sold or shipped products to be recalled due to safety and health reasons.	0	The relevant statistical process has not been established
B6.2	Number of received complaints about products and services and the methods of dealing with the complaints.	0	61
B6.3	Describe the practices related to the maintenance and protection of intellectual property rights.	0	61
B6.4	Describe the quality verification process and product recycling program.	0	61
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Stakeholder's Testimony

As a comprehensive public utilities enterprise in the field of water and environmental protection, BEWG's business is highly relevant to people's life. Various types of environmental issues are becoming increasingly prominent as China's economy grow, and the public also become increasingly concerned about environmental issues. The Chinese government attaches great importance to green development in the Thirteenth Five-year Plan. For the water and environmental protection industry, it is an era of not only tremendous development opportunities but also great responsibilities.

This report provides a comprehensive disclosure of the practices of how BEWG serves communities and contribute to green development and harmonious society. It starts with the corporate mission of BEWG, and focused the content on both industry material issues and the needs and expectations of its key stakeholders, presenting a systematic description of how BEWG provides environmentally friendly products and services, supports community and urban development, promotes industry innovation and innovation, as well as the economic, environmental and social impacts of the enterprise. The report not only meet the ESG information disclosure requirements of the Hong Kong Stock Exchange, but also provides a brief account of the ecological strategy and sustainability concept of BEWG, which will help its stakeholders to better understand and recognise BEWG's efforts in the pursuit of sustainable development.

In the future, sustainable development will be a common concern for both businesses and society, and businesses are expected to meet increasingly more stringent requirements. To achieve this, businesses need to integrate sustainable development into their development strategy and continuously improve their corporate management and sustainable development capacity. This report is a good demonstration of the great importance BEWG attaches to sustainable development and its tremendous sustainability efforts. Looking forward, we sincerely hope that BEWG will continue its healthy and sustainability development and continuously provide better quality water and environmental protection services for the public, contribute to a clean and more liveable environment, and create greater values for the communities.

Guo Yi

Professor, School of Economics, Beijing Technology and Business University Executive Director, Research Centre for Corporate Business Environment

Feedback

Dear reader,

Thank you very much for sparing your time on reading Beijing Enterprises Water Group Sustainability Report 2016. In order to further improve our sustainability performance and reporting, your comments and suggestions are appreciated and we hope you could help us continuously improve our work.

Please score from 1 to 5 (1 being the lowest and 5 being the highest) for the following questions:

- 1. Your overall remark on this report
- Your remark on whether this report reflect social and environmental impacts of BEW
- 3. Your remark on our communication with
- 4. Your remark on information disclosure in
- 5. Your remark on the format and design of

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You may email us your response via csr@bewg.net.cn, or fax this form to +86-10-64138100. We will take your comments seriously and promise not to disclose your information to any unauthorised third-party.

SUSTAINABILITY REPORT 2016 THE WAY OF WATER – NURTURING A GREEN FUTURE

BEWG Report Team July 2017

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stakeholders	
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