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Lianhe Green Development

Zhengzhou Zhengshangxincheng Construction and Development Group Co., Ltd.

Second-Party Opinion | Green Finance Framework

Report Type
Green Finance Framework Second-Party Opinion

Analytical Standards
» Green Bond Principles (GBP) (June 2021 Edition)
» Green Loan Principles (GLP) (February 2023 Edition)

Industry
Local Investment and Development Companies

Country/Region
China

Report Date
28th March 2025

Summary

Not Aligned	Aligned	Good	Excellent

Pillar	Alignment
Use of Proceeds	Good
Process for Project Evaluation and Selection	Good
Management of Proceeds	Good
Reporting	Good
External Reviews	Good

Lianhe Green Development Company Limited ("Lianhe Green") has reviewed a series of documents including the "Green Finance Framework" of Zhengzhou Zhengshangxincheng Construction and Development Group Co., Ltd. ("Issuer Group"), and assessed the company's relevant work in respect of the use of proceeds, process for project evaluation and selection, management of proceeds, reporting, and external reviews. The Framework has received a Good assessment opinion from Lianhe Green. Lianhe Green considers that the Framework is in compliance with the Green Bond Principles (GBP) (June 2021 Edition) and the Green Loan Principles (GLP) (February 2023 Edition). In addition, the eligible green projects listed in this Framework are in line with the Green Bond Principles (GBP) (June 2021 Edition) and the Green Loan Principles (GLP) (February 2023 Edition). At the same time, Lianhe Green's assessment includes the contributions of the project categories to the relevant United Nations Sustainable Development Goals (UNSDGs)[1].

Contacts
Polex Lam, CESGA® CEng CEnv
Managing Director
+852 3596 3026
polex.lam@lianhegreen.com

Kathleen Liu
Associate Analyst
+852 3462 9583
kathleen.liu@lianhegreen.com

[1] According to the definitions of (A/RES/70/1 - Transforming our world: the 2030 Agenda for Sustainable Development)

About the Company

The Issuer Group is substantially controlled by Zhengzhou Shangjie District SASAC. Since its establishment in 2004, the Issuer Group has been serving as the main construction entity in Zhengzhou City. Leveraging on the development of Zhengzhou City, strong shareholder's support and the experienced management team of the Issuer Group, the Issuer Group has played an important role in the development of Zhengzhou City. To perform its function as the core operating entity carrying out urban development activities in Zhengzhou City, the Issuer Group has developed a diversified business portfolio, including land consolidation, construction, municipal infrastructure maintenance, security services, labor services, etc.

Company Sustainability Strategy

As a state-owned enterprise, Lianhe Green believes the Issuer Group's strategies to align with the Chinese government's strategies and relevant policies, such as China's pledge to peak carbon emissions by 2030 and achieve carbon neutrality by 2060.

After media review, Lianhe Green did not find any significant negative ESG news or controversial issues about the Issuer Group.

About the Framework of the Issuer Group

The Issuer Group has prepared the Green Finance Framework (hereinafter referred to as the "Framework" or "GFF"), which is intended to provide overarching principles and guidelines for all green financing opportunities for the Issuer Group.

With respect to bonds, bonds issued under GFF will be in alignment with the Green Bond Principles (GBP) 2021[2] released by International Capital Market Association (ICMA), or the Green Bond Endorsed Projects Catalogue (2021 Edition)[3] jointly announced by the People's Bank of China (PBOC), the National Development and Reform Commission (NDRC) and the China Securities Regulatory Commission (CSRC) or as they may be subsequently amended.

With respect to loans, loans issued under GFF will be in alignment with the Loan Market Association ("LMA") Green Loan Principles ("GLP") 2023[4] or as they may be subsequently amended.

Other forms of financing may conform to other green finance principles as may have been established at the time of such financing transaction being undertaken.

In this Second-Party Opinion, Lianhe Green has specifically examined the framework but has not reviewed any transaction-specific legal documents or marketing materials. Nevertheless, the framework does provide a description of the qualifying projects as described in the legal documentation of the framework.

This framework addresses the five pillars including use of proceeds, process for project evaluation and selection, management of proceeds, reporting, and external reviews.

A. Use of Proceeds

Company Materials

The Issuer Group will allocate an amount at least equivalent to the net proceeds of the Green Financing Instruments issued under the Framework to finance and/or re-finance, in whole or in part,

[2] In alignment with ICMA Green Bond Principles, June 2021, https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/
[3] In alignment with the Green Bond Endorsed Projects Catalogue (2021 Edition), http://www.gov.cn/zhengce/zhengceku/2021-04/22/content_5601284.htm
[4] In alignment with LMA Green Loan Principles, February 2023, https://www.lsta.org/content/green-loan-principles/

projects which meet the eligibility criteria of the following Eligible Green Project categories ("Eligible Green Projects"), as defined as below.

A maximum 3-year look-back period would apply for refinanced projects and the Issuer Group is committed to fully allocate the net proceeds of each issuance under the Framework within 24 months from issuance/borrowing.

Table 1: Eligible Green Projects Categories and Description/Condition of Eligible Green Projects

Eligible Green Project Categories	Qualified Green Projects
Energy Efficiency	Increase energy efficiency and reduce building and facility energy consumption by at least 15 per cent. by investing in and spending on projects such as, but not limited to: • In the design and construction process, in accordance with the requirements of "Intelligent Building Design Standards (GB/T 50314-2015)", adopt timely and feasible intelligent technology to realize the functions of saving resources and optimizing environmental quality management, including but not limited to effective utilization and management of renewable energy based on building equipment monitoring systems, Building Information Modeling (BIM) technology, etc.; or • Install energy-efficient equipment, replace and/or maintain existing equipment to reduce energy consumption or avoid greenhouse gas emissions, including but not limited to smart metering systems, high-efficiency HVAC systems, etc. Relevant products should comply with the current national standards "Energy-saving Design Standards for Public Buildings" (GB50189-2015), "Energy-saving Domestic Water Appliances" (CJ/T164-2014) and other standards; or • Renovation of green lighting, using LED lamps, high/low pressure sodium lamps, metal halide lamps, tri-color double-ended straight fluorescent lamps (Type T8, T5), etc., as well as the use of natural light sources, intelligent lighting control systems, etc. Relevant lighting products should meet the first-level energy efficiency requirements of relevant national and/or regional energy efficiency standards; or • Energy Conservation and Environmentally-friendly Renovation of Existing Buildings: Technical indicators of the building meet relevant national or local energy conservation standards for existing buildings and relevant requirements for energy-saving renovation activities of building energy systems after renovation. Renovation, operation and purchase of the existing buildings which have obtained relevant national green building star-level within the validity period; and the renovation, operation and purchase of existing buildings that have reached the national-relevant green building star-level within the validity period after renovation. For example, the building technology complies with technological standards such as the "Statistical Standard for Civil Buildings" (GB 50352), the "Standard for Energy-Saving in Public Buildings" (GB 50189) and the "Standard for the Evaluation of Green Retrofit of Existing Buildings" (GBT 51141).
Green Building	Buildings must meet regionally, nationally, or internationally recognized green building standards or certifications, including but not limited to the following: ✓ China Green Building Evaluation Label (1 star or above) ✓ U.S. Leadership in Energy and Environmental Design (LEED) (Gold or above) ✓ Hong Kong BEAM (Gold or above)

	✓ Building Research Establishment Environmental Assessment Method (BREEAM) (Very Good or above) Any other green building certification with the same standard as the above
Renewable Energy	Investment, acquisition and expenditures related to design, manufacture, construction, installation, and operation of 1) renewable energy systems, including photovoltaic solar and wind power (onshore/offshore), 2) renewable electricity energy storage system (i.e. batteries, capacitor). Technical screening criteria and/or actions prior the investment: • The minimum of 85% of power generation from the facility is derived from solar energy sources; • The energy storage system dedicated connection to a power production plant eligible under the low carbon power threshold of 100g CO_2/kWh.
Wastewater Management	Investment, acquisition and expenditures related to construction, development, upgrade, installation, operation and maintenance the facilities of water supply infrastructure, wastewater treatment infrastructure, urban drainage systems, flood control and defenses, pumping stations, distribution network, water recycling systems (i.e. recycling or reuse water, rainwater collection) to save water, improve the water leakage performance and the efficiency. Technical screening criteria and/or actions prior the investment: • The wastewater discharge standard will meet the national and/or regional pollutants discharge standard for municipal wastewater treatment plant (i.e. GB 18918-2002); or • The flood defenses and climate resilient projects that implement chronic and acute physical climate risks identification and vulnerability assessments, and the corresponding adaptation and resilience solutions can reduce the most water related physical climate risks.

Exclusion Criteria

The Issuer Group commits that any activities, assets and technologies related to the below will be excluded from Eligible Green Projects:

- activities that violate national laws, regulations or international conventions and agreements, or are subject to international bans;
- production or trade in arms and ammunition;
- production or trade in alcoholic beverages (other than beer and wine);
- production or trade in tobacco;
- gambling, casinos and equivalent businesses;
- production or trade in radioactive materials (radioactive sources considered insignificant and/or adequately shielded, such as quality control equipment, are not covered);
- production or activities involving harmful or exploitative forms of forced labor or harmful child labor.

Opinion of Lianhe Green

Not Aligned	Aligned	Good	Excellent

Lianhe Green has reviewed a number of documents, including the Green Finance Framework, and has conducted a comprehensive review of the Issuer Group's policies related to the use of proceeds based on the relevant assessment criteria.

Lianhe Green compared the green project categories listed in this framework with the Green Bond Principles (GBP) (June 2021 Edition), the Green Loan Principles (GLP) (February 2023 Edition), China's Green Bond Endorsed Projects Catalogue (2021 Edition), Hong Kong Taxonomy, EU Taxonomy and the United Nations Sustainable Development Goals (SDGs) respectively.

After the assessment, the eligible green projects align with China's "Green Bond Endorsed Project Catalogue (2021 Edition)" and contribute to the United Nations Sustainable Development Goals (SDGs)[5]. Lianhe Green generally considers all the green categories to positively contribute to the environment and to be in alignment or partial alignment with the HK Taxonomy and EU Taxonomy. In some activity categories, further specific criteria are required. Further detailed findings will be described in the corresponding project category assessment.

The look-back period is longer than the market's best practices, and the exclusion project list has less coverage than market practices. Lianhe Green considers that the Issuer Group's Use of Proceeds is Good, which is in line with the requirements of the assessment criteria.

1) Eligible Green Projects: Energy Efficiency

Lianhe Green Findings / Suggestions

Lianhe Green considers that this project category under the framework is most relevant to the eligible green projects category "Energy efficiency (such as in new and refurbished buildings, energy storage, district heating, smart grids, relevant equipment and products)" under both GBP and GLP.

In June 2022, Zhengzhou city government issued "Implementation Opinions on Accelerating the Development of Energy Efficiency and Environmental Protection Industry". The document proposes that by 2025, the city's energy efficiency and environmental protection industry will strive to achieve an average annual growth rate of 8%, with a total output value of RMB 50 billion, and aims to build 10 municipal-level technology centers for energy efficiency and environmental protection industry enterprises.

Lianhe Green believes the framework's description on "Renovation of green lighting, using LED lamps, high/low pressure sodium lamps, metal halide lamps, tri-color double-ended straight fluorescent lamps (Type T8, T5), etc., as well as the use of natural light sources, intelligent lighting control systems, etc. Relevant lighting products should meet the first-level energy efficiency requirements of relevant national and/or regional energy efficiency standards" is aligned with the description of "1.1.3.1 Renovation of Green Lighting" under "Green Bond Endorsed Project Catalogue (2021 Edition)", which states that "Energy-saving technology upgrading of high-efficient lighting products using LED , high / low pressure sodium lamps, metal halide lamps, three primary color double-ended tubular fluorescent lamps (Type T8 and T5), and other lighting facilities using natural light sources, both indoors and outdoors. The energy efficiency of the lighting products should meet Level One of the national standards".

Furthermore, Lianhe Green believes the framework's description on "Energy Conservation and Environmentally-friendly Renovation of Existing Buildings: Technical indicators of the building meet

[5] Based on the Lianhe Green's methodology, we evaluate each eligible project category of the issuer against the United Nations Sustainable Development Goals, and selected goals with a significant contribution to the United Nations Sustainable Development Goals. In addition, the issuer's eligible project categories may also contribute to other goals of the United Nations Sustainable Development Goals.

relevant national or local energy conservation standards for existing buildings and relevant requirements for energy-saving renovation activities of building energy systems after renovation. Renovation, operation and purchase of the existing buildings which have obtained relevant national green building star-level within the validity period; and the renovation, operation and purchase of existing buildings that have reached the national-relevant green building star-level within the validity period after renovation. For example, the building technology complies with technological standards such as the "Statistical Standard for Civil Buildings" (GB 50352), the "Standard for Energy-Saving in Public Buildings" (GB 50189) and the "Standard for the Evaluation of Green Retrofit of Existing Buildings" (GBT 51141)" is aligned with the description of "5.2.1.5 Energy Conservation and Environmental-friendly Renovation of Existing Buildings" under "Green Bond Endorsed Project Catalogue (2021 Edition)", which states that "Technical indicators of the building meet relevant national or local energy conservation standards for existing buildings and relevant requirements for energy-saving renovation activities of building energy systems after renovation. Renovation, operation, and purchase of the existing buildings which have obtained relevant national green building star-level with the validity period; and the renovation, operation and purchase of existing building that have reached the national-relevant green building star-level within the validity period after renovation. For example, the building technology complies with technological standards such as the Statistical Standard for Civil Buildings (GB 50352), the Standard for Energy-Saving in Public Buildings (GB 50189) and the Standard for the Evaluation of Green Retrofit of Existing Buildings (GBT 51141)".

Lianhe Green considers the criteria set by the Hong Kong Taxonomy for the renovation of existing buildings to be more stringent compared to the framework requirements. According to the Hong Kong Taxonomy, the building renovation should lead to a reduction of primary energy demand, energy consumption, or direct GHG emissions of at least 30% against the building's historic average for both existing commercial buildings and residential buildings. For existing commercial buildings, buildings may also use HKGBC's Zero-Carbon-Ready Building, with at least Extra Low or Level 2 improvement (i.e., 25% reduction) according to Zero-Carbon-ready building Certification Scheme. However, the framework only requires increase in energy efficiency and reduce building and facility energy consumption by at least 15 percent.

The EU Taxonomy includes the installation, maintenance, and repair of energy efficiency equipment. Information relevant to EU taxonomy's substantial contribution criteria will be required after project commencement or completion to determine EU taxonomy eligibility, in Lianhe Green's opinion.

Lianhe Green believes this qualified green project category contributes positively to the United Nations Sustainable Development Goals (UNSDGs), in particular, there is significant contributions to Target 7.3 of Goal 7 (Affordable and Clean Energy) "By 2030, double the global rate of improvement in energy efficiency".

2) Eligible Green Projects: Green Building

Lianhe Green Findings / Suggestions

Lianhe Green considers that this project category under the framework is most relevant to the eligible green projects category "Green buildings that meet regional, national or internationally recognised standards or certifications for environmental performance" under both GBP and GLP.

In April 2024, Zhengzhou city government issued "Notice on Further Promoting the Development of Green Buildings", in line with the "Henan Green Building Regulations". The notice stipulates that new civil buildings within the urban planning area continue to fully implement green building standards and encourage the construction of high-star green buildings. It also emphasizes the enhancement of planning, design and construction management for green buildings, as well as the initiation of research and development in associated fields.

The sample green building certifications included in the framework are all recognized at national or international levels. However, international standards, for example the U.S. LEED, Hong Kong BEAM and BREEAM, are more stringent than the selected requirements for the China Green Building Evaluation Level outlined in the framework.

Lianhe Green believes the framework's description on "China Green Building Evaluation Label (1 star or above)" is aligned with the description of "5.2.1.2 Green Buildings" under "Green Bond Endorsed Project Catalogue (2021 Edition)", which states that "All civil and industrial buildings are designed and constructed in accordance with the national green building codes and standards to obtain national green building evaluation labels within the validity period. For example, the building should comply with indicators as listed in technical standards, such as the "Green Building Evaluation Standard" (GB/T 50378), the "Green Industrial Building Evaluation Standard" (GB/T 50878), the "Green Ecological Area Evaluation Standard" (GB/T 51255), the "Green Office Building Evaluation Standard" (GB/T 50903), the "Green Store Building Evaluation Standard" (GB/T 51100), the "Green Hospital Building Evaluation Standard" (GB/T 51153)".

Lianhe Green considers the criteria set by the Hong Kong Taxonomy for the construction of new commercial and residential buildings in Mainland China to be more stringent compared to the framework requirements. According to the Hong Kong Taxonomy, projects should be rated to the three-star level of the Chinese Green Building Evaluation Standard, whereas the framework criteria only require one-star or above. Furthermore, the Hong Kong Taxonomy for the renovation of existing commercial and residential buildings places emphasis on specific carbon and energy performance improvements rather than focusing on technological standards.

Lianhe Green generally considers these types of projects to positively contribute to the environment, as the construction of new buildings and renovation of existing buildings are included in the EU taxonomy. However, the EU taxonomy focuses on specific energy performance indicators rather than green building certification schemes. Information relevant to EU taxonomy's substantial contribution criteria will be required after project commencement or completion to determine EU taxonomy eligibility, in Lianhe Green's opinion.

Lianhe Green believes this qualified green project category contributes positively to the United Nations Sustainable Development Goals (UNSDGs), in particular, there is significant contributions to Target 11.c of Goal 11 (Sustainable Cities and Communities) "Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials Indicators".

3) Eligible Green Projects: Renewable Energy

Lianhe Green Findings / Suggestions

Lianhe Green considers that this project category under the framework is most relevant to the eligible green projects category "Renewable energy (including production, transmission, appliances and products)" under both GBP and GLP.

In 2022, Zhengzhou city government issued the "Zhengzhou '14th Five-Year' Modern Energy System Planning", which calls for the vigorous development of renewable energy. In line with the requirements for building a green, low-carbon, and clean and efficient energy system, it is necessary to construct an energy system that prioritizes renewable energy, promote the application model of renewable energy in large-scale projects, and comprehensively advance the application of photovoltaic (PV) building integration. Meanwhile, the development of renewable energy heating is encouraged, and the organic combination of distributed rooftop photovoltaics and energy storage technology is used to enhance the proportion of renewable energy applications.

Lianhe Green believes the framework's description on "Investment, acquisition and expenditures related to manufacture of renewable energy systems, including photovoltaic solar and wind power (onshore/offshore)" is aligned with the description of "3.2.1.2 Production of Solar Generators" under "Green Bond Endorsed Project Catalogue (2021 Edition)", which states that "Manufacturing and trading of photovoltaic (PV) power generators and solar thermoelectric equipment", and also aligned with the description of "3.2.1.1 Production of Wind Generators" stating that "Manufacturing and trading of onshore and offshore wind turbines, wind turbine generators, wind turbine blades, bearings, cables, gearboxes, towers and other key components of 3MW and above wind turbines for plateau, low-temperature, low wind speed environments, and wind farm-related systems and equipment".

Furthermore, Lianhe Green believes the framework's description on "Investment, acquisition and expenditures related to construction and operation of renewable energy systems, including wind power (onshore/offshore), and renewable electricity energy storage system" is aligned with the

description of “3.2.3.2 Operation and Construction of Energy Efficient Storage Facilities” under “Green Bond Endorsed Project Catalogue (2021 Edition)”, which states that “Construction and operation of energy-efficient storage and peak-shaving facilities, using physical energy storage, electromagnetic energy storage, electrochemical energy storage and phase change energy storage technologies to improve the flexibility, stability and reliability of renewable energy power generation, distributed energy, new energy microgrid and other systems”, and also aligned with the description of “3.2.2.1 Construction and Operation of Wind Power Facilities”.

Lianhe Green believes that the wind power project aligns with the activity description of “Construction or operation of electricity generation facilities that produce electricity from wind power” set by Hong Kong Taxonomy. And, the solar photovoltaic projects partially align with the activity description of “Construction or operation of electricity generation facilities that produce electricity using solar photovoltaic (PV) technology” under the Hong Kong Taxonomy that standards require that the components and products used in solar photovoltaic power generation facilities meet minimum photoelectric conversion efficiencies of 19% for polycrystalline silicon cells and 21% for monocrystalline silicon cells. Currently, the Hong Kong Taxonomy hasn’t designated a specific activity covering renewable energy projects of energy storage systems. Lianhe Green believes that these types of projects have positive environmental impacts.

Lianhe Green generally acknowledges that the framework is eligible for the climate mitigation substantial contribution criteria of the “Electricity generation from wind power” and “Electricity generation using solar photovoltaic technology”. This criterion allows renewable energy assets where a minimum of 85% of the electricity generated is from solar energy sources. The remaining 15% of the electricity from non-solar sources is considerate to be market practices because fossil fuels are considered necessary to provide backup that helps regulate production and guarantee capacity.

Lianhe Green believes this qualified green project category contributes positively to the United Nations Sustainable Development Goals (UNSDGs), in particular, there is significant contributions to Target 7.2 of Goal 7 (Affordable and Clean Energy) “By 2030, increase substantially the share of renewable energy in the global energy mix”.

4) Eligible Green Projects: Wastewater Management

Lianhe Green Findings / Suggestions

Lianhe Green considers that this project category under the framework is most relevant to the eligible green project category “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)” under both GBP and GLP.

In 2022, Zhengzhou city government issued the “Zhengzhou ‘14th Five-Year’ Ecological Environment Protection Plan”, taking the lead in the province to carry out the upgrading and renovation of sewage treatment plants. The domestic sewage in the urban area has basically achieved full collection and full treatment, and the centralized treatment rate of urban sewage in counties (cities) has reached over 95%. For the construction, reconstruction, and expansion of sewage treatment plants with a designed scale of more than 50,000 cubic meters/day, a recycled water utilization system should be constructed in conjunction.

Lianhe Green believes the framework’s description on “Investment, acquisition and expenditures related to construction and operation of water supply infrastructure, wastewater treatment infrastructure, urban drainage systems, flood control and defenses, pumping stations, distribution network, water recycling systems (i.e. recycling or reuse water, rainwater collection) to save water, improve the water leakage performance and the efficiency” is aligned with the description of “1.5.3.3 Comprehensive Utilization of Sludge from Urban Sewage Treatment Plants” under “Green Bond Endorsed Project Catalogue (2021 Edition)”, which states that “Construction and operation of sludge treatment and comprehensive utilization facilities of urban sewage treatment plants. For example, the construction and operation of facilities for utilization of all types of sludge, including sludge use for betterment of land fertility (for land improvement, landscaping, forestry, and agriculture, etc.), for incineration power generation (heating, cogeneration), and for construction materials’ processing”.

Lianhe Green considers that these types of projects partially eligible with the Sewage Sludge Treatment activity in the Hong Kong Taxonomy and the Anaerobic Digestion of Sewage Sludge activity in EU Taxonomy. Both the Hong Kong Taxonomy and EU Taxonomy have more stringent criteria, requiring a monitoring and contingency plan to minimize methane leakage at the facility. Additionally, the produced biogas should be utilized directly for electricity or heat generation, upgraded to bio-methane for injection into the natural gas grid, or used as vehicle fuel or feedstock in the chemical industry.

Lianhe Green believes this qualified green project category contributes positively to the United Nations Sustainable Development Goals (UNSDGs), in particular, there is significant contributions to Target 6.3 of Goal 6 (Clean Water and Sanitation) “By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally”.

B. Process for Project Evaluation and Selection

Company Materials

The overall principle includes two parts as follows.

1) Select national and regional key green projects with a certain scale effect or demonstration effect.
2) Adhere to the principle of diversification in the selection of project types and regions.

Specific screening criteria: two-tier green project screening mechanism.

Eligible green projects will be selected according to above eligibility criteria.

Stage 1 Evaluation Procedure:
Review and select green projects preliminarily in accordance with the Green Bond Principles (GBP) 2021 released by International Capital Market Association (ICMA), or the Green Bond Endorsed Projects Catalogue (2021 Edition) jointly announced by the People's Bank of China (PBOC), the National Development and Reform Commission (NDRC) and the China Securities Regulatory Commission (CSRC).

Stage 2 Evaluation Procedure:
Further review and confirm on the green projects based on the direct and indirect environmental KPIs.

1) Direct environmental KPIs: environmental KPIs disclosed in the supporting documents for the projects, which are expected to be quantitative.
2) Indirect environmental KPIs:
    i. According to the supporting documents for the projects, energy-saving technologies or producing methods have been adopted in the projects.
    ii. The projects are in line with the policies and initiatives on the sustainable development at low carbon emissions, energy-savings and emissions reduction in the national or international markets.

Accountability Mechanisms for the Issuer Group's Green Finance
The Issuer Group's Green Finance Working Group (“GFWG”) is responsible for the management of this GFF and the compliance of all financing instruments issued under the Framework. The GFWG consists of executive members of the Issuer Group and senior representatives from the following departments, including:

- Finance and Capital Department
- Financing Management Department

- Project Management Department

The GFWG may be supplemented from time to time, or expanded, by the inclusion of representatives from other relevant teams.

The GFWG will:

- Meet at least two times each year to select and evaluate green projects to invest in for the current year and the next year
- Ratify Eligible Green Projects, which are initially proposed by the constituent team members
- Undertake regular monitoring of the asset pool to ensure the eligibility of Green Projects with the criteria set out in the Issuer Group's GFF Section 1, Use of Proceeds, whilst replacing any ineligible Green Projects with eligible new Green Projects
- Ensure that projects comply with the Issuer Group's Environmental Risk Management framework as well as applicable local governmental regulations and ensure that projects no longer meeting the selection criteria detailed in the Framework will be removed and/or substituted on a best efforts basis throughout the life of the bond/loan
- Ensure that the proceeds of bonds/loans will be periodically adjusted to match allocation to eligible projects made during that period
- Facilitate regular reporting on any GFT in alignment with our Reporting commitments
- Manage any future updates to the Framework
- Ensure that the approval of Eligible Green Projects will follow the Issuer Group's existing credit/loan/investment approval processes

Opinion of Lianhe Green

Not Aligned	Aligned	Good	Excellent

Lianhe Green has reviewed the Green Finance Framework and other series of documents, and the company's policies on process for project evaluation and selection based on the relevant assessment criteria.

The Issuer Group has established a comprehensive process for screening, identifying, and evaluating green projects. The Issuer Group has a process to pre-select and evaluate the projects based on national and international standards. Direct and indirect environmental KPIs will be further reviewed, and the GFWG will meet at least two times each year to select and evaluate the green projects to invest in.

Lianhe Green considers that the Issuer Group’s process for project evaluation and selection system is Good, which meets the requirements of the assessment criteria.

C. Management of Proceeds

Company Materials

The proceeds of each of the Issuer Group's GFT can be managed through using a designated account or keeping a GFT Register. Under the GFT Register method, the proceeds will be deposited in the general funding accounts, and earmarked for allocation towards the Eligible Green Projects. The Issuer Group will maintain a GFT Register to track the use of proceeds for the GFT. Green Finance Allocation Register will be established to ensure and monitor the allocation of green finance proceeds.
The Register will contain, for each GFT launched, information including:

1. GFT Details: ISIN (if applicable), Pricing Date, Maturity Date and etc.
2. Eligible Green Project Allocation List, information including:
   - The Eligible Projects List, including for each Eligible Project, the Eligible Green Project category, project description, project location, Issuer Group's ownership percentage, total project cost, amount allocated, settled currency, etc.
   - Amount of unallocated Proceeds.

Management of the unallocated proceeds

It is the Issuer Group's intention to deploy proceeds of each of the Issuer Group's GFT to Eligible Green Projects within a 2-year period. If part of the proceeds cannot be allocated to Eligible Green Projects at the moment, the Issuer Group can deposit the unallocated proceeds into the designated account for the green bond, or invest the unallocated proceeds into qualified money market products or debt instruments according to the relevant rules and regulations set out by the competent authorities.

Opinion of Lianhe Green

Not Aligned	Aligned	Good	Excellent

Lianhe Green has reviewed a series of documents such as the Green Finance Framework and the company's policies on the management of proceeds based on the relevant assessment criteria.

The proceeds of each of the Issuer Group's GFT can be managed through using a designated account or keeping a GFT Register, and earmarked for allocation towards the Eligible Green Projects. Green Finance Allocation Register will be established to ensure and monitor the allocation of green finance proceeds. The unallocated proceeds may be deposited into the designated account for the green bond, or invest unallocated proceeds into qualified money market products or debt instruments according to the relevant rules and regulations set out by the competent authorities.

Lianhe Green considers that the Issuer Group’s management of proceeds is Good, which meets the requirements of the assessment criteria.

D. Reporting

Company Materials

The Issuer Group will provide information on the allocation of the net proceeds of its Green Financing Instruments in a Green Finance Report. Such information will be provided on an annual basis until all the net proceeds have been allocated. According to the market needs, the information may contain the following details:

1) List of Eligible Green projects
2) The amount of Proceeds allocated to each Eligible Green Project category
3) When possible, descriptions of the Eligible Green Projects financed, such as project locations, amount allocated, etc.
4) Selected examples of projects financed
5) Percentage of financing vs. refinancing
6) Amount of unallocated Proceeds

Furthermore, the Issuer Group will confirm that the use of proceeds of the GFT conforms to this GFF and that report on a timely basis if any material development until full allocation.

Impact Reporting

The Issuer Group will provide reporting on the environmental benefits of the Eligible Green Projects potentially with the following environmental impact indicators. In addition, calculation methodologies and key assumptions will be disclosed.

Eligible Project Categories	Impact Indicators
Energy Efficiency	» Amount of energy saved (in MWh) » Annual energy efficiency improvement in percentage
Green Building	» The number and type of green building certifications obtained » Obtained certification level
Renewable Energy	» Annual renewable energy generation (GWh for electricity and GJ for other energy) » Annual GHG emission or standard coal equivalent reduced/avoided
Wastewater Management	» Annual absolute (gross) amount of wastewater treated, reused or avoided before and after the project in m^3/a » Amount of rainwater collected and reused in m^3/a

The allocation and impact reporting mentioned above will be disclosed to the Issuer Group's stakeholders.

Opinion of Lianhe Green

Not Aligned	Aligned	Good	Excellent

Lianhe Green has reviewed a series of documents, including the Green Finance Framework and the company's policy based on the relevant assessment criteria.

The Issuer Group will provide green project category level disclosure reports annually until the proceeds of the GFTs have been fully allocated, and in the event of any material changes. The descriptions of the eligible Green Projects financed, such as project locations, amount allocated, etc. may be provided when possible.

Lianhe Green considers that the Issuer Group's information disclosure and reporting is Good, which meets the requirements of the assessment criteria.

E. External Reviews

Company Materials

Pre-issuance:

The Issuer Group has engaged Lianhe Green Development Company Limited ("Lianhe Green") to provide a second party opinion on the Green Finance Framework to review and confirm its alignment with the GBP and GLP. Lianhe Green has reviewed the Green Finance Framework and provided its Second Party Opinion. The objective of the Second Party Opinion is to provide investors with an independent assessment. The Second Party Opinion is a statement of opinion, not a statement of fact. No representation or assurance is given by the Issuer, Guarantor and the Joint Lead Managers as to the suitability or reliability of the Second Party Opinion or any opinion or certification of any third party made available in connection with the Bonds issued as Green Bonds. The Second-Party Opinion together with the Green Finance Framework will be published on the Issuer Group's website. Neither the Green Finance Framework nor the Second Party Opinion is incorporated into this Offering Circular

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Post-issuance:

An independent third party may be engaged to review and verify the internal tracking and allocation of funds from the GFTs to Eligible Green Projects, as well as the Eligible Projects expected and actual impact that is disclosed in the Annual Reporting.

Opinion of Lianhe Green

Not Aligned	Aligned	Good	Excellent

The company has engaged Lianhe Green to assess the compliance of this framework with relevant international and domestic standards and to issue a second-party assessment opinion. An independent third party may be engaged to review and verify the internal tracking and allocation of funds from the GFTs to eligible green projects, as well as the eligible projects expected and actual impact that is disclosed in the Issuer Group's annual reporting.

Lianhe Green considers that the Issuer Group's management system for external reviews is Good and meets the requirements of the assessment standards.

Analysis of Environmental Benefits

Eligible Green Project: Energy Efficiency

Environmental Benefits

According to the China Environment News, compared with traditional production lines, production lines equipped with smart meters can undertake 70% more production tasks. The carbon emission for producing a single smart meter is 50.15 kilograms (CO_2 equivalent), which is an 8% carbon reduction compared to traditional production methods. Lianhe Green believes that smart meters, by providing real-time data support, not only promote more efficient use of energy but also significantly reduce greenhouse gas emissions. This plays an important role in optimizing electricity consumption.

In May 2024, the State Council issued the "Energy-saving and Carbon Reduction Action Plan for 2024-2025". The plan proposes that by the end of 2025, the energy-saving rates of residential and public buildings that have been renovated will be increased by 30% and 20% respectively. Lianhe Green believes that upgrading the heating, ventilation, and air conditioning (HVAC) systems to more energy-efficient models can significantly reduce energy usage, which directly translates to lower carbon emissions. This plays a crucial role in optimizing power consumption.

LED lighting consumes less energy than traditional bulbs, lasts longer, and reduces energy consumption and waste. Finally, investing in energy storage technology can store excess energy during times of high energy production and release it during times of peak demand, thereby reducing dependence on fossil fuels, lowering carbon emissions, and boosting the use of renewable energy.

Eligible Green Project: Green Building

Environmental Benefits

Green building is a new type of building that does not destroy the basic ecological balance conditions of the environment during the construction period, and consumes significantly less material and energy than traditional buildings during the operation period, which can also be called sustainable building, ecological building, back to nature building, energy-saving and environmentally friendly building and so on. According to "Tech New Era", green buildings can reduce energy consumption by 30% to 50% compared to traditional buildings.

Compared with ordinary buildings, green buildings can use land resources more efficiently and provide relatively more centralized public service facilities, use a higher proportion of renewable and recyclable materials in the construction process, give fuller consideration to the natural conditions of the site, and set up air-cooling systems according to the principle of natural ventilation, so that the green building can effectively make use of the dominant wind direction in summer; reasonably design the building envelope, using energy-saving lighting and configure corresponding intelligent control systems during operation. Elevators are equipped with high-efficiency transformers, and energy-using equipment can be equipped with variable frequency functions.

According to the "Energy-saving and Carbon Reduction Action Plan for 2024-2025", by the end of 2025, all new urban buildings will fully implement green building standards, with new public institution buildings and new factory buildings aiming for a photovoltaic coverage rate of 50% on rooftops, and the share of renewable energy in urban buildings reaching 8%. Additionally, the construction area of new ultra-low energy consumption buildings and nearly zero energy consumption buildings will increase by more than 20 million square meters compared to 2023.

The relevant technical indicators of buildings that have undergone energy-saving renovation shall meet the relevant national or local requirements for energy conservation and environmentally friendly renovation of existing buildings. Such projects are conducive to reducing energy consumption, saving energy, and alleviating the shortage of energy demand; and can also contribute to sound insulation, dust reduction, and thermal insulation of buildings, thus reducing usage costs, and improving the comfort of the building's indoor environment. Moreover, the green lighting technology used during renovation is also conducive to reducing greenhouse gas emissions, mitigating air pollution and improving environmental quality.

Eligible Green Project: Renewable Energy

Environmental Benefits

The United Nations has pointed out that energy is at the core of climate challenges and is also the key to solving climate issues. Fossil fuels, such as coal, oil, and natural gas, are by far the largest contributors to global climate change, accounting for more than 75% of global greenhouse gas emissions and nearly 90% of all carbon dioxide emissions.

To curb the negative impacts of climate change, we need to end our dependence on fossil fuels and invest in clean, accessible, affordable, sustainable, and reliable alternative energy sources. Photovoltaic power generation is one of the most important channels for achieving clean power generation. Research by the Shenzhen Institute of Sustainable Development shows that compared with conventional coal-fired power stations, a 1MW photovoltaic power station can save 405-630 tons of standard coal per year, reduce 1036-1600 tons of carbon dioxide, 9.7-15.0 tons of sulfur dioxide, and 2.8-4.4 tons of nitrogen oxides. In the field of heating, "China Low-Carbon Power Generation Technology Innovation and Development Report 2023" indicated that solar thermal utilization and geothermal energy utilization have tremendous potential and unique advantages in heating. The coupling of solar or geothermal energy with thermal storage, fossil fuels, or other forms will become the main development model for achieving low-carbon heating in the future.

The International Renewable Energy Agency (IRENA) estimates that by 2030, cheap electricity from renewable sources will provide 65% of the world's total electricity supply, and by 2050, 90% of the world's electricity can and should come from renewable sources. To promote the large-scale, high-proportion, market-oriented, and high-quality development of renewable energy, in September 2023, the National Energy Administration issued the "Notice on Organizing Renewable Energy Development Pilot Demonstrations", which clearly supports the cultivation of new technologies, new models, and new forms of renewable energy through organizing renewable energy pilot demonstrations. It aims to expand the application scenarios of renewable energy, and focuses on promoting technological progress, cost reduction, efficiency improvement, and mechanism perfection of renewable energy to provide strong support for the development of renewable energy and the timely realization of carbon peak and carbon neutrality goals.

Eligible Green Project: Wastewater Management

Environmental Benefits

"Wastewater-Turning Problem to Solution" estimated that the degradation of organic matter during wastewater treatment contributes ~1.57 per cent of global GHG emissions and 5 per cent of global non-carbon dioxide GHG emissions. The United Nations pointed out that 42% of household wastewater is not treated properly, which seriously damages ecosystems and human health. The untapped potential for wastewater reuse is around 320 billion m3/year, with the potential to supply more than 10 times the current global desalination capacity.

Therefore, it is crucial to reduce, recycle, treat, and reuse wastewater. Practices in key industries have shown that the reuse rate of industrial water can reach as high as 97% and 95.2%. During the "13th Five-Year Plan" period, large and medium-sized enterprises in water-intensive industries collectively reduced wastewater discharge by approximately 300 million cubic meters, saving about 21 billion cubic meters of fresh water. Classifying and treating industrial wastewater, recovering useful substances from it, and recycling water within or among enterprises are of significant importance in alleviating China's water scarcity, reducing the production water costs of enterprises, and advancing towards achieving carbon peak and neutrality goals.

In 2021, "Implementation Plan for Industrial Wastewater Recycling" pointed out that, by 2025, the reuse rate of industrial water above designated size will reach about 94%, essentially forming a new pattern of highly efficient wastewater recycling in major water-consuming industries.

Appendix

About Lianhe Green

Lianhe Green Development Company Limited (“Lianhe Green”) was established in 2023 and is a subsidiary of Lianhe Equator Environmental Assessment Co., Ltd. ("Lianhe Equator") and Lianhe Credit Management Co., Ltd. (“Lianhe Group”). Lianhe Equator is the largest green and sustainable bond/loan certification provider in mainland China. As an external reviewer recognised under the Hong Kong Monetary Authority’s Green and Sustainable Finance Grant Scheme, Lianhe Green is headquartered in Hong Kong, mainly responsible for green and sustainable finance certification business in international markets, ESG reporting and consulting, ESG training services, and assist in operating carbon market-related businesses within and outside China.

Lianhe Green aims to become an internationally recognized external verifier for sustainable finance through cooperation with Lianhe Equator's professional and experienced team in this industry. With a goal of "shaping the origin of the earth and sky, and transmitting the civilization of mankind", Lianhe Green is committed to helping Chinese and foreign enterprises demonstrate their determination in sustainable development, and providing investors with independent and objective third-party certification services. It is our mission to leave green and oceans to our future generations.

Scope of Analysis

Lianhe Green was engaged by the Issuer Group to provide an assessment of the company's Green Finance Framework. The assessment is to provide a professional second-party opinion of the compliance of the Green Finance Framework and does not provide any financial indicators or judgement on the investment values of the company’s issuance.

Responsibilities

The Company
The Issuer Group's responsibilities are to accept the interviews from Lianhe Green's analytical team, to provide relevant data and institutional documents for the analysis, and to ensure that the data and institutional documents provided are true and effective.

External Reviewer
Lianhe Green's responsibilities are to collect data and documents provided by the Issuer Group. Lianhe Green will review all important data and documents, and issue conclusions. In addition, Lianhe Green will disclose information collected from the Issuer Group and relevant parties to demonstrate whether its Green Finance Framework meets the relevant requirements of the above standards.

Analytical Process

The main aspects of this assessment include the following:

- Performing a comprehensive review on the persons in charge of the relevant departments to understand the key matters related to the Issuer Group's policies and processes;
- Review the Green Finance Framework developed by the Issuer Group;
- Review relevant disclosure reports;
- Obtain and review appropriate supporting documentation to support key findings.

Solicitation Status

The Second-Party Opinion was solicited and assigned or maintained by Lianhe Green at the request of the company.

Disclaimer

A Lianhe Green SPO is an assessment of the green and sustainable financing frameworks of entities. It is not a credit rating.

Please note that individuals identified in an SPO report are not responsible for the opinions stated therein and are named for contact purposes only. Our report is neither a prospectus nor a substitute for the information assembled, verified and presented to investors by the issuer and its agents in connection with the sale of financial instruments and securities.

Lianhe Green receives compensation from entities and other market participants for conducting this service. None of the aforementioned entities nor its related parties participated in the review process aside from providing information requested by Lianhe Green.

Our assessments are not considered investment advice and they are not and should not be considered as a replacement of any person's own assessment of the ESG factors related to a financial instrument or an entity. Lianhe Green does not represent, warrant or guarantee that our report will fulfill any of your or any other person's particular purposes or needs. Lianhe Green does not recommend the purchase or sale of financial instruments or securities or give investment advice or provide any legal, auditing, accounting, appraisal or actuarial services.

Lianhe Green does not audit or verify the accuracy of the information provided to issuers by any third party for the purpose of issuing this opinion. Lianhe Green does not represent, warrant or guarantee the accuracy, correctness, integrity, completeness or timeliness of any part of our opinion.