

GREEN FINANCE FRAMEWORK FOR SILVER DRAGON WATER SUPPLY GROUP LIMITED

SECOND-PARTY OPINION (SPO)

MSCI ESG Research LLC

April 2023



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Summary

SPO Publication date: April 21, 2023

It is the opinion of MSCI ESG Research LLC that the Green Finance Framework published by China Water Affairs Group Limited in April 2021 is aligned with:

Relevant Standards	Aligned?
The MSCI Labeled Bond and Loan Assessment Methodology as of March 2023	Yes
All the core components of the Green Bond Principles 2022 as administered by the International Capital Market Association (ICMA)	Yes
All the core components of the Green Loan Principles 2021 as administered by the Loan Market Association (LMA)	Yes

About the Company

Incorporated in Bermuda in 2021, Silver Dragon Water Supply Group Limited ("Silver Dragon") is a wholly owned subsidiary of China Water Affairs Group Limited ("China Water"). It holds the city water supply operation and construction business of China Water and accounted for 79.9% of its total revenue in FY 2021-22. The policies and procedures mentioned by China Water are fully applicable to Silver Dragon as its wholly-owned subsidiary.

China Water is headquartered in Wan Chai, Hong Kong and is listed on the Hong Kong Stock Exchange, with operations management centers in Beijing and Shenzhen. It began its operations in the water sector in 2003 and holds exclusive rights¹ in many of the cities where it operates the water supply business. With operations in over 110 cities in mainland China, China Water's integrated water treatment capacity exceeds 20 million cubic meters per day. China Water is also involved in sewage treatment business and has approximately 11,000 employees.

China Water operates through three segments: 1) City Water Supply Operation and Construction, 2) Environmental Protection, and 3) Property Development and Investment. The water supply segment engages in the provision of water supply operations and construction services. The environmental protection segment covers the provision of sewage treatment, drainage operations with construction services, solid waste management with hazardous waste business, environmental sanitation, and water environment management. The property development and investment segment undertake activities including the development of properties for sale and investment in properties for long term rental. The revenue from the water supply business was over HKD 10 billion in FY 2021-22 (21% year-over-year increase).

Domicile: Hong Kong, **Incorporation**: Bermuda **Website**: <u>http://www.chinawatergroup.com/eng/</u>

¹ Silver Dragon has access to operate the infrastructure to provide the public service on behalf of the local authorities.



Sustainability Targets and Alignment with Green Finance Framework

China Water, as the sole owner of Silver Dragon, states that it is committed to developing its direct drinking water business along with its conventional utility water supply business to create a healthy water consumption model and to reduce the consumption of plastic bottles, in an effort to help alleviate the plastic pollution in China.² As a public utility provider, it also states that it considers environmental improvement to be one of the key ways for businesses to contribute to sustainable development, which it aims to do via the following:

- Facilitate urban-rural water supply integration
- Dual water supply (providing the best direct drinking water in mainland China)
- Water improvement for the good of all (reduce environmental impact of wastewater)
- Drain the swamp (operation and maintenance of urban drainage networks)
- Energy-saving and reducing emissions (enjoying "crystal-clear water and blue sky together")

China Water has formulated a plan called "Carbon Peaking and Carbon Neutrality", which sets out objectives, plots the path for implementation and proposes measures for greenhouse gas (GHG) emission reduction. These include:

- Carbon emissions to peak by 2030, in line with China's national target
- Achieve net-zero carbon emission by 2050, 10 years earlier than the national target
- Achieve a leakage ratio of less than 10% for prefecture-level urban water supply companies and less than 12% for county-level urban water supply companies by 2035
- Reduce the average electricity consumption per unit of water supply to 213kWh/1,000m³ by 2035
- Reduce Scope 1 carbon emissions per million tonnes of water treated by an average of 1.5% per annum over the next five years.

China Water states that it recognizes that China is one of the signatories of the Paris Agreement and has introduced an eco-civilization development concept stating that "lucid waters and lush mountains are invaluable assets comparable to gold and silver". It further aims to implement two core strategies: 1) urbanrural integration of water supply; and 2) integration of water supply and drainage in line with its sustainability vision. It has developed its Green Finance Framework (the "Framework") to raise funds for projects and developments that should help deliver environmental benefits to support the group's business strategy and green and sustainability vision.

China Water, along with its subsidiary Silver Dragon, may issue bonds, loans, and other debt-like financing products where an equivalent amount to the net proceeds is applied to Eligible Green Projects ("Eligible Green Projects") as defined in the Framework.

Furthermore, China Water states that the activities funded using the proceeds raised under the Framework are likely to contribute to the following United Nations Sustainable Development Goals (UN SDGs):



² "How China is stemming the flow of ocean plastic." China Dialogue Ocean, March 11, 2021.





Goal 7: Affordable and Clean Energy



Goal 9: Industry, Innovation, and Infrastructure

Evaluation Process

In January 2023, MSCI ESG Research was commissioned by China Water to review and provide an independent second-party opinion on the alignment of China Water's Green Finance Framework, on behalf of Silver Dragon, with:

- 1. The MSCI Labeled Bond and Loan Assessment Methodology
- 2. The Green Bond Principles 2022 administered by ICMA
- 3. The Green Loan Principles 2021 administered by LMA

MSCI ESG Research has conducted a detailed review of the Framework provided by China Water on behalf of its subsidiary, Silver Dragon. MSCI ESG Research has requested and received answers to in-depth questions on the Framework, including potential projects that could be funded by the green bonds or green loans issued under this Framework, potential risks associated with the projects, as well as potential positive and negative environmental and social impacts associated with the projects funded.

Based on the Framework and Silver Dragon's responses to each of the questions posed across the different categories of the Framework, MSCI ESG Research consulted internal experts for evaluating the alignment of the Framework with the MSCI Labeled Bond and Loan Assessment Methodology, all the core components of the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA. The internal experts sit on two methodology committees within MSCI ESG Research, and based on their review, the Framework was assessed, and a second-party opinion was provided to Silver Dragon. China Water's Green Finance Framework has been published as a separate document on its website.

Framework Alignment Details

Silver Dragon aims to fund projects based on China Water's Green Finance Framework, including on-site solar and wind power generation, sustainable water and wastewater management projects.

The Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA both require that the Green Finance Framework meets four principles outlined below:

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Principle 1: Use of Proceeds
Principle 2: Process for Project Evaluation and Selection
Principle 3: Management of Proceeds
Principle 4: Ongoing Reporting
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The MSCI Labeled Bond and Loan Assessment Methodology also includes these four core criteria, based on the Green Bond Principles 2022 administered by ICMA. The primary difference between the MSCI Labeled Bond and Loan Assessment Methodology and the Green Bond Principles 2022 administered by ICMA is **Principle 1: Use of Proceeds**, where the MSCI Labeled Bond and Loan Assessment Methodology



is more stringent than the Green Bond Principles 2022.³ The Green Loan Principles administered by LMA are also based on the Green Bond Principles, and consequently the MSCI Labeled Bond and Loan Assessment Methodology is more stringent in its requirements for Principle 1: Use of Proceeds compared to the Green Loan Principles as well.

Principle 1: Use of Proceeds

The proceeds raised by the green bonds and green loans issued under this Framework shall be used to finance projects in the areas of: Renewable Energy, Sustainable Water and Wastewater Management, as detailed below:

Eligible project category	Description of Project Types and Associated Criteria based on China Water's Framework	MSCI ESG Research review	Potential impacts associated with the project
Renewable Energy	New or existing investments in or expenditures on renewable energy production units. Renewable energy and energy storage projects can include solar and wind projects.	The specified Use of Proceeds is aligned with the MSCI Labeled Bond and Loan Assessment Methodology, the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA, which consider projects involving production of solar and wind energy to be eligible for funding by a green bond or a green loan.	Renewable sources of energy have a low carbon footprint, which makes them an effective alternative to carbon intensive fossil-fuel based sources of energy and a substantial contributor to climate change mitigation activities. ⁴
Sustainable Water and Wastewater Management	Expenditures related to construction, upgrades, renovations or improvements of water supply and wastewater related facilities, infrastructure, or systems, including but not limited to: - Water supply plants, pumping stations and distribution networks to increase efficiency, accessibility of water delivery system, improve water quality and reduce water leakage - Water monitoring systems to detect water leakage - Drainage pipeline network and sewage treatment plants to reduce pollution	The specified Use of Proceeds is aligned with the MSCI Labeled Bond and Loan Assessment Methodology, the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA, which consider projects such as improvements of water supply and wastewater related facilities, infrastructure, or systems to be eligible for funding by a green bond or green loan.	The water supply projects should deliver clean drinking water to water scarce regions in China, thereby reducing dependence on bottled water. The new pipelines being laid should have less than half the leakage rate compared to the standard leakage rate in existing pipelines thereby increasing efficiency of water supply. The improvements in water treatment should support the action plan of the Chinese Government to tackle water pollution. ⁵

³ For further details, please see the Appendix.

⁴ "Life Cycle Greenhouse Gas Emissions from Electricity Generation: Update", National Renewable Energy Laboratory, September 2021.

⁵ "China announces action plan to tackle water pollution", The State Council of People's Republic of China, April 2015.



Silver Dragon's risk management process:

The policies and procedures of China Water are applicable to Silver Dragon as its wholly-owned subsidiary. China Water has established a four-level risk management framework comprising the Board, the management, departments of different functions in its headquarters and person-in-charge of risk management of its subsidiaries to meet the requirements for continuous control of risks during its business development. The Board is responsible for implementing controls, and the management, including operations, finance, engineering, legal and human resources teams, utilize their expertise for their internal control responsibilities. The Audit Committee, assisted by the external auditors, is responsible for monitoring the practices of the management of China Water and its wholly owned subsidiary Silver Dragon. Additionally, it has a dedicated professional procurement department to evaluate and analyze the suppliers involved in its supply chain. This includes the assessment of ESG disclosures of the suppliers, focusing on environmental issues, labor issues, social, and occupational health, and safety issues.

Based on the analysis above, MSCI ESG Research considers China Water and Silver Dragon's Use of Proceeds criteria to be credible, transparent, and **aligned** with Principle 1 of the MSCI Labeled Bond and Loan Assessment Methodology and all the core components of the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA.

Principle 2: Process for Project Evaluation and Selection

The policies and procedures of China Water are applicable to Silver Dragon as its wholly-owned subsidiary. China Water identifies and selects the eligible projects by a process that involves its Environmental Social Management System Working Group ("EWG"). The EWG is composed of senior members including a general manager and representatives from various departments. The EWG aims to meet at least once every 12 months to discuss and select projects according to the Eligible Green Projects defined in its Framework which shall be further approved by the Board. It is the responsibility of the EWG to ensure compliance of the selected green projects with the Use of Proceeds section and the environmental guidelines which are applicable for China Water. The EWG is also responsible for managing any future updates of the Framework, including any expansion of requirements of the Use of Proceeds. The funds shall be reallocated to other Eligible Green Projects if the selected project fails to meet the updated eligibility criteria. The Company confirms that it shall assess the risks related to the projects funded in accordance with its established risk management process.

MSCI ESG Research considers this process for the selection of projects to be **aligned** with Principle 2 of the MSCI Labeled Bond and Loan Assessment Methodology as of March 2023, the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA.

Principle 3: Management of Proceeds

The Green Finance Framework articulates the intentions of China Water and its wholly owned subsidiary Silver Dragon to issue Green Financing Transactions ("GFT") to fund projects. China Water's finance team shall manage the net proceeds from each GFT. The proceeds from each GFT shall be earmarked to the Eligible Green Projects after depositing the funds in general funding accounts. A register shall be set up to keep track of the Use of Proceeds for each GFT and this shall be maintained by the Finance team. The register shall include the following information:

- Type of Funding Transaction:
 - Key information, including issuer/borrower entity, transaction date, tranche(s) information, principal amount of proceeds, repayment or amortization profile, maturity date, and interest or coupon (and in the case of bonds, the ISIN number)



- Allocation of Use of Proceeds:
 - Name and description of Eligible Green Projects: Eligible Green Projects to which the proceeds of the GFT have been allocated in accordance with this Framework
 - o Amount and date of GFT proceeds allocated to each project
 - The remaining balance of unallocated GFT proceeds yet to be earmarked
 - Other relevant information such as information on temporary investment for unallocated proceeds

China Water commits to not investing the unallocated GFT proceeds in carbon intensive activities or any projects that are in conflict with the eligibility criteria under this Framework. These unallocated funds shall be held in accordance with CWA's liquidity guidelines for short-term time deposits or investments. In the case that the Eligible Green Projects cease to comply with the eligibility criteria, the funds shall be reallocated to replacement Eligible Green Projects that comply with the eligibility criteria as soon as reasonably practicable. China Water aims to maintain over time an amount of Eligible Green Projects at least equal to the total net proceeds of all outstanding GFTs.

MSCI ESG Research considers this process of management of proceeds to be **aligned** with Principle 3 of the MSCI Labeled Bond and Loan Assessment Methodology as of March 2023, the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA.

Principle 4: Ongoing Reporting

China Water, through its wholly owned subsidiary Silver Dragon, aims to provide allocation information on each GFT in its Annual Report, ESG report or at its website. It shall provide the reports on an annual basis until all the net proceeds have been allocated and, in the event of any material changes, until the maturity date. The report shall contain the allocation reporting, including details of each outstanding GFT, aggregate amount of proceeds from each GFT allocated to Eligible Green Projects, share of financing vs refinancing, balance of unallocated proceeds from each GFT, and examples of Eligible Green Projects (subject to confidentiality disclosures). It shall also report on the environmental and social impacts of the Eligible Green Projects. Depending on the nature of Eligible Green Projects and availability of information, the Company aims to include the following impact indicators:

- Absolute (gross) amount of water supplied before and after the project in cubic meters per annum
- Absolute (gross) or percentage amount of reduction in water loss before and after the project in cubic meters per annum
- Absolute (gross) amount of wastewater treated in cubic meters per annum
- Number of people and cities served
- Annual renewable energy generation in MWh/GWh (electricity) and GJ/TJ (other energy)
- Capacity of renewable energy plant(s) constructed or rehabilitated in MW
- Annual GHG emissions reduced/avoided (tCO₂ eq p.a.)

MSCI ESG Research considers this process of annual reporting to be **aligned** with Principle 4 of the MSCI Labeled Bond and Loan Assessment Methodology as of March 2023, the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA.





Conclusion

The policies and procedures of China Water are applicable to Silver Dragon as its wholly-owned subsidiary. China Water aims to supply safe drinking water in rural and urban areas and to provide sewage and wastewater treatment with various projects funded through the Green Finance Framework. The Environmental Social Management System Working Group is responsible for identifying relevant projects funded by green bonds or green loans issued under its Framework. China Water has committed to track all its investments through Silver Dragon and report on the Use of Proceeds from green bonds and loans annually to provide transparency to investors. It has established measures to identify, manage and mitigate key environmental and social risks associated with their eligible Use of Proceeds.

MSCI ESG Research considers that China Water's Green Finance Framework is robust and credible, and to be **aligned** with its sustainability goals and strategy. MSCI ESG Research believes that China Water's Framework adequately addresses all the requirements of the MSCI Labeled Bond and Loan Assessment Methodology, and all the core components of the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA.

Alignment to the Green Bond Principles 2022: Given that the Framework in our opinion meets all the core components of the four principles defined in the Green Bond Principles 2022 administered by ICMA, the Framework is considered to be **aligned** with the Green Bond Principles 2022.

Alignment to the Green Loan Principles 2021: Given that the Framework in our opinion meets all the core components of the four principles defined in the Green Loan Principles 2021 administered by LMA, the Framework is considered to be **aligned** with the Green Loan Principles 2021.

Alignment to MSCI Labeled Bond and Loan Assessment Methodology: Given that the Framework in our opinion meets all four principles defined in the MSCI Labeled Bond and Loan Assessment Methodology, the Framework is considered to be **aligned** with the MSCI Labeled Bond and Loan Assessment Methodology.



ICMA Independent External Review Form

Completed template provided by ICMA for Green Bond Programmes

Section 1. Basic Information

Issuer name: Silver Dragon Water Supply Group Limited

Green Bond ISIN or Issuer Green Bond Framework Name, if applicable: Green Finance Framework

Independent External Review provider's name: MSCI ESG Research LLC

Completion date of this form: April 21, 2023

Publication date of review publication: April 21, 2023

Section 2. Review overview

Scope of Review

The review assessed the following elements and confirmed their alignment with the Green Bond Principles:

- ☑
 Use of Proceeds
 ☑
 Process for Project Evaluation and Selection
- ☑Management of Proceeds☑Reporting

Role(s) of Independent External Review Provider

- Second Party Opinion
- □ Verification □ Scoring/Rating
- \Box Other (please specify):

Executive Summary of Review and/or Link to Full Review

The policies and procedures of China Water are applicable to Silver Dragon as its wholly-owned subsidiary. China Water aims to supply safe drinking water in rural and urban areas and to provide sewage and wastewater treatment with various projects funded through the Green Finance Framework. The Environmental Social Management System Working Group is responsible for identifying relevant projects funded by green bonds or green loans issued under its Framework. China Water has committed to track all its investments through Silver Dragon and report on the Use of Proceeds from green bonds and loans annually to provide transparency to investors. It has established measures to identify, manage and mitigate key environmental and social risks associated with their eligible Use of Proceeds.

MSCI ESG Research considers that China Water's Green Finance Framework is robust and credible, and to be **aligned** with its sustainability goals and strategy. MSCI ESG Research believes that China Water's Framework adequately addresses all the requirements of the MSCI Labeled Bond and Loan Assessment Methodology, and all the core components of the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA.



Section 3. Detailed review

1. Use of Proceeds

Based on the analysis above, MSCI ESG Research considers China Water and Silver Dragon's Use of Proceeds criteria to be credible, transparent, and **aligned** with Principle 1 of the MSCI Labeled Bond and Loan Assessment Methodology and all the core components of the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA.

Use of Proceeds Categories as per Green Bond Principles:

\boxtimes	Renewable energy	Energy efficiency
	Pollution prevention and control	Environmentally sustainable management of living natural resources and land use
	Terrestrial and aquatic biodiversity conservation	Clean transportation
\boxtimes	Sustainable water and wastewater management	Climate change adaptation
	Eco-efficient and/or circular economy adapted products, production technologies and processes	Green buildings
	Unknown at issuance but currently expected to conform with Green Bond Principles categories, or other eligible areas not yet stated in Green Bond Principles	Other (please specify):



2. Process for Project Evaluation and Selection

The policies and procedures of China Water are applicable to Silver Dragon as its wholly-owned subsidiary. China Water identifies and selects the eligible projects by a process that involves its Environmental Social Management System Working Group ("EWG"). The EWG is composed of senior members including a general manager and representatives from various departments. The EWG aims to meet at least once every 12 months to discuss and select projects according to the Eligible Green Projects defined in its Framework which shall be further approved by the Board. It is the responsibility of the EWG to ensure compliance of the selected green projects with the Use of Proceeds section and the environmental guidelines which are applicable for China Water. The EWG is also responsible for managing any future updates of the Framework, including any expansion of requirements of the Use of Proceeds. The funds shall be reallocated to other Eligible Green Projects if the selected project fails to meet the updated eligibility criteria. The Company confirms that it shall assess the risks related to the projects funded in accordance with its established risk management process.

MSCI ESG Research considers this process for the selection of projects to be **aligned** with Principle 2 of the MSCI Labeled Bond and Loan Assessment Methodology as of March 2023, the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA.

Evaluation and Selection

- Credentials on the issuer's environmental sustainability objectives
- Defined and transparent criteria for projects eligible for Green Bond proceeds
- Summary criteria for project evaluation and selection publicly available
- Documented process to determine that projects fit within defined categories
- Documented process to identify and manage potential ESG risks associated with the project
- \Box Other (please specify):

Information on Responsibilities and Accountability

- ☑ Evaluation / Selection criteria subject to ⊠ In-house assessment external advice or verification
- \Box Other (please specify):



3. Management of Proceeds

The Green Finance Framework articulates the intentions of China Water and its wholly owned subsidiary Silver Dragon to issue Green Financing Transactions ("GFT") to fund projects. China Water's finance team shall manage the net proceeds from each GFT. The proceeds from each GFT shall be earmarked to the Eligible Green Projects after depositing the funds in general funding accounts. A register shall be set up to keep track of the Use of Proceeds for each GFT and this shall be maintained by the Finance team. The register shall include the following information:

• Type of Funding Transaction:

- o Key information, including issuer/borrower entity, transaction date, tranche(s) information, principal amount of proceeds, repayment or amortization profile, maturity date, and interest or coupon (and in the case of bonds, the ISIN number)
- Allocation of Use of Proceeds:
 - o Name and description of Eligible Green Projects: Eligible Green Projects to which the proceeds of the GFT have been allocated in accordance with this Framework
 - o Amount and date of GFT proceeds allocated to each project
 - o The remaining balance of unallocated GFT proceeds yet to be earmarked

o Other relevant information such as information of temporary investment for unallocated proceeds China Water commits to not investing the unallocated GFT proceeds in carbon intensive activities or any projects that are in conflict with the eligibility criteria under this Framework. These unallocated funds shall be held in accordance with CWA's liquidity guidelines for short-term time deposits or investments. In the case that the Eligible Green Projects cease to comply with the eligibility criteria, the funds shall be reallocated to replacement Eligible Green Projects that comply with the eligibility criteria as soon as reasonably practicable. China Water aims to maintain over time an amount of Eligible Green Projects at least equal to the total net proceeds of all outstanding GFTs.

MSCI ESG Research considers this process of management of proceeds to be **aligned** with Principle 3 of the MSCI Labeled Bond and Loan Assessment Methodology as of March 2023, the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA.

Tracking of Proceeds:

- Green Bond proceeds segregated or tracked by the issuer in an appropriate manner
- Disclosure of intended types of temporary investment instruments for unallocated proceeds
- □ Other (please specify):

Additional Disclosure:

- □ Allocations to future investments only
- □ Allocation to individual disbursements
- Disclosure of portfolio balance of unallocated proceeds
- Allocations to both existing and future investments
- Allocation to a portfolio of disbursements
- \Box Other (please specify):



4. Reporting

China Water, through its wholly owned subsidiary Silver Dragon, aims to provide allocation information on each GFT in its Annual Report, ESG report or at its website. It shall provide the reports on an annual basis until all the net proceeds have been allocated and, in the event of any material changes, until the maturity date. The report shall contain the allocation reporting, including details of each outstanding GFT, aggregate amount of proceeds from each GFT allocated to Eligible Green Projects, share of financing vs refinancing, balance of unallocated proceeds from each GFT, and examples of Eligible Green Projects (subject to confidentiality disclosures). It shall also report on the environmental and social impacts of the Eligible Green Projects. Depending on the nature of Eligible Green Projects and availability of information, the Company aims to include the following impact indicators:

• Absolute (gross) amount of water supplied before and after the project in cubic meters per annum

• Absolute (gross) amount of reduction in water loss before and after the project in cubic meters per annum or percentage

- · Absolute (gross) amount of wastewater treated in cubic meters per annum
- Number of people and cities served
- Annual renewable energy generation in MWh/GWh (electricity) and GJ/TJ (other energy)
- Capacity of renewable energy plant(s) constructed or rehabilitated in MW
- Annual GHG emissions reduced/avoided (t CO2 eq p.a.)

MSCI ESG Research considers this process of annual reporting to be **aligned** with Principle 4 of the MSCI Labeled Bond and Loan Assessment Methodology as of March 2023, the Green Bond Principles 2022 administered by ICMA, and the Green Loan Principles 2021 administered by LMA.

Use of Proceeds Reporting:

	Project-by-project	\boxtimes	On a pro	oject portfolio basis
	Linkage to individual bond(s)		Other (p	lease specify):
Infor	mation Reported:			
		Green Bond financed share of total investment		
	Other (please specify):			
Frequ	ency:			
🖾 Annual			Semi-a	annual
C	□ Other (please specify):			
Impac	t Reporting:			
	Project-by-project		\boxtimes	On a project portfolio basis
	Linkage to individual bond(s)			Other (please specify):
Frequ	Jency:			
	⊠ Annual			Semi-annual
	\Box Other (please specify):			



Information Reported (expected or ex-post):

- GHG Emissions / Savings
- \boxtimes Decrease in water use

- □ Energy Savings
- ☑ Other ESG indicators (please specify): Indicators as mentioned in the framework.

Means of Disclosure

- □ Information published in financial report
- Information published in sustainability report
- \Box Information published in ad hoc documents \Box Other (please specify):
- □ Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review):

Review provider(s): MSCI ESG Research

Date of publication: April 21, 2023



About Role(s) of Independent Review Providers as Defined by ICMA's Green Bond Principles⁶

- 1. Second Party Opinion: An institution with environmental expertise that is independent from the issuer may issue a Second Party Opinion. The institution should be independent from the issuer's adviser for its Green Bond framework, or appropriate procedures, such as information barriers, will have been implemented within the institution to ensure the independence of the Second Party Opinion. It normally entails an assessment of the alignment with the Green Bond Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental features of the type of projects intended for the Use of Proceeds.
- 2. Verification: An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for Use of Proceeds, allocation of funds from Green Bond proceeds, statement of environmental impact or alignment of reporting with the Green Bond Principles, may also be termed verification.
- 3. **Certification**: An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognized external green standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.
- 4. Green Bond Scoring/Rating: An issuer can have its Green Bond, associated Green Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialized research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental performance data, the process relative to the Green Bond Principles, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

⁶ International Capital Market Association (ICMA), "Green Bond External Review Form".



MSCI ESG Research Credentials

MSCI ESG Research has been assessing green bonds since the launch of the Bloomberg Barclays MSCI Green Bond Index (now called the Bloomberg MSCI Green Bond Index) in 2014. Key design features include an independent evaluation of securities by MSCI ESG Research along four dimensions:

- 1) stated Use of Proceeds;
- 2) process for green project evaluation and selection;
- 3) process for management of proceeds; and
- 4) commitment to ongoing reporting on environmental performance of the Use of Proceeds to help determine index eligibility.⁷

The MSCI Green Bond Assessment Methodology, now titled the MSCI Labeled Bond and Loan Assessment Methodology, is reviewed on a regular basis and updated based on client consultations to keep abreast with innovations in green financing in this rapidly growing market.

MSCI Second-Party Opinions are prepared by MSCI ESG Research analysts and are subject to review by the MSCI Green and Social Instruments Methodology Committee prior to publication.

MSCI ESG Research has been an Observer of the Green Bond Principles administered by ICMA since April 2021.

In addition to Second-Party Opinions, MSCI offers a range of solutions that evaluate environmental, social and governance factors across different sectors and markets. These include MSCI ESG Ratings, MSCI Climate Change Metrics, MSCI Sustainable Impact Metrics, MSCI Business Involvement Screening Research and MSCI ESG Controversies. Please see About MSCI ESG Research Products and Services below or visit msci.com for more information.

References

- China Water Affairs Group Limited Green Finance Framework 2021
- China Water Affairs Group Limited Annual Report 2022
- China Water Affairs Group Limited Website

⁷ "Bloomberg MSCI Green Bond Indices", Bloomberg and MSCI, September 2021.



Appendix

The MSCI Labeled Bond and Loan Assessment Methodology

The MSCI Labeled Bond and Loan Assessment Methodology evaluates bonds' alignment with the four core criteria below. These are based on the Green Bond Principles 2022 administered by ICMA.

Principle 1: Use of Proceeds Principle 2: Process for Selection Principle 3: Management of Proceeds Principle 4: Ongoing Reporting

The primary difference between the MSCI Labeled Bond and Loan Assessment Methodology and the Green Bond Principles 2022 administered by ICMA is in Principle 1: Use of Proceeds, where the MSCI Labeled Bond and Loan Assessment Methodology is more stringent than the Green Bond Principles 2022 administered by ICMA.

Summary of the MSCI Labeled Bond and Loan Assessment Methodology Green Bond Use of Proceeds categories

Green Category	Eligible	Ineligible
Alternative Energy	 Investments in products, services, manufacturing, or infrastructure projects that support the development or delivery of renewable energy and alternative fuels, including: Generation, transmission, and distribution of energy from renewable sources including wind, solar, geothermal, biomass⁸, small-scale hydro (25 MW)⁹, large-scale hydro (subject to additional sustainability criteria, as noted below), waste-to-energy, and wave and tidal energy. 	Funding to mining or extractive technologies or processes
	• Fuels, technology, and infrastructure for the production and distribution of cleaner hybrid fuels, green hydrogen, fuel cells, and alternative fuels, including biodiesel, biogas, and cellulosic ethanol.	
	• Due to their potential negative environmental and social externalities (e.g., potential damage to biodiversity due to construction of an embankment or potential displacement of local communities due to the same) large-scale hydroelectric projects are only considered as "green" if they satisfy one of the following international sustainability best practices:	

⁸ Biomass needs to be sustainably sourced i.e., sourced from FSC (Forest Stewardship Council), PEFC (Programme for the Endorsement of Forest Certification), SBP (Sustainable Biomass Program) or RSB (Roundtable on Sustainable Biomaterials) certified sources.

⁹ Small hydro is formally defined as including projects that fall below the thresholds set by the International Commission on Large Dams (ICOLD), which require that dams be below 15 meters in height (Source: "Constitution Status", ICOLD/CIGB, July 2011). MSCI ESG Research defines dams under 25MW in capacity qualify as "small", as capacity is used as a proxy for size where detailed information is not available. Large hydro is defined as all projects exceeding the small hydro thresholds



Energy Efficiency	 o Hydropower Sustainability Assessment Protocol - a published assessment report and score of '3' or above (i.e., in line with "Good Practices") on all relevant pillars¹⁰; or o International Finance Corporation (IFC) Performance Standards - a stated commitment before or at issuance of the bond or loan to meet the requirements outlined by all eight IFC Performance Standards¹¹ Investments in products, services, infrastructure, or technologies that proactively address the growing global demand for energy while minimizing effects on the environment, including: Technologies and systems that promote efficiency of industrial operations (e.g., turbines, motors, and engines), industrial automation and controls, and optimization systems (e.g., cloud computing, data optimization systems). Infrastructure, technology, and systems that increase the efficiency of power management, power distribution (including electric district heating and cooling systems), power storage (e.g., batteries) and demand-side management (e.g., wireless sensors, advanced meters, smart grid). Pumped storage hydroelectric projects that meet the large hydropower sustainability criteria indicated above. Technologies and systems focused on reducing fuel consumption of transport vehicles and industrial operations (e.g., hybrid/electric vehicles, bicycles). Sustainable transportation infrastructure (provided the rail is not dedicated to fossil fuel transport), electric vehicle charging, electric bicycle charging infrastructure, improved traffic systems. Heating, ventilation, and air conditioning (HVAC) equipment and systems, architectural glass, efficient lighting, insulation, building automation and controls, electric heat pumps and devices and systems designed to be utilized in the design and construction of environmentally sustainable buildings. 	 Corporate operational energy efficiency efforts, such as efficiency gains in manufacturing, transporting, or distributing standard products or services, where proceeds are not directly used for energy efficiency improvements or retrofits. Energy efficiency in fossil fuel-based energy generation, except for natural gas-based cogeneration.
Pollution Prevention & Control	 Products, services, or projects that support pollution prevention, waste minimization, or recycling as a means of alleviating the burden of unsustainable waste generation, including: Technologies, systems, and projects that aim to reduce air pollution (e.g., environmental IT, conventional pollution control systems and direct air carbon capture and storage). 	Landfill or incineration waste treatment projects without a specific waste to-energy component.

¹⁰ "Hydropower Sustainability Assessment Protocol, Background Document", International Hydropower Association, May 2020.

¹¹ "Performance Standards on Environmental and Social Sustainability" International Finance Corporation. January 1, 2012.



	 Projects to salvage, use, reuse, and recycle post-consumer waste products, including composting of organic waste. Waste treatment and environmental remediation projects, including land treatment and brownfield cleanup, soil washing, chemical oxidation, bioremediation. Note that this is only valid where the issuer itself or any of its subsidiaries (majority or minority owned) or partner firms are not responsible for the contamination that has occurred. Sustainable alternative materials such as raw materials, low VOC paints and adhesives used in the construction of green buildings. 	
Sustainable Water	 Products, services, and projects that attempt to resolve water scarcity and water quality issues, including minimizing and monitoring current water use and demand increases, improving the quality of water supply, and improving the availability and reliability of water, such as: Infrastructure and engineering projects that develop new or repair existing water and sanitation pipelines, including equipment and technology providers, resulting in improved quality and/or water use efficiency. Note that all large dams (i.e., above 15 meters in height) for water storage need to have a stated commitment to meet the requirements outlined by all eight IFC Performance Standards¹². Technologies and products that reduce, reuse, or recycle water as a means of conservation (e.g., smart metering devices, low-flow equipment, and rainwater harvesting systems). Advanced materials, equipment, technologies, and services that filter or chemically treat wastewater for consumer or industrial use, including desalination. Investments in protection of land, forests, and other vegetation in the upper watershed as a means to improve the quality of water bodies and groundwater recharge areas. 	Distribution of water, including drinking water, without measurable improvements to water quality, water efficiency, or climate change resilience components.
Green Building	 Design, construction, redevelopment, retrofitting, or acquisition of green-certified properties – subject to local green building criteria, including: Properties that are certified as green based on the local country's environmental performance standard (e.g., based on Energy Star, NABERS [>3], or equivalent) or environmental design standards (e.g., LEED Certified, BREEAM, NZEB, Passive house or local equivalent). Properties that rank in the top 15% on energy efficiency measures relative to same-sector properties within the local market (e.g., top 15% of buildings on energy efficiency in a specific city, district, state, or country). The issuer must 	

¹² "Performance Standards on Environmental and Social Sustainability" International Finance Corporation. January 01, 2012.



	 demonstrate that the buildings fall within the top 15% in energy efficiency in the market. Mortgage-backed securities and bonds that fund real estate properties that achieve a minimum 30% improvement in energy efficiency compared to baseline performance prior to the renovations and other capital improvements funded through the use of proceeds 	
Climate Adaptation	 Projects that reduce the vulnerability of social or environmental systems to the effects of risks related to climate change by maintaining or increasing adaptive capacity, reducing sensitivity to climate change or increasing climate resilience, including: Flood protection (e.g., flood defenses, waterway management, pumping stations and drainage improvement); Food security and stress-resilient agricultural systems; Reforestation and watershed management; Climate resiliency services (e.g., modernization of meteorological systems and catastrophe risk insurance). 	
Other	 This category includes environmental activities and projects that are not covered in the six categories described above. These activities and projects include, but are not limited to: the protection and conservation of biodiversity; sustainable forestry and afforestation projects; and sustainable agricultural projects. 	

Note that funding to research and development for the categories described above is eligible.

In cases where project categories do not overlap entirely with MSCI ESG Research definitions, MSCI ESG Research will consider bonds eligible if at least 90% of the projected Use of Proceeds falls within eligible categories.



Summary of the Green Bond Principles 2022, administered by ICMA, Green Bond Use of Proceeds categories¹³

The Eligible Green Projects categories, listed in no specific order, include, but are not limited to:

• Renewable energy (including production, transmission, appliances, and products)

• Energy efficiency (such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances, and products)

• Pollution prevention and control (including reduction of air emissions, greenhouse gas control, soil remediation, waste prevention, waste reduction, waste recycling and energy/ emission-efficient waste to energy)

• Environmentally sustainable management of living natural resources and land use (including environmentally sustainable agriculture; environmentally sustainable animal husbandry; climate smart farm inputs such as biological crop protection or drip-irrigation; environmentally sustainable fishery and aquaculture; environmentally sustainable forestry, including afforestation or reforestation, and preservation or restoration of natural landscapes)

• Terrestrial and aquatic biodiversity conservation (including the protection of coastal, marine and watershed environments)

• Clean transportation (such as electric, hybrid, public, rail, non-motorised, multi-modal transportation, infrastructure for clean energy vehicles and reduction of harmful emissions)

• Sustainable water and wastewater management (including sustainable infrastructure for clean and/or drinking water, wastewater treatment, sustainable urban drainage systems and river training and other forms of flooding mitigation)

• Climate change adaptation (including efforts to make infrastructure more resilient to impacts of climate change, as well as information support systems, such as climate observation and early warning systems)

• Circular economy adapted products, production technologies and processes (such as the design and introduction of reusable, recyclable and refurbished materials, components, and products; circular tools and services); and/or certified eco-efficient products

• Green buildings that meet regional, national, or internationally recognised standards or certifications for environmental performance

¹³ "Green Bond Principles 2022", International Capital Market Association, June 2022.





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