CTBC Bank Co., Ltd. Hong Kong Branch
Climate Risk Assessment Report 2024

Contents

1.1

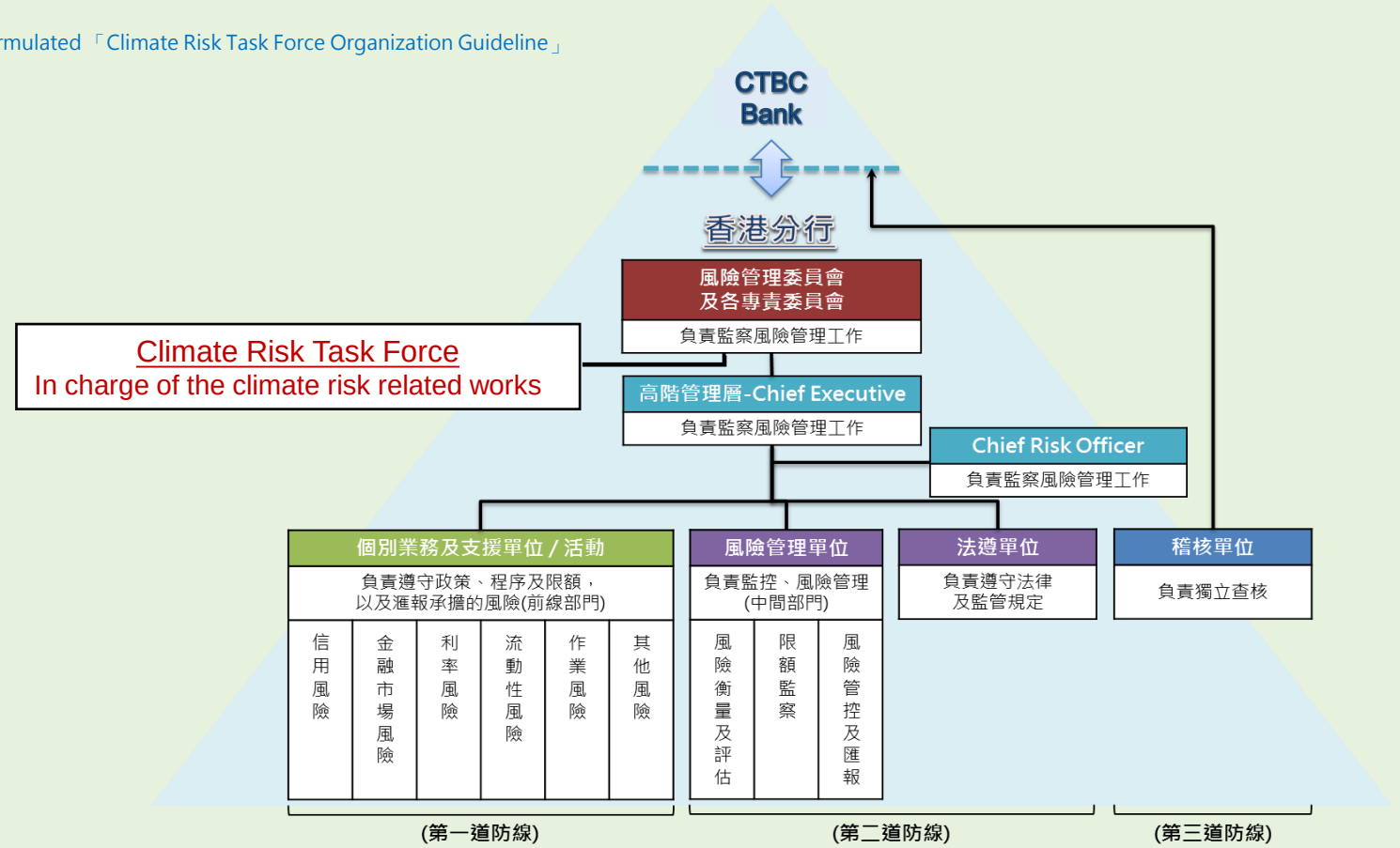
01 Governance

Risk Management Structure of CTBC Bank Co., Ltd. Hong Kong Branch

In order to follow HKMA SPM GS-1 on Climate Risk Management's requirements and implement business sustainable and the spirit of ESG, per "Inclusion of net-zero emissions by 2050 in the Company's long-term sustainability roadmap", "Sustainable Finance Policy" and "Risk Governance Policy" which were approved by the Board of Directors of CTBC Financial Holding and inherit the related guidelines from Head Office of CTBC Bank, Hong Kong Branch established Climate Risk Task Force * in 2023.

The Climate Risk Task Force is organized under the branch's Risk Management Committee ("RMC"), and the Chief Executive and Chief Risk Officer of CTBC Hong Kong Branch act as the supervisors.

* Formulated「Climate Risk Task Force Organization Guideline」



1.2 The responsibility of Hong Kong Branch Climate Risk Task Force

Team Members

Responsibility

- To review the related issues about climate risks, green and sustainable lending, carbon neutrality transition and carbon reduction target (including but not limited to execute the internal and external related guidelines and practices.)
- Every member should collect and discuss all relevant departments' important climate risks issues in TCFD team meeting, then integrate the final opinions to RMC
- Through regular or irregular discussions, the internal climate risk management force of Hong Kong Branch with including but not limited to CTBC Financial Holding Risk Management Department, Corporate Sustainability Office and CTBC Bank's ESG Task Force
- To interface CTBC Financial Holding and Head Office ESG Task Force, and coordinate Hong Kong branch's internal climate risk management
- To forego unmentioned matters, it should be adjusted by external regulations progress and internal management required.

1.3 Risk governance structure and three lines of defence

Risk management is the common duties of all relevant departments in the company. The risk management mechanism should be commensurate with the scale of the bank and the complexity of business operations and risk profile. Through the cross-border fully coordinated, the risk three lines of defence mechanism will be performed:

- First line of defence: Business Departments and related support units. They are in charge of conducting assessments including but not limited to climate related risks to identify potential risks, ensure all the cases comply with risk management regulations and implement daily risk control.
- Second line of defence: Legal & Compliance Department and Risk Management Department. They are in charge of planning risk management systems including but not limited to climate related risks, supervising related risks in operation activities, continuously conducting independent risk assessment, reviewing relevant policies and procedures, and monitoring the implementation effectiveness of the first line of defence
- Third line of defence: Audit Department. It is in charge of checking the compliance and implementation of various risk regulations and mechanisms, including but not limited to climate related risks, and ensuring that Hong Kong branch's various operational risks are under control through a sophisticated and comprehensive risk defence network

1.4 Climate Risk related important milestones and announcement for HKB

2022

1. Discussion on the Risk Management Framework and Quantity Measurement of climate risk of CTBC Financial Holding.
2. to comply with the SPM GS-1 released by HKMA , an external consultant was appointed to help in this regard.
3. The climate risk task force was formed on Oct 25th,2022 and status report of related departments.
4. Official launched HKB Sustainable Finance in Institutional Banking and Responsible Investment .

2023

1. committed to withdrawal from thermal coal and unconventional oil & gas extraction financing. From January 1st, 2036, it is prohibited from undertaking credit extension to the following three ESG Sensitive Sectors.(Three sectors contain Thermal Coal Extraction, Thermal Coal Power Generation and Unconventional Oil and Gas Extraction.)
2. KPMG assist to provide "Methodology and operation procedure handbook for climate stress test" .
3. Completed first climate risk stress test and CTBC Bank Co., Ltd. Hong Kong Branch Climate Risk Assessment Report of 2022 announcement.

2024

1. Head Office announce the "Guideline of Green Loan cases" applicable to overseas branches.
2. "Guideline for HKB Green Deposit" official launched.
3. Completed climate risk stress test of 2023 and CTBC Bank Co., Ltd. Hong Kong Branch Climate Risk Assessment Report of 2023 announcement..

02
Strategy

2.1 Impact of climate-related risks on business, strategy and financial planning

Transition Risks

Transition risk factor	Descriptions of sales, product, or financial impacts	Expected duration of impact
Policy and legal	1. The competent authorities further strengthen sustainability-related regulations or formulate policies and actions to promote climate adaptation, such as trends in global carbon pricing/carbon tariffs, the Hong Kong government's carbon reduction strategy for power generation, and achieving the commitment to carbon neutrality by 2050, increasing compliance costs and carbon emission costs	Short, mid and long term
Technology	1. Enterprises invest resources to transition to low-carbon or energy-efficient operations, however, they may face risks such as excessive increases in development costs and failures in technology development 2. Corporate investments in green energy may fail to achieve expected benefits on schedule due to external economic conditions or supply chain impacts, leading to a decline in asset value or becoming stranded assets 3. Energy prices are volatile	Short, mid and long term
Market	1. Due to the formation of a global consensus on energy conservation and carbon reduction, the market supply and demand, as well as customer preferences, undergo long-term structural changes, such as decreased interest in investing in high-carbon industries and declining consumer demand for high-carbon products	Mid and long term
Reputation	1. Industry stigmatization or increased negative feedback from stakeholders 2. High-carbon industries (such as coal-fired power generation) are the main sources of carbon emissions; a consensus has formed around exiting or restricting financing and investment in these sectors	Mid and long term

2.1 Impact of climate-related risks on business, strategy and financial planning

02 Strategy

Physical Risks

Physical risk factor	Descriptions of sales, product, or financial impacts	Expected duration of impact
Acute	1. The frequency and severity of extreme weather events such as typhoons, rainstorms, floods, and droughts have increased, leading to operational interruptions or damage to asset values 2. In recent years, the global average temperature has risen, making physical risks more severe	Short, mid, and long term
Chronic	1. Refers to long-term changes in climate patterns such as rising average temperatures and rising sea levels 2. Asset values may decline or become stranded assets	Mid and long term

02 Strategy

2.1 Transmission channels of climate risks and opportunity identification

A diagram of the climate risk transmission channels is used to examine how climate risk factors affect the micro economy and the macro economy and how they directly or indirectly exacerbate traditional risks in the financial industry through business operations undertaken by financial institutions. These risks include credit risks, market risks, operational risks, and liquidity risks.

02
Strategy

2.1 Opportunity identification

Climate opportunity type	Descriptions of sales, products, or financial impacts	Time of Impact
Resource efficiency	1. Implement low-carbon internal communication operations (e.g., email approval mechanisms, adoptions of Group' s business resources and products) and lease the certified green buildings, and reduce resource waste (i.e. electricity, paper), thereby improving resource usage efficiency and saving operational costs	Short, mid and long term
Products and services	1. Innovate and develop new low-carbon products or climate adaptation lending solutions to enhance market competitiveness, satisfy consumer preferences and increase revenues	Short, mid and long term
Low-carbon markets	1. In accordance with the Group's plan, proactively expand into markets for low-carbon economic development 2. Collaborate with government agencies and sustainable alliance groups to increase the chances of entering new markets 3. Utilize incentive measures from the public sector(i.e. Green and Sustainable Finance Grant Scheme)	Short, mid and long term
Resilience	1. Participate in sustainable-related lending projects to strengthen climate resilience and improve banking business reliability	Short, mid and long term

02 Strategy

2.1 Climate-related strategy objectives

Short-term goals (within 1 year):

- Continuously manage and execute the Branch's ESG initiatives in accordance with internal policies, so as to ensure the climate risk management complies with regulatory requirements
- Identify high carbon emission borrowers in the Hong Kong branch and conduct stress tests to the relevant exposures
- Strengthen the communication of carbon emissions and green transformation knowledge with borrowing customers, such as engaging conversation with customers regarding low-carbon transformation and climate risk issues of their supply chain, customizing innovative ESG products and services, and encouraging customers to complete climate risk related questionnaires
- Continue to provide staffs with climate finance and related scientific knowledge; closely monitor the status of the high carbon emission borrowers
- Actively enhance green financial products by combining localized climate risk scenarios with the Group's ESG strategic planning

Mid-term goals (within 5 years):

- Regularly review the branch's low-carbon transformation strategy in banking operation and business, such as design and facilitate low-carbon transformation plan under the supervision of the Head Office, and assess the high carbon emission borrowers' exposure
- Gradually increase the branch's contributions to the local low-carbon financial services and economy
- Cultivate professionals in climate risk and strengthen branch-wise governance related to climate risk

Long-term goals (more than 5 years):

- Continuously increase the depth and breadth of climate risk scenario analysis and stress testing of lending and investment portfolio, and establish adequate climate risk financing policies applicable to the branch, enabling effective identification of target customers, progressively transforming into sustainable business development
- Strengthen collaboration mechanisms with customers to enhance the branch's influence in green finance
- Gradually optimize the branch's climate risk control mechanisms
- Cooperate with the group to achieve the net zero emissions goals

2.1 Climate-related strategy planning

- In alignment with the group's opportunity strategies, the branch has established two main strategic focuses: "Green Finance" and "Green Operations ", which then three significant climate opportunities were identified, 1. Promotion of low-carbon products and services, 2. Enhancement of climate resilience, 3. Energy management and paperless operations, ranked in terms of significance.
- The branch also actively encourage the business team to participant in ESG financing projects to cultivates green finance talents.

Promotion of low-carbon products and services

Business Type: Green finance

Risk Type: Transition risk

Risk Factor: Policy and Legal, Reputation and Market

Action Plan:
Implement green financing through practical actions, provide a diverse range of innovative ESG products and services, require high-carbon emission borrowers to submit low-carbon transformation or improvement plans, visit clients to share and spread awareness of carbon reduction trends and carbon accounting methods

Time of impact: Short, mid and long term

Enhancement of climate resilience

Business Type: Green finance

Risk Type: Transition risk/Physical risk

Risk Factor: Policy and Legal, Reputation, Technology, Market, Acute Extreme Weather

Action Plan:
Continuously develop our digital banking services and introduce internal paperless approval mechanism, gradually deploy the HKMA's climate and environmental risk questionnaire for non-listed borrowers

Time of impact: Short, mid and long term

Energy management and paperless operations

Business Type: Green operations

Risk Type: Transition risk/Physical risk

Risk Factor: Technology, Reputation and Acute Extreme Weather and Chronic incremental shifts in climate patterns

Action Plan:
lease the certified green buildings, and complete the installation of energy-saving facilities (the IFC office has fully replaced lighting with LED), promote green office practices such as conserving electricity, paper, water, and reducing waste, implement internal paperless approval mechanism

Time of impact: Mid and long term

Incorporation of climate risk factors into staff compensation policies

To embed a sustainable culture and participate in promoting the achievement of the group's ESG goals, the Hong Kong branch has established a bonus-point performance evaluation for relationship manager on ESG related lending.

2.1 Climate Risk Overview (Transition Risk)

High Carbon Intensive Industries to credit portfolio in Year 2024(%)	4.20%

2.2 Climate Risk Stress Scenarios

Credit Risk– Transition Risk

Scope of Stress Testing

Firstly, the representative obligor in each industry will be selected to conduct a case by case assessment under the stress testing. The cases will then be used as a benchmark for adjusting other counterparties' ratings within the same industry, which will eventually cover the whole credit portfolio of all high-carbon industries.

Baseline of Stress Testing

Based on data as of 31st Dec 2024

Parameters of Stress Testing

Linking the scenario with the financial statement, to assess the Stressed PD(probability of default)

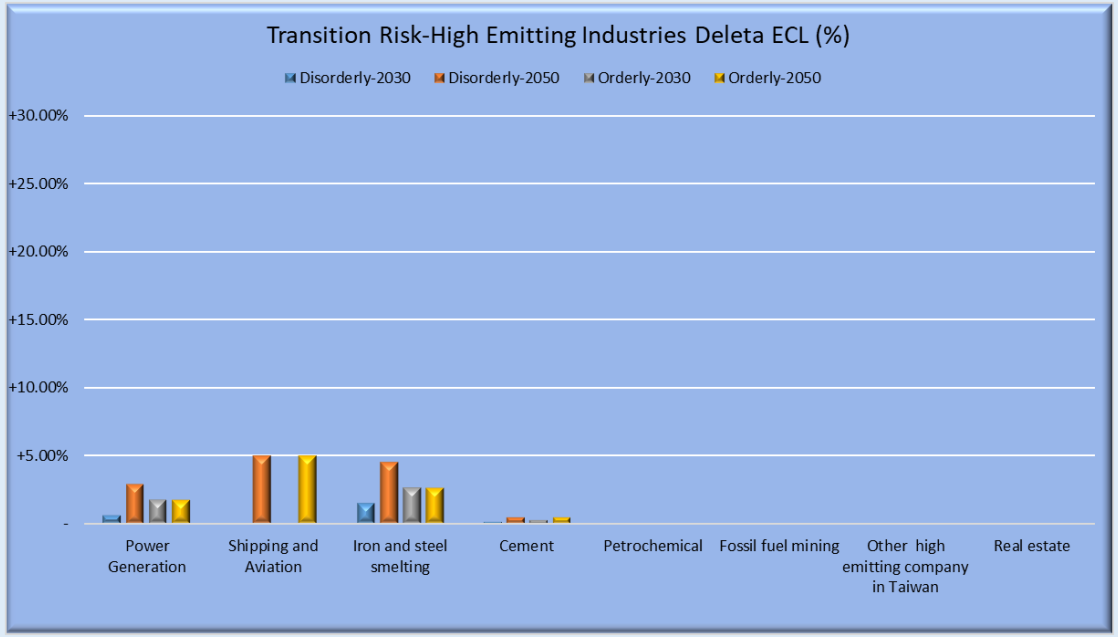
Scenarios and Assumptions

- **Orderly Scenario** :
  Under the scenario, market will correspond immediately the change of energy consumption pattern(price and demand) and the carbon price will be gradual and stable. We assume the obligor's business, scale and the financial status will have no structure change, i.e. the same with Year 2024, and will not consider the other factors to finance except the impact of climate risk.
- **Disorderly Scenario**:
  The authorities will not introduce climate polies until 2030, in order to achieve the goal of Paris Agreement, leading the abrupt reduction in GHG emission, high emitting industries will be significantly affected. Owing to the short transition period and the huge demand, may leading the shortage of power supply, and the penalty may put on the oil refining company, which may give a rise to conspicuous change in energy price(including power and oil)

Stress Testing Result and Mitigations

The policies will be introduced more gradually under the Orderly transition scenario than under the Disorderly transition. Comparing to the Orderly transition scenario, authorities will not introduce climate policies until 2030 under the Disorderly transition scenario, leading to a conspicuous impact on ECL afterwards (Year 2031 to 2050). This will give rise to conspicuous changes of ECL in the Iron and Petrochemical, Shipping and Aviation, and Power Generation industry. However, the impact was long-term projection under limitations of assessment. We assume the impact would be under controlled in the short-term. Hong Kong branch will keep enhancing the methodologies and gathering a comprehensive data to assess the impact and abide by the policies and procedures to reduce the long-term impact under the climate risk.

Industry	Delta ECL(%)			
	Disorderly Transition		Orderly Transition	
	Year 2030	Year 2050	Year 2030	Year 2050
Power Generation	+0.57%	+2.88%	+1.73%	+1.73%
Shipping and Aviation	-	+4.97%	-	+4.97%
Iron and Steel smelting	+1.43%	+4.50%	+2.59%	+2.59%
Cement	+0.14%	+0.44%	+0.26%	+0.44%
Petrochemical	-	-	-	-
Fossil fuel mining	Nil.			
Other high emitting company in Taiwan				
Real estate	-	-	-	-
Non-carbon intensive sectors	-	-	-	-
Total	+0.02%	+0.16%	+0.06%	+0.12%



2.2 Climate Risk Stress Scenarios

Credit Risk– Physical Risk

Scope of Stress Testing

To assess the property related financing portfolio by counterparty-level。

Baseline of Stress Testing

Based on data as of 31 Dec 2024

Risk Factors

- **Long-term chronic change climate risk**: increasing temperatures and rising sea-level
- **Acute extreme climate risk**: storms and floods

Scenarios 、 Assumptions and Parameters

Hong Kong branch adopted the SSP1-2.6 (milder scenario) and SSP5-8.5 (worst case scenario). Under this scenarios, increasing temperatures 、rising sea-level and increasing accumulation and intensity of storms and floods are assumed to assess the impact on LGD(loss given default).

- **Physical Risk（SSP5-8.5[2]）- worst case scenario**

Type	Parameter	Source	2030	2050
Long-term chronic change	Rising sea level (via Avg. of 1995-2014)	SSP5-8.5[2]	0.14m	0.32m
	Increasing temperature (via Avg. of 1995-2014)	SSP5-8.5[2]	1.3°C	2.3°C
Storm	Frequency (Extreme case)	RCP8.5	0%	49.6%
	Intensity (Extreme case)	RCP8.5[3]	0%	9.3%
Flood	Intensity (Extreme case)	SSP5-8.5[2]	14%	15%

- **Physical Risk（SSP1-2.6[2]）-milder scenario**

Type	Parameter	Source	2030	2050
Long-term chronic change	Rising sea level (via Avg. of 1995-2014)	SSP1-2.6[2]	0.13m	0.27m
	Increasing temperature (via Avg. of 1995-2014)	SSP1-2.6[2]	1.1°C	1.6°C
Storm	Frequency (Extreme case)	RCP2.6[3]	0%	34.5%
	Intensity (Extreme case)	RCP2.6[3]	0%	6.47%
Flood	Intensity (Extreme case)	SSP1-2.6[2]	13.7%	18.8%

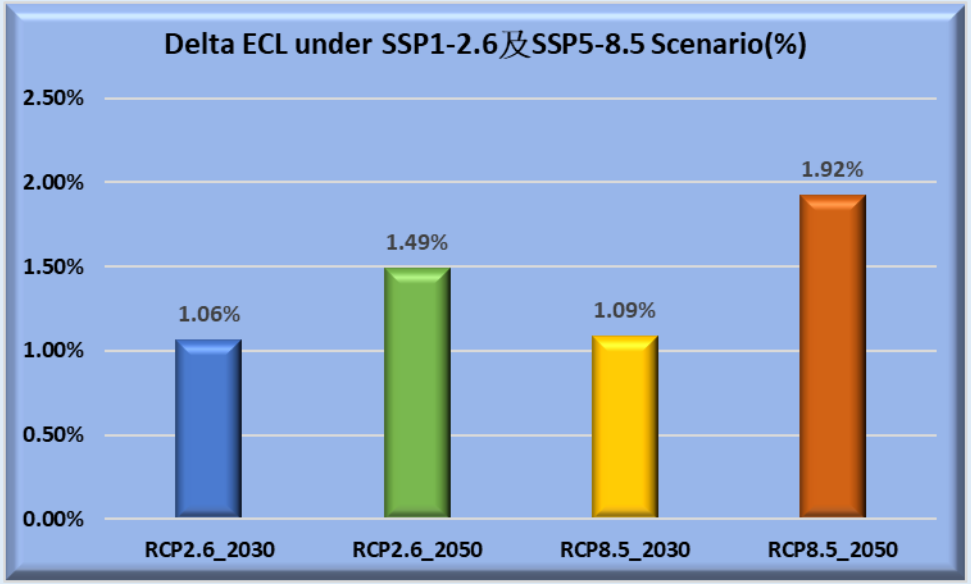
2:IPCC published the sixth assessment report (AR6) on 9 Aug 2021, introducing the Shared Socioeconomic Pathways (SSPs). The SSPs includes SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 and SSP5-8.5, while SSP5-8.5 is the worst-case climate futures .

3:Representative Concentration Pathways (RCPs) describe different climate futures, all of which are considered possible depending on the greenhouse gases (GHG) emission volume in the future years. The RCPs – RCP2.6, RCP4.5, RCP6.0 and RCP8.5 – are labelled based on a possible range of radiative forcing values by 2100. RCP8.5 is the worst scenario under a no-policy assumption. The radiative forcing values of RCP8.5 by 2100 is expected to be larger than 8.5 W/m2, equivalent to 1370 ppm carbon dioxide .

Stress Testing Result and Mitigations

Hong Kong branch adopted the SSP1-2.6 (milder scenario) and SSP5-8.5 (worst case scenario) published by IPCC (Intergovernmental Panel on Climate Change) to comparing the basis period- Year 2024 to 2030 and 2050. Under both of the aforementioned scenarios, the impact on Hong Kong branch is immaterial (the ECLs are projected around 1.06%~1.92%) which represent Hong Kong branch remains resilient to the physical risk. Even under the extreme climate and the long term weather change, ECL of Hong Kong branch is still under the safe level.

Delta ECL(%)			
SSP1-2.6		SSP5-8.5	
Year 2030	Year 2050	Year 2030	Year 2050
1.06%	1.49%	1.09%	1.92%



2.2 Climate Risk Stress Scenarios

Market Risk

Scope of Stress Testing

High-carbon bond and equity investment positions in fair value changes (FVTPL and FVTOCI) in trading and banking book.

Assumptions

Referring to credit risk transformation risk basic scenario and parameters, examine the magnitude of credit spread changes of high-carbon bond positions caused by climate change transformation risk and the differences in long-term interest rate predictions of NGFS, as well as the profit changes of equity positions, and then measure the market price losses of bond and equity holdings.

Baseline of Stress Testing

Based on data as of 31 Dec 2024.

Stress Testing Result and Mitigations

As of 31 December 2024, there were no investments positions related to carbon-emitting industries in bonds and equities of the Branch. The financial impact caused by climate change transformation risk transmitted to market risk was relatively low. The Branch will continuously and actively enhance market risk management related to climate change.

2.2 Climate Risk Stress Scenarios

Liquidity Risk

Scope of Stress Testing

Evaluate the potential liquidity risk impact caused by the potential net shortfall of funds under pressure in the next one month due to climate change, focusing on the relative cash inflows and outflows and the change of liquidity value of on- and off-balance sheet items.

Baseline of Stress Testing

Based on data as of 31 Dec 2024

Assumptions

The development of liquidity stress scenarios and parameters considers climate change physical risks to stress test the level of liquidity risk under three severe scenarios, market scenarios (General Market Crisis, "G"), individual scenarios (Institution-specific Crisis, "I"), and combined scenarios (Combined Crisis, "C"). It assumes cash flows of assets, liabilities, and off-balance sheet items, as well as funding capacities and values changes of marketable securities, under stressed scenarios. The stress test also takes into account about the impact of natural disasters on the daily operations of the Branch's customers, which can lead to deposit run-off and utilization of credit facilities.

Stress Testing Result and Mitigations

The liquidity stress test results for the one-month stressed period of physical risks from climate change showed that the net cash flows of each stress test scenario were positive under the market scenario (G), individual scenario (I), and combined stress scenario (C), respectively. This indicated that the liquidity level of the Branch was robust enough to withstand the liquidity impact of stressed scenarios.

At the same time, the Branch's liquidity maintenance ratio (LMR) may decrease by 17% during the under stressed period, still far above the regulatory minimum requirement of 25%. The Branch's loan-to-deposit ratio (LDR) may increase by 14% under stressed period, but still far below 100%, and would not trigger an immediate liquidity shortage. The Branch will continuously enhance the scale of liquidity cushion and maintain robust liquidity profile.

2.2 Climate Risk Stress Scenarios

Operational Risk

By conducting the stress testing to assess whether the physical risk led by climate change will impact on the Branches operation or not. Under the natural disaster event, we assess physical asset damage and system failure which are more likely to impact on the daily operation and lead business interruption losses and further cause the potential operational and financial risk.

Scope of Stress Testing

Assuming the branch cannot operate normally during the climate disaster events, the daily operating income would be zero.

Baseline of Stress Testing

Based on data as of 31 Dec 2024

Scenarios、Assumptions and Parameters

- During the events, the branch cannot operate normally. We will use acute physical risk model, to predict the risk level of physical assets, and estimate the financial loss and the frequency of climate risk events. (such as category 8 or above tropical cyclones, hurricane and floods.)
- Calculation formula :
  Daily operating income × the frequency of climate risk events = Estimated operating risk loss %

Stress Testing Result and Mitigations

- As at the end of December 2024, when Hong Kong branch is affected by extreme weather events, such as tropical cyclones and floods, to predict resulting in operational interruption, the total annual revenue would be reduced by 2.2%.
- Under the scenario of extreme weather and long-term climate change , the result of the physical operation risk analysis suggested that the overall impact of Hong Kong branch is low and controllable.

3.1 Processes for identifying, assessing, and managing climate-related risks integrated into risk management

Hong Kong branch cooperated with the climate risk management framework and procedures established by CTBC Financial Holding and Head Office (but the Hong Kong branch additionally included the real estate industry in carbon-intensive industries for relevant assessment and management), to identify the potential impact and other associated risks that may be derived by the climate risk on various assets, the relevant units will implement appropriate management measures and standardize them in the "Hong Kong Branch Risk Management Framework"。

Credit Risk

The operations, assets and services of the counterparties (such as, borrowers, guarantors, debtors, issuers, investment targets) are impacted by transition risks (for example, financial conditions deteriorate due to carbon emission costs increase), or their assets and operations are affected by physical risk events' damage or interruption (for instance, extreme heavy rainfall and floods causing operational assets to be submerged), resulting in an increase in the probability of default (PD) of the counterparty, or an increase in the loss given default (LGD) of collateral assets.

Market Risk

The impact of transformation risk is linked to the financial market, causing fluctuations in the market price of investment targets (such as equity and securities) and thus affecting the performance of investment returns; the physical risk events lead to depreciate the value of commodity-related transactions.

Operational Risk

The occurrence of physical risks such as tropical cyclone and floods may cause damage to personnel, assets or operation interruption, such as the branch's business operation, self-owned buildings, assets and equipment, or outsourcing arrangements, and result in operation risk loss.

Liquidity Risk

Climate-related risk drivers may cause customers' liquidity demand (such as withdrawal of deposits and drawdown of credit lines), affecting the bank's net cash flow and liquidity buffer, and thus causing liquidity risk.

Legal Risk

The bank which is involved in climate-related investments and businesses, could increase legal liability and compliance costs, such as it may be found on legal cases against a bank for compensation to climate-related risks.

Reputational Risk

As the market and consumer preference for climate or environment-friendly products, services and business practices increase, such as public or stakeholder expectations and concerns for the bank to accept more social responsibilities in combating climate change and supporting transformation, the bank may face more reputational risks.

Strategy Risk

If the bank failed to respond the changing market conditions in a timely manner and implement effective strategies for climate or environmentally friendly preferences and expectations, the bank may lose its competitiveness and market position.

3.1 Processes for identifying, assessing, and managing climate-related risks integrated into risk management

Measurement on Transition Risk

- Listed the carbon-intensive industries /obligors
- Gathering or evaluating the GHG or the carbon emission of the obligors

Measurement on Physical Risk

To identify the vulnerable area in Hong Kong, then evaluate the exposure and impact of asset, investment, and lending under climate change risk.

Management and Mitigations

- For those industries not complied with HKB's climate risk strategy and risk appetite:
  1. We may alternatively apply some mitigations such as facility limit, negative checking, etc. to reduce exposures.
  2. We should negotiate with client to conduct the low carbon transition or improvement plan, or deduce our exposure. In the meantime, we could also provide the green financial products or services, supporting the sustainable, low carbon and ECO activities which can resist climate change.
- To ensure the Branch's daily operation continuity during the climate disaster events.

3.2 Processes for identifying, assessing, and managing climate-related risks integrated into risk management

Pathway of Climate Risk to Credit 、Market 、Liquidity 、Operational 、 Legal 、Reputation and Strategy Risk

Credit Risk

Transition Risk:

The risk will pass through by public policies 、technology 、market sentiment and impact on income, cost and investment which finally reflects on financial statements and presents on the stressed PD(probability of default).

Physical Risk:
Climate risk will directly result in property loss through :
(1)long-term chronic events: such as: increasing temperature 、sea level rises
(2)Acute events: such as storms and floods
either one will be reflected on the Stressed LGD(Loss Given Default)

Market Risk

Market risks related to climate change is transmitted through the impact on financial markets linkages, where market prices of financial market assets (such as equities and securities) could be affected by instantaneous shocks caused by physical climate events or fundamental changes in valuation of underlying assets due to transition risk.

Operational Risk

Acute and chronic risk led by extreme climate or weather events, such as heat exhaustion caused by abnormal temperature and heat waves, which may result in a decline of customer's demand for banking products and services, and may also lead employees to be less productive.

Floods caused by severe typhoons or heavy rainstorm, led the Bank fail to operate normally because of power outages and flooding, may result in the increasing of equipment repair costs、business interruption cost. Of which, the transaction service interruption and the damage of the IT servers disrupted the daily operation led the declined in sales and financial losses.

Liquidity Risk

Climate change liquidity risk is related to the possibility that climate risk factors may cause clients to demand liquidity (such as withdrawing deposits and drawing down credit lines), which affects a bank's net cash flow and liquidity buffer, thus causing liquidity risk.

Legal Risk

During the extreme climate events, the operating and the outsourcing of the Bank may be interrupted which may cause the Bank can't comply the contract and further being exposed to legal risk. In the meantime, the climate related business and investment will lead extra legal or compliance costs.

Reputational Risk

Stakeholders may have their expectation and attention on how the Bank endeavor to the transition of climate change such as developing the green financing and the related policies. If it is not in line with what the stakeholders expected, may lead negative impact on the Bank's reputation.

Strategy Risk

Disclosure the actual and the short, medium, and long-term potential impact on organization structures, business planning, and financial planning, internal/ external auditing which the Bank expose to, and explore the business opportunities under scenarios to avoid the negligence of strategy result in the Bank being less competitive.

3.2 Processes for identifying, assessing, and managing climate-related risks integrated into risk management Sectors identified under Transition risk and Physical risk:

◆ Carbon-Intensive Industries under Transition Risk

01 Power Generation

Power generation from fossil fuels such as coal, oil, and natural gas

02 Shipping and Aviation

Marine shipping and air transport

03 Iron and Steel Smelting

04 Cement

Companies with an energy-intensive and carbon-intensive process

05 Petrochemical

Companies with an energy-intensive and carbon-intensive process

06 Fossil Fuel Mining

Mining for coal, oil, natural gas, oil shale, oil sands
(HKB has no matched client)

07 Other high Carbon Intensive company in Taiwan

Companies that are not classified as carbo intensive industries in Categories 1 to 6 but are listed in the Taiwan GHG Emissions Registry.
(HKB has no matched client)

08 Real Estate

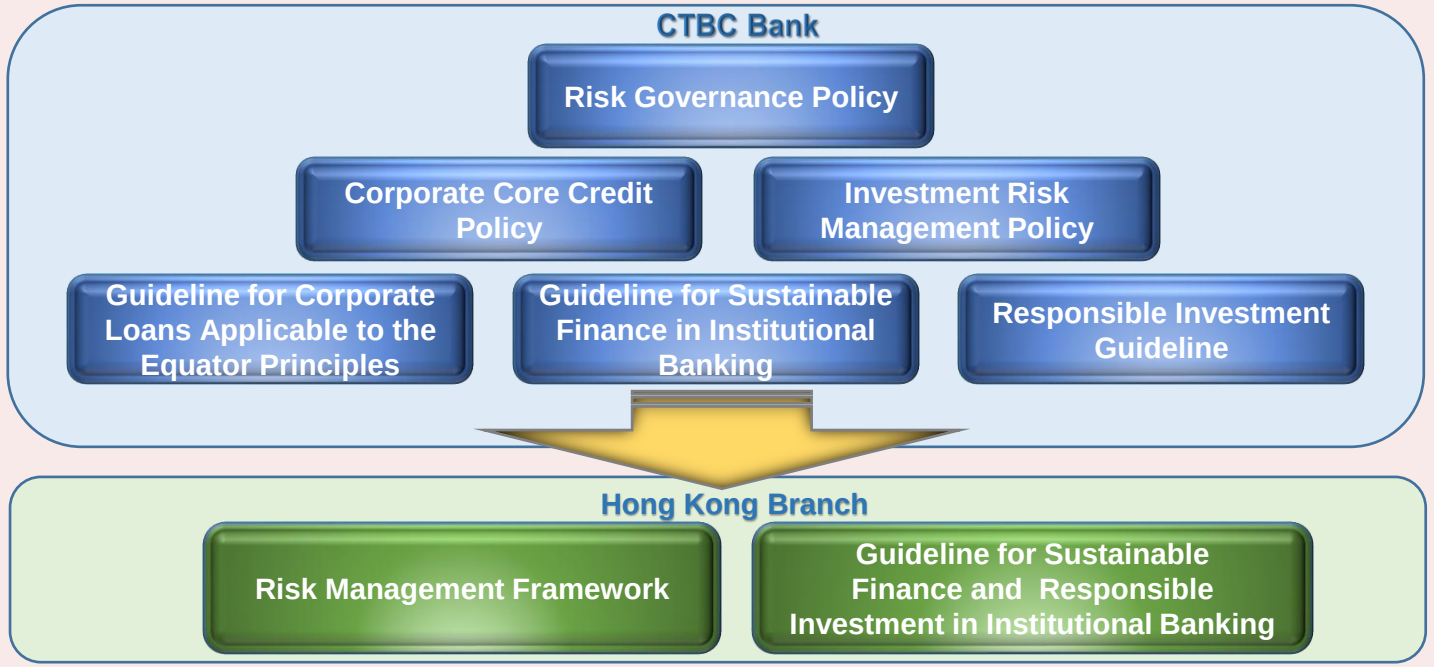
Construction

09 Paper Industry

Pulp and papermaking

◆ High risk sectors identified under Physical Risk: Financing portfolio pledged by Property.

3.2 Processes for identifying, assessing, and managing climate-related risks integrated into risk management



Hong Kong branch cooperates with the climate-related risk management framework/ organization and policies/procedures which established by CTBC Financial Holding and CTBC Bank, the Head Office. HKB is largely guided by “Responsible Investment Guideline”, “Guideline for Sustainable Finance in Institutional Banking” and, subject to the HO’s version to have in place a branch level guideline, “Guideline for Sustainable Finance in Institutional Banking and Responsible Investment”, to follow in order to fulfil HKMA and HO’s climate risk management requirements.

In “Guideline for Sustainable Finance in Institutional Banking and Responsible Investment”, the ESG impacts of a borrower’s business activities be taken into account. At the CTBC Hong Kong Branch conducts bonds, it shall consider the impacts of ESG and follow the requirements of HO’s “Responsible Investment Guideline”. It also clearly defines the following: (1) an ESG exclusion list (e.g., pornography and armament); (2) ESG-sensitive sectors (e.g., thermal coal extraction, thermal coal power generation, tobacco, and Unconventional Oil and Gas Extraction); (3) high ESG risk companies; and (4) carbon-intensive sectors (e.g., power generation, marine shipping and airlines, iron and steel/smelting, cement, petrochemicals, and fossil fuel mining). In addition, it sets related credit access conditions, credit management mechanisms, and ESG thresholds. If a significant ESG risk or related serious negative information is found, its impact is to be disclosed, explained, and assessed in the credit investigation report. Separate credit conditions may be set on a case-by-case basis. Customers in carbon-intensive sectors are also required to submit their GHG emissions. Furthermore, CTBC Bank will review customers’ potential climate-related risks and opportunities at present and in the future as well as determine whether they have related response measures in place, such as transition or improvement plans.

04

Metrics and Target

4.1 Metrics and Target

HKB's GHG Emission of Scope 1, 2, and 3 in past three years

The GHG Emission of HKB was surveyed annually, the results for past three years are shown as below. Results of Year 2024 is subject to external verification.

HKB Year 2022-2024 GHG Emission:

GHG (Greenhouse Gas) Emission (公噸二氧化碳當量tonCO2e)	Description	2022	2023	2024
Scope 1	Gasoline	10.93	14.90	11.82
Scope 2	Electricity	341.26	323.78	256.49
Scope 1 + 2		352.19	338.68	268.31
Total Income (HKD'M)		1858.02	2389.37	2357.79
tonCO2e / Total Income (HKD'M)		0.19	0.14	0.11
Total no. of staff		471	497	517
tonCO2e / Total no. of staff		0.75	0.68	0.52
Scope 3	Waste	4.78	4.13	5.37

The calculation methodology of the CTBC HK GHG emissions is as follows:
Annual GHG Emission = Annual activity data x Emission Factor x GWP
(1) Sources of annual activity data include: electricity bills, gasoline invoices, refrigerant information labeled on the appliances, paper purchase invoices.
(2) Sources of Emission factor:
- Electricity: Hong Kong Electric Sustainability Report 2023 (Page 95)
- Gasoline (Mobile): IPCC 2006
- Refrigerant leakage rate: IPCC 2006

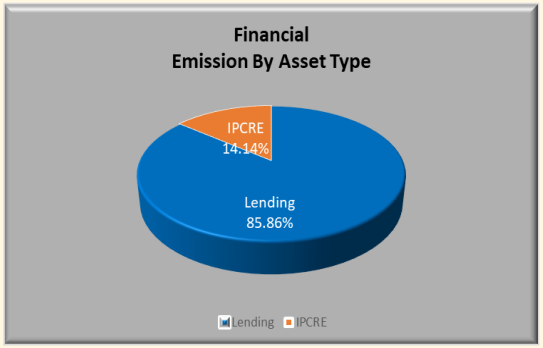
(3) Source of GWP values: IPCC Sixth Assessment Report 2021
The data analysis was conducted by Green Energy Environmental Science & Technology Service Association.
The external verification was performed by the British Standards Institution (BSI).

4.2 Metrics and Target
Financed emissions

◆ Financed Emission by asset type

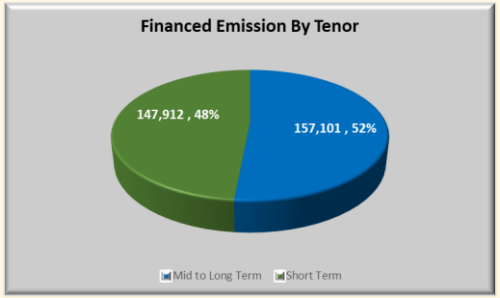
Asset Type	Financial Carbon Emission(tonCO2e)	Percentage(%)
Lending	261,893	86%
IPCRE	43,120	14%
Project Finance	-	0%
Total	305,013	100%

IPCRE : Income producing CRE



◆ Financed Emission by Tenor

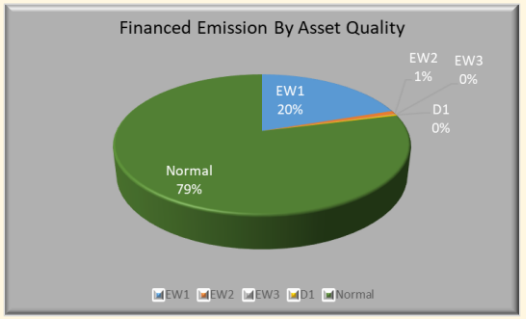
Tenor	Financed Emission (ton CO2e)	Percentage (%)
Short Term	157,101	51.51%
Mid to Long Term	147,912	48.49%
Total	305,013	100.00%



◆ Financed Emission by Asset Quality

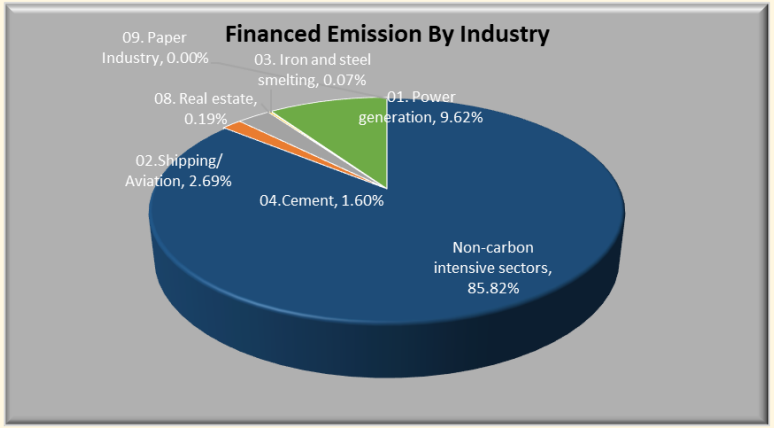
Asset Quality	Financed Emission (ton CO2e)	Percentage (%)
EW1	60,721	19.91%
EW2	2,480	0.81%
EW3	374	0.12%
D1	927	0.30%
Normal	240,511	78.85%
Total	305,013	100%

Based on Obligor overall credit status, assigned from Normal to D1 .



◆ Financed Emission by Industries

Industries	Financial Carbon Emission(tonCO2e)	Percentage(%)
Non-carbon intensive sectors	261,766	85.82%
01. Power generation	29,355	9.62%
02.Shipping/ Aviation	8,202	2.69%
03. Iron and steel smelting	211	0.07%
04.Cement	4,884	1.60%
05. Petrochemical	-	0.00%
06. Fossil Fuel mining	-	0.00%
07. Other high emitting company in Taiwan	-	0.00%
08. Real estate	594	0.19%
09. Paper industry	-	0.00%
total	305,013	100%



4.3 Metrics and Target

Target and Good Practice under climate–related risk

Item	Action Plan	Target
1. Electricity	1.1 Email Notices - HK Admin sent out below email notices to HKB staff: (1) Climate Change - Things to do to help Save The Planet [every 2 months] (2) 行舍管理日常需注意事項 [monthly] - switch off office equipment that are not in use - switch off the lighting and computer monitors before leaving the office - switch off the lighting of meeting rooms after use, power off the equipment (e.g projector, notebook) - switch off the non-essential lighting and minimize the use of general lighting and office equipment when working in non-office hours 1.2 Notice Board - environmental protection posters (energy & water savings, waste recycling & reduction) are posted on the Notice Board 1.3 Friendly Reminders - "Energy Savings" reminder is placed next to lighting switch 2. IFC 28/F lift lobby & reception area - replacement of old downlights to LED type in January 2025.	Target to achieve 2% reduction on electricity consumption in 2025 compared with 2024
2. Paper	1.1 Email Notices - HK Admin sent out below email notices to HKB staff: (1) Climate Change - Things to do to help Save The Planet [every 2 months] - reduce printing – think before you print - use less papers, eg. print on both sides, use re-cycled papers - use less paper tissues - bring your own cups and cutleries - reduce waste in everyday life - better utilize the waste separation facilities, such as recycling bins 1.2 Notice Board - environmental protection posters (energy & water savings, waste recycling & reduction) are posted on the Notice Board 1.3 Friendly Reminders - "Paper Savings" reminder is placed next to copiers/printers	Target to achieve 2% reduction on copy paper ordering in 2025 compared with 2024