

State Development & Investment Corp., Ltd.

2019 Annual Green Finance Report

I. SDIC's 2019 Green Finance Summary

State Development & Investment Corp., Ltd. (SDIC), as the only investment holding company among all the central SOEs, has always adhered to the concept of low-carbon economy, green economy and recyclable economy, and is firmly committed to green low-carbon development, contributing green power to economic and social development. For a long time, SDIC has focused on global economy, actively responded to the Belt and Road Initiative, exerted its investment-oriented role, and continuously increased its efforts in the field of environmental conservation (such as water environment treatment, renewable energy development, environmental protection and resource efficiency increase, etc.).

SDIC attaches great importance to green finance, as a result SDIC adopts it as an important part of its efforts for green and environment-friendly economy in 2019. In April 2019, SDIC released the *SDIC Green Finance Framework* (hereinafter

referred to as the *Green Framework*), emphasizing the SDIC's new green-oriented identity, prioritizing the investment in sustainable development projects, showing the dedication of serving national strategy and its international vision to share green financial benefits with people around the world. In May 2019, SDIC obtained the certifications issued by green bond assessment agencies such as Sustainalytics and HKQAA (Hong Kong Quality Assurance Agency). Since then, the Company has successfully issued a five-year green financial bond of USD 500 million. The funds raised are mainly used for equity acquisition, refinancing and balance payment of China Water Environment Group Limited (CWEG).

The release of the *Green Framework* and the issuance of green bonds demonstrate the SDIC's layout of the green economy and green finance. It represents a long-term commitment and investment in environmental protection, and conveys the resolution of upgrading and innovative development. It also shows the tangible achievements of SDIC in sustainability.

II. Green Financial Bond Fund Allocation Report

(i) Bond Information

On May 14th, 2019, SDIC issued a five-year green financial bond of USD500 million. The specific information is as follows:

SDIC five-year \$500 million green bond	
Issuer	Rongshi International Finance Ltd.
Value date	May 21, 2019
Currency	US dollar
Term	5 years
Amount	500,000,000.00
Redemption date	May 21, 2024
Principal Repayment	Full repayment of principal on the due date
Coupon interest rate	3.25%
International Securities Identification Number (ISIN)	XS1989704843

(ii) Funds Allocation

At the end of 2018, through its wholly-owned subsidiary-Rongshi International Holding Company Ltd., SDIC acquired 43% of CWEG's shares and became the company's single largest shareholder. In May 2019, SDIC used the funds raised from the green financial bond for the equity replacement of CWEG and bank loan payment.

As of the reporting date, the use of SDIC's five-year green financial bond is as follows:

Green project category	Project Name	Amount (USD)	Complete time
Sustainable water resources and	M&A and loan replacement of CWEG	500,000,000.00	May 2019

wastewater management			
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III. Impact Report

China Water Environment Group Limited (www.cwewater.com) is a professional water environment management platform affiliated to SDIC.

The company is the leading service provider of high quality underground WWTP in Asia in terms of processing capability and technology. The underground WWTP is designed, invested, constructed and operated by the company with a daily processing scale of more than 2.6 million tons. *Technical Guidelines for Urban Underground Sewage Treatment Plant* jointly proposed by MOHURD and MEE was drafted by the company, which has been officially put into practice in January this year. Two technologies of CWEG were selected into the MEE's 2019 National Advanced Pollution Technology Catalog (Water Pollution Field), among which intensive construction of eco-friendly underground WWTP and resource utilization as the only selected underground technology that will be promoted nationwide. Innovation of Underground WWTP Construction and Demonstration of Ecological Complex, a major 13th Five-Year Plan water project, which was implemented by CWEG, was

awarded Special Demonstration Base of Technological Transformation by the Ministry of Housing and Urban-Rural Development.

China Water Environment Group has 15 national-level demonstration projects with significant influence, and the representative ones include: Dali Erhai Lake Management Project, Guiyang Nanming River Basin Water Management Project, Sichuan Tianfu No.1 underground WWTP and Luxi River treatment project, Beijing Tongzhou Bishui underground WWTP, Shanghai Jiading Nanxiang underground WWTP, etc.

At present, CWEG's projects are deployed in 20 provinces and cities nationwide, and 60 project companies have been established with more than 2,200 employees. The total investment in water management has exceeded 33.5 billion RMB yuan. 166 projects have been completed, and 84 are under construction. With the daily processing scale exceeding 2.6 million tons, these projects benefit 15 million people living in the area of 3008.28 square kilometers.

In the field of technological innovation and R&D, cooperating

with Wang Hao (Academician of China Institute of Water Resources and Hydropower Research) and Peng Yongzhen (Academician of Beijing University of Technology), CWEG has set up an academician workstation, which owns the only national engineering laboratory in this field. The Sino-German Centre for Water and Health Research (WATCH) has been set up with the support of the Chinese Ministry of Education and the German Federal Ministry of Education and Research. The company has also established Sino-Dutch Water Treatment Technology Research Center with Tsinghua University and Delft University of Technology in the Netherlands.

At present, the company has five core technologies with independent intellectual property rights in the field of sewage treatment and water environment treatment of river basins: Hybrid Bio-Reactor High-Efficiency-Low-Energy-Consumption Biofilm Process (non-MBR); HERO High Efficiency Removal of Odor; Trend Normothermic High-Efficiency Sludge Belt Drying Process; Smart WWTP & Environmental Internet-of-Things; Smart Integrated Rural Wastewater Treatment Facility. CWEG has 108 technology patents, of which there are more than 60 core technology patents for submerged reclaimed water plants.

Attachment: Introduction of typical cases of China Water Environment Group Limited

1. Dali Erhai Lake Water Environment Management Project

The project is included in the second batch of national PPP demonstration projects, which is recognized by the Ministry of Finance for its innovative mechanism and technology. The project has built 231 kilometers long trunk sewer lines, 6 high-quality underground WWTP, 12 lifting pumping stations, sponge farmland, and ecological ponds. The total long-term processing scale is nearly 120,000 tons/day, benefiting the area of 66.41 square kilometers. The indicators of effluent reach the *Surface Water Quality Standard Class IV*. After further purification by ecological ponds and reservoirs, the water will be used for farmland irrigation, which completely solves the problem of wastewater treatment in Erhai Lake. The 6 underground reclaimed water plants have saved about 160 acres of ground, reducing the environmental impact by 1,400 acres. Recharging parking lots, transportation interchange stations, ecological observation spots, comprehensive tourism service centers, etc.

could be built above the water plant. Besides, a luxury zero-emission ecological hotel would be also established, which integrates water environment management and green development.



(In 2015, General Secretary Xi inspected the Erhai Lake and requested that we should protect Erhai Lake just like protecting our eyes. I hope the water will be cleaner in a few years)



2. Guiyang Nanming River Integrated Water Environmental

Management PPP Project

The project focuses on comprehensive management of the water environment of more than 120 km long basins along the main stream of the Nanming River and its five tributaries, which would benefit 3.5 million people and an area of 6,600 square kilometers. Five water plants have been renovated and expanded, and 16 new ones have been built with a total processing capacity of 1.1 million tons. The project covers a densely populated area and complex geological conditions. CWEG adopted the innovative planning concept of "moderate concentration, on-site treatment, and nearby reuse" to successfully solve this problem and save about 1.1 billion RMB yuan pipeline cost for the Guiyang Municipal Government. Besides, it also saves 1053 acres of land, construction period is shortened by 6 months. The project provides 160 million cubic meters water for ecological replenishment each year.



3. Underground WWTP in Chengdu Tianfu New District and Luxi River Water Environment Treatment

This project is the first PPP model water improvement project in Chengdu and the first underground sewage treatment plant here. The project, with a project investment of 850 million RMB yuan (including the construction of sewage interceptors of nearly 10 kilometers), was listed by the Ministry of Finance and Sichuan Province as a double demonstration project presenting the cooperation between the government and private sector. The planned capacity is 260,000 tons/day, the designed capacity is 100,000 tons/day. The project covers a total area of 85.5 acres, benefiting 260,000 people and a service area of 55 square

kilometers. The main indicators of effluent meet the *Surface Water Quality Standard Class IV*, and the effluent is used for the Luxi River ecological replenishment and Chengdu Science City.

The project uses the multi-layered land for multi-purpose. The water environment science museum, urban ecological park, citizen leisure sports place, children's entertainment facilities could be planed above the water facility. Adopting the concept of comprehensive utilization of underground space, the project has also built a comprehensive pipe corridor and underground parking lot, providing 496 parking spaces, saving 330 acres of land.



4.Beijing Tongzhou Bishui underground WWTP

Beijing Tongzhou underground WWTP is only 2.2 kilometers

away from the city's sub-center, and undertakes 84% of the sewage treatment tasks in the built-up area of Tongzhou city. The processing capacity is 180,000 tons / day, covering an area of 110 acres and saving 213 acres of land. The effluent could reach the Standard Class IB, which is mainly used for Xiaotaihou River water replenishment, Tongzhou Universal Studios, ecological forest park, municipal greening and industrial cooling.

The park above the water facility covers a total area of about 104,000 square meters, including 68,000 square meters of green space and 2,500 square meters of water. Underground space contains water technology innovation service platform, science education exhibition hall, etc., integrating sewage treatment facilities, ecological landscape and public services, and achieving a benign cycle of municipal infrastructure and urban development.



5. Shanghai Jiading District Nanxiang Underground WWTP

The project is the only PPP demonstration project in Shanghai in 2015. It is the first underground WWTP in East China and the first underground WWTP using fair-faced concrete in China. The scale is 150,000 ton/day, phase I facility would achieve 100,000 ton/day, benefiting a total population of 397,000 across an area of 36.1 square km, including 8 communities in Nanxiang old and new town districts. The project's effluent achieves *Surface Water Quality Standard Class IV*, the highest discharge standard in Shanghai. The high-quality effluent processed by the plant would be used for replenishing the Wenzaobang River.

The project is mainly divided into three major sections, namely ground landscape park, water environment science museum (the first in East China), and underground sewage treatment layer. The project covers a total area of about 170 acres, of which the first phase covers an area of about 45 acres. Compared with conventional above-ground water plants, it saves more than half of the land and conserve resource. On the ground, the project includes public service facilities such as water environment science education hall and ecological park, which forms a water ecological complex with Jiading characteristics. The project is also an industry-university-research cooperation platform for a joint venture between CWEG and Shanghai Jiaotong University.

