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**Zhuzhou City Construction Development Group Co., Ltd.**

株洲市城市建设发展集团有限公司

**Assessment Summary**

CCX Green Finance International Limited (CCXGFI) provided a Second Party Opinion (SPO) on Zhuzhou City Construction Development Group Co., Ltd. Sustainable Finance Framework, assessing its alignment with the GBP2021 (with 2022 Appendix I), SBG2021, GLP2023, SBP2023 and SLP2023, relevance to the Group’s sustainable development strategy, feasibility of achieving environmental and/or social objectives, and effectiveness in managing environmental and/or social risks. CCXGFI regards the rating of Zhuzhou City Construction Development Group Co., Ltd. Sustainable Finance Framework as Sf-2[Good].

**Framework Type**

Sustainability Finance

**Company Location**

Hunan, China

**Date**

Jan 23, 2025

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**Overall Score**

**Alignment**



Green Bond Principles 2021 (with June 2022 Appendix I) Green Loan Principles 2023 Social Bond Principles 2023 Social Loan Principles 2023 Sustainability Bond Guidelines 2021

Sf-3

Sf-1

Sf-2



**Analysts**

**Alignment**

**Ivy Zhang**

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Moderate

Low

High

**Relevance**

**Quality Review**

High

Low

Moderate

**Zoe Li**

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**Feasibility**

High

Low

Moderate

**Risk Management**

Robust

Ineffective

Adequate

* **Scope of work**

**CCXGFI has provided a SPO on Zhuzhou City Construction Development Group Co., Ltd. Sustainable Finance Framework (the “Sustainable Finance Framework” or “Framework”) with reference to the following criteria:**

* The alignment with the following principles (the “Principles”):
* GBP2021: Green Bond Principles 2021 (with June 2022 Appendix I) by ICMA
* SBP2023: Social Bond Principles 2023 by ICMA
* SBG2021: Sustainability Bond Guidelines 2021 by ICMA
* GLP2023: Green Loan Principles 2023 by LMA/APLMA/LSTA
* SLP2023: Social Loan Principles 2023 by LMA/APLMA/LSTA
* The relevance to the Group’s sustainable development strategy
* The feasibility of environmental and/or social objectives
* The effectiveness of environmental and/or social risk management
* **Issuer’s Profile**

Zhuzhou City Construction Development Group Co., Ltd. (the “[8-4]Company”, together with its subsidiaries, the “Group”) was established in June 2003 as the primary platform via which the Zhuzhou Government constructs urban infrastructure, provides public utility services including natural gas, water supply and sewage treatment, undertakes real estate projects, provides public transportation services and manages state-owned assets in Zhuzhou.

In light of the National Environmental Plan for the 14th Five-Year Strategic Plan for environmental protection and improvement, the Group is committed to ensuring that its economic performance will benefit the social and environmental development. Sustainable development is the cornerstone of the Group’s business. Coupled with development strategies and operating models, the Group strives to promote social responsibilities and meet the expectations of stakeholders including the government, industries, employees, business partners, and communities. The Group also aims to accelerate upgrading of Guangzhou, cleanse the environment, and build social civilisation.

Framework Highlight

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| * For Use of Proceeds, the Eligible Green and Social Projects Categories include Green Building, Energy Efficiency, Clean Transportation, Sustainable Water Resources and Sewage Management, Pollution Prevention and Control, Terrestrial and Aquatic Biodiversity, and Affordable Basic Infrastructure . * For Project Evaluation and Selection, the Group has set up a reasonable process and built a well-established control structure with different business departments. * For Management of Proceeds, the Group will maintain a register to keep track of the use of proceeds. The net proceeds will be reallocated to the eligible replacement projects if the designated projects cease to fulfil the criteria. Also, the unallocated proceeds will be temporarily held on short term time deposits. * For Reporting, the Group is committed to reporting the allocation of net proceeds at least annually until they are fully allocated or if there is a change of allocation during the outstanding period of the sustainable financing instruments (“SFIs”). |
| **Relevant UN Sustainable Development Goals (SDGs):** |
| Alt Text-Alt Text-Alt Text-Alt Text-Alt Text- |

* **Alignment with the Principles**

CCXGFI is of the opinion that the Sustainability Finance Framework is credible and impactful and aligns with the four core components of the GBP2021 (with June 2022 Appendix I), SBP2023, SBG2021, GLP2023 and SLP2023

* **Use of Proceeds**

CCXGFI’s Opinion

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| * CCXGFI has reviewed the Group’s Framework and evaluated the proposed use of proceeds. * The investments in eligible categories are anticipated to deliver significant social benefits while contributing to the achievement of several UN Sustainable Development Goals, specifically SDGs 3, 6, 9, 11 and 12. Additionally, the Group has identified a list of excluded project types based on the International Finance Corporation’s exclusion list and selected the most pertinent criteria relevant to its operational circumstances and business priorities. * CCXGFI is of the opinion that the use of proceeds is clearly defined and in good alignment with the relevant requirement of the GBP2021 (with June 2022 Appendix I), GLP2023, SBP2023, SLP2023 and SBG2021. |

The Framework sets out how the Group intends to issue SFIs. The Group will exclusively allocate an amount at least equivalent to the net proceeds of Sustainability Financing Transactions (“SFTs”) issued under this framework to finance or refinance, in whole or in part, new or existing projects which meet the eligibility criteria of the following eligible green and social projects categories, as defined in the Project Category table.

The Group expects each issuance under this framework to be fully allocated within 36 months from the date of issuance, and on a best-efforts basis. A maximum of 36 months look-back period would apply for refinanced projects. The proportion of financing and refinancing for the eligible green and social projects will be disclosed in the Group’s allocation report.

The following table summarizes the alignment of the Framework with the Principles’ requirements, detailing the factual findings for each requirement and confirming their alignment.

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| **Principles Requirement** | **Factual Finding** | **Alignment** |
| All designated eligible green/social projects should provide clear environmental or social benefits, which should be assessed and quantified when possible. | Eligible projects listed in the Framework have clear benefits; quantitative data will be disclosed when available. | ü |
| If proceeds are used for refinancing, it is recommended that issuers/borrowers provide an estimate of the financing vs. refinancing share and clarify which projects may be refinanced, including any look-back period. | The net use of proceeds will exclusively finance and/or refinance, in part or in full, projects under the listed categories with a look-back period of no longer than 36 months from the time of issuance, and the Group will provide an estimate of the share of financing vs. refinancing . | ü |
| Green Projects should contribute to environmental objectives recognised by GBP/GLP, and Social Projects should address or mitigate social issues and/or seek to achieve positive outcomes including for, but not limited to, a target population(s) recognised by SBP/SLP. | The eligible green projects listed in the Framework all contribute to environmental objectives in GBP/GLP; the eligible social projects listed in the Framework all contribute to addressing or mitigating a specific social issue and seek to achieve positive social outcomes. | ü |

After CCXGFI’s assessment of the Framework, the following table outlines the technical screening criteria of the eligible projects under each project category, the identified project objectives, and alignment with relevant principles. To enhance robustness, CCXGFI also assessed alignment with the Green Bond Endorsed Projects Catalogue (2021) (GBEPC) as part of the screening process. For details on the GBEPC catalogue and the Framework’s eligible projects, please refer to Appendix II.

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| **Green Project Category** | **Eligible Projects Technical Screening Criteria** | **Identified Objective** | **Alignment** |
| **Green Building and Energy Efficiency**  Alt Text  Alt Text | * Development, construction, refurbishment, maintenance, operations of buildings (including the factories) that meet following regional, national or internationally recognised * standards for environmental performance (such as “PRC Green Building Evaluation Standard - GB/T50378-2019” or “Evaluation standard for green industrial building - GB50878-2013”, “Design Standard for Energy Conservation of Public Buildings - GB50189-2015”); or * certifications for environmental performance (such as “Chinese Green Building Evaluation Standard: basic or above”, or other similar recognised standards) * Location: The location of the project will be approved by the planning department authority in accordance with national laws and regulations to avoid construction in protected areas * In order to offset negative impacts on environment, the Group will adopt the following measures * Use permeable ground. It can enhance the water permeability of the ground and reduce the heat island effect * Control light pollution. Avoid large glass curtain walls * Adopt high-efficiency light source and lighting intelligent system to achieve the purpose of energy saving * Adopt water-saving irrigation and water-saving appliances, and use simple decorative components to save material resources * Sound insulation and noise reduction. For buildings adjacent to major traffic roads, effective sound insulation and noise reduction measures should be taken.In terms of the refurbishment of existing properties, the company shall get a 5% of energy reduction | * Climate change mitigation | * GBP2021 GLP2023 GBEPC2021 – 1.2.1.1 |
| **Clean Transportation**  Alt Text | * Technology research &amp; development and preliminary planning * Research costs associated with but not limited to surveying, planning and assessing site suitability, for the purpose of developing clean transportation solutions/projects listed below * With considerable research and comprehensive preliminary &nbsp;planning, the [8-1]Company can achieve better performance on its green projects and therefore create a profound impact on clean transport as well as the decrease of carbon dioxide emissions * For research-related projects, progress and completion levels need to be disclosed to the project working group annually. The completion level of preliminary preparation work for an eligible research project shall not be less than 10% of the total project workload * Construction and renovation of infrastructure facilities such as public transport bases (including charging areas) * As one of the important infrastructure support facilities for public transport, the public transport base is a necessary condition for the smooth operation of urban public transport and is the place where public transport vehicles are repaired, maintained, and stopped * The [8-2]Company will use environmentally friendly materials and technologies to complete the new construction or renovation of the station, including investment in interior modernisation, ventilation, water, fire, lighting, waste management, etc. * Purchase and maintenance of new energy buses * To purchase new energy buses and related supporting facilities in order to achieve the goal of ”comprehensive replacement to new energy buses“ set by the Hunan Province New Energy Bus Implementation Plan * Maintain new energy buses to improve service levels or extend asset life and retain passenger capacity * New energy buses will not involve projects or assets that use or produce fossil fuels, diesel or nuclear energy | * Climate change mitigation | * GBP2021 GLP2023 GBEPC2021 – 5.5.1.5 * GBEPC2021 – 6.1.1.3 |
| **Sustainable Water Resources and Sewage Management**  Alt Text | * New construction and renovation of waterworks * In order to improve the water quality of the residents and ensure the water safety of the residents, develop new water plants or upgrade the existing water plants * Water supply infrastructure such as laying and renovation of water pipe network * Lay pipe network to provide user a safe and stable water environment * Zhuzhou Water Limited Liability [8-3]Company organises regular inspections, maintenance and management of water supply pipelines and ancillary facilities to ensure safe water supply * Construction and maintenance of sewage treatment stations, supporting facilities and sewage collection pipes * The treated sewage will meet the relevant national discharge standards Pollutant Discharge Standards for Urban Sewage Treatment Plants (GB18918-2002) * The domestic sewage from the discharge outlet is collected and sent to the sewage treatment plant for treatment by using the intercepting trunk pipe | * Pollution prevention and control * Natural resource conservation | * GBP2021 GLP2023 * GBEPC2021 – 1.3.1.1 * GBEPC2021 – 1.5.3.3 * GBEPC2021 – 5.3.1.1 |
| **Pollution Prevention and Control, and Terrestrial and Aquatic Biodiversity**  Alt Text  Alt Text | * Endogenous water management project * Clean up the silt and floating rubbish in relevant water areas * Additionally, the comprehensive treatment activities for urban black and odorous water bodies, such as sewage treatment, construction and technical renovation of sewage pipes and channels, renovation of sewage outlets, construction and renovation of sewage interception systems, internal source treatment and other treatment activities * The water quality after treatment complies with technical specifications and management such as the ”Guidelines for the Remediation of Urban Black and Odorous Water Bodies“ (published in 2015), ”Remediation of Urban Black and Odorous Water Bodies - Technical Guidelines for the Treatment of Drainage Outlets, Pipelines and Inspection Wells“ (published in 2016) Documentation requirements * Ecological restoration project * Plant aquatic plants to create an ecological and rich natural revetment landscape, which, at the same time, plays a role in purifying water bodies | * Pollution prevention and control * Biodiversity conservation * Natural resource conservation | * GBP2021 GLP2023 * GBEPC2021 – 1.3.2.3 * GBEPC2021 – 5.4.2.5 |

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| **Social Project Category** | **Eligible Projects Technical Screening Criteria** | **Identified Objective** | **Alignment** |
| **Affordable Basic Infrastructure**  Alt Text | * the construction of supporting affordable infrastructure (such as water supply, power supply, heating, roads, communications, etc.) to improve the mobility and living conditions of the middle-to-low-income residents * Construction of roads connecting urban areas and villages * Target group: residents in backward and remote areas where (1) without road links the village to the city at present; or (2) with weak and backward infrastructure * It will improve the traffic conditions in the surrounding areas, facilitate the input and output of production materials, improve the investment environment in the project area, and promote the development and utilisation of land along the project and industrial upgrading * It brings convenience to the travel of residents and enterprise employees along the line, and provides great convenience for people’s lives | * Provide safe and reliable 【XXX】 * Develop and maintain accessible 【XXX】 | * SBP2023 * SLP2023 * SDGs 9.1 |

**In any case, this Framework will exclude the following activities from consideration for eligibility:**

* Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone-depleting substances, polychlorinated biphenyls (PCBs), wildlife or products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
* Production or trade in weapons and munitions.
* Production or trade in alcoholic beverages (excluding beer and wine).
* Production or trade in tobacco.
* Gambling, casinos, and equivalent enterprises.
* Production or trade in radioactive materials. This does not apply to the purchase of medical equipment, quality control (measurement) equipment and any equipment where any international financial company considers the radioactive source to be trivial and/or adequately shielded.
* Production or trade in unbonded asbestos fibres. This does not apply to the purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20 per cent.
* Drift net fishing in the marine environment using nets over 2.5 kilometres in length.
* Production or activities involving harmful or exploitative forms of forced labour/harmful child labour.
* Commercial logging operations for use in primary tropical forest.
* Production or trade in wood or other forestry products other than from sustainably managed forests.
* **Process for Project Evaluation and Selection**

CCXGFI’s Opinion

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| * CCXGFI has reviewed the Group’s Framework and examined the governance and process for the evaluation and selection of the Eligible Projects. * The Group has built a well-established control structure with different business departments and set up a reasonable process for project evaluation and selection. * CCXGFI is of the opinion that the process is formalised and reasonably structured, transparent, relevant and aligned with this component of the GBP2021 (with June 2022 Appendix I), GLP2023, SBP2023, SLP2023 and SBG2021. |

The Sustainability Project Working Group (“SPWG”) consists of members from various functions, including the Comprehensive Management Department, Financing Department, Project Management Department, Strategic Planning and Capital Operations Department and Audit and Legal Department.

The SPWG meets at least every 12 months. Its responsibilities include selecting eligible sustainable projects (“ESPs”) according to the Framework’s Eligibility Criteria and ensuring compliance with environmental guidelines and standards. Additionally, SPWG manages updates to the Framework and oversees the allocation of proceeds to ESPs.

**The Framework builds a reasonable process for project evaluation and selection, including:**

1. Discuss and select ESPs according to the Eligibility Criteria defined in section 2 of the Framework
2. Assess each project based on the relevant feasibility report. The shortlisted projects will be presented to the Group’s board of directors for approval.
3. After receiving the assessment and approval from the Group’s board of directors, the selected projects will become ESPs
4. Ensure that each ESP complies not only with the Use of Proceeds section of the Framework, but also the environmental guidelines applicable to the Group and all applicable national and international environmental standards and local laws and regulations
5. Managing any future updates of the Framework, including any expansion of requirements of the use of proceeds

* **Management of Proceeds**

CCXGFI’s Opinion

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| * CCXGFI has reviewed the Group’s Sustainable Finance Framework and the Group’s policies on management of proceeds. * The Group has clearly defined the rules for the management of proceeds. CCXGFI is of the opinion that they would make a traceable and transparent allocation process which matches the requirements of the GBP2021 (with June 2022 Appendix I), GLP2023, SBP2023, SLP2023 and SBG2021. * It is recommended that if applicable, the Group could establish a special account instead of depositing proceeds in the general funding accounts and consider engaging external agencies to oversee the management of these funds, thereby showing a stronger signal about the Group’s commitment to sustainability. |

The Group intends to allocate an amount equal to the net proceeds of the SFTs over time to finance or refinance the eligible green and social projects, with each transaction’s proceeds deposited into general funding accounts and designated towards these projects.

**The use of proceeds will be maintained in a Sustainability Finance Register, containing following information:**

* Type of Funding Transaction
* Key information includes Group/borrower entity, transaction date, tranche(s) information, the principal amount of proceeds, repayment or amortisation 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 ESPs to which the proceeds of the SFT have been allocated in accordance with the Framework
* Amount and date of SFT proceeds allocated to each ESP
* The remaining balance of unallocated proceeds is yet to be earmarked for ESPs
* Other relevant information such as information in relation to temporary investment for unallocated proceeds (the investment amount and investment type)

Any balance of issuance proceeds which are not yet allocated to eligible green and social projects will be held for short term time deposits, and the Group commits not to invest such unallocated net proceeds to the projects which are subject to exclusions criteria under this Framework.

During the life of the SFIs issued, if the designated projects cease to fulfil the eligibility criteria, the net proceeds will be reallocated to replacement projects that comply with the eligibility criteria as soon as reasonably practicable.

* **Reporting**

CCXGFI’s Opinion

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| * CCXGFI has reviewed the Group’s Framework and examined the reporting mechanism. * The Group is committed to reporting the allocation of net proceeds at least annually until full allocation of the net proceeds of any SFI issued, or if there is a material developments during the outstanding period of the SFI and disclosing the impact of financed projects through quantitative indicators defined by ICMA’s handbook where possible. * CCXGFI is of the opinion that the report disclosure under the Framework aligns with the GBP2021 (with June 2022 Appendix I), GLP2023, SBP2023, SLP2023 and SBG2021. CCXGFI recommends the Group keep reporting until maturity if it is possible. |

The Group is committed to providing an allocation report on its eligible green and social projects annually with updates continuing until full allocation of the net proceeds. The impact report associated with the Eligible Projects will be disclosed on an annual basis and subject to data availability.

The **Allocation Report** will include the following information where applicable:

* the proportion of net proceeds allocated to financing vs. refinancing
* the proportion of net proceeds allocated to the sustainable project categories covered by the Framework
* the balance of the unallocated proceeds from each SFT and temporary placement thereof

The **Impact Report** will cover the environmental and social benefits arising from the eligible projects where available, taking reference from the relevant indicators suggested in ICMA’s “Handbook – Harmonized Framework for Impact Reporting (2024)” and “Harmonized Framework for Impact Reporting for Social Bonds (2024)”. For the detailed indicators to be disclosed in the impact report, please refer to Appendix IV.

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| **CCXGFI is of the opinion that the Framework is moderately aligned with the four core components of the Principles.** |

* **Relevance to Group’s Sustainable Development Strategy**

Zhuzhou, located in the Hunan province of China, is strategically positioned as a key hub for industrial development, contributing significantly to the region’s economic growth. The urban infrastructure industry in China is currently undergoing rapid transformation, driven by government initiatives aimed at enhancing urbanization and sustainable city development. The Group has integrated sustainable development as a core component of its strategic framework, aligning with the national policies outlined in China’s 14th Five-Year Plan which emphasize environmental sustainability and social responsibility. The Group’s committment to financing eligible sustainable projects, focusing on green buildings, energy efficiency and water resource management, etc., and its initiatives, such as the development of green infrastructure and sustainable water management projects, demonstrate a high level of alignment with China’s environmental protection standards and sustainable development objectives. These efforts underscore the Group’s dedication to contributing towards the broader goals of reducing carbon emissions and promoting social well-being, thereby ensuring consistency with regional and national sustainability policies.

The Group defines Green Building, Energy Efficiency, Clean Transportation, Sustainable Water Resources and Sewage Management, Pollution Prevention and Control, Terrestrial and Aquatic Biodiversity, and Affordable Basic Infrastructure as eligible green and social project categories. Furthermore, the SFIs issued under the Sustainable Finance Framework contribute to the 5 SDGs, systematically advancing the Group. In particular, the eligible projects are closely related to the Group’s major business activities, and at the same time, the Group’s current development provides overall guidance for the establishment of the Framework. Hence, the outlined Framework is expected to be consistent with Group’s future development, indicating to long run sustainability.

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| **CCXGFI is of the opinion that the Framework is of high relevance with the overall sustainability strategy and initiatives of the Group.** |

* **Feasibility of Environmental and/or Social Objective**

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| **Green Building** |  |
| * In China, the Green Building sector plays a pivotal role in the pursuit of national carbon neutrality goal, given that buildings are substantial contributors to both energy consumption and greenhouse gas emissions. The Group’s Green Building initiative aligns with the objectives of the 14th Five-Year Plan, which emphasizes the advancement of low-carbon technologies and energy efficiency to achieve carbon peaking by 2030 and carbon neutrality by 2060. Green buildings play a critical role in reducing carbon emissions and promoting ecological civilization, supporting national sustainability goals. * The Green Building projects under the Framework is anticipated to yield significant environmental benefits by enhancing energy efficiency and reducing carbon emissions in building operations. This initiative supports the large-scale development of low-energy and low-carbon buildings, thereby contributing to energy conservation and minimizing environmental impact. The adoption of high-efficiency light source and lighting intelligent system, the use of permeable ground, and controlling on light pollution are expected to lead to a reduction in resource usage and waste generation, aligning with national green development strategies. Such measures not only facilitate the mitigation of climate change but also improve indoor environmental quality, fostering the sustainable development of urban areas and aligning with both national and international sustainability objectives. * By integrating renewable energy technologies, these projects can enhance the energy performance of buildings and contribute to renewable energy targets. The alignment with national policies and technological advancements in green construction further enhance these projects’ potential to fullfil environmental objectives, making it a viable component of the Group’s sustainability strategy. | Alt Text |
| **Energy Efficiency** |  |
| * Energy efficiency in China plays a critical role, especially in sectors that are notably characterized by high levels of energy consumption and significant greenhouse gas emissions. The Group’s efforts on energy efficiency aligns well with the national 14th Five-Year Plan, which underscores the importance of energy-saving technologies to enhance environmental and economic outcomes. And the Energy Efficiency projects under this Framework support China’s commitment to reducing carbon emissions and fostering a green economy. * The current benefits and expected outcomes of the Group’s energy efficiency projects include improvements in energy management and the adoption of advanced international efficiency standards. These projects are designed to enhance resource use efficiency and contribute to a reduction in carbon emissions, thus playing a critical role in the Group’s strategy to promote sustainable development. The Group’s initiatives are anticipated to lead to significant energy savings, particularly through the refurbishment of existing buildings and the adoption of energy-efficient technologies. * The feasibility of achieving environmental goals through energy efficiency projects is backed by China’s comprehensive policy framework and strategic initiatives. These projects are feasible due to the alignment with national policies that promote energy conservation and the careful planning undertaken by the Group to ensure they meet stringent environmental standards. The focus on integrating renewable energy sources and reducing reliance on fossil fuels further supports the viability of these projects to meet environmental objectives. | Alt Text |
| **Clean Transportation** |  |
| * Clean transportation is a significant component of China’s national policy, particularly within the framework of the 14th Five-Year Plan, which underscores the importance of reducing carbon emissions and promoting sustainable development by transitioning to cleaner, more efficient transportation systems. The Group’s Clean Transportation projects align well with national policies, promoting sustainable transportation by focusing on the development of new energy public transportation systems, such as electric buses and supporting infrastructure. These projects aims to accelerate the transition to sustainable transportation solutions, thus aligning the Group’s objectives with national and regional sustainability goals. * The Clean Transportation projects are expected to yield substantial environmental and social benefits. By focusing on the development and implementation of new energy buses and supporting infrastructure, these projects not only contribute to reducing carbon emissions but also enhance urban air quality and energy efficiency. And the investment in public transport infrastructure is also crucial for the efficient operation and maintenance of such vehicles. These efforts are expected to enhance service quality, extend asset life, and maintain passenger capacity, contributing to overall urban sustainability. * The feasibility of achieving the Group’s environmental objectives through the Clean Transportation projects appears promising. These projects align with both national and regional policies, which provides a supportive regulatory environment; and the focus on new energy buses, coupled with infrastructure improvements, highlights a strategic approach to sustainability. The Group’s Sustainable Financing Framework ensures that financial resources are efficiently allocated to Clean Transportation projects to maximize environmental impact. Given this strategic alignment and resource allocation, the projects’ potential to contribute to the Group’s environmental objectives is substantial. | Alt Text |
| **Sustainable Water Resources and Sewage Management** |  |
| * The Sustainable Water and Wastewater Management projects aligns closely with the environmental goals outlined in China’s 14th Five-Year Plan, emphasizing the importance of pollution prevention, resource conservation, and sustainable urban development as fundamental components of national policy. These projects are critical for sustainable development as they support these national objectives by improving water quality and availability, which is essential for public health and environmental protection. Furthermore, the initiatives focus on sustainable practices and are in line with China’s commitment to reducing its carbon footprint and ensuring long-term ecological balance. * The Sustainable Water and Wastewater Management projects are designed to bring significant environmental benefits, including improved water quality and reduced pollution levels in urban and rural areas. By implementing advanced technologies and upgrading existing infrastructures such as sewage treatment and water supply systems, these projects aims to enhance water conservation and promote the use of recycled water. This leads to a reduction in water consumption and supports the broader environmental objectives of pollution prevention and control. Such initiatives are expected to foster a more sustainable urban environment, facilitating the safe and efficient management of water resources. * These projects’ alignment with national policies and their integration of advanced technologies suggest a robust capacity to meet set objectives, such as pollution reduction and resource conservation. The incorporation of innovative water management practices and compliance with environmental standards also underscore the viability of these projects to effectively achieve the Group’s environmental and social objectives. | Alt Text |
| **Pollution Prevention and Control** |  |
| * In the realm of environmental remediation and regulation within China, the nation is confronted with substantial challenges, particularly in urban sewage management and industrial waste disposal, which are pivotal elements in the quest to achieve environmental sustainability targets. The treatment and recycling of urban and rural household wastewater and the deployment of comprehensive water pollution prevention technologies, have been recognized as essential in mitigating the adverse environmental impacts associated with industrial activities. Pollution prevention and control is integral to advancing sustainable development as outlined in China’s 14th Five-Year Plan. The Group’s Pollution Prevention and Control projects highlight the necessiy of integrating sustainable practices in urban development, thereby promoting a balance between economic growth and environmental preservation. * The Pollution Prevention and Control projects, as part of the Group’s Sustainable Financing Framework, align with the goals of reducing environmental impact and enhancing sustainability. These projects encompass initiatives such as the construction and maintenance of sewage treatment facilities, development of water supply infrastructure. The sewage treatment facilities are designed to meet national discharge standards, and the water infrastructure projects involve the laying and renovation of water pipes to ensure a stable supply of safe water. Pollution Prevention and Control projects are expected to yield substantial environmental benefits. The enhancement of sewage treatment capabilities and water supply infrastructure will significantly improve water quality, reduce pollution, and ensure safe drinking water access. These initiatives not only contribute to controlling pollution but also creating resilient ecosystems that support sustainable urban growth and development. * The Group’s Pollution Prevention and Control projects are structured to meet the rigorous standards set forth by national environmental guidelines, which are not only feasible but essential for fulfilling its environmental objectives. | Alt Text |
| **Terrestrial and Aquatic Biodiversity** |  |
| * China emphasizes the sustainable management of terrestrial and aquatic ecosystems, aiming to enhance the conservation and sustainable use of natural resources. The Group’s Terrestrial and Aquatic Biodiversity Conservation projects align closely with national policies through their focus on sustainable development and environmental protection. These projects are structured to support the protection of biodiversity, echoing the national strategy of integrating ecological preservation into economic growth plans. These initiatives help in maintaining ecological balance and contribute towards China’s goals of reducing environmental impact and enhancing biodiversity through sustainable practices. * The Terrestrial and Aquatic Biodiversity Conservation projects focus on preserving and restoring natural ecosystems to ensure the sustainability of terrestrial and aquatic environments, aiming to secure ecosystem services that are vital for human well-being and sustainable development. These projects facilitate ecological restoration by planting aquatic plants and cleaning water bodies, enriching natural habitats and promotes ecological balance. The environmental benefits derived from these projects are manifold. For instance, they contribute to the reduction of biodiversity loss, which is crucial for maintaining ecosystem resilience and function. Additionally, these projects aid in the mitigation of climate change and also enhance the protection of species at risk of extinction, thus preserving genetic diversity which is vital for adaptation to environmental changes. In the long term, these efforts ultimately contribute to the socio-economic development of communities dependent on these ecosystems. * The Terrestrial and Aquatic Biodiversity Conservation projects under this Framework are feasible in achieving the Group’s environmental goals. These projects encompass the protection and restoration of natural landscapes, including coastal and watershed environments, which are essential for maintaining biodiversity and ecological balance. By implementing these projects, the Group can effectively contribute to biodiversity conservation, reduce environmental degradation, and promote ecological sustainability. | Alt Text |
| **Affordable Basic Infrastructure** |  |
| * The Group operates within the urban infrastructure sector and serves as a major platform for the Zhuzhou government to construct urban infrastructure. By integrating sustainable development principles into its business model, the Group aims to enhance both social and environmental outcomes alongside economic performance. China’s national strategy includes significant emphasis on developing [12-1]affordable basic infrastructure to support socioeconomic development. These policies are particularly focused on enhancing infrastructure in underdeveloped and rural areas, facilitating equitable access to essential services, and supporting economic growth. The Affordable Basic Infrastructure projects under this Framework closely aligns with national policies and thses initiatives support China’s strategic goals to enhance infrastructure in less developed regions, thereby promoting equitable access to essential services. * The implementation of Affordable Basic Infrastructure projects is anticipated to yield substantial social benefits. These projects primarily focus on constructing and enhancing essential infrastructure such as water supply, power, heating, roads, and communications, aiming to improve the living conditions of middle-to-low-income residents, particularly in underdeveloped and remote areas where infrastructure is lacking or inadequate. The improved infrastructure facilitates increased mobility and connectivity for residents, which is crucial for better access to employment, healthcare, and education. Moreover, by promoting equitable access to essential services, these projects aim to reduce socioeconomic disparities, fostering inclusive growth. The infrastructure improvements also enhance the investment climate, stimulating local economic activities and facilitating industrial growth and land development, ultimately leading to sustainable community development and increased resilience to economic and environmental challenges. * Affordable Basic Infrastructure projects are essential for achieving the social objectives outlined  by the Group. The feasibility of these projects is supported by the Group’s robust financial framework, ensuring that investments are directed efficiently towards sustainable outcomes, thereby fostering inclusive community development and economic vitality. | Alt Text |

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| **CCXGFI is of the opinion that the expected environmental and/or social objectives are moderately feasible.** |

* **Effectiveness of Environmental and/or Social Risk Management**

**Process for Environmental and/or Social Risk Management**

The Group has adopted environmental and social risk management measures to ensure compliance with national laws and regulations on sustainable development governing air and gas pollution, noise emissions, hazardous substances, water and waste discharge, etc.

As the basis for investment decision-making, feasibility study report is a necessary requirement in project investment and is usually conducted by the third-party agent or professional consultant team in the evaluation and selection process. Based on the feasibility reports, the Group can identify and assess the environmental risks or social risks related to the eligible projects.

The environmental and social assessments will be conducted before the investment of each operation project to help the Group identify and manage the sustainability-related risks. It is recommended that the Group continuously monitors for significant environmental and/or social risks throughout the construction and operational process of the financed projects in addition to checking feasibility study reports.

**Environmental and/or Social Risk Identification**

***Environmental Risk***

The eligible projects included in the Framework are mainly realized through the construction of infrastructure programs. Generally, the Group has identified potential negative environmental impacts during both the construction and operation process, including water pollution, solid wastes, dust and noise.

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| --- | --- | --- | --- | --- |
|  | **Water** | **Wastes** | **Noise** | **Air** |
| **Construction Process** | * Production wastewater * Domestic sewage | * Construction waste * Workers’ household waste | * Construction Machine | * Dust from land levelling, excavation, transportation, and the accumulation of soil |
| **Operation Process** | * Domestic sewage | * Household waste | * Machine Transportation | * Exhaust emissions * Dust from transportation |

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| --- | --- |
|  | **Project-specific Impact** |
| **Pollution Prevention and Control** | * xxx |
| **Terrestrial and Aquatic Biodiversity** | * xxx |

The Group has committed to controlling the environmental risks by doing environmental impact assessments and taking measures according to expert recommendations for each project.

***Social Risk***

Social risks related to mentioned eligible projects are expected to remain at a low level. In particular, the eligible projects would neither have negative impacts on cultures, living habits, employment nor the income of surrounding people. The eligible projects are expected to enhance the quality of the living environment for residents and promote sustainable community development.

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| **CCXGFI is of the opinion that Group’s environmental and/or social risk management is adequate.** |

**Appendix**

**I – About CCXGFI**

CCX [13-1]Green Finance International Limited (CCXGFI) is a third-party service organization under China Chengxin International Credit Rating Co., Ltd. (CCXI) that specializes in green and sustainable finance-related businesses and focuses on business development in Hong Kong and overseas regions.

In June 2023, CCXGFI was the first to obtain the external review qualification of the Hong Kong Monetary Authority’s Green and Sustainable Finance Funding Program. The services currently provided by CCXGFI include green bond and green loan assessment and certification services, green financial services for financial institutions, comprehensive green financial development services for local governments, ESG reports, ESG ratings and data services.

**II – Associations and standards**

The following outlines the associations and standards applied in the assessment process. To enhance robustness, CCXGFI also incorporated the Green Bond Endorsed Projects Catalogue (2021) (GBEPC), listed below, as part of the screening process.

|  |  |
| --- | --- |
| **Association** | **Standard** |
| * **ICMA -** International Capital Market Association | * Green Bond Principles (GBP) 2021 (with June 2022 Appendix I) * Social Bond Principles (SBP) 2023 * Sustainability Bond Guidelines (SBG) 2021 |
| * **LMA -** Loan Market Association * **LSTA -** Loan Syndications and Trading Association * **APLMA -** Asia Pacific Loan Market Association | * Social Loan Principles (SLP) 2023 * Green Loan Principles (GLP) 2023 |
| * **PBOC -** People’s Bank of China * **NDRC -** National Development and Reform Commission * **CSRC -** China Securities Regulatory Commission | * Green Bond Endorsed Projects Catalogue (GBEPC) (2021) |

|  |  |
| --- | --- |
| **Catalogue** | **Program** |
| * **GBEPC2021-1.2.1.1** | * Manufacturing of Green Building Materials |
| * **GBEPC2021-1.3.1.1** | * Equipment Manufacturing for Water Pollution Prevention and Control |
| * **GBEPC2021-1.3.2.3** | * Remediation and Treatment of Urban Black and Malodorous Water |
| * **GBEPC2021-1.5.3.3** | * Not Found |
| * **GBEPC2021-5.3.1.1** | * Construction and Operation of Facilities for Sewage Treatment, Recycling, and Sludge Treatment and Disposal |
| * **GBEPC2021-5.4.2.5** | * Restoration of the Natural Ecology of Urban Water Bodies |
| * **GBEPC2021-5.5.1.5** | * Construction and Operation of Public Transportation System in Urban and Rural Areas |
| * **GBEPC2021-6.1.1.3** | * Technical Consultancy for Green Industry Projects |
| * **SDGs 9.1** | * Develop quality, reliable, sustainable, and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all |

**III – Methodology**

CCXGFI offers pertinent and forward-thinking environmental, social, and governance (ESG) data, performance assessments and the CCXGFI Green Bond Evaluation Methodology.

The organization establishes a comprehensive indicator system using the Analytic Hierarchy Process (AHP), which encompasses 4 first-level indicators, 9 second-level indicators, 18 third-level indicators, and 33 fourth-level indicators. A judgment matrix is constructed using this method to compare and rank each indicator based on its importance. The single ranking weight is then calculated for each indicator at every level. Subsequently, the total ranking weight is determined by multiplying the single ranking weight by the weight of the previous factor. Finally, the sustainable finance framework’s comprehensive score is obtained by scoring each indicator and multiplying it by the total ranking weight of each indicator.

Analysts employing the scoring methodology, assign an overall score to the sustainable finance Framework and, when compared with the criteria of the CCXGFI Sustainability Assessment, furnish descriptions for one of the subsequent three rating levels.

|  |  |
| --- | --- |
| **Level** | **Standard** |
| **Sf-1**  **Excellent** | * The four core components of the Framework present **high** level of alignment with the Principles * The relevance of the Framework to Group’s sustainable development strategy is **high** * The feasibility of environmental and/or social objectives is **high** * The environmental and/or social risk management is **robust** |
| **Sf-2**  **Good** | * The four core components of the Framework present **moderate** level of alignment with the Principles * The relevance of the Framework to Group’s sustainable development strategy is **moderate** * The feasibility of environmental and/or social objectives is **moderate** * The environmental and/or social risk management is **adequate** |
| **Sf-3**  **Weak** | * The four core components of the Framework present **low** level of alignment with the Principles * The relevance of the Framework to Group’s sustainable development strategy is **low** * The feasibility of environmental and/or social objectives is **low** * The environmental and/or social risk management is **ineffective** |

For more information, please visit: [*https://www.ccxgfi.com/*](https://www.ccxgfi.com/)

**IV – Summary of Eligible Categories’ Details**

* Reporting indicators of impact report

|  |  |
| --- | --- |
| **Project Category** | **Impact Indicator** |
| **Green Building and Energy Efficiency** | * Level of certification by building * Approval of the green building construction plan issued by local authorities * The amount of green building constructed * The area of water-saving irrigation and water-saving appliances (square metres) * The area of permeable ground (square metres) * Energy reduction % (including the water and electronic) |
| **Clean Transportation** | * Number of new energy bus operating lines (pieces) * Total length of new energy bus operating lines (km) * Proportion of new energy buses among its total buses * Number of passengers on new energy bus services * Annual greenhouse gas (GHG) emission reductions (in tons of carbon dioxide per year) |
| **Sustainable Water Resources** | * Water supply network (more than 100mm in diameter) (km) * Annual water production (10,000 tons) * Number of tap water users (households) * Sewage treatment volume (10,000 tons/day) * Sewage treatment rate (%) |
| **Pollution Prevention and Control, and Terrestrial and Aquatic Biodiversity** | * Cleaned up water area (square kilometres) * Ecological restoration area (square kilometres) |
| **Affordable Basic Infrastructure** | * The length of the road constructed (km) * Water supply network (km) * Renovation area of the remote village (square meters) * Number of target people benefited |

In preparing this Second Party Opinion, CCX Green Finance International Limited (CCXGFI) has complied with applicable laws, relevant regulations, and internal rules. It has also observed internal workflows and operating standards, fulfilling its duties related to due diligence and integrity. As a result, CCXGFI considers the Opinion to be independently produced, objective, and unbiased.

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