



Fujian Zhanglong Group Co., Ltd.

Second-Party Opinion | Green and Blue Finance Framework

Framework Type Green and Blue

Analytical Standards

- Green Bond Principles (GBP) (June 2021 Edition)
- Green Loan Principles (GLP) (February 2023 Edition)
- United Nations Sustainable
 Development Goals (SDGs)
- » Green Bond Endorsed Projects Catalogue (2021 Edition)
- » Blue Finance Guideline (January 2022 Edition)
- » Guide for Bonds to Finance The Sustainable Blue Economy (September 2023 Edition)

Industry

Local Investment and Development Companies

Country/Region China

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Summary

Lianhe Green has reviewed a series of documents including the "Green and Blue Finance Framework of Fujian Zhanglong Group Co., Ltd.", and in conjunction with due diligence, assessed Zhanglong Group's relevant work in respect of the use of proceeds, project evaluation and selection process, management of proceeds, reporting, and external review. Lianhe Green considers that the Framework is in compliance with the *Green Loan Principles* (GLP) (February 2023 Edition), Green Bond Principles (GBP) (June 2021 Edition) and Blue Finance Guideline (January 2022 Edition). In addition, the eligible green projects in this Framework are in line with the Green Bond Endorsed Projects Catalogue (2021 Edition), Green Loan Principles (GLP) (February 2023 Edition), Green Bond Principles (GBP) (June 2021 Edition), the United Nations Sustainable Development Goals (SDGs); the eligible blue projects in this Framework are in line with the Green Bond Endorsed Projects Catalogue (2021 Edition), the Green Loan Principles (GLP) (February 2023 Edition), the Green Bond Principles (GBP) (June 2021 edition), the Blue Finance Guideline (January 2022 Edition), the Guide for Bonds to Finance The Sustainable Blue Economy (September 2023 Edition) and the requirements of the United Nations Sustainable Development Goals (SDGs).

About the Company

Fujian Zhanglong Group Co., Ltd. (hereinafter referred to as "Zhanglong Group" or the "Company" or the "Group") is a state-owned enterprise. 90% of its equity interest is held by Zhangzhou State-owned Assets Supervision and Administration Commission and 10% by Fujian Provincial Department of Finance. Zhanglong Group is one of the key state-owned enterprises supported by the Zhangzhou Municipal Government with favourable policies. Zhanglong Group provides major utility services such as infrastructure development, water supply and sewage treatment, and promotes economic and industrial development in Zhangzhou through land development, real estate and industrial park development.

Located along the coast of Fujian, Zhanglong Group is committed to the sustainable use of marine resources. Zhanglong Group incorporates the spirit of green and sustainable development into the company's regulations and business development plans. Zhanglong Group is committed to contributing in the areas of green building, green transport, sustainable infrastructure, sustainable water management and offshore renewable energy. Zhanglong Group also insists on minimizing negative impacts on the environment during the engineering design and construction process.

About the Framework of Zhanglong Group

Zhanglong Group has prepared the Green and Blue Finance Framework for Fujian Zhanglong Group Co. Ltd. (hereinafter referred to as the "Framework"), which is intended to provide overarching principles and guidelines for all sustainable development financing opportunities for Zhanglong Group.

The green/blue bonds or loans launched under the Framework will comply with the *Green Bond Endorsed Projects Catalogue (2021 Edition)* issued by the People's Bank of China (PBOC), the National Development and Reform Commission (NDRC) and China Securities Regulatory Commission (CSRC); the International Capital Markets Association's (ICMA's) *Green Bond Principles (GBP) (June 2021 Edition)* and *Guide for Bonds to Finance The Sustainable Blue Economy (September 2023 Edition)*; *Green Loan Principles (GLP) (February 2023 Edition)* issued by the Loan Market Association (LMA), the Loan Syndications and Trading Association (LSTA) and the Asia-Pacific Loan Markets Association (APLMA); and the *Blue Finance Guideline (January 2022 Edition)* issued by the International Finance Corporation (IFC).

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

A. Use of Proceeds





Company Materials

The proceeds of each Green/Blue Transaction issued by Zhanglong Group will be used to finance and/or refinance the assets or projects set out in the Framework. The proceeds of the Green Bonds or Loans will be used for Qualified Green Projects as defined in Table 1; the proceeds of the Blue Bonds or Loans will be used for Qualified Blue Projects as defined in Table 2

Eligible Green Project	Qualified Green Projects
Eligible Green Project Categories Green Building	Acquisition, construction, maintenance and renovation of buildings that have received, or expect to receive the below recognized green building certifications: - Chinese Green Building Evaluation Label – 2-Star or above (Design / Operations Label); or - Building Research Establishment Environmental Assessment Method (BREEAM) – Excellent or above; or - U.S. Leadership in Energy and Environmental Design (LEED) – Gold or above; or - Hong Kong BEAM Plus – Gold or above; or - Building and Construction Authority (BCA) Green Mark – Gold or above; or - Construction of Ultra-Low Energy Consumption Buildings: Construction of public and residential buildings adapted to climate characteristics and site-specific conditions that reduce the demand for heating, air conditioning and lighting through passive building designs, and adopt active technical measures to improve the efficiency of building energy equipment and systems in public and residential buildings as well as the acquisition of consumption building technical indicators needed to meet the requirements of the "Technical Standard for Near-Zero Energy Building" (GB/T 51350); or - Green Warehousing Logistics: Construction, operation and renovation of logistics warehouses in accordance with the national green building evaluation marks. For example, the technical indicators of green logistics warehouse building shall meet the requirements of the "Green Warehouse Requirements and Evaluation" (SB/T 11164) level 2 or above; or any other green building label that is an equivalent standard of the above 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 that have reached the national-relevant green building star-level within the validity period after ren
Energy Efficiency	"Statistical Standard for Civil Buildings" (GB 50352), the "Standard for Energy-Saving Designs in Public Buildings" (GB 50189) and 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. Relevant products should comply with the current national standards "Standard for Energy-Saving Designs in 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 -Ground Source Heat Pump System Application Technical Regulations of Fujian Province (DBJ/T13-156-2012);
Renewable Energy	Procurement and/or installation of renewable energy systems and associated infrastructure, including but not limited to: - Solar energy, such as design, construction and application of renewable energy application systems for buildings that use solar photovoltaic devices installed on roofs and walls of buildings to supply electricity to buildings - Any products/ projects in accordance with: • Integral design, installation and acceptance procedures for residential buildings and solar water heating system (DBJ/13-80-2006); • Application Technical Regulations of Building Solar Photovoltaic System of Fujian Province (DBJ/T13-157-2012) *Hydropower is excluded.

Table 1: Qualified Green Projects

Eligible Blue Project Categories	Qualified Blue Projects	
Sustainable Water and Wastewater Management	Sustainable water resources, wastewater management, and drinking water supply, including but not limited to: - New construction and renovation of waterworks; - Water supply infrastructure such as laying and renovation of water pipe network and installation and renovation of household meters; - Constructing and installing sewage treatment works to reduce environmental pollution; - Construction of supporting sewage collection pipes, construction and maintenance of sewage treatment stations and supporting facilities. The drinking water should meet the Standards for Drinking Water Quality (GB 5749-2022). The treated sewage will meet the relevant national discharge standards Pollutant Discharge Standards for Urban Sewage Treatment Plants (GB18918-2002).	
Offshore Renewable Energy	Manufacturing, construction, operation and maintenance related to offshore wind generation facilities that do not harm marine ecosystem: - Manufacturing of wind turbines, wind turbine generators, wind turbine blades, bearings, cables, gearboxes, towers and other key components of 3MW and above wind turbines for deployment in offshore wind farms; - Construction and operation of offshore facilities that utilize wind energy to generate electricity; - Construction of additional wind farm features such as artificial reef elements that contribute to natural resource conservation and biodiversity. *No allocation to the offshore oil and gas sector	





	Investments related to sustainable aquaculture activities that promote marine resource conservation, biodiversity and pollution prevention and control:	
Sustainable fishery	• Carbon sink fishery, deep-water anti-wind and wave non-bait cage aquaculture, ecological aquaculture, as well as development of fishery resource conservation facilities.	
	Such investments shall meet the Aquaculture Stewardship Council certification standard or equivalent	
	*No involvement in the wild fishery activities	

Table 2: Qualified Blue Projects

Meanwhile, Zhanglong Group declares that the proceeds will not be used for the following purposes:

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

Opinion of Lianhe Green

Lianhe Green has reviewed a number of documents, including the Green and Blue Finance Framework, and in conjunction with its due diligence, has conducted a comprehensive review of Zhanglong Group's policy.

Lianhe Green considers that Zhanglong Group has established a comprehensive system in accordance with the requirements of the assessment criteria. In addition, the company has clarified the categories of use of the proceeds, and the green projects meet the *Green Bond Endorsed Projects Catalogue (2021 Edition), Green Loan Principles (GLP) (February 2023 Edition), Green Bond Principles (GBP) (June 2021 Edition),* and the *United Nations' Sustainable Development Goals (SDGs)* accordingly. Besides, the blue project categories listed in this Framework are in line with the *International Finance Corporation(IFC)* 's *Blue Finance Guideline (January 2022)* and the *Guide for Bonds to Finance The Sustainable Blue Economy (September 2023 Edition),* and the *United Nations' Sustainable Development Goals (SDGs).*

Lianhe Green has compared the green project categories listed in this framework with the *Green Bond Endorsed Projects Catalogue (2021 Edition), Green Loan Principles (GLP) (February 2023 Edition), Green Bond Principles (GBP) (June 2021 Edition), and the United Nations' Sustainable Development Goals (SDGs)* accordingly.

1) Green Project Categories: Green Building

1.1 Eligible Green Projects

Acquisition, construction, maintenance and renovation of buildings that have received, or expect to receive the below recognized green building certifications: Chinese Green Building Evaluation Label – 2-Star or above (Design / Operations Label); or Building Research Establishment Environmental Assessment Method (BREEAM) – Excellent or above; or U.S. Leadership in Energy and Environmental Design (LEED) – Gold or above; or Hong Kong BEAM Plus – Gold or above; or Building and Construction Authority (BCA) Green Mark – Gold or above

Green Standard

- » GBP: Green buildings which meet regional, national or internationally recognized standards or certifications for environmental performance
- » GLP: Green buildings which meet regional, national or internationally recognized standards or certifications for environmental performance
- » SDGs: Target9: industry, innovation and infrastructure; Target11: sustainable cities and communities
- Green Bond Endorsed Projects Catalogue (2021 Edition): 5.Sustainable Upgrade of Infrastructure-5.2Sustainable Buildings-5.2.1Energy-Saving Buildings and Green Buildings-5.2.1.2Green





Buildings

Lianhe Green Findings / Suggestions

Lianhe Green suggests that this type of project should be designed and constructed in accordance with relevant national green building standards, and that the pre-evaluation of building construction drawings should reach the validity period of green building star-level standards, as well as being constructed in accordance with green building star-level standards. The project needs to be constructed and purchased for the consumption of all kinds of civil and industrial buildings that have reached the validity period of the relevant national green building operation evaluation standard. The construction technology needs to be in line with the *Green Building Evaluation Standards (GB/T 50378)*, *Green Industrial Building Evaluation Standards (GB/T 50878)* and other national technical standards.

1.2 Eligible Green Projects

Construction of Ultra-Low Energy Consumption Buildings: Construction of public and residential buildings adapted to climate characteristics and site-specific conditions that reduce the demand for heating, air conditioning and lighting through passive building designs, and adopt active technical measures to improve the efficiency of building energy equipment and systems in public and residential buildings as well as the acquisition of consumption building technical indicators needed to meet the requirements of the "Technical Standard for Near-Zero Energy Building" (GB/T 51350)

Green Standard

- » GBP: Green buildings which meet regional, national or internationally recognized standards or certifications for environmental performance
- » GLP: Green buildings which meet regional, national or internationally recognized standards or certifications for environmental performance
- » SDGs: Target9: industry, innovation and infrastructure; Target11: sustainable cities and communities
- » Green Bond Endorsed Projects Catalogue (2021 Edition): 5.Sustainable Upgrade of Infrastructure-5.2Sustainable Buildings-5.2.1Energy-Saving Buildings and Green Buildings-5.2.1.1 Construction of Ultra-Low Energy

Lianhe Green Findings / Suggestions

The technical indicators of ultra-low-energy building type projects need to meet the requirements of the *Technical Standard for Near-Zero Energy Buildings (GB/T 51350)*.

1.3 Eligible Green Projects

Green Warehousing Logistics: Construction, operation and renovation of logistics warehouses in accordance with the national green building codes and standards, for which they have obtained national green building evaluation marks. For example, the technical indicators of green logistics warehouse building shall meet the requirements of the "Green Warehouse Requirements and Evaluation" (SB/T 11164) level 2 or above; or any other green building label that is an equivalent standard of the above.

Green Standard

- » GBP: Green buildings which meet regional, national or internationally recognized standards or certifications for environmental performance
- » GLP: Green buildings which meet regional, national or internationally recognized standards or certifications for environmental performance
- » SDGs: Target9: industry, innovation and infrastructure; Target11: sustainable cities and communities
- » Green Bond Endorsed Projects Catalogue (2021 Edition): 5.Sustainable Upgrade of Infrastructure-5.2Sustainable Buildings-5.2.1Energy-Saving Buildings and Green Buildings-5.2.1.6 Green Warehousing Logistics

Lianhe Green Findings / Suggestions

The technical standards of green warehousing and logistics projects should be in line with the requirements and evaluation of *Green Warehousing Requirements and Evaluation (SB/T11164)* and other relevant national green building evaluation standards for green logistics and warehousing buildings.

1.4 Eligible Green Projects

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 Designs in Public Buildings" (GB 50189) and the "Standard for the Evaluation of Green Retrofit of Existing Buildings" (GBT 51141).

Green Standard

- » GBP: Green buildings which meet regional, national or internationally recognized standards or certifications for environmental performance
- » GLP: Green buildings which meet regional, national or internationally recognized standards or certifications for environmental performance
- » SDGs: Target9: industry, innovation and infrastructure; Target11: sustainable cities and communities
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Lianhe Green Findings / Suggestions

This type of project is generally divided into the following three types:

- 1. Energy-saving renovation activities for existing buildings and energy-saving renovation activities for building energy-use systems that do not obtain green building certification before and after the building is renovated, but the relevant technical indicators of the renovated building meet the relevant national or local building energy-saving standards;
- 2. The renovation and operation of existing buildings that have obtained the relevant national green building rating label within the validity period and the acquisition of consumption;
- 3. The renovation and operation of existing buildings that have achieved the relevant national green building level label within the validity period after renovation and the purchase of consumption.

2) Green Project Categories: Energy Efficiency

2.1 Eligible Green Projects

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/T50314-2015)", 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. Relevant products should comply with the current national standards "Standard for Energy-Saving Designs in Public Buildings" (GB50189-2015), "Energy-saving Domestic Water Appliances" (CJ/T164-2014) and other standards.

Green Standard

- » GBP: Energy efficiency such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products
- » GLP: Energy efficiency such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products
- » SDGs: Target7: Affordable and clean energy
- » Green Bond Endorsed Projects Catalogue (2021 Edition): 5. Sustainable Upgrade of Infrastructure-5.2Sustainable Buildings-5.2.1Energy-Saving Buildings and Green Buildings-5.2.1.5 Energy Conservation and Environmentally-friendly Renovation of Existing Buildings

Lianhe Green Findings / Suggestions

This type of project belongs to the building of energy-saving renovation. After the renovation, the indicators should be in line with the relevant national or local building energy-saving standards of the existing building energy-saving renovation activities.

2.2 Eligible Green Projects

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.

Green Standard

- » GBP: Energy efficiency such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products
- » GLP: Energy efficiency such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products
- » SDGs: Target7: Affordable and clean energy
- » Green Bond Endorsed Projects Catalogue (2021 Edition): 1.Energy Saving and Environmental Protection Industry -1.1.3Energy Efficiency Improvement-1.1.3.1 Renovation of Green Lighting

Lianhe Green Findings

This type of project is a green lighting renovation, and the Lianhe Green suggests that the relevant lighting products should comply with the technical standards such as *Energy Efficiency Limits and Energy Efficiency Grades of LED Products for Indoor Lighting (GB 30255)*, the *Energy Efficiency Limits and Energy Efficiency Grades of LED Flat Lamp for General Lighting (GB 38450)*, etc.

2.3 Eligible Green Projects

Ground Source Heat Pump System Application in the buildings.

Green Standard

- » GBP: Energy efficiency such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products
- » GLP: Energy efficiency such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products
- » SDGs: Target7: Affordable and clean energy
- » Green Bond Endorsed Projects Catalogue (2021 Edition): 5. Sustainable Upgrade of Infrastructure-5.2Sustainable Buildings-5.2.1Energy-Saving Buildings and Green Buildings-5.2.1.3 Application of Renewable Energy in Buildings

Lianhe Green Findings / Suggestions

This type of project is the application of renewable energy for buildings, and Lianhe Green suggests that the relevant projects should comply with *Ground Source Heat Pump System Application Technical Regulations of Fujian Province (DBJ/T13-156-2012)*.

3) Green Project Categories: Renewable Energy

Eligible Green Projects

Procurement and/or installation of renewable energy systems and associated infrastructure, including but not limited to:

» Solar energy, such as design, construction and application of renewable energy application systems for buildings that use solar photovoltaic devices installed on roofs and walls of buildings to supply electricity to buildings

Any products/ projects in accordance with:

- » Integral design, installation and acceptance procedures for Residential Buildings and Solar Water Heating System (DBJ/13-80-2006);
- » Application Technical Regulations of Building Solar Photovoltaic System of Fujian Province (DBJ/T13-157-2012)

Green Standard

- » GBP: Renewable energy including production, transmission, appliances and products
- » GLP: Renewable energy including production, transmission, appliances and products
- » SDGs: Target7: Affordable and clean energy
- » Green Bond Endorsed Projects Catalogue (2021 Edition): 5. Sustainable Upgrade of Infrastructure-5.2Sustainable Buildings-5.2.1Energy-Saving Buildings and Green Buildings-5.2.1.3 Application of Renewable Energy in Buildings

Lianhe Green Findings / Suggestions

Projects in this category could be the design, construction and renovation of renewable energy building application systems for buildings using solar photovoltaic power generation devices installed on the roofs and walls of buildings to provide electricity to the buildings, as well as the use of heat pumps and other facilities to





supply cooling and heating to the buildings.

Besides, Lianhe Green has compared the blue project categories listed in this framework to the International Finance Corporation(IFC) 's Blue Finance Guideline (January 2022) and the Guide for Bonds to Finance The Sustainable Blue Economy (September 2023 Edition), and the United Nations's Sustainable Development Goals (SDGs) accordingly.

1) Blue Project Categories: Sustainable Water and Wastewater Management

1.1 Eligible Blue Projects

Sustainable water resources, wastewater management, and drinking water supply, including but not limited to:
-New construction and renovation of waterworks; Water supply infrastructure such as laying and renovation of water pipe network and installation and renovation of household meters;

-The drinking water should meet the Standards for Drinking Water Quality (GB 5749-2022).

Green Standard

- Some of BP: 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
- » GLP: 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
- » SDGs: Target6: Clean water and sanitation
- » Blue Finance Guideline: A. Water supply: investments in the research, design, development, and implementation of efficient and clean water supply.
 - -1. New drinking water treatment, storage, and sustainable supply infrastructure that documents at least 20% water savings (e.g. reducing Non-Revenue Water) per unit of service compared to a documented baseline.
 - -2. Rehabilitation of existing water infrastructure that documents at least 20% water savings per unit of service compared to a documented baseline.
- » Guide for Bonds to Finance The Sustainable Blue Economy: NA

Lianhe Green Findings / Suggestions

This type of project is for the construction, operation and renovation of public water supply facilities in towns and cities, as well as the construction and renovation projects of water supply network leakage monitoring system facilities such as flow metering, water quality monitoring, pressure regulation and control, data collection and remote transmission, and other water supply network leakage monitoring system facilities. Lianhe Green suggests the projects should be a unit water saving rate of at least 20 percent for new/revamped water supply facilities.

1.2 Eligible Blue Projects

Constructing and installing sewage treatment works to reduce environmental pollution;

- -Construction of supporting sewage collection pipes, construction and maintenance of sewage treatment stations and supporting facilities.
- -The treated sewage will meet the relevant national discharge standards -Pollutant Discharge Standards for Urban Sewage Treatment Plants (GB18918-2002).

Green Standard

- » GBP: 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
- » GLP: 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
- » SDGs: Target6: Clean water and sanitation
- » Green Bond Endorsed Projects Catalogue (2021 Edition): 5.Sustainable Upgrade of Infrastructure-5.3 Pollution Prevention-5.3.1 Urban Environmental Infrastrecture-5.3.1.1Construction and Operation of Facilities for Sewage Treatment, Recycling, and Sludge Treatment and Disposal; 5.Sustainable Upgrade of Infrastructure-5.3 Pollution Prevention-5.3.1 Urban Environmental Infrastructure--5.3.1.3 Inspection, Upgrade, Construction and Renovation of Urban Sewage





Collection System

- » Blue Finance Guideline: B. Water sanitation: investments in the research, design, development, and implementation of water treatment solutions.
 - -1. New or expansion of water treatment infrastructure.
 - -2. Rehabilitation or retrofit of existing water treatment infrastructure.
 - -3. Wastewater treatment plants, including industrial, agri-business, commercial, residential, or city level. This also include biogas and heat exchange systems at wastewater treatment plants to increase their efficiency and Effectiveness.

Guide for Bonds to Finance The Sustainable Blue Economy: 6.Marine Pollution-a. Wastewater management

Lianhe Green Findings / Suggestions

This type of project is the construction, operation and renovation of urban and rural wastewater treatment facilities and recycling facilities, the construction, operation and renovation of sludge disposal facilities, as well as the construction and operation of the regional water recycling system constructed in accordance with the concept of combining pollution control, ecological protection and recycling, including the construction and operation of ecological treatment facilities such as artificial wetlands for discharging effluent from the urban wastewater treatment plants, the operation and maintenance of the recycled water scheduling management system of the regional water recycling system. The construction and operation of the regional water recycling system includes the construction and operation of ecological treatment facilities such as artificial wetlands for water discharged from urban sewage treatment plants up to the standard, and the operation and maintenance of the recycled water dispatch management system.

Also, this type of project is for the investigation, dredging, repairing and rehabilitation and upgrading of urban wastewater networks, the construction and upgrading of sewage (rainwater) storage facilities, and the construction and operation of geographic information systems (GIS) for wastewater networks. For wastewater management, Lianhe Green recommends that this type of project needs to be located within 100 kilometres of the coast.

2) Blue Project Categories: Offshore Renewable Energy

Eligible Blue Projects

Manufacturing, construction, operation and maintenance related to offshore wind generation facilities that do not harm marine ecosystem:

- -Manufacturing of wind turbines, wind turbine generators, wind turbine blades, bearings, cables, gearboxes, towers and other key components of 3MW and above wind turbines for deployment in offshore wind farm;
- -Construction and operation of offshore facilities that utilize wind energy to generate electricity;
- -Construction of additional wind farm features such as artificial reef elements that contribute to natural resource conservation and biodiversity.

*No allocation to the offshore oil and gas sector

Green Standard of Renewable Energy Manufacturing

- » GBP: Renewable energy including production, transmission, appliances and products
- » GLP: Renewable energy including production, transmission, appliances and products
- » SDGs: Target7: Affordable and clean energy
- Someon Bond Endorsed Projects Catalogue (2021 Edition): 3. Clean Energy Industry -3.2 Clean Energy-3.2.1 Production of New Energy Equipment and Clean Energy Equipment-3.2.1.1 Production of Wind Generators
- » Blue Finance Guideline: NA
- » Guide for Bonds to Finance The Sustainable Blue Economy: NA

Lianhe Green Findings / Suggestions

The key components produced in this type of project need to be offshore wind turbines, 3 MW and above plateau-type, low-temperature type, low wind speed wind turbines supporting generators, wind turbine blades, bearings, cables, gearboxes, towers, etc., or offshore wind farms related systems and equipment manufacturing.

Green Standard of Renewable Energy Construction

- » GBP: Renewable energy including production, transmission, appliances and products
- » GLP: Renewable energy including production, transmission, appliances and products
- » SDGs: Target7: Affordable and clean energy
- Some Bond Endorsed Projects Catalogue (2021 Edition): 3. Clean Energy Industry -3.2 Clean Energy-3.2.2 Construction and Operation of Renewable Energy Facilities-3.2.2.1 Construction and Operation of Wind Power Facilities





- » Blue Finance Guideline: I. Offshore renewable energy facilities.-1. Offshore wind energy facilities, such as wind farms that do not harm marine ecosystems. The offshore wind farm may include additional features, such as fisheries' sanctuaries for juveniles of certain marine species, substantial artificial reef elements, and other additional measures promoting marine biodiversity. 20 Offshore wind farms included in the Blue Finance Guidance document are subject to the condition that additional elements such as no-fishing zones and artificial reefs contributing to natural resource conservation and biodiversity are added through local marine spatial planning to the project design and that comprehensive Environmental Impact Assessment baseline surveys are conducted over a full year in addition to regular environmental monitoring of the area during operations. The use of proceeds cannot be allocated to the offshore oil and gas sector due to the potential contribution to a continuous lock-in to a fossil-based economy and greenhouse gas emissions. The use of proceeds also cannot be allocated towards the marine extraction of seabed minerals sector, as the associated activities could potentially be damaging to ocean and marine life, which needs further assessment.
- » Guide for Bonds to Finance The Sustainable Blue Economy: 5. Marine Renewable Energy-Offshore wind (both fixed and floating installations)

Lianhe Green Findings / Suggestions

This type of project is for the construction and operation of facilities for generating electricity from wind energy, etc., and does not cause harm to the marine ecosystem.

3) Blue Project Categories: Sustainable fishery

Eligible Blue Projects

Investments related to sustainable aquaculture activities that promote marine resource conservation, biodiversity and pollution prevention and control:

- -Carbon sink fishery, deep-water anti-wind and wave non-bait cage aquaculture, ecological aquaculture, as well as development of fishery resource conservation facilities.
- -Such investments shall meet the Aquaculture Stewardship Council certification standard or equivalent *No involvement in the wild fishery activities

Green Standard

- » GBP: Environmentally sustainable management of living natural resources and land use including environmentally sustainable agriculture, environmentally sustainable animal husbandry; climate smart farm inputs such as biological crop protection or drip-irrigation; environmentally sustainable fishery and aquaculture, environmentally-sustainable forestry, including afforestation and reforestation, and preservation or restoration of natural landscapes
- » GLP: Environmentally sustainable management of living natural resources and land use including environmentally sustainable agriculture, environmentally sustainable animal husbandry; climate smart farm inputs such as biological crop protection or drip-irrigation; environmentally sustainable fishery and aquaculture, environmentally-sustainable forestry, including afforestation and reforestation, and preservation or restoration of natural landscapes
- » SDGs: Target14: Life below water
- » Green Bond Endorsed Projects Catalogue (2021 Edition): 4.Ecology and Environment-related sector-4.1 Ecological Agriculture-4.1.3 Supply of Green Agricultural Products-4.1.3.3 Green Fishery
- Blue Finance Guideline: F. Fisheries, aquaculture, and seafood value chain: sustainable production and waste management and reduction measures that meet, keep, or exceed the Marine Stewardship Council certification standards or equivalent.-1. Sustainable land-based aquaculture production of high-value niche products, such as crustaceans, sea urchins, ornamental corals, and fish. -7. Investments in fisheries to meet, keep, or exceed the Marine Stewardship Council certification standard or equivalent
- » Guide for Bonds to Finance The Sustainable Blue Economy: 4. Sustainable Marine Value Chains-a. Sustainable marine fisheries Management

Lianhe Green Findings / Suggestions

Lianhe Green suggests that green fisheries projects need to be certified to meet sustainable production and farming standards, while not engaging in any wild fisheries activities.

B. Project Evaluation and Selection Process





Company Materials

Zhanglong Group's green finance working group (GFWG) collects compliance documents of the proposed green and blue projects and checks whether the documents are complete, thereafter examining the compliance documents to assess the green and blue features of the projects against relevant green and blue guidelines.

The GFWG consists of representatives of senior management at the company's level and senior representatives from the following departments, including:

- » Chief Economist of the Group, responsible for leading the GFWG, and making final approval of the proposed eligible projects
- » Finance Department, responsible for fund-raising, allocation and dispatch of funds, inspection of the use of loans, and disclosure of financial statements;
- » Construction and Management Department, responsible for the full life-cycle of the management of construction projects, establishment and improvement of the management system for the whole process of the construction, interpretation of the engineering project design specification, project screening and presenting eligible projects to GFWG, and identifying and conducting environmental and social impact assessment;
- » Work Safety Office, responsible for monitoring and implementation of the national and local laws and regulations regarding safe production, and conducting environmental and social impact assessment;
- » Legal and Compliance Department, responsible for establishment of the legal system and policies, reviewing contracts, and management of litigation; and
- » Audit Department, responsible for internal audit and filing.

Opinion of Lianhe Green

Lianhe Green has reviewed the Green and Blue Finance Framework and other series of documents, cand Zhanglong Group's policies on project assessment and screening process.

Zhanglong Group has established a sound assessment process for the selection and identification of green and blue projects, and at the same time, a sound communication mechanism for project assessment and screening has been established, whereby each participating department submits a list of potential projects and elaborates on whether or not the nominated projects are in line with the categories of green and blue projects in the Framework, and GFWG will be responsible for the review and approval of potential green and blue projects.

After the assessment, Lianhe Green considers that Zhanglong Group has established a relatively complete project assessment and screening system, which meets the requirements of the assessment criteria.

C. Management of Proceeds

Company Materials

The company will manage the proceeds raised through earmarked account or keeping a SFT Register, and the proceeds will be deposited in the company's general funding accounts. In addition, under the GFT Register method, the proceeds will be deposited in the general funding accounts and earmarked for allocation towards the Eligible Projects.

If part of the proceeds cannot be allocated to Eligible Projects at the moment, the group can deposit the unallocated proceeds into the designated account for the green bonds/notes, or invest the unallocated proceeds into qualified money market products or debt instruments. Upon completion of the placement of the proceeds, the company will promptly inspect the qualified assets and projects that have been placed and make necessary project additions or replacements to ensure that the proceeds will continue to be placed in qualified assets and projects during the life of the proceeds.

Opinion of Lianhe Green

Lianhe Green has reviewed a series of documents such as the Green and Blue Finance Framework and





Zhanglong Group's policies on management of proceeds.

Zhanglong Group will use the general fund account for the receipt, storage, transfer and repayment of principal and interest of the proceeds, and ensure the smooth operation of the proceeds in terms of investment, application and auditing. The receipt, storage, use, management and supervision of the proceeds will be in strict compliance with the relevant provisions in the Framework and the approval procedures will be carried out. In addition, the company will establish a green financing trust register to record the management of proceeds.

In addition, during the period of existence of the green bonds/ loans and the blue bonds / loans, the company will track and regularly allocate and adjust the balance of the proceeds according to the placement of the green projects and the blue projects, and will track and record and manage the idle proceeds.

Upon assessment, Lianhe Green considers that Zhanglong Group has established a relatively perfect system on management of proceeds, which is in line with the requirements of the assessment criteria.

D. Reporting

Company Materials

Zhanglong Group will make disclosures to investors or lenders (expected to be made annually) about the use of proceeds from future green bonds / loans and blue bonds / loans, which will include the information set out below:

Allocation Reporting:

- » List of Eligible Projects for the current year;
- » The amount of proceeds allocated to each Eligible Project category;
- When possible, descriptions of the Eligible Projects financed, such as project locations, amount allocated, etc.;
- » Selected examples of projects financed;
- » Percentage of financing vs. refinancing; and
- » Amount of unallocated proceeds.

Impact Reporting:

Zhanglong Group will disclose the environmental impacts of qualified green and blue projects. Depending on the availability of data, the disclosure will include, but not be limited to, the information below:

Eligible Green Project Categories	Environmental Impact Indicators
Green Building	 Type and level of green building certifications obtained Annual energy savings (in MW) Annual greenhouse gas (GHG) emissions reduced / avoided (in t CO₂ eq p.a.) Annual reduction in water consumption (in m³)
Energy Efficiency	Amount of energy saved (in MWh) Annual energy efficiency improvement in percentage
Sustainable Water and Wastewater Management	Annual amount of water / rainwater / wastewater collected / treated / recycled / reused (in m³/year)
Renewable Energy	 Estimated CO₂ emissions reduced annually from the solar heating system purchased/installed Estimated CO₂ emissions reduced annually from the offshore wind farm in operation
Sustainable Fishery	Production of sustainable aquaculture, algaculture, and/or mariculture (tons)

Table 3: Environmental Impact Indicators





Opinion of Lianhe Green

Lianhe Green has reviewed a series of documents, including the Green and Blue Finance Framework and Zhanglong Group's policy.

Zhanglong Group will regularly disclose the annual report of green bonds / loans and blue bonds / loans until the proceeds are used up.

Upon assessment, Lianhe Green considers that Zhanglong Group has established a relatively complete information disclosure and reporting system, which meets the requirements of the assessment criteria.

E. External Review

Company Materials

Zhanglong Group will engage an independent assessment and certification body to assess the compliance of the Framework with the relevant international and domestic standards and issue a second-party assessment opinion.

Opinion of Lianhe Green

Zhanglong Group 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.

Upon assessment, Zhanglong Group has established a relatively complete management system for external evaluation and meets the requirements of the assessment standards.

Analysis of Environmental Benefits and Social Benefits

Green Building Projects

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.

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, use 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. Besides, water supply uses water-saving sanitary ware according to functional and regional distribution, and design rainwater and sewage drainage, and energy-saving control systems. This type of projects use reasonable design of building envelope, energy-saving lamps and lanterns in the operation process, and intelligent control system. In addition, lifts equipped with high-efficiency transformers, energy-using equipment can be set up with frequency conversion; water supply in accordance with the function and regional distribution of water-saving sanitary ware, design of rainwater and sewage diversion, water-saving drip irrigation, and the adoption of water recycling technology, and so on. All these measures directly or indirectly save energy consumption and reduce pollutants and carbon dioxide emissions.

Social Benefits





Through scientific overall design and the integration of green configuration, green buildings are characterized by rational site selection and planning, a healthy and comfortable environment, reduced and harmless waste emissions and flexible and appropriate building functions. Green building can make full use of all resources from the planning, design, and environmental configuration of the building practices. Through a variety of green technology means to reasonably improve the liveability of the building indoor, green buildings could improve the comfort of the people in the building, and safeguard the health of people's work and life, and provide building users with a good quality of the working and living environment. In the long run, it can promote the structural transformation of the real estate industry, change the growth mode of the construction industry, and bring sustainable economic benefits to the construction industry.

Energy Efficiency Improvement Projects and Renewable Energy Projects for Buildings

Environmental Benefits

After energy-saving renovation of buildings, their relevant technical indicators meet the relevant national or local building energy-saving standards. Such projects are conducive to reducing building energy consumption, saving energy, improving and slowing down the contradiction between energy supply and demand. The projects are conducive to sound insulation, dust reduction and heat preservation in buildings, lowering the cost and improving the comfort of the indoor environment of buildings; and the use of green lighting technology in energy-saving retrofitted buildings is conducive to reducing greenhouse gas emissions, mitigating atmospheric pollution and improving the quality of the environment.

Renewable energy projects for buildings use building roofs and walls to install solar photovoltaic power generation devices to provide electricity to the building, i.e., using solar energy as a clean and renewable energy source when designing the building's energy. This type of project is no longer purely on the role of solar water heaters, but will produce a large amount of renewable energy used in the building body. The building body has used solar photovoltaic panels to absorb heat into electricity to reduce the building's daily office or residential electricity.

Social Benefits

Energy-saving retrofitting measures taken at the planning and construction stages of buildings have the characteristics of efficient recycling of resource use and effective energy-saving measures. Despite the increase in design and construction costs and operating expenses, they reduce operating costs with significant resource savings, reduce the adverse impact on the environment, and reduce the processing load of municipal utilities. Building energy-saving renovation can prompt a change in the construction industry to a low-input, low-energy, low-pollution and high-efficiency way of construction investment, production and consumption.

Sustainable Water and Wastewater Management Projects

Environmental Benefits

With the development of economy, the oceans are increasingly polluted by urban industrial wastewater, domestic sewage and accidents in harbour, ships and offshore oil platform operations or leaks, resulting in a serious waste of water resources. Large amounts of sewage discharged into offshore waters have led to phytoplankton blooms and "red tides" in recent years. Sustainable water and wastewater management projects aim to protect and conserve water resources through the construction of water supply infrastructure, such as the laying and renovation of water supply pipeline networks, the construction and installation of wastewater treatment works and the construction of supporting sewage collection pipelines, the enhancement of water supply capacity. The application of scientific and technological means such as seawater desalination to improve the efficiency of water use. The collection and use of rainwater and sewage through the reuse system can reduce the amount of rainwater runoff from city streets. It also reduces the possibility of sewage being discharged randomly to pollute seawater and the pressure on urban drainage, as well as effectively reduces rainwater-sewage merging and improves the efficiency of sewage treatment.

Social Benefits





Sustainable water and wastewater management projects are conducive to the protection of local natural water sources and the alleviation of local water resource constraints. At the same time, they can effectively prevent the illegal discharge of wastewater into urban water systems, reduce the probability of black-smelling waters, eliminate pollution hazards along rivers, protect urban river and lake water systems and enhance coastal landscapes. In addition, the construction and operation of such projects can help to improve the level of regional infrastructure, improve the level of environmental quality, and help to beautify the environmental landscape of the region and the surrounding area.

Offshore Renewable Energy Projects

Environmental Benefits

Because of its renewable, non-polluting characteristics, wind energy is a new energy with great potential for development. Wind power development also has a short construction cycle, flexible investment, low operating costs and other advantages. Reasonable use of wind energy will not only reduce environmental pollution, but also reduce the pressure of energy shortage. Compared with onshore wind power, offshore wind power system development space can save a lot of land resources and offshore wind energy resources are more abundant than onshore wind power projects. At the same time, offshore wind power projects do not produce air pollutants in the power generation process compared with thermal power, reducing emissions of SO_2 , NO_X and soot, and saving coal resources.

Social Benefits

Converting renewable energy sources such as wind energy can increase energy supply, alleviate the contradiction between supply and demand of electricity, and reduce the pressure on the operation of power enterprises. Besides, the full use of offshore wind energy and other clean energy could reduce the dependence on coal, oil and other energy sources to adjust the new energy structure, alleviate environmental pollution, to ensure the sustainable development of the local economy.

Sustainable Fisheries Projects

Environmental Benefits

Sustainable fisheries projects are those that leave enough fishery resources in the oceans to protect habitats and ensure that people who depend on fisheries can maintain their livelihoods. Sustainable fisheries projects respond to a changing environment by establishing a management system to maintain the ecological sustainability of the oceans, in compliance with relevant local, national and international laws. In addition, sustainable fisheries effectively manage fishing activities to maintain the ecological structure, yield and diversity and function of the ecosystems. Sustainable fisheries projects ensure that the resources of target species are maintained at sustainable levels, and any certified fishery guarantees sustainable fishing operations so that the fishery can be sustained in perpetuity, protecting marine resources from over-exploitation and contributing to the safeguarding of marine biodiversity.

Social Benefits

By introducing the concept of "blue" development and encouraging regions to develop ecological and healthy aquaculture modes, such as large-water surface ecological aquaculture, factory aquaculture and pond-engineered aquaculture, the sale of high-quality aquatic products has continued to increase. The development of sustainable fisheries has significantly increased the economic income of fishermen in coastal areas and provided certain local jobs. At the same time, in addition to the traditional aquaculture, fishing, processing and distribution industries, the leisure fishery industry is booming, which is good for the initial establishment of the pattern of modern fishery industry system, extending the industrial chain and enhancing the value chain. The industrial structure continues to be adjusted and optimized, and effectively promote the integration of fishery industries.

In summary, the eligible projects listed in this framework have significant environmental and social benefits.





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. Lianhe Green is headquartered in Hong Kong, mainly responsible for green and sustainable finance certification business in international markets, ESG reporting and consulting, and ESG training services in mainland China, Hong Kong and abroad.

Lianhe Green aims to become an internationally recognized external verifier for sustainable finance through cooperation with Liane Equator's professional and experienced team in this industry. With a belief 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 Zhanglong Group to provide an assessment of the company's Green and Blue Finance Framework. The assessment is to provide a professional second-party opinion of the compliance of the Green and Blue Finance Framework and does not provide any financial indicators or judgement on the investment values of the company's issuance.

Responsibilities

The Company

Zhanglong Group's responsibilities are to accept the interviews from the 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 Zhanglong Group. Lianhe Green will review all important data and documents, and issue conclusions. In addition, Lianhe Green will disclose information collected from Zhanglong Group and relevant parties to demonstrate whether its Green and Blue Finance Framework meets the relevant requirements of the above standards.

Analytical Process

The main aspects of this assessment include the following:

- » Due diligence on the persons in charge of the relevant departments to understand the key matters related to Zhanglong Group's policies and processes;
- » Review the Green and Blue Finance Framework developed by Zhanglong 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 a 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.





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