

Certification Report on Pre-issuance of Bank of China Frankfurt Branch's 2022 Green Bond



联合赤道环境评价有限公司

Lianhe Equator Environmental Impact Assessment Co., Ltd.



**Certification Report on Pre-issuance of
Bank of China Frankfurt Branch's 2022 Green Bond**

发行人			
 中国银行 BANK OF CHINA Bank of China			
Telephone: 010-66596688	Address: No. 1 Fuxingmennei Street, Xicheng District, Beijing		Postcode: 100818
Certification Institution			
 联合赤道环境评价有限公司 Lianhe Equator Environmental Impact Assessment Co., Ltd.			
			
Director of the Green Finance Professional Committee of China Society For Finance and Banking			
Member of the National Association of Financial Market Institutional Investors			
The verification agency accredited by the Climate Bonds Initiative (CBI)			
The observer agency of the Green Bonds Principles (GBP) of the International Capital Market Association			
Telephone: 022-58356822	Address: No.80, Qufu Road, Heping District, Tianjin		Postcode: 300042
Certification Summary			
Certification Subject: Bank of China Frankfurt Branch's 2022 Green Bond			
Certification Standards:			
<ul style="list-style-type: none"> • <i>Common Ground Taxonomy-Climate Change Mitigation (updated)</i> • <i>Green Bond Principles (June 2021)</i> 			
Conclusion:			
Bank of China Frankfurt Branch's 2022 Green Bond meets the requirements of the above certification standards.			
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Preparation: Zixuan Song	Proofreading: Jinlong Chen	Review: Sibo Liu	Approved by: Jingyun Liu

1. Basic Information

1.1. Issuer

Bank of China Limited (hereinafter referred to as "Bank of China" or "Issuer" or "Company") was established in February 1912 and has successively exercised the functions of an international exchange bank and a specialized bank for international trade. After 1949, as a national foreign exchange and foreign trade professional bank for a long time, it unified the operation and management of national foreign exchange, and carried out international trade settlement, overseas Chinese remittance and other non-trade foreign exchange business. In 1994, it was reorganized into a wholly state-owned commercial bank, providing various financial services and developing into a large-scale commercial bank with both local and foreign currency and complete business varieties. Bank of China has offices in 62 countries and regions in Chinese mainland and overseas, and BOC Hong Kong and Macau branches serve as local banknote issuers.

Bank of China Frankfurt Branch was established in May 1989. It is the earliest branch of a Chinese financial institution opened in Germany. As a financial institution registered in Germany, Bank of China Frankfurt Branch can engage in all banking business permitted by the *German Credit Law* according to its business license, and is the main bank serving the economic and trade exchanges between China and Germany. Bank of China Frankfurt Branch's business scope covers corporate finance, financial institutions and personal financial services, etc.

1.2. Certification Institution

Lianhe Equator Environmental Impact Assessment Co., Ltd. (hereinafter referred to as "Lianhe Equator") was established in 2015, and was primarily engaged in green bond third-party certification, green financial advisory work, and environmental impact assessments. The core technical force includes a significant number of senior environmental protection experts at the provincial and ministerial level, a good number of registered consultants, financial analysts and more than sixty registered environmental impact assessors, who have leading green financial advisory service capabilities in the industry. Lianhe Equator standardizes the specific certification work with the green bond assessment, and independently developed the *Lianhe Equator Green Bond Assessment and Certification Method System (LEIS0002-2021)*. In addition, the

comprehensive performance of green bond was evaluated in four dimensions including characteristics of the project, the use and management of net proceeds, project evaluation and information disclosure. Ultimately, the green bond was evaluated and certified accordingly.

Lianhe Equator has now provided products and services in green bonds evaluation and certification in several provinces and cities. Its products include evaluating carbon-neutral bonds, green financial bonds, green corporate bonds, non-financial enterprise green debt financing tools, green asset support securities, green debt financing plans, green municipal bonds, industry categories including energy conservation, pollution control, clean energy, clean transportation, resource conservation and recycling, and ecological protection and restoration. Lianhe Equator is highly experienced in evaluation and certification assignments.

1.3. Bond Information

Bank of China plans to issue the "Bank of China Frankfurt Branch's 2022 Green Bond" (hereinafter referred to as "the Bond") with a maturity of 3 years.

2. Scope of Certification

Lianhe Equator was entrusted by Bank of China to provide independent pre-issuance certification for the issuance of the Bond. This certification is to provide a professional evaluation of the compliance of the Bond, excluding any financial indicators and any value judgments regarding bond investments.

3. Certification Contents

Lianhe Equator's certification covers the following aspects of the Bond:

- Use of Proceeds
- Project Evaluation and Selection
- Management of Proceeds
- Reporting

4. Certification Standards

- *Common Ground Taxonomy-Climate Change Mitigation (updated)*
- *Green Bond Principles (June 2021)*

5. Responsibilities

5.1 Issuer

Bank of China's responsibility is to accept the interview from the Lianhe Equator certification team, to provide relevant data and institutional documents for the certification, and to ensure that the data and institutional documents provided are true and effective.

5.2 Certification Institution

Lianhe Equator's responsibility is to collect data and documents provided by Bank of China. Lianhe Equator will review all important files and issue certification conclusions. In addition, Lianhe Equator will disclose information collected from Bank of China and relevant parties to demonstrate whether the Bond meets the relevant requirements of the above standards.

6. Certification Process

Process of this certification mainly includes data collection and review with the following aspects:

- Assess the management policies and procedures formulated by Bank of China regarding the Bond,
- Review the documents related to the use and management of the proceeds,
- Review the management policy documents related to the evaluation of the projects,
- Review the policy documents related to the information disclosure and reporting of the Bond,
- Review the relevant documents and confirm the compliance of the nominated projects,
- Review the accuracy of the relevant calculations,
- Obtain and review the appropriate evidence to support the critical conclusions.

7. Certification Findings

7.1 Use of Proceeds

Bank of China plans to issue the Bond with a maturity of 3 years. The Table 1 shows the basic information of the nominated projects.

Table 1 Basic Information of the Nominated Projects

No.	Region	Projects	Projects Categories	Loan Amount (USD million)

1	Europe	An electricity generation from wind power project	Electricity generation from wind power	46.64
2	Europe	An electricity generation from wind power project	Electricity generation from wind power	15.68
3	Europe	An electricity generation from wind power project	Electricity generation from wind power	12.09
4	China	An electricity generation from wind power project	Electricity generation from wind power	26.62
5	China	An electricity generation from wind power project	Electricity generation from wind power	38.29
6	China	An electricity generation from wind power project	Electricity generation from wind power	28.77
7	China	An electricity generation from wind power project	Electricity generation from wind power	76.48
8	China	A pumped hydropower storage project	Pumped hydropower storage	30.03
9	China	A pumped hydropower storage project	Pumped hydropower storage	90.09
10	China	An urban rail transportation project	Urban rail transportation	90.09
11	China	A pure electric bus project	Pure electric bus	25.82
12	China	A pure electric bus project	Pure electric bus	29.28
13	China	An energy-saving transformer manufacturing project	Manufacture of energy-saving equipment	5.41
14	China	An energy-saving submersible pump manufacturing project	Manufacture of energy-saving equipment	7.51
Total				522.80

In addition, Lianhe Equator has reviewed the *Bank of China Limited Sustainability Series Bonds Management Statement*. Bank of China clarified the exclusion list of eligible projects,

clarifying that the Bond will not support projects involving the following industry categories:

- Fossil fuel dedicated assets;
- Biofuels, biogas or biomass which utilize food crops as sources;
- Nuclear related projects;
- Mining and quarrying related projects;
- Luxury services or goods related, such as clubhouse operation;
- Alcoholic beverages related projects;
- Gambling and predatory lending enterprises related projects;
- Tobacco and tobacco-related products related projects;
- Weapons and ammunitions related projects.

After examination, Lianhe Equator believes that the use of proceeds of the Bond meets the requirements of the certification standards, and the industry categories to which the nominated projects do not belong to the categories of the exclusion list.

7.2 Project Evaluation and Selection

7.2.1 Process for Project Evaluation and Selection

In accordance with relevant requirements of certification standards for project evaluation and selection, Lianhe Equator comprehensively reviewed a series of documents and policies including *Bank of China Limited Sustainability Series Bonds Management Statement* etc, as well as reviewed the relevant documents of the nominated projects.

In terms of project evaluation and selection, Bank of China divides the project evaluation and selection work into three stages: preliminary screening, review and approval, update and maintenance.

During the preliminary screening phase of the Bond, by referring to *Common Ground Taxonomy-Climate Change Mitigation (updated)*, *Green Bond Principles (June 2021)* and *Bank of China Limited Sustainability Series Bonds Management Statement*, each branch of Bank of China conducts a preliminary evaluation of projects, forms the nominated projects list, and submits them to the head office for review.

At the review and approval stage, the head office of Bank of China will review the projects in accordance with the relevant standards, and Bank of China will nominated a qualified

independent third-party institution to perform a compliance assessment, and finally form a list of eligible projects.

During the update and maintenance phase, the head office of Bank of China reviews the list of eligible projects on a quarterly basis to determine whether project changes are necessary. If changes are required (the projects that have amortized, been prepaid, sold or otherwise become ineligible), the head office of the Bank of China will organize domestic and foreign branches to nominate a new projects list, and finally carry out projects changes and replacements.

7.2.2 Compliance Analysis

Bank of China plans to issue the Bond with a total of 14 projects were nominated, including green projects in the categories of renewable energy, energy storage, low carbon transportation, and manufacture of energy-saving equipment, and a total loan amount of USD 522.80 million.

The details of compliance analysis can be seen in Table 2.

Table 2 Compliance Analysis

Projects Categories	<i>Ground Taxonomy- Climate Change Mitigation (updated)</i>	<i>Green Bond Principles (June 2021)</i>	Number of the Nominated Projects	Loan Amount (USD million)
Electricity generation from wind power	D: Electricity, gas, steam and air conditioning supply- D1. Electric power generation, transmission and distribution- D1.3 Electricity generation from wind power	Renewable energy (including production, transmission, appliances and products)	7	244.57
Pumped hydropower storage	D: Electricity, gas, steam and air conditioning supply- D1. Electric power generation, transmission and distribution- D1.8 Storage of electricity	Energy efficiency (such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products)	2	120.12
Urban rail transportation	H. Transportation and storage- H1. Land transport including	Clean transportation (such as electric, hybrid, public, rail,	1	90.09

	railways- H1.1 Construction and operation of public transportation system in urban and rural areas	non-motorised, multi-modal transportation, infrastructure for clean energy vehicles and reduction of harmful emissions)		
Pure electric bus	H. Transportation and storage- H1. Land transport including railways- H1.1 Construction and operation of public transportation system in urban and rural areas	Clean transportation (such as electric, hybrid, public, rail, non-motorised, multi-modal transportation, infrastructure for clean energy vehicles and reduction of harmful emissions)	2	55.10
Manufacture of energy-saving equipment	C: Manufacturing -C5. Manufacture of energy-saving equipment - C5.3 Manufacture of energy-saving pumps and vacuum equipment C: Manufacturing -C5. Manufacture of energy-saving equipment -C5.9 Manufacture of energy-saving transformers, rectifiers, inductors and electric welding machines	Energy efficiency (such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products)	2	12.92
Total			14	522.80

After examination, Lianhe Equator believes that the Bond meets the requirements of certification standards. Bank of China has established a relatively complete project evaluation and selection process.

7.3 Management of Proceeds

In accordance with relevant requirements of certification standards for management of proceeds, Lianhe Equator comprehensively reviewed a series of documents and policies including *Bank of China Limited Sustainability Series Bonds Management Statement etc.*

1. Planning for Use of Proceeds

Prior to the issuance of the Bond, Bank of China developed a list of eligible projects based

on the *Common Ground Taxonomy-Climate Change Mitigation (updated)*, *Green Bond Principles (June 2021)* and *Bank of China Limited Sustainability Series Bonds Management Statement*. Bank of China will strictly follow the regulations of the regulatory authorities.

2. Management of Separate Ledger

Bank of China shall record the source and allocation of proceeds in a separate ledger management system to ensure that all the net proceeds of the Bond are properly managed and used. The ledger system shall contain information including but not limited to: transaction information and the proceeds allocation information. Bank of China will review and update the ledger on a quarterly basis. Any proceeds allocated to the projects that have amortized, been prepaid, sold or otherwise become ineligible shall be reallocated to newly nominated and approved projects.

3. Use of Unallocated Proceeds

Unallocated proceeds shall not be invested in greenhouse gas (GHG) intensive, highly polluting, energy intensive projects nor projects with negative social impacts. The unallocated proceeds could be temporarily invested in green bonds issued by non-financial institutions in domestic or international capital markets, and in money market instruments with good credit ratings and market liquidity, or kept in cash until they are allocated to eligible projects.

After examination, Lianhe Equator believes that the Bond meets the requirements of certification standards. Bank of China has established a relatively complete management of proceeds system.

7.4 Reporting

In accordance with relevant requirements of certification standards for reporting, Lianhe Equator comprehensively reviewed a series of documents and policies including *Bank of China Limited Sustainability Series Bonds Management Statement* etc.

Bank of China has nominated qualified independent third-party institution to conduct pre-issuance assessment and certification of the Bond, and disclosed the relevant information required for the issuance of the Bond, including but not limited to the categories of eligible projects, use of proceeds, etc., to ensure that all the net proceeds are allocated to the eligible projects. In addition, during the duration of the Bond, Bank of China will disclose the Annual Report on Bank of China's Sustainability Series Bonds on its official website (<https://www.boc.cn/investor/ir10/>).

After examination, Lianhe Equator believes that the Bond meets the requirements of certification standards. Bank of China has established a relatively complete information disclosure and reporting system.

8. Environmental Benefit Analysis

The projects of the Bond include 5 types of green projects. Lianhe Equator assessed and measured the environmental benefits of the eligible projects in accordance with the relevant norms, standards and guidelines. The environmental benefits of the eligible projects as follows:

1、Electricity Generation from Wind Power

The eligible projects include seven electricity generation from wind power projects, of which four are located in China and three are located overseas. According to the annual on-grid electricity of the projects and the region where those are located, the annual carbon dioxide emission reduction of the nominated projects which located in China is 1668,100 tons, the savings of standard coal are 618,300 tons, the reduction of sulfur dioxide emissions is 324.46 tons, the emission reduction of nitrogen oxides is 362.99 tons, and the emission reduction of particulates is 64.89 tons.

2、Pumped Hydropower Storage

The eligible projects include two pumped hydropower storage projects. According to the data of the projects' annual saving of standard coal and the area where the project is located, the annual carbon dioxide emission reduction of the two projects is 565,800 tons, the standard coal saving is 256,000 tons.

3、Urban Rail Transportation

The eligible projects include an urban rail transit project. According to the data of the project's annual passenger volume and average transportation distance, the annual carbon dioxide emission reduction of this urban rail transit project is 55,600 tons, the standard coal saving is 26,500 tons, the nitrogen oxide emission reduction is 57.72 tons, and the particulates emission reduction is 1.08 tons.

4、Pure Electric Bus

The eligible projects include two pure electric bus procurement projects. According to the data such as the design power consumption of the vehicle, after those pure electric buses are put

into operation, the annual carbon dioxide emission reduction is 12,700 tons. The standard coal saving is 7,200 tons, the nitrogen oxide emission reduction is 521.34 tons, and the particulates emission reduction is 8.45 tons.

5、Manufacture of Energy-Saving Equipment

The eligible projects include two high-efficiency energy-saving equipment manufacturing projects. The equipment produced are energy-saving transformers and energy-saving submersible pumps. The energy efficiency of the equipment are in accordance with the Level 1 energy efficiency standard in *Minimum Allowable Values of Energy Efficiency and the Energy Efficiency Grades for Power Transformers (GB 20052)* and *Minimum Allowable Values of Energy Efficiency and Energy Efficiency Grades for Submersible Pumps for Deep Well (GB32030)*. Compared with ordinary equipment, high-efficiency and energy-saving equipment can greatly reduce energy consumption and improve energy efficiency, thereby effectively controlling carbon emissions.

According to the ratio of the loan amount to the total investment amount of the projects, after conversion, the expected quantifiable environmental benefit of the Bond: the annual carbon dioxide emission reduction is 325,600 tons, the annual standard coal saving is 125,000 tons, the annual sulfur dioxide emission reduction is 57.76 tons, and the annual nitrogen oxide emission reduction is 201.57 tons, the annual particulates emission reduction is 13.77 tons. See Table 3 for details.

Table 3 Environmental Benefit Analysis

Projects Categories	Reduction of Carbon Dioxide Emissions (10,000 tons/year)	Standard Coal Saving (10,000 tons/year)	Reduction of Sulfur Dioxide Emissions (tons/year)	Reduction of Nitrogen Oxide Emissions (tons/year)	Reduction of Particulates Emissions (tons/year)
Electricity generation from wind power (Mainland, China)	29.38	11.01	57.76	64.61	11.55
Pumped	2.69	1.22	-	-	-

hydropower storage					
Urban rail transportation	0.16	0.08	-	1.68	0.03
Pure electric bus	0.33	0.19	-	135.28	2.19
Total	32.56	12.50	57.76	201.57	13.77

In conclusion, the eligible projects of the Bond have positive environmental benefits.

9. Conclusion

Lianhe Equator reviewed a series of documents such as the *Bank of China Limited Sustainability Series Bonds Management Statement*, evaluated the use of proceeds, project evaluation and selection, management of proceeds, reporting of Bank of China Frankfurt Branch's 2022 Green Bond, the Bond meets the requirements of *Common Ground Taxonomy-Climate Change Mitigation (updated)* and *Green Bond Principles (June 2021)*.

10. Statement

The copyright of the certification suggestions belongs to the certification institution. The issuer can publish the suggestions after obtaining permission from the certification institution.

Except for the principal relationship between the certification authority and the issuer, there is no relationship between the certification authority, the certification personnel, and the issuer. This ensures the independence, objectivity, and impartiality of the certification action.

The conclusion of this certification report has been formed on the basis of sufficient investigation, reasonable evidence collection and comprehensive analysis. The certification institution makes independent judgments according to reasonable standards and procedures. Their certification suggestions are not subject to any improper influence of issuers or any other organizations or individuals.

The primary purpose of this certification is to certify the use and management of the proceeds, process for project evaluation and selection, and reporting. It only provides

supporting information in the aforementioned fields. The certification institution does not accept liability for damages arising from this certification suggestion and the information it contains.

In this certification, the issuer is responsible for the completeness, accuracy and timeliness of the certification suggestions, which are based on the information provided by the issuer.

There are some inherent limitations in this certification process. For example, it may be difficult to detect fraud, errors, and irregularities if the certification is conducted only on selected information.

This certification suggestion cannot be interpreted as any indication or guarantee for relevant bond investment decisions. In any case, this suggestion cannot be used as an explanation or guarantee for the actual situation of bond economic performance, credit evaluation, and for fund-raising purposes. This certification does not contain investment recommendations.



Jingyun Liu

Green Finance Department General Manager

Lianhe Equator Environmental Impact Assessment Co., Ltd.

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