交通銀行（香港）
BANK OF COMMUNICATIONS (HONG KONG)

2022 TCFD Report

Bank of Communications (Hong Kong) Limited

(Incorporated in Hong Kong with limited liability)

About

Bank Profile

Founded in 1908, Bank of Communications Co., Ltd. (hereinafter referred to as "the Head Office") is one of the banks with the longest history and one of the first note-issuing banks in China.

Established in January 2018, Bank of Communications (Hong Kong) Limited (Incorporated in Hong Kong with limited liability) (hereinafter referred to as "the Bank") is a wholly owned subsidiary of the Head Office. The Bank has touchpoints all over Hong Kong, offering both corporate and personal banking customers a comprehensive corporate financial and wealth management services through its 44 outlets, among which are 37 BComBEST Services Centers, a private banking center and 7 Business Services Centers in Hong Kong. The Bank has been awarded a “stable” rating outlook by Fitch, Moody's and Standard & Poor's, which is the same international credit rating as the Head Office.

Reporting Scope

This report is based on the Bank, part of the content is disclosed in accordance with the Head Office and Bank of Communications Co., Ltd. Hong Kong Branch.

The report covers the period from 1 January 2022 to 31 December 2022. Unless otherwise stated, the data disclosed in the report are compiled by internal system of Bank of Communications (Hong Kong) Limited and monetary amounts are in Hong Kong dollars.

Principles

This report has been prepared in accordance with the requirements of Module GS-1 "Climate Risk Management" of the Hong Kong Monetary Authority's (HKMA) “Supervisory Policy Manual” and with reference to the Financial Stability Board's (FSB) “Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)”, covering the disclosure of the Bank's governance, strategy, risk management, metrics and targets regarding climate risk related risks.

In case of any discrepancy in the contents of the report, the Chinese version shall prevail.

Contents

Preface

With the increasing frequency of climate-related events, climate change has become a global issue. In September 2020, President Xi Jinping officially announced that China will strive to achieve carbon peak by 2030 and carbon neutrality by 2060, which has indicated the direction of China's sustainable economic development and low-carbon transformation of society. The establishment of the "1 + N" policy framework for carbon peak and carbon neutrality also provides clear guidance for comprehensively promoting decarbonization actions.

Following the publication of the first "Hong Kong Climate Action Plan 2030 +" in 2017, the Hong Kong Special Administrative Region (SAR) Government actively responded to the national strategic requirements on climate change and published the "Hong Kong Climate Action Plan 2050" in October 2021, which has set out more proactive strategies and measures on reducing carbon emissions, and would pursue more vigorous interim decarbonization targets to reduce Hong Kong's carbon emissions by 50 per cent before 2035 as compared to the 2005 level. It has also proposed the medium-to-long-term decarbonization target of achieving carbon neutrality before 2050, as well as four decarbonization strategies of "Net-zero Electricity Generation, Energy Saving and Green Buildings, Green Transport and Waste Reduction", which has specified the key tasks of carbon emission reduction.

Leading by the national strategic requirements of "carbon peak and carbon neutrality" and the Hong Kong SAR Government's 2050 carbon neutrality action plan, the Bank has taken the initiative to integrate into and serve the overall national sustainable development, and implemented the climate-related objectives of "integrating the green and low-carbon concepts into all aspects of business management and steadily increasing the percentage of green loans by 2025, significantly reducing the carbon intensity of own operations and asset portfolio and serving the carbon neutrality concept in high quality before 2030, and achieving and stabilizing the percentage of green loans over 50% by 2060". The Bank has made green a defining feature of the corporate and retail business development, consistently improved the service level of green finance, seized the opportunities of green financial innovation, and created the characteristics of green financial enterprises. By enhancing the green financial system, expanding the green financial market and enriching the green financial products and services, the Bank has steered the resources to green and low-carbon fields and provided diverse financial support for the corporate green transition.

The Hong Kong Green and Sustainable Finance Cross-Agency Steering Group has announced that relevant sectors must disclose their climate-related information in alignment with TCFD recommendations by 2025. The Bank has well understood that climate change is posing great challenges to social stability and economic progress, and affecting production and operation, technology research and development, etc. in all aspects and at multiple levels, which may be transmitted to financial institutions to cause material financial risks. In order to strengthen the top-level design, improve the requirements of climate risk management, and enrich the form of climate-related information disclosure, the Bank analyzed and disclosed its own practices in climate risk response and green investment concept from the four dimensions of governance, strategy, risk management, and metrics and targets, referring to the requirements of the Module GS-1 "Climate Risk Management" in the "Supervisory Policy Manual" issued by HKMA, and the climate change-related information disclosure framework formulated by TCFD.

In the future, the Bank will continue to shoulder the mission and task of promoting the green economy development, consolidate the green finance strategy, cultivate the green financial market and support the low-carbon transition of real economy. The Bank will also consistently boost the disclosure of climate-related information in the financial sector so as to fulfill its responsibility in the development of green finance.

01

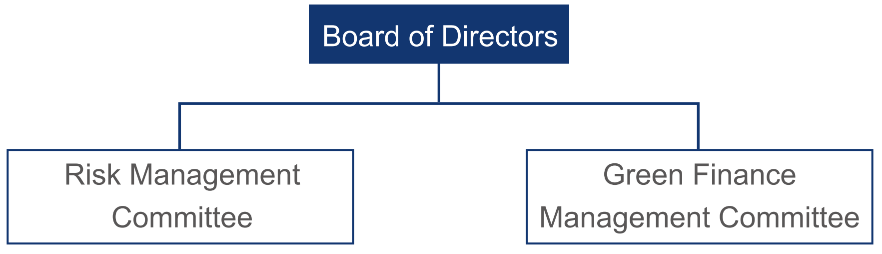
Governance

At present, climate change is impacting the global ecological environment and economic development to varying degrees. To serve the national climate goal of "carbon peak and carbon neutrality" and practice the concept of green development, the Head Office has been active in taking measures to identify and respond to financial risks caused by climate change, explicitly incorporated climate and environmental risks into the comprehensive risk management system, and officially become a supporting institution for TCFD. The Bank has monitored, evaluated and managed climate-related risks and opportunities, and integrated climate-related factors into strategic planning. The Bank has also formulated and implemented green finance-related policies, built up a green bank image, and assisted in the industrial low-carbon transition and high-quality green development.

1.1. Board of Directors

The Bank has attached great importance to the great challenges brought by climate change to financial institutions and consistently improved the scientificity, robustness and effectiveness of climate governance system with the vision of “building the bank with the best corporate governance”. The Board of Directors undertakes ultimate responsibility for business management as the top decision-making body for the Bank's risk management and green finance. The main responsibilities of the Board of Directors include supervising the formulation and implementation of the Bank's climate-related development strategies, policies and regulations as well as targets and plans, regularly reviewing the results of identifying and monitoring climate-related risks and opportunities, and promoting the improvement of the Bank's green financial system. The Board of Directors has incorporated the climate-related issues into the processes of formulating major strategies, identifying and making management policies for climate risks and opportunities, establishing a comprehensive risk management system, supervising capital use and asset allocation, innovating and developing businesses, and monitoring the implementation and execution status of strategies, etc.

In order to clarify the Board of Directors’ assignment of responsibility for climate-related issues, strengthen the management and supervision process of the Board of Directors, and improve the climate governance system at the board level, the Board of Directors has already set up and authorized the Risk Management Committee (hereinafter referred to as the “RMC”) and Green Finance Management Committee (hereinafter referred to as the "GFMC") to perform duties.



Climate Governance Structure of the Board of Directors

1.1.1. Risk Management Committee

The “RMC” is directly managed by the Board of Directors and holds at least one meeting quarterly. The “RMC” implements the system of committee with three or more members, and the chairman is elected by the Board of Directors. The “RMC” is responsible for monitoring various risks, including but not limited to credit risk, market risk, operational risk, interest rate risk, liquidity risk, legal and compliance risk, strategic risk, reputational risk, climate risk, and any other material risks which may arise from time to time. In addition, the “RMC” takes on a monitoring role and is responsible for assisting the Board of Directors in monitoring and supervising the Bank's risk strategies, risk appetites, risk structure, capital adequacy and liquidity adequacy.

1.1.2. Green Finance Management Committee

The Bank has established the "GFMC" at the board level to promote the establishment and improvement of the green financial system, accelerate the formulation of the Bank’s green finance objectives and strengthen green finance management.

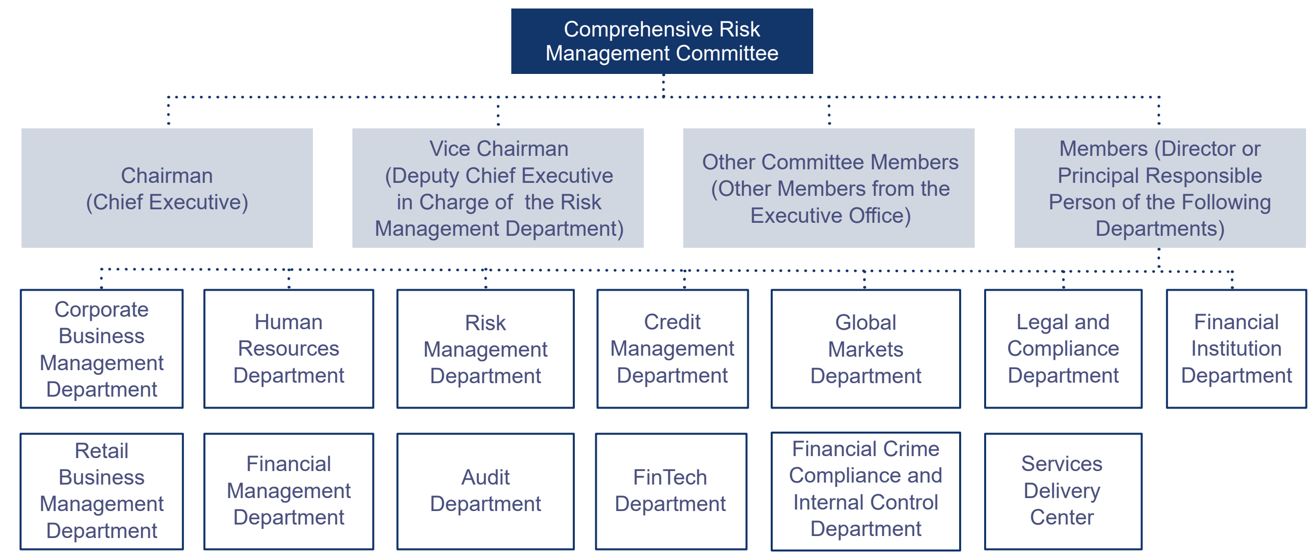
The "GFMC" is chaired by the Chief Executive, the Deputy Chief Executive in charge of credit and risk management is the vice chairman, and other committee members include all the remaining persons from the Executive Office. In order to promote green finance management, the "GFMC" monitors and supervises the Bank's green finance management, and also collectively reviews and evaluates the various objectives, action plans, as well as major issues and topics related to environmental, social and governance risks by holding regular or irregular meetings. In principle, at least one meeting is held every year. The main responsibilities of the “GFMC” include taking the lead in formulating and promoting the implementation of the Bank's green finance management objectives and action plans, in accordance with the green finance development strategies determined by the Board of Directors and Hong Kong's local regulatory requirements. Meanwhile, it is also responsible for coordinating the planning and promoting the construction of institutional mechanisms for green finance, reviewing and making decisions on green finance-related policies and important systems, regularly assessing the status of green finance governance and development, tracking the achievement of major regulatory indicators, and making timely strategic adjustments based on actual conditions, etc.

Organizational Structure of Green Finance Management Committee

1.2. Senior Management

The Senior Management is responsible for coordinating the departments of the Bank to jointly execute the climate risk and green finance related policies approved by the Board of Directors, implement the climate action plans formulated by the Board of Directors, and achieve the climate-related targets set by the Board of Directors. In addition, the Senior Management regularly reports the project progress to the Board of Directors and board-level committees to assist in evaluating climate-related management performance and monitoring the achievement of climate-related targets.

To strengthen the responsibility of supervising risk management, the Bank has established a Comprehensive Risk Management Committee (hereinafter referred to as the "CRMC") at the senior management level to collectively supervise and evaluate various risks including climate risks defined by HKMA through holding quarterly meetings. The “CRMC” is authorized by the “RMC”. The Chief Executive of the Bank serves as the chairman, the vice chairman is the Deputy Chief Executive in charge of the Risk Management Department, and all other persons from the Executive Office serve as committee members. The duties of the “CRMC” include determining the Bank's risk control objectives, overall risk strategies, management policies, procedures and measures for internal controls based on the risk management strategies and overall policies determined by the Board of Directors. It also takes responsibility for coordinating the planning and promoting the construction of comprehensive risk management and internal control system, and supervising and guiding each business line and department to effectively implement risk management strategies, the requirement of risk appetites and risk limits, and optimizing internal controls. The “CRMC” reviews the set-up, monitoring procedures, and the implementation status of risk appetites, risk limits and key risk management indicators.The “CRMC” is also responsible for approving results of major risk identification and assessment, reviewing control measures for significant risk scenarios, etc., and regularly reporting management situations on various risks and submitting relevant reports to the “RMC” for review and approval.



Organizational Structure of Comprehensive Risk Management Committee

Reporting procedure on climate-related issues

The Bank regularly reports or submits reports on climate-related risks and green finance to the “RMC” and “GFMC” and asks for their approval or decisions on other major issues and topics relevant to climate-related risks and green finance.

When a climate risk event occurs or a climate risk regulatory standard is issued, the “RMC” and “CRMC” will timely report in regular meetings and continuously review the project outcomes. If the situation is urgent or there are multiple departments involved in the topic, the Bank will hold a "GFMC" meeting to invite all the relevant departments to participate in the discussion.

1.3. Human Resource Management

1.3.1. Remuneration Policy

To encourage the Board of Directors and Senior Management to place a high value on climate-related issues management, and promote the formulation, implementation and monitoring of climate-related strategies and objectives, the requirements aligned with climate risk management strategies have been incorporated into the current remuneration policies of the Bank. Through integrating the climate risk-related work results with employee remuneration, the remuneration system has reflected the climate strategic planning. In this way, the Bank can promote the participation of all employees in climate change actions, publicize the concept of sustainable development, and cultivate a corporate culture of climate risk management.

1.3.2. Employee Development

To ensure that the Board of Directors and Senior Management have timely access to the latest information and fully understand the global, national and regional development of climate-related issues, the Learning and Training Center held training courses on climate risk management and invited senior academics to conduct lectures on green finance. Such diverse training and lecture activities further strengthened the top-level design, improved the employee's expertise and capability of fulfilling their duties, and promoted the improvement of climate governance system.

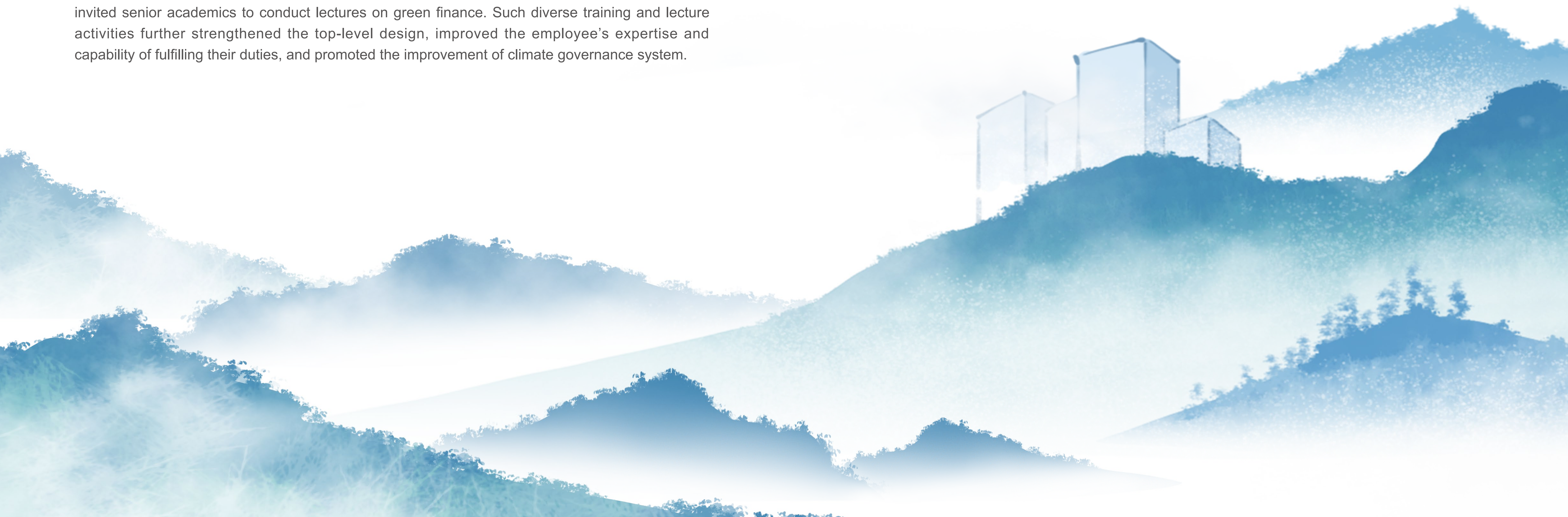
Training

- GS-1 "Climate Risk Management"
- Integrating Climate Risk into the Bank's Supervisory Processes

Lecture

- Lecture on the Road to Green and Carbon Neutral Bank
- Opportunities and Market Intelligence for Banking under Climate Change
- Consultation with Dr. Ma Jun: Green Finance in Hong Kong, China and Beyond

Climate Risk and Green Finance related Training and Lecture Activities Held in 2022



02

Strategy

The Bank has integrated green and low-carbon concepts into its corporate strategies, focusing on the issues of climate change. On top of strengthening the top-level design of green finance, the Bank has comprehensively built a green financial system and constructed a high-quality service platform for green finance. In order to expand the impact of green finance, the Bank has increased the development of green bonds, carbon finance and other financial instruments. Moreover, the Bank has paid close attention to the green and low-carbon transition of the real economy, supported renewable energy, clean production, ecological restoration projects, etc., and accelerated the whole society to take firm steps towards the goal of sustainable development.

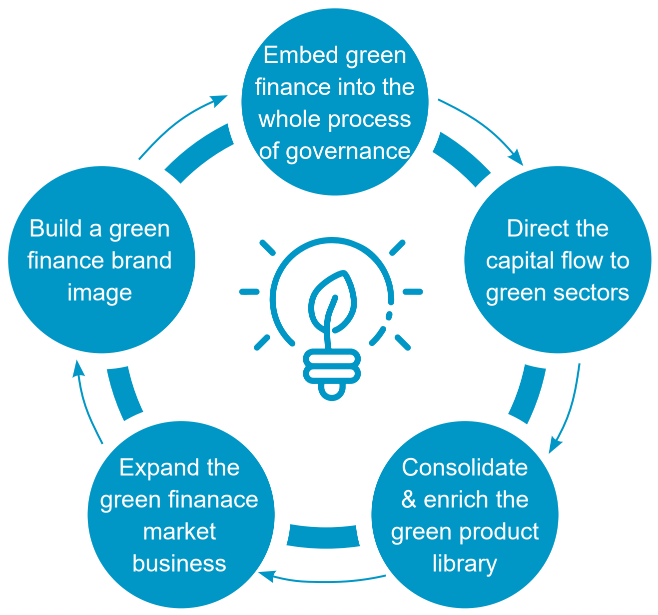
2.1. Consolidate the Keystones of Green Development

The Bank has actively responded to the national climate target of "carbon peak and carbon neutrality" and adhered to the requirements of the “Outline of the Development Plan of Bank of Communications Co., Ltd. for the 14th Five-Year Plan Period (2021-2025) (Revised in 2022)” to anchor the business development in green. Moreover, the Bank continues to explore green, low-carbon and sustainable business models to provide customers with full services of green finance.

Relying on the five keystones for green development, the Bank has accelerated the development and application of green financial products and services and carried out green financial projects referring to various relevant standards, such as the Common Ground Taxonomy. The Bank has also improved the development quality of green finance, cultivated the domestic and overseas markets of green finance, promoted the transformation and upgrading of the real economy.

- Clarify the requirements for climate and environmental risk assessment in credit evaluation
- Avoid new coal power projects overseas

- Improve the promotion of green financial business highlights
- Strive to be the green representative for the financial industry



- Develop green credit vigorously
- Make resources appropriately tilt towards enterprises or projects with low-pollution and low-energy consumption

- Learn from the experience of green bond investment
- Participate in overseas green finance market actively

- Amplify the advantages of existing products such as green deposits and green bond issuance
- Strengthen the research and innovation of green products

Five Keystones for Green Development

To further support the national carbon emission reduction works and Hong Kong's 2050 development target of carbon neutrality, the Bank has implemented the climate change related objectives set by the Head Office.

2025	Integrate the green and low-carbon concepts into all aspects of business management and steadily increase the percentage of green loans
2030	Reduce the carbon intensity of own operations and asset portfolio significantly and serve the carbon neutrality concept in high quality
2060	Achieve and stablize the percentage of green loans over 50%

Climate Change related Objectives

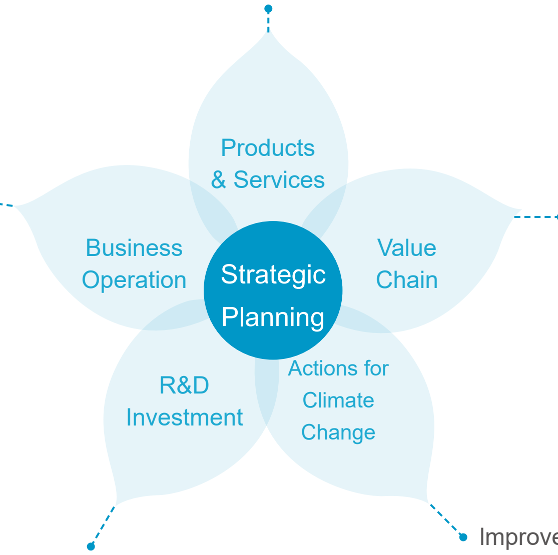
The occurrence of climate-related issues may reach the Bank's risk appetite level, which is beyond the level of risk it is willing to take within its risk tolerance, resulting in material financial impacts. In addition, climate-related factors may significantly adjust the business strategies and objectives and affect the existing strategic direction. The two types of climate-related risks identified and assessed by the Bank include physical and transition risks. Therefore, the Bank has identified and analyzed the impacts of potential physical risks, transition risks[1], and climate-related opportunities in the short, medium and long term[2]. The Bank has also measured the potential financial impacts of climate-related risks by conducting stress testing to ensure the organic integration of corporate strategy and financial planning with climate change issues.

[1] Please refer to Section 2.2 for more details on the stress testing results of physical and transition risks.

[2] Short term refers to 0-3 years, medium term refers to 4-9 years and long term refers to 10 years or more.

Improve the green financial system and vigorously develop green financial services

Promote the implementation of energy-saving measures throughout the bank to create an image of low-carbon operation



Reduce the share of high carbon emission in the asset portfolio progressively

Increase the research and development (R&D) capital investment to develop and enrich the product category and service range of green finance

Improve the support for green projects (especially carbon-negative projects)

Integrate Climate Change into Corporate Strategic Planning

In the future, the Bank will further utilize the scenario analysis tools to continuously review the consistency of the corporate strategic planning with the global, national and region's low-carbon transition paths, and consistently empower the green development strategy.

2.2. Enhance the Resilience of Green Strategy

Climate change is characterized by long time horizons, high uncertainty, far-reaching impacts, etc., requiring timely adjustment of the corporate strategic direction and action plans. To enhance the resilience of development strategies under different climate change scenarios, the Bank has incorporated the climate-related risks into stress test scenarios and conducted stress testing for each physical risk and transition risk referring to the Intergovernmental Panel on Climate Change (hereinafter referred to as the "IPCC")'s Representative Concentration Pathway 8.5 (hereinafter referred to as the "RCP 8.5") and the Network of Central Banks and Supervisors for Greening the Financial System (hereinafter referred to as the "NGFS")'s Delayed Transition Scenario.

IPCC RCP 8.5

A scenario of high greenhouse gas (hereinafter referred to as the "GHG") emissions, assuming that GHG emissions continue to rise at current rates without climate change policy interventions[3].

NGFS Delayed Transition Scenario

It is assumed that new climate-related policies will not be introduced until 2030 in various countries and regions worldwide, and the policy directions and action plans adopted vary among different countries and regions. Annual global GHG emissions will also be reduced from 2030 onwards[4].

Physical Risk

The Expected Credit Loss (hereinafter referred to as “ECL”) of loans and Risk-weighted Assets (hereinafter referred to as “RWA”) are affected through exerting pressure on the forecast for climate scenario of Hong Kong in mid-twenty-first century, which is transmitted to the collateral value of properties held by the Bank and increases the Loss Given Default (hereinafter referred to as “LGD”) of property mortgage loans. In 2022, it was found that the majority of properties held by the Bank as collaterals were located in areas less influenced by tropical cyclones by 2050 and were less likely to be exposed to the risks of climate change issues. Taken as a whole, the impacts of climate change-related physical risks on the ECL of property mortgage loans and Capital Adequacy Ratio (hereinafter referred to as “CAR”) were immaterial.

[3] Climate change scenario settings are taken from the IPCC AR5 Synthesis Report: Climate Change 2014.
[4] Delayed transition scenario settings are taken from the NGFS Scenarios Portal.

Transition Risk

To incorporate the transition risks into stress test scenarios, pressure is exerted on the loan customers and bond issuers' financial abilities and credit ratings are adjusted accordingly to affect the ECL and RWA of loans and the market value of bonds for the Bank's twelve high carbon emission industries (energy, thermal power, power transmission, metal and mining, cement, steel, glass, paper, construction, real estate development, aviation and shipping). In 2022, the test result turned out that the impact of transition risks on ECL and CAR was immaterial.

Case Analysis of Transition Risks for the Cement Industry

Analyze the path to decarbonization for the cement industry

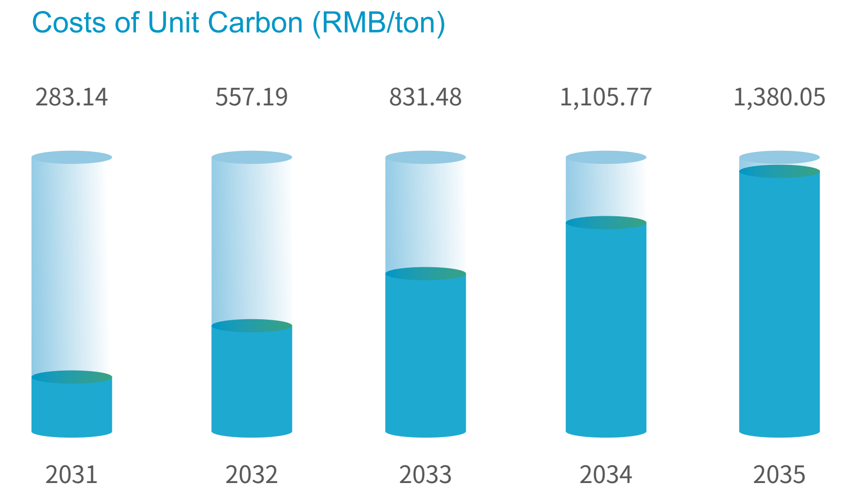
The cement industry can reduce the consumption of fossil fuels by switching to alternative fuels such as biomass and refuse-derived fuels to achieve energy saving and carbon emission reduction. At the same time, improving the clinker quality and reducing the clinker ratio can help lower the carbon emissions. Considering that the shortage of alternative fuels can limit the potential of industrial carbon emission reduction, the carbon capture, utilization and storage (hereinafter referred to as "CCUS") technology will drive the cement industry to achieve carbon reduction and carbon neutrality goals.

Principal Decarbonization Technologies[5]	Decarbonization Costs (RMB/ton)	Decarbonization Potential (Gton)
Promote alternative fuels to replace fossil fuels	526.50	0.35
Reduce the clinker ratio in cement raw materials	2,359.50	0.10
Adopt CCUS technology	845.00	0.70

[5] The costs and potential of emission reduction technologies are referenced from external research institutes.

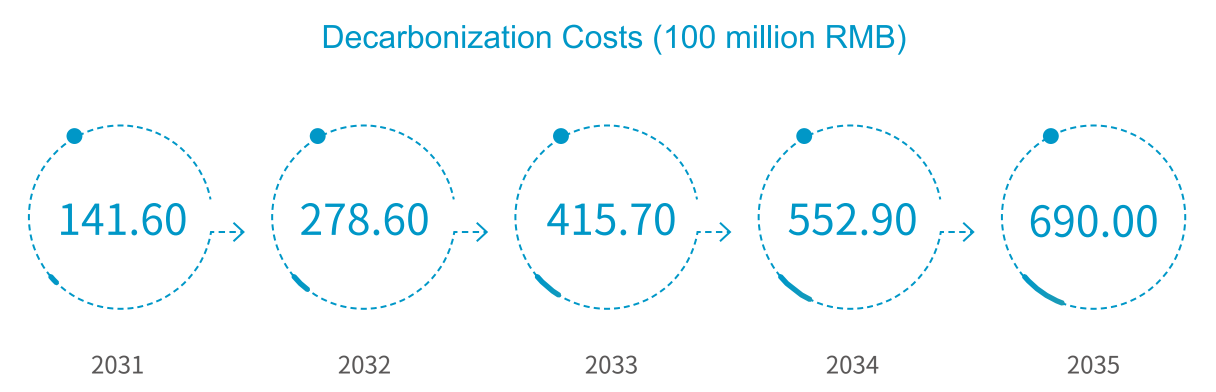
Assume the costs of unit carbon for the cement industry

Based on an overall consideration of the costs and potential of the decarbonization technologies mentioned above, an assumption was made for the costs of unit carbon for the cement industry from 2031 to 2035.



Estimate the total costs of decarbonization for the cement industry

According to the fact that the cement industry took up 24.2% of total industrial carbon emissions in 2020, the carbon emission reduction that the cement industry needs to achieve was projected to be 50 million tons of CO_2 per year between 2031 and 2035.



The cement industry belongs to energy-intensive industry. Under the trend of energy conservation and low carbon, it is expected that the cement industry will be faced with relatively higher transition risks in the future, including a surge in production and operational costs, a significant reduction in production, the depreciation of fixed assets, etc.

Case Analysis of Transition Risks for the Thermal Power Industry

Analyze the path to decarbonization for the thermal power industry

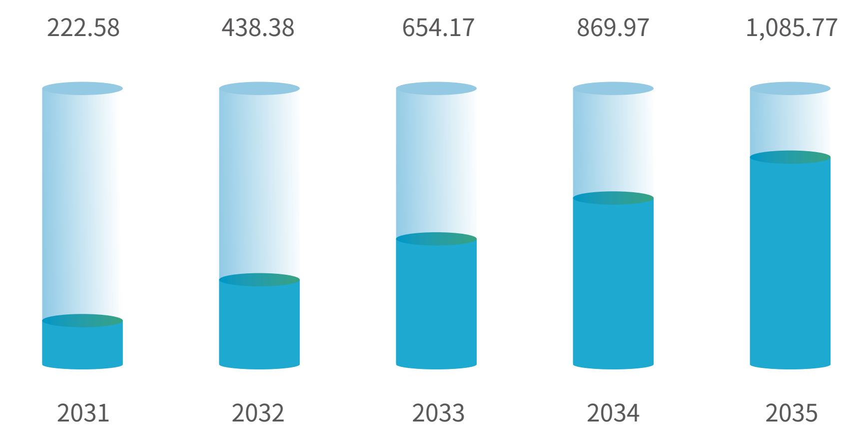
The key to reducing carbon emissions for the thermal power industry is to find appropriate clean power and phase out fossil fuels, such as coal, natural gas, etc. Potential decarbonization options include hydro, wind, solar, biomass, nuclear and hydrogen power equipped with battery technologies to overcome the storage problem of renewable energy. Up to this moment, wind and solar power with energy storage systems is the most promising pathway to low-carbon transition.

Principal Decarbonization Technologies	Decarbonization Costs (RMB/ton)	Decarbonization Potential (Gton)
Solar power generation with battery storage	656.50	0.03
Wind power generation with battery storage	741.00	0.02
Solar power generation with hydrogen storage	1,404.00	0.03
Onshore wind power generation with hydrogen storage	1,482.00	0.02

Assume the costs of unit carbon for the thermal power industry

Considering the main energy sources for future power generation will shift from fossil fuels to renewable energy and nuclear power, as well as the costs and development of application scope of CCUS technology, the projected costs of unit carbon for the thermal power industry between 2031 and 2035 are described as shown:

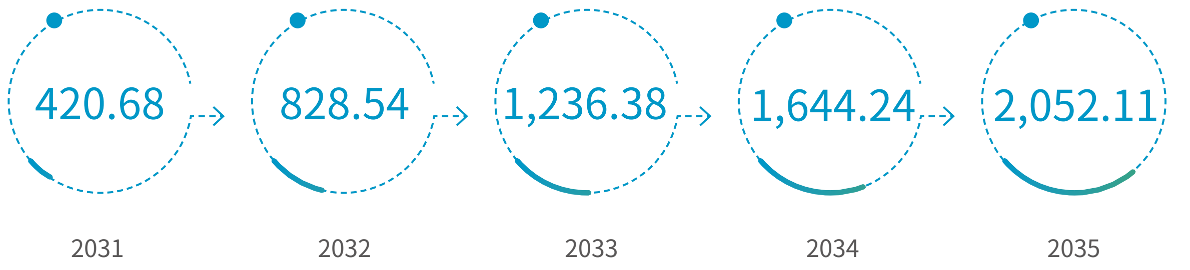
Costs of Unit Carbon (RMB/ton)



Estimate the total costs of decarbonization for the thermal power industry

In the NGFS's Delayed Transition Scenario, China's carbon emissions in 2030 and 2035 are about 11.3 billion tons and 8.7 billion tons respectively, which equals to an annual carbon emission reduction of 520 million tons on average between 2031 and 2035. In addition, according to the prediction of Institute of Climate Change and Sustainable Development (ICCSD) of Tsinghua University, China's power industry will contribute an emission reduction of 36.3%. Based on this prediction, the carbon emission reduction and emission reduction cost of the thermal power industry from 2031-2035 are estimated.

Decarbonization Costs (100 million RMB)



The thermal power industry will be put at a relatively high risk of transition due to the huge consumption of fossil fuels and high carbon emissions. Besides the possible asset stranding of thermal power generation-related equipment, the upgrade of energy structure will result in a significant increase in capital expenditure, which will further affect the profits and business operations.

The physical risks and transition risks at present have no material financial impacts on the Bank. The Bank will regularly review the relevance and materiality of climate risks, and progressively promote the development of ECL models to assess, manage and monitor climate-related risks in a more comprehensive manner. What's more, the Bank will take a deep dive into the influence of climate change on business operation, enhance the capability of controlling and managing climate risks, and strengthen the resilience of green development strategy.

2.3. Lead the Low-carbon Transition for Clients

In response to climate change, accelerating the green and low-carbon transition of the whole society and optimizing the resource allocation in favor of green sectors are important strategic directions of the Bank. The Bank has supported the green and low-carbon industries underlying the real economy to help the national economy circulate, offered more favorable interest rates to clients who launch green projects, and enhanced the green credits for industry improvement projects of energy conservation and carbon emission reduction. Meanwhile, the Bank has deepened the collaboration of green finance with the Greater Bay Area and focused on promoting green petrochemicals. The Bank has also actively participated in the green infrastructure, clean energy, green transportation and other green and low-carbon projects along the "Belt and Road" to implement the concept of green finance.

To improve the understanding, development and implementation of low-carbon transition for clients in different industries, the Bank has conducted an analysis of related companies and industry research on key high carbon emission industries. The study has sorted out the industry's GHG emission activities, identified major GHG emission sources and resolved climate-related risks and their potential impacts on industry. Furthermore, the decarbonization technology trends at both the policy and market levels have been summarized and the focus areas stressed by the Science Based Targets initiative (hereinafter referred to as "SBTi") and Carbon Disclosure Project (hereinafter referred to as "CDP") for specific industries have been analyzed. The research findings will facilitate a dialogue with the clients on climate-related issues. Valuable recommendations will be provided for clients to explore the path of low-carbon transition and encourage them to set climate-related targets and action plans.

03

Risk Management

The Bank has integrated climate risk management into the comprehensive risk management system for implementing climate-related strategies and achieving climate-related action targets. By optimizing the existing risk management process to achieve effective identification and assessment of climate risks, the Bank has taken proactive measures to manage, respond to and mitigate the possible impacts of climate risks.

3.1. Climate Risk Identification and Assessment

The climate-related risks identified and assessed by the Bank can be categorized into physical and transition risks. Physical risks refer to the financial impacts on the Bank arising from increasingly frequent extreme weather events such as hurricanes, cyclones or floods, or long-term shifts in climate patterns which may cause rising sea levels or chronic heat waves. Transition risk refers to that in response to climate change, the completion of a low-carbon economy transition may involve changes in policies and laws, technology and market, which may affect the Bank's financial performance and reputation.

The Bank has paid great attention to climate risk identification and assessment, covering the direct operational activities as well as upstream and downstream of the value chain. To identify climate-related risks accurately and comprehensively, the Bank has analyzed the pathway and timescale regarding how each climate risk manifests across the traditional risks.

Analysis of Climate Risk Transmission Pathway to Traditional Risks

Risk Type	Climate Risk Transmission Pathway	Timescale[6]	
		Short-to-medium Term	Medium-to-long Term
Credit Risk	Climate risk may lead to disruptions in the debtors' business operations or asset devaluation, affecting the debtors' repayment ability and thereby increasing the bank's credit risk.		√
Market Risk	Transition risks may affect the business operations and market expectations, resulting in fluctuations or declines in the bank's asset value.	√	
Operational Risk (Including Information and Technology Risk)	Physical risks may lead to disruptions in the bank's operations and supply chain, affecting the normal conduct of business activities and resulting in losses.	√	
Liquidity Risk	In response to climate change events, the simultaneous rising demand for borrowing and withdrawal may leave the bank with capital shortage and increased liquidity risk.	√	
Interest Rate Risk	Climate risk may increase the precautionary motivation of citizens to accumulate savings and reduce new investment demand of companies, putting pressure on interest rate of the market.	√	
Legal Risk	The bank may confront the risk of violating laws and regulations by providing funds to industries not supported by national climate policies. In addition, the bank's operating costs may increase to meet compliance requirements.	√	
Strategic Risk	The bank may incur losses because of the failure to make timely strategic adjustments to the newly promulgated climate-related policies.	√	
Reputational Risk	Passive climate actions may expose the bank to reputational risk if the market and consumer preference change to environmental-friendly products, services, and business practices.		√

[6] Short- to medium-term refers to 0 to 6 years, medium- to long-term refers to more than 6 years.

To enhance the climate risk assessment at the credit granting stage, the Bank has revised the "Implementation Rules for Credit Granting" to improve the assessment requirements of climate risk for customers. At the same time, the Bank has also modified the credit application template to include the climate risk assessment as one of the requirements for the credit application.

Principal assessment guidelines/requirements for climate risks*

•Additional assessment requirements for credit-related businesses in industries greatly affected by climate change

The impacts of climate change or extreme weather events on the supply of production resources, production and potential financial losses should be incorporated into the feasibility analysis (if applicable), scenario analysis and stress testing of relevant projects. The assessment of sustainable risk management of debtors or credit-granting projects should be improved.

•Pay attention to and assess the potential transition risks posed to debtors due to the low carbon economy transition

Evaluate the market development prospect and market structure changes. High-carbon emission industries (e.g., fossil fuel-related industries) are restricted from operating or confronting a decline in resource value. Meanwhile, in response to consumer expectations and industry technology transformation trends, traditional products' market acceptance and competitiveness are decreasing. The risk of phasing out by market is also increasing. The strategic plan and implementation pathways developed by the clients in high-carbon emission industries for achieving “peak carbon" and "carbon neutral" should be understood. Moreover, their technical and financial capability for technology transformation should be assessed comprehensively.

* Mainly for medium or large-scale enterprise credit customers or other non-personal credit customers with credit lines exceeding the equivalent of HK $200 million.

3.2. Climate Risk Management and Monitoring

Climate Risk Management Framework

In the existing risk management framework, the Bank has emphasized the climate risk factors and continuously enhanced the three lines of defense for risk management. It has also assigned climate risk management responsibilities to all relevant departments and promoted the dissemination of risk culture.

The First Line of Defence: Business Units

- Conduct various business activities as the frontline department directly;
- Take the responsibilities of identifying, assessing, managing and reporting business-related risk exposures;
- Adjust the current credit approval procedure, integrate the consideration of climate risk factors, and control the potential climate risks caused by business activities.

The Second Line of Defence: Risk Management Department

- Formulate, review and revise internal climate-related risk policies and procedures as the risk management-specific department;
- Assess, monitor and report independently on the risks for each business line's activities;
- Conduct regular climate risk assessments of the various assets held by the Bank.

The Third Line of Defence: Internal Audit Department

- Conduct independent audits of the management effectiveness for the business units and risk management department as the last line of defense for risk management;
- Meanwhile, regularly assess the overall performance of the Bank's climate-related risk management;
- Monitor and enhance the construction and improvement of risk control capabilities.

Three Lines of Defense for Climate Risk Management

To coordinate with the climate risk management strategies, the Bank has revised the term of reference for Risk Management Committee and Comprehensive Risk Management Committee to incorporate the climate risks into the responsibility scope of the "RMC" and “CRMC”. Regular meetings will be held on issues such as climate risk-related management policies, risk status assessment, risk index tracking, etc., to ensure timely monitoring and management of climate risks and make corresponding strategic adjustments to the climate risk situation to mitigate the impacts of climate risks.

Reviewed and approved by the Board of Directors, the Bank has added the climate risk indicator of "Green Asset Proportion" in the risk appetite statement to identify and quantify the climate-related risks of business activities effectively and systematically. To steadily improve the green credit ratio, this indicator will be monitored quarterly and reviewed at least once a year to align with the Bank’s development pace and macroeconomic situation.

Climate Risk Management Tool

Referring to the policies and standard documents related to high-climate-risk industry classification and green finance taxonomy globally, nationally and regionally, the Bank has prioritized the materiality of climate risks for all relevant industries based on the management-level professional opinions to enhance the climate risk management effectiveness.

To manage and respond to climate-related risks, the Bank has integrated environmental performance into customers' regular risk rating standards, which will significantly affect their rating results. In addition, according to the industry climate performance assessment results, the Bank has established the high-carbon emission industry list and carried out an additional annual climate-related risk assessment for the listed customers.

Climate Risk Management System

The Bank has developed the methodology for quantifying the carbon emissions from investments and constructed a collection and management system for investment data. Relying on this, the Bank has collected the carbon emission activity data from customers in high-carbon emission industries and conducted the first practice of carbon emission calculation and disclosure for investments. In the future, the Bank will further expand the collection scope of carbon emission data, improve the analysis and monitoring of carbon emission performance of investments, and support and promote the development of green finance and transition finance.

The Bank will maintain focus on the development of global, national and regional climate risk, gradually enhance the process of climate risk identification, assessment and management, and improve the risk information and data collection system. Considering the long-term nature, uncertainty and complexity of climate risk, the Bank will consistently increase the types of climate risk indicators and strengthen the capability and adaptability of climate risk management.

04

Metrics and Targets

In 2022, in response to the Head Office's work arrangement on climate and environmental risk management, the Bank actively undertook its obligations under the Module GS-1 "Climate Risk Management" by HKMA and made progress in the implementation of climate risk-related work, including quantification of carbon emissions at the operational level and the financial level, setting targets related to climate change and promoting the development of green finance at the business level.

Climate and Environmental Risk Management Key Initiatives

Set its own operational targets for carbon peaking and carbon neutrality, and conduct carbon accounting and data analysis.

Expand the coverage of carbon emissions data collection for clients in the investment and financing sectors, and launch carbon data surveys for clients in high carbon emission industries, including electricity, steel, construction materials, non-ferrous metals, aviation, petrochemicals, chemicals and paper manufacturing.

Head Office's Climate Change Opportunities Outlook

China, according to research, would need hundreds of trillions of yuan to achieve its "30·60" Decarbonization Goal, thus creating massive opportunities for commercial banks in green finance and transformation finance.

Innovative carbon finance products present new opportunities for financial institutions. Over the past few years, there has been significant progress in both traditional financial products designed to support reducing carbon emissions and financial products with carbon emission permits as the underlying assets.

In order to comprehensively analyze and identify the risks and opportunities arising from climate change, the Bank has established a qualitative assessment process from 2022 onwards and quantify the carbon emissions of the Bank's loan and bond portfolios with reference to "The Global GHG Accounting and Reporting Standard for the Financial Industry" published by Partnership for Carbon Accounting Financials (PCAF). Sectors with high emissions have been identified through internal risk analysis and prioritized to understand the current carbon performance of its portfolios. In the future, the Bank will work closely with its clients and suppliers to optimize the quality of its data, improve the risk management of its investments and supply chain, and further enhance the disclosure of relevant metrics.

4.1. Operational GHG Emissions

In strict compliance with relevant laws and regulations of the People's Republic of China and the Hong Kong Special Administrative Region, the Bank implements the concept of green development and continues to provide green financial services to its customers. In terms of its own operations, the Bank has been actively promoting green office practices and staff awareness of environmental protection, reducing energy consumption and carbon emissions, and striving to be an energy-saving and carbon-reducing practitioner.

In 2022, the Bank quantified its carbon emissions at the operational level in accordance with the "Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings (Commercial, Residential or Institutional Purposes) in Hong Kong (2010 Edition)" issued by the Hong Kong Electrical and Mechanical Services Department and the Environmental Protection Department.

The Bank's GHG emissions at the operational level are reported together with Bank of Communications Co., Ltd. Hong Kong Branch and BCOM Finance (Hong Kong) Limited. In 2022, the Bank's GHG emissions intensity at the operational level was 6.20 tCO_2e per person.

Operational GHG Emissions

GHG Emissions (Operational)[7,8]	2022	Unit
Scope 1	975.98	tCO_2e
Stationary combustion	12.89	
Mobile combustion	898.24	
Fugitive emissions	64.85	
Scope 2	9,836.12	tCO_2e
Purchased electricity	9,629.24	
Purchased gas	206.88	
Scope 3	507.35	tCO_2e
Water processing	9.62	
Capital goods	484.97	
Business travel	12.76	
Total GHG emissions	11,319.46	tCO_2e
GHG emissions intensity[9]	6.20	tCO_2e/person

[7] As defined in the GHG Protocol, Scope 1 includes direct emissions from gas combustion, vehicle fuel combustion and leakage from fire suppression systems; Scope 2 includes indirect emissions from the production of purchased electricity and gas; Scope 3 includes indirect emissions from water and sewage treatment, purchased capital goods (paper and printers) and business travel (air travel).

[8] The scope of the operational GHG emissions includes the office premises of Bank of Communications Co. Hong Kong Branch and its subsidiary BCOM Finance (Hong Kong) Limited, and Bank of Communications (Hong Kong) Co., Ltd.

[9] The carbon intensity is calculated based on the total number of employees of the Bank, Bank of Communications Co. Hong Kong Branch and its subsidiary, which is 1,826 for the year 2022 (as at 31 December 2022).

Operational GHG Emissions in 2022 (tCO_2e)

To align with the Head Office's key initiatives for climate and environmental risk management, the Bank has set its own operational level emission targets, taking into account its own business situation.

GHG Emissions Targets of the Bank (Operational)

Emissions Targets (Operational)	2035	2050
Absolute GHG emissions at operational level	Reduce GHG emissions at operational level by half in 2035 (2022 as baseline)	Achieve net-zero GHG emissions at operational level in 2050

Apart from its own GHG emissions at the operational level, the Bank also adopts digital technology tools to enrich its online financial services channels and collects relevant data to establish other environmental impact indicators to assess the environmental benefits.

Other Environmental Impact Indicators of the Bank

Electricity consumption
14,646.72 (MWh)

Paper usage (A4)
89.54 (t)

Water consumption
15,892.50 (m^3)

Paper usage (A3)
4.09 (t)

Gas consumption
16,888,560.00 (MJ)

In the future, the Bank will continue to strengthen the collection and management of relevant data, promote green office and green procurement, and reduce resource consumption and GHG emissions while providing green, low-carbon, quality and convenient financial services to its clients.

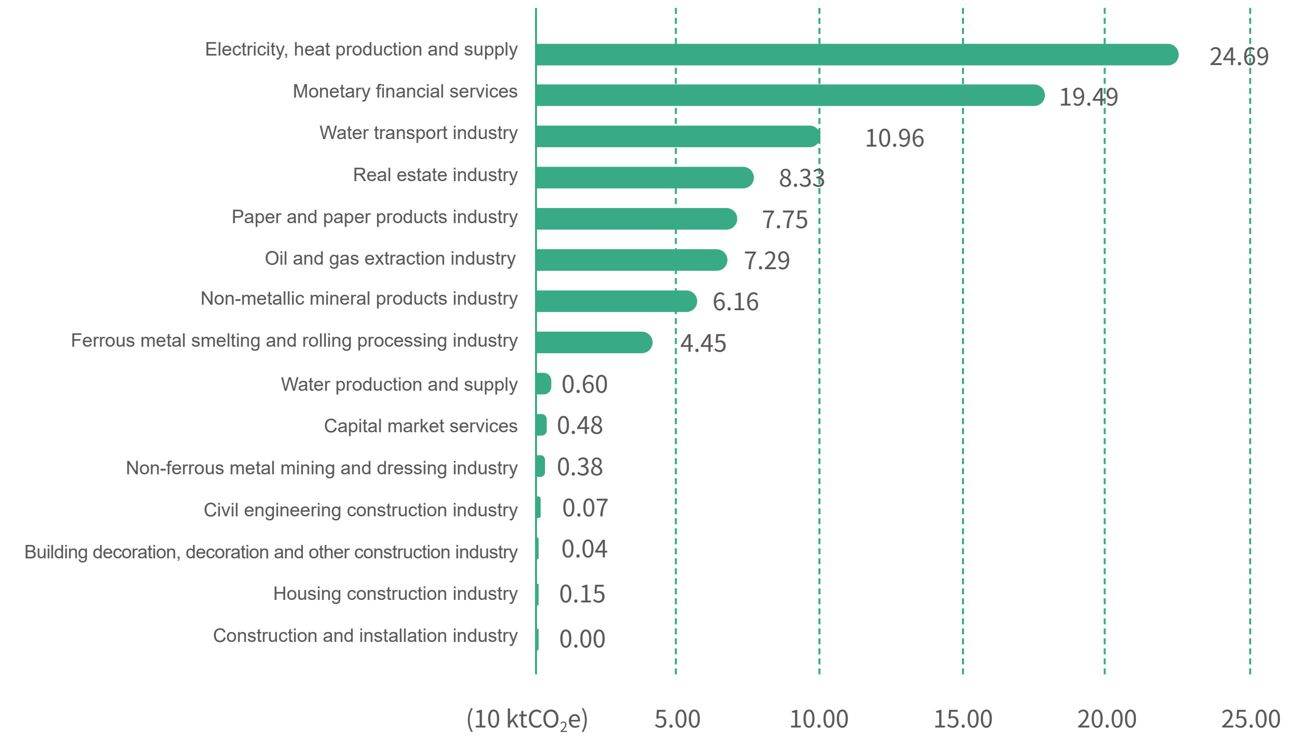
4.2. Financed Emissions

Based on the results of internal risk assessment, the Bank quantified and analyzed the emission data for its loan and bond portfolios in 2022. Quantification was conducted based on information such as the clients' industry classification, average industry emission factors, etc. Taking the proportion of the balance of loans granted to customers to customers' debts and equities as the attributional factor, we have evaluated the financed emissions associated with the investments from the Bank.

In 2022, the quantification of the Bank's financed emissions covered assets in 15 sectors from its loan and bond portfolios. As at the end of 2022, the total value of in-scope assets amounted to HK$ 271,701 million, with a total financed emissions of approximately 0.91 $MtCO_2e$ and an average asset carbon intensity of around 3.34 tCO_2e per million HKD for loans and bonds.

Financed Emissions (Loans and Bonds) of the Bank in 2022 by Category

Category	Financed Emissions (10 $ktCO_2e$)	Percentage (%)	Emissions Intensity (tCO_2e/million HK$)
Loan	55.97	61.61%	5.57
Bond	34.87	38.39%	2.04
Total	90.84	100.00%	3.34



Financed Emissions (Loans and Bonds) of the Bank in 2022 by Industry Classification (GB/T 4754-2017)

This year was the first time that the Bank conducted carbon emissions quantification for its loan and bond portfolios, and encountered challenges mainly in terms of data availability and accuracy. In the next step, the Bank will continue to provide relevant training to frontline units, e.g., relationship managers, and focus on key industries, strengthen communication with clients and assist them in optimizing their data collection and disclosure processes, so as to lay the foundation for improving data quality, refining the scope of relevant disclosures and promoting the green transformation of clients in the future. At present, the Bank has set targets for carbon emissions at the investment and financing levels:

Emissions Targets (Financed emissions)

Emissions Targets (Financed Emissions)	2060
Absolute financed emissions	Achieve net-zero financed emissions in 2060

4.3. Incorporate Climate-related Risks into Remuneration Policies

The Bank has incorporated climate risk management performance to the remuneration policies of senior management level to motivate senior management to focus on climate related issues and to develop strategies to address current and future climate risks. In April 2022, the Bank's "Remuneration Policy" has added elements of "alignment with the Bank's climate risk management strategy" in the annual performance incentive mechanism, with line-and-unit-specific appraisal indicators, including:

"e-Diversion Rate" and "e-Coverage"

Through strengthening technological innovation and promotion of the E-Banking Services Department, and application of digital technology in the corporate lines and retail lines, the customer experience of using electronic channels for banking services can be greatly enhanced. In addition to solving problems such as long waiting time, repeated communication and frequent changes, it can also reduce resource consumption and carbon emissions.

Additional bonus for "Strategic Projects"

Additional bonus points will be awarded for completing projects in green finance, technology-based finance and digital transformation business to encourage corporate lines and retail lines to assist their clients in green and low-carbon transformation to actively address climate change.

Additional adjustment for "Digital Transition"

Points will be awarded or deducted according to the completion of digital transformation projects by operating units in accordance with their functions, with a view to optimizing business processes, reducing operational costs and improving customer experience.

4.4. Continue to Push Forward Green Finance

The Bank is progressively improving its green credit guidelines, supporting the establishment and development of a green, low-carbon and circular economy.

Green Credit

Key Performance

As at the end of the reporting period, the bank had a balance of HK$**13.5** billion equivalent in green loans and sustainability performance linked loans.

Highlights: The Bank's First Green Vessel Loan to a Shipping Enterprise Sets a New Milestone in its Low-Carbon Transformation

On 15 July 2022, the Bank's first green vessel loan to a shipping enterprise was successfully issued for the purchase of a **180,000** TEU dual-fuel LNG-powered vessel, which is an important step in the enterprise's transformation towards green and low-carbon development with the help of financial tools.

In the future, the Bank will assist the customer to integrate the concept of green development into all aspects of production and operation, lead the green transformation of partners in the industry value chain, insist on green production and low-carbon operation. The bank will also impel the customer to transform continuously as well as the whole industry towards resource conservation, environmental protection, and low-carbon development.

Green Bonds

Key Performance

During the reporting period, the Bank has invested HK$**9.7** billion in green, blue and sustainable bonds, supporting areas such as clean energy, green infrastructure upgrades, energy conservation and environmental protection, and cleaner production.

Green Retail Financial Products and Services

Key Performance

ESG funds are funds that incorporate environmental protection, social responsibility and corporate governance into the investment decision making process along with financial indicators. They are increasingly drawing investors' attention by their resilience and ability to help address environmental issues. In response to rising demand for ESG investments, the Bank currently distributes multiple ESG funds managed by various leading asset managers, and offers a total of **69** investment options to clients.

In April 2022, the Bank became one of the placing banks for the HKSAR Government's Green Retail Bond issuance with successful subscription of HK$**231** million.

Highlights: The Bank Launches Green Mortgage Program for Hong Kong's Certified Sustainable Buildings

In late April 2022, the Bank launched the Green Mortgage Special Rate Scheme for properties that have been awarded “Platinum” or “Gold” by the Hong Kong Green Building Council to encourage customers to purchase properties with excellent sustainability performance. Certified developments are typically designed with good performance in the areas of energy use, health and well-being, and water use, as well as integrated design and construction management, sustainable plot development, and materials and waste management in the building process. Currently, **30** properties have been approved for Green Mortgage and the Bank will continue to actively add more popular green properties to its portfolio to promote green living and support sustainable development in Hong Kong. Up to the end of 2022, a total of **19** Green Mortgage applications have been received, amounting to HK$**112.16** million, of which **10** have been drawn down, amounting to HK$**60.36** million.

Appendix

TCFD Index

TCFD Recommendations	Disclosure
Governance	
a) Describe the board’s oversight of climate-related risks and opportunities.	Chapter 1.1; Chapter 1.3
b) Describe management’s role in assessing and managing climate-related risks and opportunities.	Chapter 1.2
Strategy	
a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Chapter 2.1; Chapter 3.1
b) Describe the impact of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.	Chapter 2.1
c) Describe the resilience of the organization’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Chapter 2.2-2.3
Risk Management	
a) Describe the organization’s processes for identifying and assessing climate-related risks.	Chapter 3.1
b) Describe the organization’s processes for managing climate-related risks.	Chapter 3.2
c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization’s overall risk management.	Chapter 3.2
Metrics and Targets	
a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Chapter 4.1
b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Chapter 4.1-4.2
c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Chapter 2.1; Chapter 4.1-4.4

交通銀行（香港）
BANK OF COMMUNICATIONS (HONG KONG)