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ASSESSMENT
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Contacts

Daniel Tong
Sustainable Finance Analyst
daniel.tong@moodys.com

Junying Lou
Associate Analyst
lou.junying@moodys.com

David Ho
Sustainable Finance Analyst
kayandavid.ho@moodys.com

Jeffrey Lee
VP-Sustainable Finance
sukjoonjeffrey.lee@moodys.com

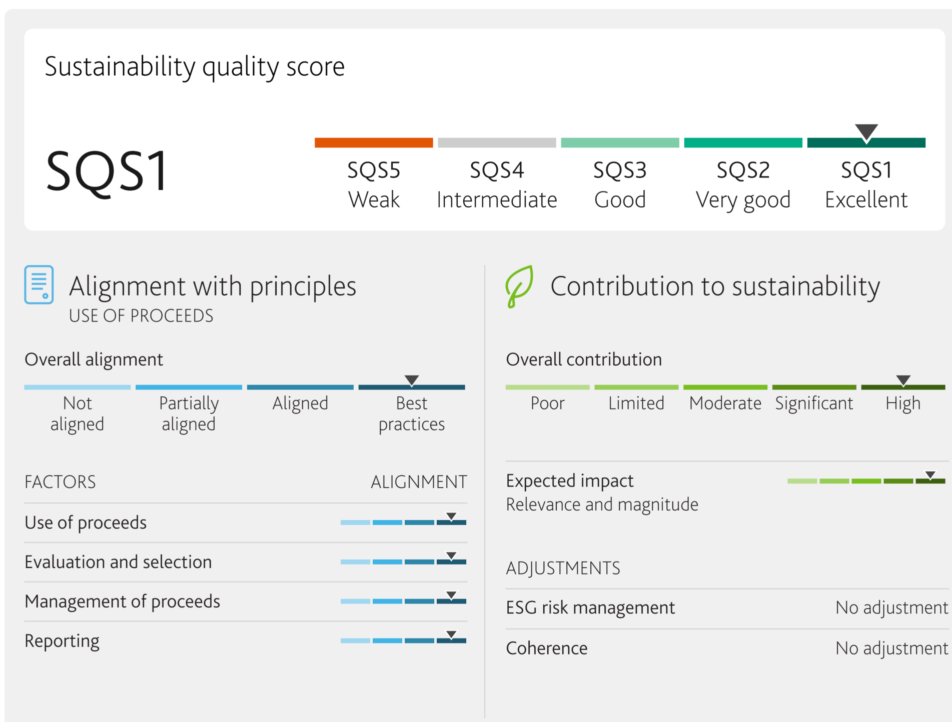
Tobias Lindbergh
SVP-Sustainable Finance
tobias.lindbergh@moodys.com

Silver Dragon Water Supply Group Limited

Second Party Opinion – Sustainable Finance Framework Assigned SQS1 Sustainability Quality Score

Summary

We have assigned an SQS1 Sustainability Quality Score (Excellent) to Silver Dragon Water Supply Group Ltd's (Silver Dragon) sustainable finance framework dated March 2023. Silver Dragon has established its use-of-proceeds framework with the aim of financing projects across two eligible green categories and one eligible social category. The framework is aligned with the four core components of the International Capital Market Association's (ICMA) Green Bond Principles 2021 (including June 2022 Appendix 1), Social Bond Principles 2021 (including June 2022 Appendix 1) and Sustainability Bond Guidelines 2021, and the Loan Market Association's (LMA) Green Loan Principles 2023 and Social Loan Principles 2023. The company has also incorporated MIS-identified best practices for all four components. The framework demonstrates a high contribution to sustainability.



Scope

We have provided a Second Party Opinion (SPO) on the sustainability credentials of Silver Dragon's sustainable finance framework, including the framework's alignment with the ICMA's Green Bond Principles 2021 (including June 2022 Appendix 1), Social Bond Principles 2021 (including June 2022 Appendix 1) and Sustainability Bond Guidelines 2021, and the LMA/APLMA/LSTA's Green Loan Principles 2023 and Social Loan Principles 2023. Under its framework, the company plans to issue use-of-proceeds green, social or sustainability bonds or loans to finance projects in two green categories and one social category, as outlined in Appendix 2 of this report.

Our assessment is based on the latest updated version of Silver Dragon's framework dated 22 March 2023, and our opinion reflects our point-in-time assessment of the details contained in this version of the framework, as well as other public and nonpublic information provided by the company. Our assessment of best practices are based on commitments and not contingent on actual implementation.

We produced this SPO based on our [Framework to Provide Second Party Opinions on Sustainable Debt](), published in October 2022.

Issuer profile

Silver Dragon Water Supply Group Limited (Bermuda) was established in Bermuda in 2021 as a wholly owned subsidiary of China Water Affairs Group Limited (CWA or the group). Silver Dragon was established as a new entity to hold all domestic and overseas water supply and direct drinking water-related companies of the group, creating a twin-driver business portfolio of water supply and direct drinking water. CWA retains an approximately 82% equity stake of Silver Dragon after the latter being independently listed on the Hong Kong Stock Exchange (HKSE).

As of March 2022, Silver Dragon had 217 water plants, with a total designed daily water supply capacity of 15.36 million m^3 and a total length of water pipelines under operation and maintenance of more than 158,000 km. The majority of the water supply business is located in tier 3 and tier 4 cities, where local governments grant 30-50 years of exclusive and renewable concession rights (under the One City One Water Supply Operator Policy). Silver Dragon's water supply operations are conducted under a direct revenue model, wherein it collects tariffs directly from end users.

Silver Dragon will share the group's value of "Water-oriented, Kindness to Society" as its core business philosophy and adopt the same sustainability policies as those of the group. Additionally, Silver Dragon applies CWA's "Carbon Peak and Carbon Neutral Implementation Plan," which seeks to achieve carbon peaking by 2030 and net-zero carbon emissions by 2050 by adopting clean energy, improving energy efficiency and reducing leakage.

Strengths

» Financing best-in-class energy-efficient water systems and renewable energy projects that are likely to have a high contribution to sustainability

» Clearly defined eligible categories, environmental/social benefits and objectives

» Comprehensive and transparent project evaluation and selection process, including a robust environmental and social risk mitigation process

» Commitment to receive independent external verification of the allocation and impact of the use of proceeds until full allocation and in case of significant changes

Challenges

» The definition of the target population for the social category is not specific to the most vulnerable populations such as those who are newly connected to the water grid

Alignment with principles

Silver Dragon's sustainable finance framework is aligned with the four core components of the ICMA's Green Bond Principles 2021 (including June 2022 Appendix 1), Social Bond Principles 2021 (including June 2022 Appendix 1) and Sustainability Bond Guidelines 2021, and the LMA's Green Loan Principles 2023 and Social Loan Principles 2023, and incorporates MIS-identified best practices for all four components:

- ☑ Green Bond Principles (GBP)
- ☑ Social Bond Principles (SBP)
- ☑ Green Loan Principles (GLP)
- ☑ Social Loan Principles (SLP)
- ○ Sustainability-Linked Bond Principles (SLBP)
- ○ Sustainability Linked Loan Principles (SLLP)

Use of proceeds

Not aligned | Partially aligned | Aligned | **Best practices** ▼

Clarity of the eligible categories – BEST PRACTICES

The company has clearly communicated the nature of the expenditures, and the eligibility and exclusion criteria for the financed projects, and the target population for the social category is clear. The company identified the location of the eligible projects as exclusively in China. The eligibility criteria reference the screening threshold of EU taxonomy for the green categories, and the target population for the social category have been detailed. The exclusion criteria are also clearly defined for the green and social categories.

Clarity of the environmental or social objectives – BEST PRACTICES

The company has clearly outlined the environmental and social objectives associated with all three eligible categories. These objectives include efficiency improvement in water supply systems, emission reduction and improvement in affordable access to quality drinking water. All eligible categories are relevant to the respective environmental or social objectives to which they are aiming to contribute. The company has referenced the UN Sustainable Development Goals (SDGs) in articulating the objectives of the eligible categories, and the objectives are coherent with these recognized international standards.

Clarity of expected benefits – BEST PRACTICES

The company has identified clear expected environmental or social benefits for all three eligible categories with reference to SDGs and associated targets, and these are relevant to the projects likely to be financed under each category. The benefits are measurable for all three project categories, and the company will report on these quantitative benefits in its annual reporting. The company has communicated to us through internal documentation that it will disclose the percentage of refinancing before each issuance for all future issuances. The maximum look-back period will be 24 months from the time of issuance/borrowing.

Best practices identified

- » Eligibility criteria are clearly defined for all project categories
- » Objectives set are defined, relevant and coherent for all project categories
- » Relevant benefits are identified for all project categories
- » Benefits are measurable and quantified for most projects, either ex-ante with clear baselines or with a commitment to do so in future reporting
- » Commitment to transparently disclose the share of proceeds used for refinancing where feasible
- » Commitment to transparently communicate the associated lookback period(s) where feasible

Process for project evaluation and selection

Not aligned	Partially aligned	Aligned	Best practices ▼

Transparency and quality of process for defining eligible projects – BEST PRACTICES

The company's decision-making process for the selection and evaluation of projects is explicitly and comprehensively structured, and is outlined in its framework. Project evaluation and selection for any sustainable finance instrument will be integrated into the company's current project cycle. The company will create a checklist that will be included in all project feasibility reports to help identify alignment with the green and/or social eligibility requirements of the framework. Project eligibility will be overseen by a newly established sustainable finance working group that consists of individuals with relevant expertise, including members from the finance and operations teams, and experts in environmental and social risk management and plant operations. The working group will meet at least biannually and is responsible for continued monitoring of the eligibility of the selected projects. The company has communicated to us through internal documentation that the monitoring will be done throughout the life of the outstanding bonds/loans. The company will also document the details of decision-making in internal documentation to ensure traceability. In case a selected project is divested or experiences significant changes, issues or ESG controversies, the company will reallocate the proceeds to other eligible projects in no longer than three months.

Environmental and social risk mitigation process – BEST PRACTICES

The environmental and social risk mitigation process is disclosed in the company's framework. The company leverages the group's environmental and social management system (ESMS) and is currently working to establish its standalone ESMS that is aligned with the group's version. The ESMS is compliant with the IFC Performance Standards and was developed with the Asian Development Bank (ADB). The environmental and social risk mitigation process includes initial assessment and screening, and corrective measures. The company has communicated to us through internal documentation that the continued monitoring of controversies associated with the selected projects will be done throughout the life of the bonds/loans.

Best practices identified

- The roles and responsibilities for project evaluation and selection are clearly defined and include relevant expertise
- There is evidence of continuity in the selection and evaluation process through the life of the financial instrument(s), including compliance verification and procedures to undertake mitigating actions when needed
- The process for project evaluation and selection is traceable
- Material environmental and social risks for most project categories are identified
- Presence of corrective measures to address environmental and social risks across projects
- ESG controversies are monitored

Management of proceeds

Not aligned	Partially aligned	Aligned	Best practices ▼

Allocation and tracking of proceeds – BEST PRACTICES

The company has defined a clear process for the management and allocation of bond/loan proceeds in its publicly available framework. Net proceeds from any bond/loan issued under the framework will be deposited in the company's general account and earmarked for allocation to eligible projects. The company's finance team will track the use of proceeds and periodically update the balance of funds allocated to eligible projects until full allocation. The allocation period will be shorter than or equal to 24 months.

Management of unallocated proceeds – BEST PRACTICES

Following the company's liquidity guidelines for short-term time deposits or investments, the unallocated proceeds will be invested in short-term securities or investments with high credit ratings and market liquidity until they are allocated to eligible assets. The company has committed not to invest unallocated proceeds in carbon-intensive activities or in any project that conflicts with the eligibility criteria under this framework. In the event that a project becomes ineligible, the company has formalized in its framework that it will replace that project with new eligible projects within three months.

Best practices identified

- » Broad disclosure of a clearly articulated and comprehensive management of proceeds policy to external stakeholders; bondholders or lenders at a minimum
- » Short allocation period, for example typically less than 24 months
- » Disclosure on temporary placement and presence of exclusion criteria toward environmentally or socially harmful activities
- » Commitment to reallocate proceeds to projects that are compliant with the framework

Reporting

Not aligned	Partially aligned	Aligned	Best practices

Transparency of reporting – BEST PRACTICES

The company will report annually on the use of proceeds of bonds/loans under its framework until the maturity of the bond or repayment of the loan and on a timely basis in case of significant developments, issues or ESG controversies. The reporting will be included within the annual ESG report and made publicly available on the company's website in the case of bond issuances, and will be provided to lenders in the case of loans. The company has clearly communicated in the framework that reporting will cover details on specific projects, including a list of projects and brief descriptions. Reporting will also cover the amount of proceeds allocated at the eligible category level, and the expected sustainable benefits of the eligible assets and any significant developments, issues or controversies related to the assets.

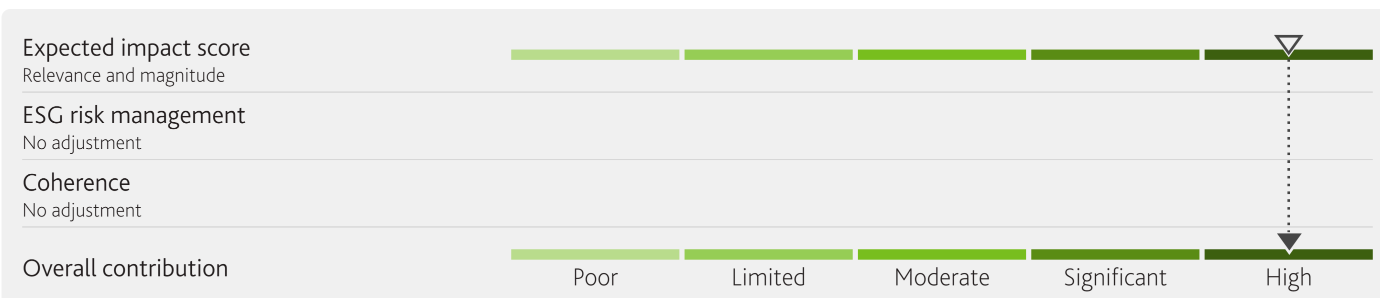
The company has identified relevant environmental and social reporting indicators for each eligible category and has clearly disclosed these indicators in its framework. The methodologies and assumptions used to report on environmental and social impacts will be disclosed in the report. The company has also committed to receive independent external verification of the allocation and impact of the use of proceeds until full allocation and in case of significant changes.

Best practices identified

- Reporting until full bond maturity or loan payback
- Reporting covers material developments and issues related to the projects or assets
- Reporting on allocation of proceeds and benefits done at least at eligible category level
- Exhaustive allocation reporting – balance or % of unallocated funds, types of temporary investments (e.g. cash or cash equivalent) and share of financing vs refinancing
- Clear and relevant indicators to report on the expected environmental/social impact of all the projects, where feasible, or eligible categories
- Disclosure of reporting methodology and calculation assumptions to bondholders or lenders at a minimum
- Independent audit of the tracking and allocation of funds at least until full allocation and in case of material changes
- Independent impact assessment on environmental benefits by a qualified third-party reviewer at least until full allocation and in case of material changes and/or case studies to report on the social impact/benefits

Contribution to sustainability

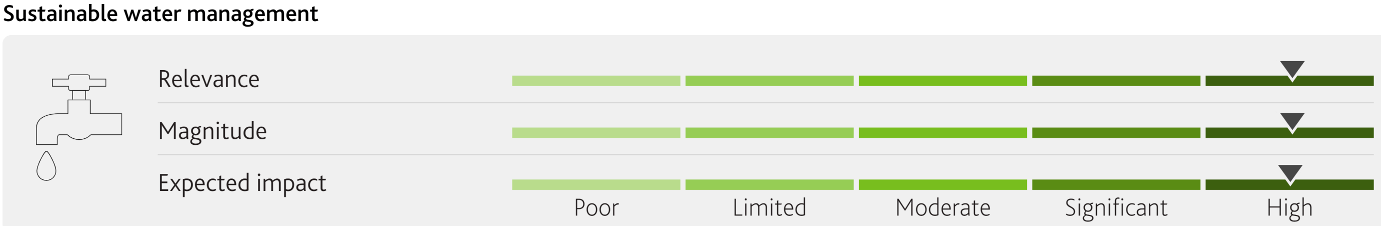
The framework demonstrates a high overall contribution to sustainability.



Expected impact

The expected impact of the eligible projects on environmental and social objectives is high. Taking into consideration of the business model of the company, we have assigned a higher weight to the sustainable water management category for the purpose of assessing their contribution to sustainability. A detailed assessment by eligible category is provided below.

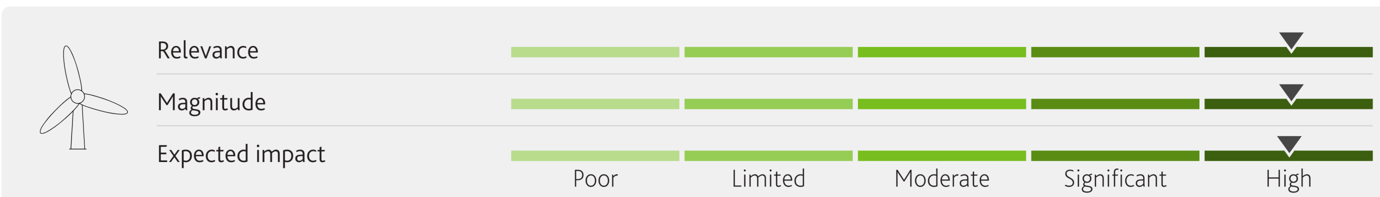
Sustainable water management



The company plans to finance expenditures in new or existing potable water systems that improve efficiency (e.g., network upgrades, reducing non-revenue water [NRW]), quality and capacity, or reduce energy consumption/water losses, or both. The relevance of this category is high because it aims to address the inefficiency and energy intensiveness of the water supply systems. Although China seeks to significantly reduce NRW, it is reported that some areas in China maintain an NRW ratio as high as 30% because of the outdated infrastructure[1]. According to the International Energy Agency (IEA), the water sector's share of global electricity consumption remains around 4% by 2040[2].Considering the energy mix in China, which is still dominated by fossil fuels, financing energy efficient water supply systems is considered highly relevant to both the country and the sector's sustainability challenges. Moreover, China is facing many challenges in relation to water resources including water scarcity, uneven distribution both spatially and temporally, and poor water quality caused by pollution.[3] China’s water resources are expected to be under increasing pressure because of rapid economic growth and urbanization, and climate change. Lastly, financing the water supply system can also provide inherent social benefits by supplying quality drinking water to rural population, which is considered to have high social relevance in the local context.

The magnitude of this category is high because the financed projects are expected to contribute to long-term environmental objectives by investing in water supply systems with high energy efficiency. The technical screening criteria adhere to the relevant EU Taxonomy criteria. Under the “One City One Water Supply Operator Policy”, the water supply system will operate for 30-50 years providing stable and quality drinking water to the residents. The financed projects will not create any lock-in effects and the negative ESG risks such as climate resilience, biodiversity impacts of the projects will be minimized through the preventive measures taken in the environmental impact assessments.

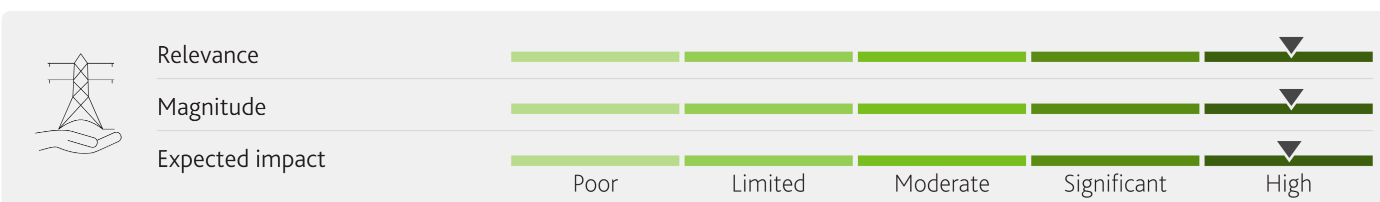
Renewable energy



The company plans to finance the construction and operation of solar photovoltaic plants (including roof-top solar) in water supply plants or administrative buildings, or both. The relevance is high because increasing the use of renewable energy will support the decarbonization of the grid, and the country’s and the company’s strategy of low carbon transition against the backdrop of high concentration of fossil fuels in the energy mix in China. Projects under this category also address one of the most important sustainability challenges of the sector, which is energy consumption.

Solar photovoltaic is considered the best available technology and is not expected to create any potential negative lock-in effects, supporting a high magnitude with structurally positive long-term impact.

Affordable basic infrastructure



The company plans to finance infrastructure that improves access, reliability and quality of water supply at affordable rates for rural populations to close the urban-rural supply-demand gap. The relevance of this category is high because there is a perceived need to provide urban quality drinking water to the rural populations in China. Although China has made good progress in improving water supply in rural areas, a lot of work remains to be done to promote urban-rural integration and further improve water quality and long-term water security in the rural areas.[4].From the point of view of rapid urbanization in a country with the largest population (over 1.4 billion) — rapidly increased from 20% urban populations in 1980 to 62% in 2020 and is expected to reach 75%-80% by 2035[5] — promoting urban-rural integration in water systems will facilitate social development and enhance water quality and safety in rural areas. The projects under this category are also in line with China's “14th Five-Year Plan for National Water Security Assurance”[6], in which the extension of urban pipeline networks to rural areas has been highlighted as a focus area.

The magnitude of this social project category is considered high, because the financed projects are expected to deliver quality water services, which will improve accessibility (both physically and economically) to the rural populations in China. Against the backdrop that the majority of the rural population in China has access to only basic water supply and is more prone to unstable water quality and quantity, the impact of integrating the urban and rural water supply systems and providing quality water to rural populations at affordable prices is considered high. The company has specified in the framework that all projects under the social category will also conform to the energy-efficiency thresholds defined under the Sustainable Water Management category, thus, the category is also likely to deliver environmental co-benefits. Given the difficulties for the company in differentiating the most vulnerable populations, such as the newly connected or the population with more economic difficulties, the magnitude will remain as high, albeit the broad definition of the target population.

ESG risk management

We have not applied a negative adjustment for ESG risk management to the expected impact score. The company committed to build a standalone ESMS in line with the ESMS currently employed under its parent company, China Water Affairs. The applicable requirements of the company were approved by the board of directors. The ESMS is in line with the IFC Performance Standards and Asian Development Bank requirements and involves a due diligence process that employed a two-phase approach, including initial Environmental and Social (E&S) risk screening and detailed E&S evaluation. The company will strictly follow the Environmental Protection Law and the Environmental Impact Assessment Law to go through the Environmental Impact Assessment Process, in which the major environmental and social risks related to the construction and operation of the water supply facilities will be identified together with required control measures.

Coherence

We have not applied a negative adjustment for coherence to the expected impact score. Projects to be financed under the framework align with Silver Dragon's sustainability strategy, including promoting urban-rural integration, providing high-quality drinking water and achieving net zero carbon emission by 2050. The project categories are closely aligned with the company's core business activities, which solely focused on water supply including the construction and operation of the city's water supply plants and direct drinking water facilities.

Appendix 1 - Mapping eligible categories to the UN SDGs

The three eligible categories included in Silver Dragon's framework are likely to contribute to four of the UN SDGs, namely:

UN SDG 17 Goals	Eligible Category	SDG Targets
GOAL 6: Clean Water and Sanitation	Sustainable Water Management	6.1: Achieve universal and equitable access to safe and affordable drinking water for all
	Affordable Basic Infrastructure	6.4: Increase water-use efficiency across all sectors and ensure sustainable supply of freshwater to reduce water scarcity
GOAL 7: Affordable and Clean Energy	Renewable Energy	7.2: Increase substantially the share of renewable energy in the global energy mix
GOAL 9: Industry, Innovation and Infrastructure	Sustainable Water Management Affordable Basic Infrastructure	9.1: Develop sustainable infrastructure to support economic development and human well-being, focusing on equitable access
GOAL 13: Climate Action	Sustainable Water Management Renewable Energy	13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

The UN SDGs mapping in this SPO considers the eligible project categories and associated sustainability objectives/benefits documented in the company's sustainable finance framework, as well as resources and guidelines from public institutions, such as the ICMA SDG Mapping Guidance and the UN SDG targets and indicators.

Appendix 2 - Summary of eligible categories in Silver Dragon's framework

Eligible Category	Description	Sustainability Objectives	Impact Reporting Metrics
Sustainable Water Management	Expenditures in new or existing potable water systems that improve efficiency (e.g., network upgrades, reducing non-revenue water), quality, capacity and/or reduce energy consumption/water losses. To be eligible: ● The front-to-end water supply system must have a high degree of energy efficiency characterized by an average energy consumption of the system (including abstraction, treatment, and distribution) of 0.5 kWh per cubic meter billed/unbilled authorized water supply or less. ● The projects must do no significant harm to other environmental objectives and meet minimum social safeguards.	Improve efficiency in water supply systems in China	- Annual absolute (gross) water use before and after the project (m^3/year) - Reduction in annual absolute gross water use before and after the project (m^3 or %) - Annual volume of clean drinking water supplied for human consumption (m^3/year) - Non-revenue water (water leakage rate, in %) - Average energy consumption of the system (kwh/m^3)
Renewable Energy	Expenditures related to the construction, operation, and/or installation of solar photovoltaic plants (including roof-top solar) in, for example, water supply plants and/or administrative buildings.	Offset emissions by utilizing solar panels in water supply plants and/or administrative buildings	- Greenhouse gas emissions reduction (t CO_2 eq/year) - Energy savings from Renewable Energy substitution for fossil fuel generated electricity (kWh/year) - Installed Renewable Energy Capacity (kW)
Affordable Basic Infrastructure	Expenditures that improve access, reliability, and quality of water supply at affordable rates to populations living in rural areas to close the urban-rural supply-demand gap.	Improve affordable access to quality drinking water to places in China that have become rapidly urbanized and where there is a significant supply-demand gap	- Number of people with access to clean water (# in urban, # in rural) - Number of newly serviced population (#) - Annual volume of clean drinking water supplied (m^3/year) - Water supply network penetration rate (% urban, % rural) - Tariff rate per usage type (yuan/ton) - Number of local employees hired for construction (#)

Moody's related publications

Second Party Opinion analytical framework:

» Framework to Provide Second Party Opinions on Sustainable Debt, October 2022

Topic page:

» ESG Credit and Sustainable Finance

Endnotes

1 Xinhuanet: Shocking leak in public pipe network: water leakage amounting to 700 West Lakes in a year, March 2021.

2 IEA: Water-Energy Nexus, March 2017.

3 China CDC Weekly: The Safety of Drinking Water in China: Current Status and Future Prospects, March 2020.

4 China Urban Water Association: Urban-rural integration current status and future trend, accessed on 16 March 2023.

5 South China Morning Post: China's urbanisation push could be at a 'bottleneck', with slowest migration growth rate in quarter-century, 28 February 2022.

6 National Development and Reform Commission and the Ministry of Water Resources: 14th Five-Year Plan for National Water Security Assurance, accessed on 16 March 2023.

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