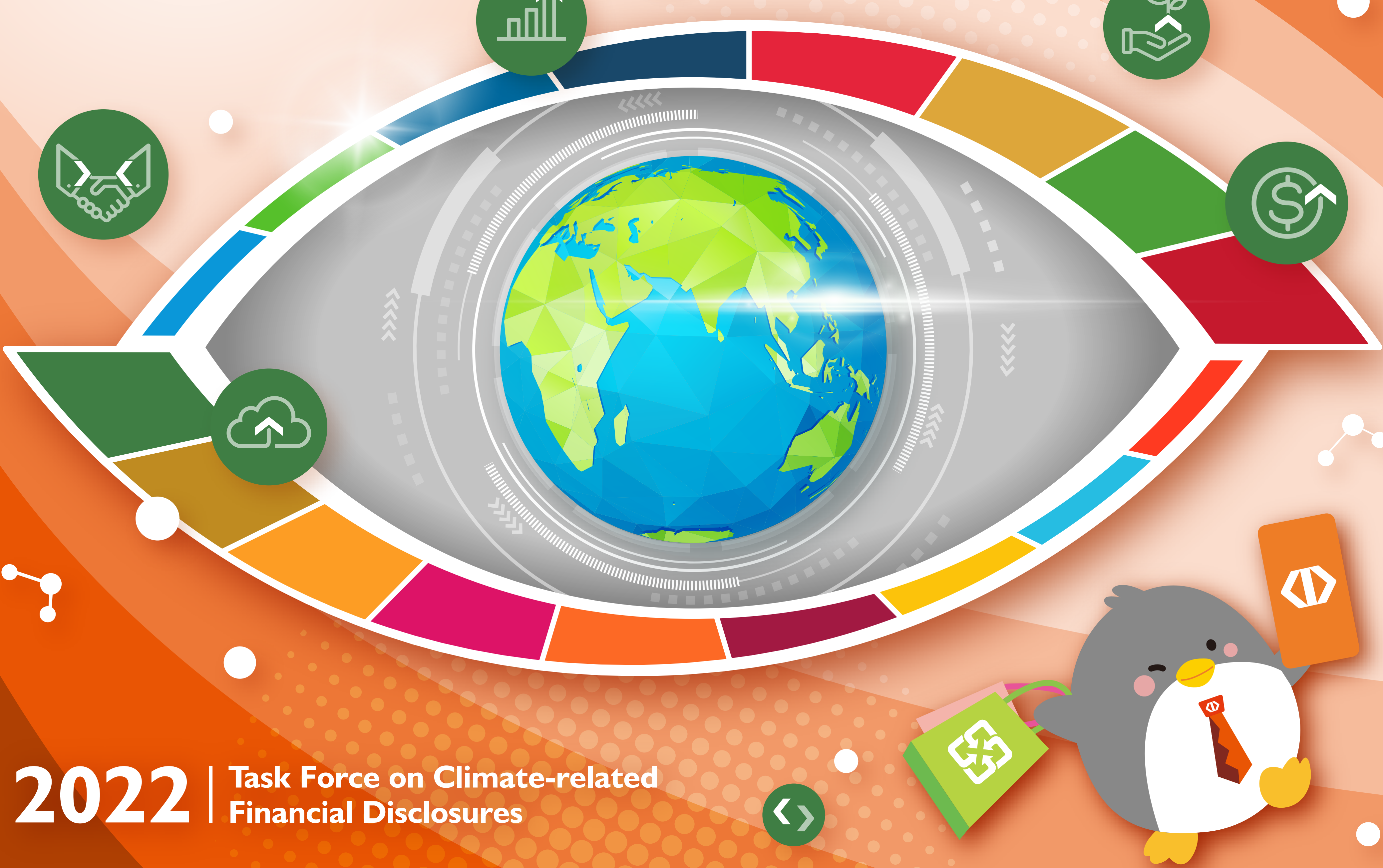
臺灣企銀
Taiwan Business Bank



2022 | Task Force on Climate-related Financial Disclosures

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About this Report

This report covers the business operations of the branches of Taiwan Business Bank ("TBB") in Taiwan and TBB's 8 overseas branches, subsidiaries, and sub-subsidiaries. This report describes the methods of identifying and assessing climate change risks and opportunities in the overall business operation and the measures taken in response to the risks and opportunities faced by TBB. The objective is to engage stakeholders in real and open communication and interaction on climate issues.

Scope of disclosure

The scope of disclosure herein includes the business activities and services of Taiwan Business Bank Ltd. ("TBB or the Bank") and TBB's 8 overseas branches, subsidiaries, and sub-subsidiaries.

Disclosure period

The data cover the period from January 1, 2022 to December 31, 2022. Some of them cover events that occurred during preparation of this report (i.e., 2023).

Basis of preparation

This report is prepared in accordance with the Guidelines for Domestic Banks' Climate Risk Financial Disclosure released by the Financial Supervisory Commission("FSC")and the Task Force on Climate-Related Financial Disclosures("TCFD")created by the Financial Stability Board("FSB"). It is also based on the Best Practices in Climate Risk Management by Domestic Banks published by the Bankers Association of The Republic of China as well as the four pillars, governance, strategy, risk management, and metrics and targets.

External assurance

All environmental data disclosed in this report have passed ISO14064-1, ISO14001, and ISO50001 certification. They are also part of the key data in the climate-related financial analysis published in the 2022 TBB annual report and sustainability report.

Core elements	Executive summary
Climate governance	As part of a complete climate governance system, the board of directors of the Bank is the ultimate authority on climate governance and related decision making in the organization. The Sustainable Development Committee under the board of directors and the Risk Management Committee under the chairman represent the management team in conducting top-down management and supervision. The business units and the management departments deliver climate governance updates in a bottom-up manner and ensure effective implementation of the overall climate risk policy and business strategy.
Climate strategy	Identify short-, medium-, and long-term climate-related risks and opportunities, and use scenario analysis to assess their impacts on TBB's business activities and devise response measures. Formulate the overall net zero target and adopt low-carbon operations to increase climate resilience, and work as a financial institution to implement the FSC's Green Finance Action Plan to help SMEs complete low carbon transition.
Climate Risk Management	Integrate climate-related risks into the existing risk management framework and implement related management measures in order to ensure effective identification, measurement, and management of climate-related risks and opportunities.
Climate indicators and goals	Sign up for the Science Based Targets initiative (SBTi), and set carbon reduction targets and monitor and disclose progress regularly in the future.

TBB climate governance milestones

In response to the risks and opportunities arising from extreme weathers, natural disasters, energy crises, and low carbon economy transition, TBB started following the FSB TCFD recommendations and the FSC Guidelines for Domestic Banks' Climate Risk Financial Disclosure to implement climate-related risk and opportunity management. March towards the Paris Agreement and the target of keeping the temperature increase to within 1.5°C above pre-industrial levels. Implement Science Based Targets (SBTs) with Net Zero by 2050 as the vision. Set practical net zero targets and work actively to reduce own carbon emissions and modify asset allocation in investing/financing activities. Exercise influence as a financial institution to increase climate resilience and join the effort to create a net zero future.

2022

- Launched **the ESG green and sustainable secured mortgage loan**
- All offices in Taiwan implemented **ISO14064-1** direct, indirect and other indirect emission inventory (including procurement of goods and services, business travel) and passed certification
- TCFD alignment maturity was rated by BSI as **Level 5: Excellence**
- Sign up for **the Equator Principle (EP)** and completed implementation
- Received a **B-score (management)** in the CDP Climate Change Questionnaire
- Completed **setting maximum limit targets** on percentages of "high pollution/energy intensive industries" in investment/financing portfolios
- Completed solar power equipment at **Hsing Chung Branch**

2021

- Installed the **TCFD** framework
- Completed **the Environmental Sustainability Management Handbook**
- The head office building passed **ISO14001** environmental management system certification
- Completed self sufficient solar power equipment at **Tainan Branch**

2020

- Completed **the Supplier Management Regulations**
- Completed solar power facilities at **Ming Hsiung Branch**

2019

- The head office building installed **ISO14001** environmental management system
- The head office building implemented **ISO14064-1** direct and indirect GHG emission source inventory and passed certification
- Completed solar power equipment at **Ta Yuan Branch**

2018

- Issued **the Green Financial Bonds** for a total of **NT$1 billion**
- Achieved **1% or more** in energy saving at the head office building and the Chongnan building

2017

- Launched **the Green Energy Sustainable Project Loan**

2016

- Devised **TBB's energy policy**
- The head office building have received **ISO 50001** Energy Management Systems certification

2015

- Completed installation of solar power facilities at the first branch, **Ta Fa Branch**
- Completed **the Voluntary Energy Conservation by Financial Groups project**

Climate-related performance in the year

Low carbon resilience

Set net zero targets for own operations, and limited the temperature increase from Scope 1 and Scope 2 GHG emissions to within 1.5°C

within 1.5°C

Level-5: Excellence grade. The maturity model for the Climate-related Financial Disclosures.

Level-5: Excellence grade

Low carbon banking

Handled a cumulative total of 26 sustainability-linked loans (SLL) in syndicated loan projects

26 projects

Issued a cumulative total of 45,025 Sustainable Life credit Cards (made of environmentally friendly materials)

45,025 Cards

The number of digital banking transactions reached 16.98 million and the number of electronic credit statement applications reached 32,227.

reached 32,227

Low carbon operations

All offices (including overseas locations) adopted ISO14064-1 GHG emission inventory.

ISO14064-1

3 self sufficient solar powered branches generated a total of 134,000 kWh of solar power.

134,000 kWh

TBB was named an Outstanding Green Procurement Organization by the Environmental Protection Administration of the Executive Yuan and the Department of Environmental Protection of Taipei City Government for the 11th consecutive year. Total green procurement was NT$115.28 million in 2022.

NT$115.28 million

Low carbon initiative

Signed up for the SBTi and started moving toward keeping the temperature increase from GHG emissions well under 2°C.

under 2°C

Received a B-score (management) in the CDP Climate Change Questionnaire.

B-score

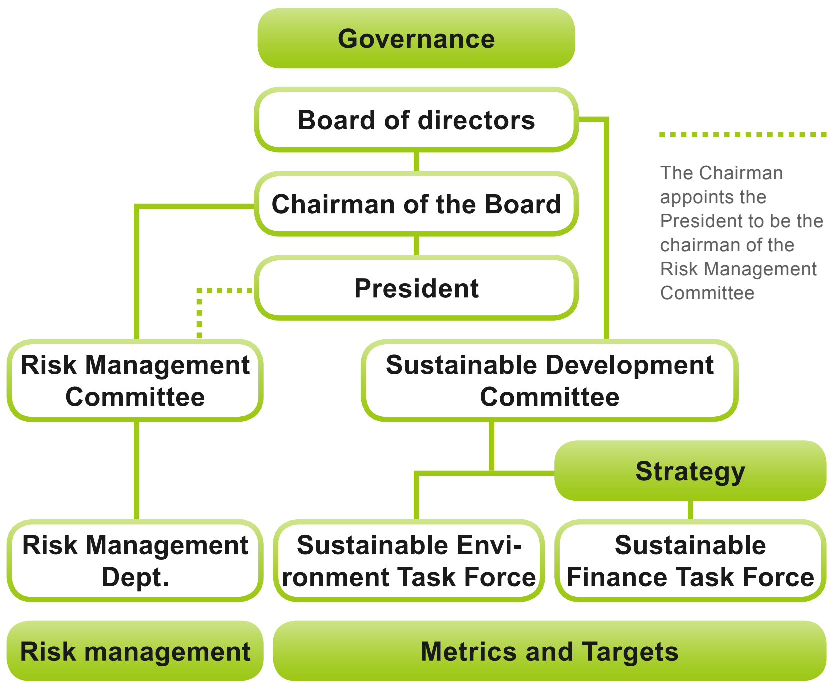
CHI Climate governance

TBB follows climate risks and opportunities closely. The board of directors is the highest level of governance on climate issues at TBB and is in charge of oversight and decision making on climate strategies and risk management. The board of directors also ensures implementation of an effective climate governance framework.

TBB core climate governance strategy

1.1 Climate Governance Framework

TBB expects to establish the Climate Risk Management Guidelines in 2023. The guidelines will define explicitly the roles and responsibilities of the board of directors, executive management, functional committees, and management departments. Climate-related risks and opportunities are considered in business development and risk management in a top-down manner while climate-related risks and opportunities are identified, assessed, and managed properly at all levels in a bottom-up manner. TBB's climate governance framework is illustrated below.



The mechanisms for compiling TBB's risk data and reporting internal risk data are the basis for climate governance and risk management. TBB has created a complete set of climate data and reporting mechanism. They are provided explicitly in internal operating procedures in order to help the board of directors and executive management obtain complete and correct information that provides an important basis for decision making and external communication.

Unit	Chairman/ Committee Chairman /Responsible unit	Frequency of meetings	Roles and responsibilities in climate issues
Board of directors	Chairman	Monthly	• Approve the climate governance framework • Approve climate-related risk management policies and strategies • Oversee key climate indicators, approve response action plans, and supervise progress
Sustainable Development Committee	Chairman	Quarterly	• Coordinating unit to incorporate business strategies and oversee TBB's progress on sustainability issues • Check climate indicators regularly and report important climate issues to the board of directors in a timely manner • Status of development of sustainable financial services
Risk Management Committee	President	Monthly	• Task Force on Climate-Related Financial Disclosures (TCFD) • TBB's climate sensitivity • Degree of impact of industry transition risk • Degree of impact of physical risk on real estate collaterals and own assets
Business Management Committee	President	Monthly	• Progress on sustainable banking projects
Environmental Sustainability Committee	President	Year	• Assess carbon reduction policies and progress on carbon reduction targets
Sustainable Finance Task Force	Risk Management Dept.	Quarterly	• Latest development in domestic and foreign policies and regulations and related international standards • Follow up on progress on sustainable banking projects • Discuss and report climate issues
Sustainable Environment Task Force	Administration Management Dept.	Quarterly	• Latest development in domestic and foreign policies and regulations and related international standards • Implement carbon reduction policies and achieve carbon reduction targets

TBB has a complete sustainable development and climate governance framework in place. In addition to the Sustainable Development Committee on the same level as the board of directors and the Risk Management Committee under the board of directors, there are two functional committees on the same level as the President, which are the Business Management Committee and the Environmental Sustainability Committee. The top-down roles and responsibilities are summarized in the table below.

1.1.1 Board responsibilities

The board of directors of TBB is the highest level of governance for climate issues at TBB. The Sustainable Development Committee at the same level as the board of directors serves to actually oversees climate governance. The committee consists of the Chairman, the President and three independent directors of TBB. The Chairman of TBB acts as the Chairman of the committee to supervise and verify regularly the sustainability strategies and results on major issues (including climate change) and to make decisions as needed.

Authority and responsibility	Action strategies
Build a climate governance framework and develop a climate governance culture	• Approve the roles and responsibilities of climate governance departments and establish the core strategies for climate governance • Make climate risks part of consideration in banking services and decision making processes
Approve climate strategies and climate risk management policies	• Approve climate risk management framework and policies and monitor closely climate risks and opportunities • Approve business targets, important actions, and annual budgets and include climate factors in consideration
Monitor progress of climate action projects	• Check results regarding climate-related targets regularly • Assess progress on climate action projects regularly
Ensure resources allocation to climate governance	• Ensure adequate manpower and resource allocation to the responsible units

Climate proposals on board agendas 2022-2023

Governance
- Pass medium- and long-term sustainability strategies

Risk management
- Made plans to establish the Climate Risk Management Guidelines to create a complete climate governance system

Strategy
- Sign up for the Equator Principles and include climate change and environmental and social issues in consideration
- Make plans to implement the Responsible Investment Guidelines and the Responsible Lending Guidelines

Metrics and Targets
- Sign up for the SBTi and launch the GHG reduction targe

1.1.2 Roles and responsibilities of executive management

Regarding TBB's climate-related actions, three executive functional committees, the Risk Management Committee, the Business Management Committee, and the Environmental Sustainability Committee, coordinate execution of TBB's climate targets and monitor the progress of the performing units and management departments. Furthermore, the committees devise climate-related strategies and policies and report results regularly to the board of directors.

Execution of climate-related actions is watched closely by the executive committees. The departments perform climate-related responsibilities according to their respective roles, thereby ensuring an effective top-down climate governance framework while the bottom-up tracking system demonstrates TBB's climate resilience. The climate-related roles and responsibilities of the departments can be found in this report under 3.1.2 Three lines of defense in climate risk management.

Authority and responsibility	Action strategies
Interdepartmental operation	Establish interdepartmental communication among responsible units, and use the internal reporting system to report climate-related risk information to higher level management.
Facilitate execution of climate action projects	Devise and implement climate action projects, check climate-related risk indicators, and make adjustment as needed
Develop a climate risk culture and capabilities	Build up climate-related knowledge in employees through education and training and develop a climate culture and capabilities throughout the bank

Risk Management Committee

In climate governance, the Risk Management Committee is responsible for assessing physical and transition risks in climate change faced by TBB, identifying climate-related risks and opportunities faced by TBB, and devising and implementing response strategies. The committee inspects TBB's major climate-related risks and opportunities regularly every year, and submit the identification reports to the directors (managing directors) for verification.

Business Management Committee

In TBB's sustainability strategies, the Business Management Committee receives monthly status reports (including climate and environmental issues) from units responsible for sustainability issues and coordinates sustainability issues, including climate issues.

Environmental Sustainability Committee

The Environmental Sustainability Committee is responsible for promoting environmental sustainability in TBB's routine operations, developing environmental sustainability policies and targets, and implementing related measures. The committee also calls energy management meetings and internal audit meetings for energy management systems and track performance related to energy management and environmental sustainability.

1.1.3 Developing a climate governance culture

TBB combines internal and external resources and technologies through internal and external training, collaboration with external consultants, and communication with other financial institutions. TBB strives to build up climate change knowledge throughout the bank and raise awareness of climate issues along the entire value chain.

TBB action plan for developing a climate governance culture

Develop talent in climate governance and sustainable finance

Actions
- Organize a wide range of sustainability (including climate change) themed training.
- Enforce the FSC Green Finance Action Plan 3.0 and encourage employees to attend sustainability related professional training courses and become certified in sustainability related professional fields.

Raise climate change awareness along the value chain

Actions
- Work with external consultants to introduce climate governance framework and participate in climate action initiatives, and build a database for transition and physical risks.
- Consider a customer's sustainability related actions in the loan approval process, thereby extending influence as a financial institution.
- Hold supplier meetings to bring everyone together to enforce corporate sustainability and environmental protection.

Building climate related expert knowledge at TBB

For the purpose of staying abreast with climate change discussions and global sustainable finance trends, a wide range of continuing training courses are made available to the employees to strengthen their climate change knowledge and techniques necessary for performing their duties.

	Course theme	Number of Participants	Total hours
Continuing training on climate knowledge for the board	Introduction to climate risk	1	4
	Climate change response measures and global trends	8	24
	ESG and climate risk	10	30

	Course theme	Number of Participants	Total hours
Climate knowledge sharing for bank employees	Climate change response measures and global trends	2,102	5,641
	Three lines of defense and climate risk	73	632
	ESG and climate risk	1,232	2,464

TBB climate change and sustainable development training program

The board of directors of TBB places a great emphasis on climate-related education and training. When TBB invited an outside expert to give a sustainability themed keynote speech on "boosting sustainable banking and creating a new ESG era" in 2022, a total of 187 executive managers attended the session. The session was recorded and added as a digital course to the TBB e-learning network afterwards to be available to TBB employees to facilitate self learning and raise awareness of sustainability policies.

Furthermore, TBB has implemented differentiated training programs based on the nature of business in order to ensure training provided is consistent with business needs and aligned with development strategies, important current affairs and trends, and courses and seminars arranged on a rolling basis to meet the demands of business development. In addition, TBB sends employees who handle certain responsibilities to outside institutions to attend professional courses. The goal is to raise awareness of climate change issues further among employees.

1.2 Climate performance integration mechanism

TBB actively promotes sustainability and climate governance in order to accomplish its sustainability strategies. Director performance evaluation is conducted every year according to the Board of Directors Performance Evaluation Guidelines. Sustainability topics, including the environment, provide an important basis for evaluating the performance of the Sustainable Development Committee. The result is linked to director remuneration in order to connect a director's responsibilities and performance effectively with the sustainability strategies and development plans in an effort to shape a culture of accountability. TBB will continue to push for an integration mechanism for executive management remuneration and sustainability and climate performance and inclusion of ESG performance indicators in executive management performance evaluation.

All departments, based on their roles and responsibilities, started to include climate projects in the head office's management of sustainability projects or key evaluation items. Project performance is linked to evaluation score for each unit at the head office. Evaluation scores for the units have a positive correlation with annual bonuses and are linked adequately with employee remuneration.

Sustainability items in person-in-charge performance evaluation for state-owned financial institutions

E
Environment
- Environmental performance
- Low carbon transition performance

S
Social
- Financial inclusion products

G
Governance
- Sustainable financial products
- Digital banking products

CH2 Climate strategy

In response to the global net zero trend, TBB follows the government's policy and added climate-related risks to the risk management system. TBB develops green sustainable banking products while reducing various climate risks. TBB also works actively to provide funds and help SMEs complete net zero transition. Taking advantage of climate-related opportunities enables TBB to pursue business growth while achieving environmental sustainability, thereby creating a win-win situation for both TBB and its stakeholders.

2.1 Climate-related Risks and Opportunities

TBB has created the TBB Impact Pathway for Climate Change Risks and Opportunities based on the BCBS financial risks from climate risk drivers in order to monitor the transmission channels of climate-related risks and opportunities to TBB's risks and businesses. Meanwhile, in order to monitor the impact of climate change on TBB, the Risk Management Department has studied the Sixth Assessment Report (AR6) by the Intergovernmental Panel on Climate Change (IPCC) and the World Energy Outlook (WEO) and simulated climate issues under different climate scenarios. In addition, the economic and social impacts are also taken into consideration, and the risk and opportunity assessment matrix is used to assess the impacts on microeconomic and macroeconomic activities according to the type and characteristics of different climate issues. Correlations with existing traditional risks are established to assess climate-related risk and opportunity issues. Details of climate scenarios can be found in 2.2 Scenario Analysis.

The Risk And Opportunity Matrix consists of probability of incidence and degree of financial impact/benefit. Probability is divided into 5 levels (1 to 5) with a higher number indicating a higher probability; and the financial impact/benefit is also divided into 5 levels (1 to 5) with a higher number indicating a higher degree of impact. The product of probability and degree of financial impact/benefit provides a basis for ranking the materiality of an incident (high, medium, and low).

The time range, financial impact, and materiality of the TBB impact pathway for climate change risks and opportunities and the climate issue identification process and risk and opportunity analysis are shown as follows.

1. BCBS(April 2021), Climate-related Risk Drivers and Their Transmission Channels, P.4, available at https://www.bis.org/bcbs/publ/d517.pdf.

TBB Impact Pathway for Climate Change Risks and Opportunities

Emerging Risk

Physical risk

Suddenness
- Wild fires
- Heat waves
- Floods
- Storms

Long-term
- Drought
- Mudflows
- Rising sea level
- Rainfall pattern changes

Transition risk

Government policies
- Net zero policy

Technological revolution
- Electric vehicles

Viewpoint changes
- Investors: ESG investments
- Consumers: Air travel

Delivery channel

Microeconomics | Macroeconomics

Government agencies

Businesses

Households | Assets | Government bonds

Corporate credit | Equity | Exchange rates | Commodities

Change sources

Geographic heterogeneity
Geographic regions and jurisdiction dependency
- Emerging Risk
- The economy
- The banking system

Multipliers
Elements that increase effects of climate risk factors
- Risk factor interaction
- Financial risk multipliers
- Delivery channel interaction

Mitigating measures
Factors that reduce effects of climate risk factors on banks
- Behaviors and business models of banks
- Hedging opportunities in capital market depth and scale

BASEL

PILLAR I | PILLAR II | PILLAR III

Financial risks

Credit risk
- Standard/Internal rating method
- Equity fund investment
- Counterparty concentration
- Counterparty credit risk
- Securitization
- Settlement
- Large exposures

Market risk
- Market risk
- Credit valuation adjustment risk

Liquidity risk
- High-quality liquid assets (HQLA)
- Cash outflow

Operational risk

BASEL Core Principles

The impact pathway for climate risk refers to how climate risk drivers directly or indirectly affect TBB's value chain through TBB's customers, counterparties, assets, and local economic environment where TBB operates its business. In terms of microeconomics, climate risk drivers affect TBB's operations by affecting individual businesses, households, specific countries, and issuers of specific financial assets. In terms of macroeconomics, climate risk drivers indirectly affect TBB's financial risks by affecting the overall economy, country, and macroeconomic variables. The financial impacts of climate risk drivers on TBB may escalate through correlation between physical risk and transition risk as well as interaction between different transmission channels and the banking sector and the feedback loop.

Identification of climate-related issues

STEP 1 — Gather climate issues

STEP 2 — Connect climate issues with business activities and analyze

STEP 3 — Identify climate issues and rank by materiality

STEP 4 — Assess and devise response strategies for major climate issues

STEP 5 — Report result of identification of climate issues

Time range

Short-term	Mid-term	Long-term
May occur in 1 year(or less)	May occur in more than 1 year but not more than 5 years	May occur in more than 5 years
2023	2024~2028	2028~

Probability of incidence and degree of financial impact/benefit

	Probability of incidence	Degree of financial impact/benefit
5	Extremely likely	Extremely high
4	Very likely	Very high
3	Likely	High
2	Moderately likely	Moderate
1	Not likely	Low

Note: The amount of loss, amount of exposure, and impacts on finance/sales are measured at fixed amounts in assessing materiality of financial impact/benefit.

Level of materiality of climate-related risks and opportunities

	Assessed level of materiality
High	15 or higher
Medium	7.5 or higher but under 15
Low	under 7.5

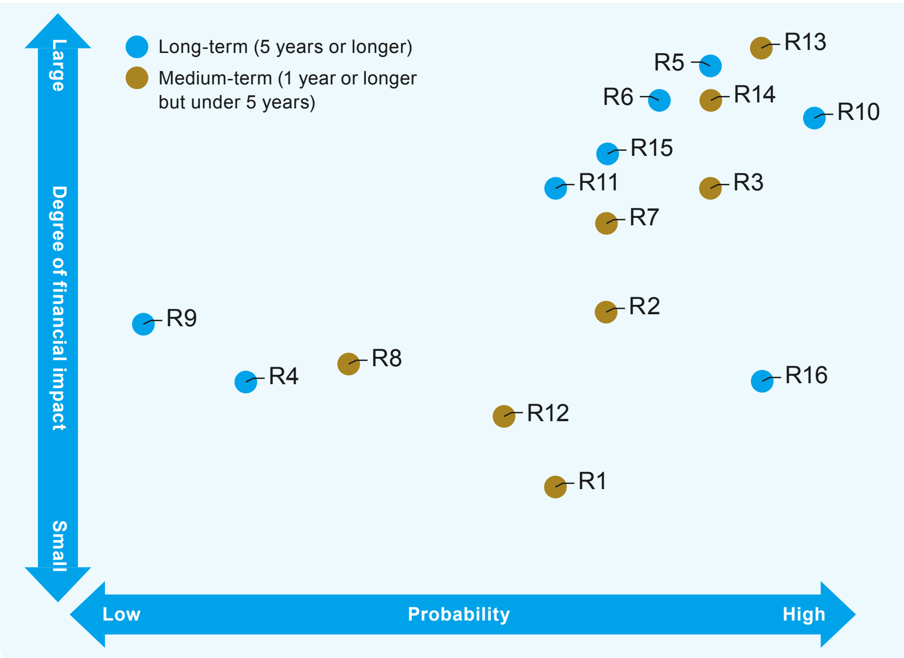
Note 1: The Risk And Opportunity Matrix consists of probability of incidence and degree of financial impact/benefit. Probability is divided into 5 levels (1 to 5) with a higher number indicating a higher probability; and the financial impact/benefit is also divided into 5 levels (1 to 5) with a higher number indicating a higher degree of impact. The product of probability and degree of financial impact/benefit provides a basis for ranking the materiality of an incident (high, medium, and low).
Note 2: Assessed level of materiality = Probability x Degree of financial impact/benefit.

2.1.1 Identification of climate-related risk issues

TBB's own business operations and investment and financing activities are subject to various degrees and scopes of impact. To effectively understand the extent to which climate-related risks can impact TBB's operations, TBB establishes definitions for physical risk, transition risk and other climate risk factors and use them as a basis for classifying existing risks (credit, market, operational, and reputation risks), and build the definitions into the existing risk management framework to facilitate ongoing risk management, monitoring, and adaptation. In addition, risk response strategies are reviewed regularly to monitor their performance.

The identification result shows all time frames of expected risk incidents are in the medium or long term and there are no high risk incidents. The matrix of risk issue ranking and the risk issues are the following:

Climate Risk Matrix



Rank	No.	Risk type	Affected business areas	Link to traditional financial risks	Climate-related risk incident	Risk Rating
1	R13	Policy and Legal Risks	Financing	Strategic risk	Financing control tightened, leading to customer loss.	Medium
2	R5	Chronic Physical Risk	Financing	Credit risk	Long-term climate change, affecting the value of real estate collateral.	Medium
3	R10	Technology Risks	Financing	Credit risk	Financing targets are facing low-carbon transition.	Medium
4	R14	Policy and Legal Risks	Financing	Credit risk	Carbon emission control, making it difficult for the Bank to recover its creditor's rights.	Medium
5	R6	Chronic Physical Risk	Investment	Market risk	Long-term impact of climate change, leading to a decline in the expected value of certain climate-sensitive assets.	Medium
6	R15	Policy and Legal Risks	Investment	Market risk	Carbon emission control, resulting in a decrease in the Bank's return on investment.	Medium
7	R3	Acute Physical Risk	Financing	Credit risk	Assets of financing targets are damaged	Medium
8	R11	Technology Risks	Investment	Market risk	Investment targets are facing low-carbon transition.	Low
9	R7	Markets Risks	Investment/ Financing	Strategic risk	The Bank is unable to launch green financial products and services in a timely manner to respond to the need for sustainable finance.	Low
10	R2	Acute Physical Risk	Investment	Market risk	Assets of investment targets are damaged.	Low
11	R16	Policy and Legal Risks	Operations	Operational risk	Environmental regulations and policies are becoming stricter.	Low
12	R8	Reputation Risks	Investment/ Financing	Reputation risk	Negative news about environmental pollution, caused by the investment and financing targets of the Bank, indirectly affecting the Bank's reputation	Low
13	R12	Technology Risks	Operations	Strategic risk	Digital financial transformation for paperless operation and energy conservation & carbon reduction.	Low
14	R9	Reputation Risks	Investment/ Financing	Reputation risk	The Bank's performance on sustainability is not satisfactory, affecting the willingness of customers to transact with the Bank.	Low
15	R4	Chronic Physical Risk	Operations	Operational risk	Rising average temperatures or sea levels, affecting day-to-day operations	Low
16	R1	Acute Physical Risk	Operations	Operational risk	Operations of business locations suspend due to natural disasters.	Low

2.1.2 Identification of climate-related opportunity issues

TBB includes climate change derived business opportunities as a key consideration of climate strategies. Detailed action plans are developed according to TBB's core businesses and size of organization. TBB follows sales growth opportunities amid climate change closely and increases climate resilience of asset portfolios. The identification result shows all time frames of expected opportunities are in the short or medium term and all are medium opportunity incidents. The matrix of opportunity issue ranking and the opportunity issues are the following:

Rank	No.	Opportunity type	Climate-related opportunity incident	Opportunity level
1	O1	Markets	Develop related project loans in response to climate change and sustainable development.	Medium
2	O3	Products and Services	Promote diversified low-carbon financial services and products to assist customers in transformation and expand customer operations.	Medium
3	O2	Markets	Increase investment in industries related to climate adaptation and sustainable development.	Medium
4	O4	Products and Services	Strengthen digital financial services to reduce energy/resource consumption of operations and customers, which also helps in increasing customer base.	Medium
5	O6	Resource Efficiency	Purchase new energy-saving equipment to improve energy efficiency.	Medium
6	O7	Energy Sources	Increase the use of renewable energy.	Medium
7	O5	Resilience	Hold internal and external energy conservation competitions; provide incentives and educational trainings.	Medium

2.1.3 Management of climate change risks and opportunities

Consider "probability of incidence" and "degree of financial impact/benefit" and assess the overall effects and impacts of each issue on TBB. Consider the top three climate-related risk and opportunity issues, take an inventory of existing response measures, and make and modify action plans in order to assess the financial impact of each issue and related action plans.

2.1.3.1 Material climate-related risk issues and financial analysis

Rankings are based on future financial impact. The assessments, action plans, and financial impacts are compiled as follows.

Risk incident	Assessment	Action plan	Financial impact	Management Overhead	Calculation
R5 **Long-term climate change, affecting the value of real estate collateral.**	Long term climate change phenomenons (elevated sea level, floods, droughts) leading to disasters along coastlines and riverbanks and causing real estate collaterals held by TBB to fall in value and lose liquidity and credit protection.	• Loan provisions state explicitly that the limit may be reduced, the term may be shortened, or the debt may be considered to become due in part or in whole when the collateral loses value or becomes insufficient to cover the credit. • Implemented external climate database and climate disaster models to better monitor exposures to real risks in borrowers and devised mechanisms to modify the loan-to-value (LTV) ratio according to climate risks.	Real estate collaterals expected loss of value **NT$5,519.25 million**	Cost of database implementation **NT$1.00 million**	**Financial impact:** Estimated loss of asset value in TBB's real estate collaterals under the 2050 RCP8.5 scenario. **Management Overhead:** the costs of implementing UNEP FI recommended external climate risk database.
R10 **Financing targets are facing low-carbon transition.**	Borrowers need to invest a large amount of labor and funds in low carbon transition or become unable to recover the costs due to slow transition, which leads to reduced revenue and difficulty for TBB to recover funds.	• Climate risk management guidelines were implemented to require a careful assessment of an applicant's climate risks before a transaction and ongoing monitoring of risk changes after a loan is approved.	Expected loss of credit Expected increase **NT$19.71 million**	Expected year Training costs **NT$3.34 million**	**Financial impact:** The Climate Change Response Act in Taiwan intends to start collecting a carbon fee from large carbon emitters monitored by the Environmental Protection Administration in 2024. There are currently 26 companies on the list of monitored emitters that borrow from TBB. Given the impact of a carbon fee on customers' operations, TBB has used an internal credit rating model to assess the effects on borrowers' credit ratings. In the net zero 2050 scenario, implementation of a carbon fee will lead to an increase in expected loss due to credit risk. **Management Overhead:** Expected training costs to be invested in the financing approval process.
R13 **Financing control tightened, leading to customer loss.**	Many energy conservation and carbon reduction themed environmental regulations and policies have been implemented/ amended around the world in recent years. To manage related risks, TBB requires borrowers to sign a commitment to carbon reduction, which can lead to loss of customers.	• ESG factors are included in the lending decision making process. All cases are considered carefully in terms of any involvement in environmental pollution, climate issues, and negative news. TBB assists and encourages customers to face potential environmental and climate risks. TBB also helps customers obtain funding for low carbon transition.	Expected decrease Interest income **NT$14.47 million**	Expected year Training costs **NT$3.34 million**	**Financial impact:** TBB has considered reducing medium- and long-term loans to high pollution/ energy intensive industries and estimated the decrease in interest income. **Management Overhead:** Expected training costs to be invested in the financing approval process.

2.1.3.2 Material climate-related opportunity issues and financial analysis

Rankings are based on future financial impact. The assessments, action plans, and financial impacts are compiled as follows.

Opportunity	Assessment	Action plan	Financial impact	Management Overhead	Calculation
03 Promote diversified low-carbon financial services and products to assist customers in transformation and expand customer operations.	Invest in R&D and innovation, promote green financial products and services and climate change mitigation solutions, meed customer needs and market demand in order to increase TBB's revenue.	• Merge with digital transition to promote paperless transactions, and provide customers with online banking and inquiry services. • Modify the conventional business model and advocate paperless and online banking service.	Expected mobile payment transaction fee income **NT$88.45 million**	Mobile banking services Annual R&D costs **NT$10.30 million**	**Financial impact:** assessed by the increase in mobile payment transaction fees. **Management Overhead:** R&D expenses for mobile banking.
02 Increase investment in industries related to climate adaptation and sustainable development.	Respond to the global trend of low carbon transition and actively seek potential investment recipients and create return on sustainable investment.	• Specify the scope of green industries and step up the investment activities in green industries. • Implement sustainability themed metrics and targets and follow up regularly to track progress.	Corporate bonds, Expected return **NT$48.90 million**	Annual average Management Overhead **NT$0.02 million**	**Financial impact:** assessed by the growth of sustainable bond investment. **Management Overhead:** the costs of evaluating human resources invested by TBB and the median salary for full-time non-management employees.
01 Develop related project loans in response to climate change and sustainable development.	Cooperate with the government to promote sustainability, expand the scope of loans to development in response to climate change or related to sustainability, and increase sustainable banking opportunities and return.	• Specify the scope of green industries and step up financing activities in green industries. • Promote renewable energies, green buildings and other sustainable banking products and services to help SMEs enforce low carbon transition and achieve TBB's goals as a sustainable business. • Implement sustainability themed metrics and targets for corporate and personal financing and follow up regularly to track progress.	Expected Interest income **NT$11.00 million**	Annual average Management Overhead **NT$8.92 million**	**Financial impact:** assessed on the 2023 growth target for green sustainability and ESG themed loans in corporate banking and calculated at an average interest rate of 2.2%. **Management Overhead:** the costs of evaluating human resources invested by TBB and the median salary for full-time non-management employees.

2.2 Scenario Analysis

To effectively monitor the risk and financial impacts of climate change, TBB follows the TCFD recommended disclosure framework for financial institutions and progresses from qualitative to quantitative analysis. Given identification of material climate risks, TBB, based on its financial structure, business correlation, and data availability, gives priority to offices, real estate collaterals, and lending transactions, and assess the potential impacts and challenges of climate change on business strategies by scenario analysis. In addition, TBB has devised and reviewed response strategies according to analysis results, and raised resilience against climate change.

Scope of scenario analysis and selection of scenarios

Risk type	Risk incident	Scope of impact	Climate scenarios		Corresponding temperature rise at the end of the century	Period
Physical risk	Flooding causes losses to business offices and collaterals	• Offices • Real estate collaterals	RCP8.5		>4°C	• Short-term (2023) • Medium-term (2027) • long-term (>2050)
			RCP2.6		~2°C	
Transition risk	Carbon reduction policies and cost of legal compliance	• Corporate lending positions	NGFS	2050 net zero	~1.5°C	
				Delayed transition	~2°C	
				NCDs	~3°C	

Scenario analysis summary

Risk type	Asset type	Traditional risks	Climate scenarios	Long-term financial effects of climate scenarios
Physical risk	All offices in Taiwan	Operational risks Operational risk	RCP8.5	The expected total asset impairment is estimated at NT$42.86 million, and the degree of financial impact is medium.
			RCP2.6	The expected total asset impairment is estimated at NT$37.83 million, and the degree of financial impact is medium.
	Real estate collaterals	Credit risk	RCP8.5	The expected total real estate collateral impairment is estimated at NT$5,519.25 million, and the degree of financial impact is extreme.
			RCP2.6	The expected total real estate collateral impairment is estimated at NT$4,864.19 million, and the degree of financial impact is extreme.
Transition risk	Corporate lending positions	Credit risk	2050 net zero	The degree of financial impact of expected losses from potential credit risk in 26 of TBB's borrowers who are listed as domestic carbon intense businesses by the Environmental Protection Administration is medium in all three climate transition risk scenarios. Details of the financial impact analysis on climate transition risk scenarios can be found in the climate scenario analysis under 2.2.2.1 Financing to Carbon Intensive Industries.
			Delayed transition	
			NCDs	

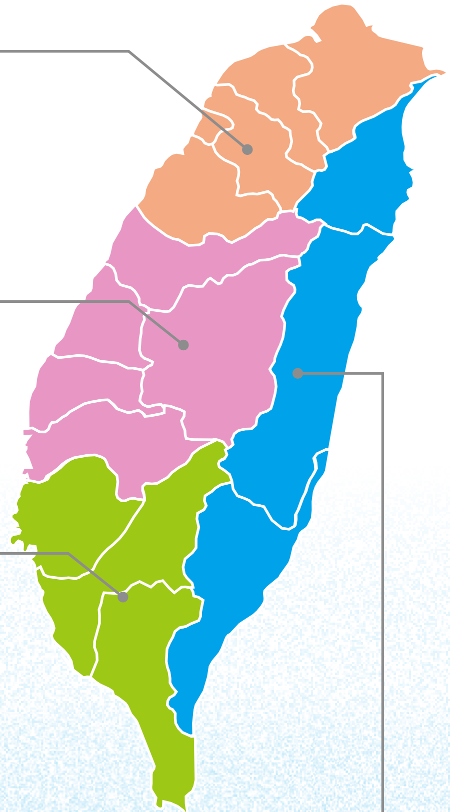
2.2.1 Physical risk climate scenario analysis

For the purpose of understanding its exposure to physical risk in different regions, TBB performed physical risk scenario analysis on all business activities in 2021 based on the Taiwan Disaster Risk Map published by the NCDR climate change disaster risk mitigation platform. In order to refine the precision of climate risk analysis types, ranges, and hazards for an accurate overview of physical risk exposure, TBB adopted the UNEP FI recommended external climate risk database in 2022 and implemented climate physical risk database and damage models, which expanded the scope of physical risk quantification to cover all offices and real estate collaterals in Taiwan.

Physical risk - scenario analysis process

Risk identification	Offices	Conduct a physical risk analysis on all offices and own real estate in Taiwan.
	Real estate collaterals	Conduct a physical risk analysis on all domestic real estate collaterals.
Risk Analysis	Extreme heat	River flooding
	Coastal flooding	Extreme winds
	Land subsidence	Forest fire
Assumptions	Enter parameters	Address of real estate, economic service life of building, material of building, and year of construction.
Analysis method	General Circulation Models	Choose IPCC AR5 CMIP5 and IPCC AR6 CMIP6 projection of global temperature increase.
	Regional Climate Models	Analyze regional climate models for specific physical risks and disasters.

Overview of physical risk in offices and real estate collaterals in Taiwan under 2050 RCP8.5



Northern region	Percentage of high physical risk areas
Real estate collaterals	0.26%
Offices	0.00%

Central tregion	Percentage of high physical risk areas
Real estate collaterals	1.31%
Offices	1.34%

Southern region	Percentage of high physical risk areas
Real estate collaterals	0.02%
Offices	0.00%

Offshore islands	Percentage of high physical risk areas
(including Penghu County, Kinmen County, Matsu, Liuqiu Township of Pingtung County, Ludao Township of Taitung County, and Lanyu Township of Taitung County)	
Real estate collaterals	0.00%
Offices	0.00%

Eastern region	Percentage of high physical risk areas
Real estate collaterals	0.09%
Offices	0.00%

2.2.1.1 Offices

Climate change will create more severe natural disasters. Heavy downpours, floods and other disasters caused by extreme weathers in recent years will lead to financial losses to TBB in the form of property repair, equipment replacement, or building value impairment. Expected losses from operational risks in the offices, dormitories, and investment properties in Taiwan has been calculated this year to provide an important basis for devising business continuity plans and asset allocation strategies.

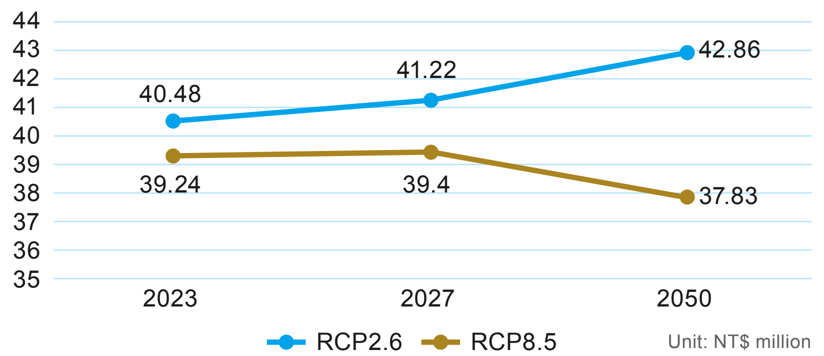
| Assessment Results |

Given most offices are located in urban areas better equipped with disaster prevention facilities, the expected losses show no significant difference between the two climate scenarios. In the long term (2050), the frequency of risk incidents will increase as time moves on, and the expected losses will increase as well.

2050 scenario	RCP8.5	RCP2.6
Financial impact (NT$ million)	42.86 Moderate	37.83 Moderate

Note: Details of degrees of financial impact/benefit can be found in probability of incidence and degree of financial impact/benefit under 2.1 Climate Risks and Opportunities.

Financial losses to offices caused by physical risks



| Actions Taken |

1. TBB has followed business continuity management and implemented a comprehensive reporting process that initiates appropriate emergency response procedures and recovery processes according to the level of natural disasters and other emergencies. The goal is to prevent potential asset losses and possible business disruption caused by climate disasters. Details of the business continuity plan can be found in 3.1.3 Business Continuity Plan.
2. The offices have made plans with flood prevention measures, such as installing flood barriers and purchasing water pumps, to prevent potential asset losses from floods.

2.2.1.2 Real estate collaterals

The areas affected by physical risk consist primarily of property in secured mortgage loans and real estate collaterals in corporate loans. When collaterals in high physical risk regions incur climate-related disasters, the value of the property will fall, leading to a higher chance of defaulting and insufficient collateral. TBB performed a physical risk assessment on climate disasters for 75,198 real estate collaterals in Taiwan in 2022. The assessment calculated the potential increase in expected credit losses caused by climate disasters in order to provide a basis for adjustment of lending strategy planning regarding real estate collaterals in the future.

| Assessment Results |

Considering the business as a whole in 2050 in the RCP8.5 scenario with the most severe physical risk, the expected total credit loss in TBB's real estate collaterals caused by physical risk incidents is estimated at NT$5.519 billion. Considering individual cases and financial impacts, changes in the loan-to-value (LTV) ratio after impairment of real estate collaterals were calculated, and the result showed only slight differences.

2050 scenario	RCP8.5	RCP2.6
Financial impact (NT$ million)	5,519.25 Extremely high	4,864.19 Extremely high
Change in LTV ratio (%)	0.40% Slight change	0.35% Slight change

Note 1: Details of degrees of financial impact/benefit can be found in probability of incidence and degree of financial impact/benefit under 2.1 Climate Risks and Opportunities.
Note 2: Real estate value impairment (%): based on UNEP FI recommended external climate risk database.

| Actions Taken |

1. Loan provisions state explicitly that the limit may be reduced, the term may be shortened, or the debt may be considered to become due in part or in whole when the collateral loses value or becomes insufficient to cover the credit.
2. For new applications, trends of physical risk in regions in which real estate collaterals are located are made one of the ESG risk factors. Those deemed a "high physical risk" will be managed according to the Responsible Lending Guidelines and be required to undergo regular review of local climate disasters every year in order to monitor the physical risk exposure.
3. TBB plans to set risk limits or alert thresholds corresponding to risk appetites based on local physical exposure in regions where the bank operates.

2.2.2 Transition risk climate scenario analysis

The Climate Change Response Act has been passed in 2023. Carbon fees will be implemented in stages. It is expected that the largest carbon emission sources that are regulated by the Environmental Protection Administration and required to take GHG emission inventory will be named the first group to be subject to carbon fees. Responding to the regulations, TBB considers including carbon fees as a factor in the internal credit rating assessment for borrowers, measuring changes in customers' default risk, and analyzing changes in expected losses from credit risk in the future.

Transition risk - scenario analysis process

Risk identification	26 of the regulated businesses on the Mandatory Greenhouse Gas Reporting System of the Environmental Protection Administration of the Executive Yuan are borrowers at TBB.
Risk Analysis	Carbon intensive industries will face increasingly restrictive low carbon regulations in the future, such as collection of carbon tax/fee and impact on operational and profit performance from production equipment replacement and other transition risks. They can lead to difficult debt recovery and have an impact on TBB's expected losses from credit risk.
Assumptions	The assessment is based on the Network for Greening the Financial System (NGFS) model. NGFS scenario: 2050 net zero; Delayed transition; NCDs (Climate Change Response Act)
Analysis method	An expected credit loss model

2.2.2.1 Financing to carbon intensive industries

If businesses do not actively respond to the net zero trend, carbon emissions from business activities will increase as they expand their operations and will lead to higher carbon costs for these businesses. This can have an impact on financial results and profits, which may in turn affect solvency of these businesses as an investment. As of the end of 2022, TBB has 26 borrowers that are large carbon emission sources regulated by the Environmental Protection Administration. The degrees of financial impact of potential increases in credit losses are shown in the table below.

NGFS scenario (Financial impact amount: NT$ million)	2023	2027	2050
2050 global net zero	Moderate (7.26)	Moderate (10.28)	Moderate (19.71)
Delayed transition	--	--	Moderate (18.84)
NCDs (Climate Change Response Act)	Mild (0.84)	Mild (0.84)	Mild (0.84)

Note: Details of degrees of financial impact/benefit can be found in probability of incidence and degree of financial impact/benefit under 2.1 Climate Risks and Opportunities.

| Actions Taken |

1. TBB inspects regularly the credit risk concentration and limit ratio in different sectors and adjust as needed. GHG emissions by industry are also added as an assessment factor in setting limits.
2. TBB plans to establish the Responsible Lending Guidelines to provide definitions of high climate risk industries. Applications deemed to be in a "high pollution/energy intensive industry" will be managed according to the aforesaid guidelines. In addition, TBB plans to create a list of ESG sustainability industries to actively support environmentally friendly businesses by helping them grow and providing green and sustainability products and services.
3. TBB takes an active approach to providing sustainability index linked loans. Applicants who meet the sustainability requirements will be able to borrow at preferred interest rates. This is a way to direct funds to sustainable enterprises and help corporate customers embark on low carbon transition.
4. In the future, the purpose of loan, costs and benefits, and materiality of specific issues involved will form the focus and strategy of negotiation for TBB in order to monitor borrowers' performance in carbon reduction and environmental improvement.

CH3 Climate Risk Management

Social, economic, and environmental conditions are constantly changing around the world. Global warming, extreme weathers, infectious diseases, technological advancement, demographic changes and other emerging issues become increasingly important. In order to manage and mitigate the impacts of risks accompanying these emerging issues, TBB has a risk management framework based on the Basel Accords and the FSC best practices principles with three lines of defense. Following the framework, TBB has created a comprehensive risk management system that contains emerging risks as a factor in risk classification. Climate-related risks has also been listed in recent years as one of the major risks to be monitored and made part of the existing risk management system.

3.1 Climate risk management framework

TBB's risk management policy is contingent upon effective risk management mechanisms that identify, measure, monitor, and manage risks. Given the statutory capital ratio, a reasonable relationship between risk and return is maintained and risk is kept within an acceptable range. Risk management covers management of credit risk, market risk, operational risk, interest rate risk in the banking book, liquidity risk, and capital adequacy ratio. The board of directors is the ultimate decision making unit that approves the overall risk management policy and major strategies according to the overall business strategy and the business environment. The board of directors is also ultimately responsible for overall risk management.

Climate risk limits/metrics	TBB's climate-related risk management and overall risk tolerance

The TBB board of directors approves the maximum limits for investment/financing in "high pollution/energy intensive industries" as management targets to monitor exposure in high climate sensitivity sectors. TBB will refine climate risk management on an ongoing basis and set stronger credit risk concentration limits, metrics, and differentiation thresholds.

3.1.1 Climate policies

In response to the effects of global climate change, TBB actively supports international climate initiatives and domestic regulators' policies and regulations. Climate risk factors are incorporate into business, strategy, and financial planning in an organized manner. The Climate Risk Management Guidelines and the Operating Procedure for Climate Risk Management are expected to be implemented in 2023 and will be based on the FSC Guidelines for Domestic Banks' Climate Risk Financial Disclosure and the BAROC Best Practices in Climate Risk Management by Domestic Banks. They will describe the interaction between traditional risks in the banking sector and climate change risks. Climate risk factors will be included in decision making regarding core businesses and TBB's own operation as a means to strengthen climate risk management.

3.1.2 Three lines of defense in climate risk management

To facilitate the design and execution of the internal control system, TBB follows a multi-level practice that establishes three lines of defense for internal control and clearly defined roles and responsibilities for each line. The practice helps the departments understand their roles in the overall risk (including climate-related risks) and control framework and strengthens communication and coordination in risk management and internal control related tasks in order to maintain an adequate and effective internal control system.

1st line of defense	2nd line of defense	3rd line of defense
Routine risk management	**Overall risk monitoring**	**Independent verification**
Manage climate change risks arising from business activities on an ongoing basis to ensure business activities are aligned with TBB's climate risk management targets.	Implement an overall policy and create a management system to facilitate effective climate risk management at the relevant units and monitor risk management and self assessment on the first line of defense.	Perform audits in an independent and impartial manner and assist the board of directors and the executive management in auditing and evaluating the effectiveness of risk management and internal control systems.
• Business unit • Investment units • Financing units	• Risk Management Department • Credit and loan supervision units • Operations management units • Information maintenance and operations units • Human Resources Department • Compliance Department	• Auditing Department
Understand fully the climate-related risks in the operations that they oversee, and implement climate risk factors gradually as required by the operating guidelines. Implement corresponding key indicators and targets and report relevant information as required.	Establish a climate risk management system and assess climate risk grading for the sector. Ensure climate risk management regulations are updated as required by law, and comply with the laws and regulations.	Assess the effectiveness of climate risk monitoring by the first and second lines of defense, and suggest improvements in a timely manner.

3.1.3 Business continuity plan

For the purpose of ensuring the continuity of business and company operations in order to protect customers' rights, the Disaster and Emergency Response Team has been created and the major disaster prevention measures/facilities have been strengthened. The goal is to enable timely response to reduce damage and execute disaster fund allocation smoothly to quickly restore business as usual.

TBB has implemented the Disaster Emergency Response Countermeasures Manual and the Cyber Security Incident Reporting and Response Management Procedure. These rules create a strong reporting and response management procedure that facilitates timely communication between the head office and the branches and provides an overview of actual damage incurred by each unit. TBB also organizes disaster prevention training and exercises, strengthens facility safety and maintenance, and conduct cyber security incident exercises. The goal is to enable all employees to understand fully their tasks and familiarize themselves with the execution and emergency responses in order to minimize damage.

Business continuity plan

Preliminary prevention	• Create the Disaster and Emergency Response Team • Implement the Disaster and Emergency Reporting system • Organize disaster prevention training and exercises • Strengthen facility safety and maintenance check • Devise response exercise plans for cyber security incidents involving core IT systems
Risk incident	• Natural disaster • Man-made disaster • Cyber security incident • IT system disaster
Emergency response	• Emergency coordination and reporting • Call a meeting of the Disaster and Emergency Response Team • Confirm safety of employees and customers • Confirm damage and assess funding needs
Recovery	• Provide necessary assistance for affected employees and their families • Make necessary reinforcement or repair immediately for protective measures on damaged buildings or key operational equipment • Investigate causes of cyber security incidents, response, and improvement measures, and conduct digital forensics as needed • Monitor subsequent development in cyber security incidents and connection with other incidents

3.2 Climate risk management in investing/ financing activities

Given the global trend to adopt low carbon transition and net zero, governments are implementing increasing restrictive regulations on carbon emissions. Businesses may, in addition to incurring additional carbon emission costs, face impacts on operations and value of assets as a result of extreme weathers. In the banking sector, investment/financing activities will be first to be affected in many areas including changes of policy and regulation, advancement in technology, and market expectation on the banking sector. The potential impact cannot be ignored.

Climate risk management policy for investment/financing activities

In order to effectively manage the impacts of climate risk on investment/financing activities, TBB has actively made plans in 2023 to add a climate-related assessment procedure to the preliminary assessment for investment/financing projects. TBB expects to implement the Responsible Investment Guidelines and the Responsible Lending Guidelines. Follow the UN Principles for Responsible Investment (PRI) and international climate initiatives, require investment/financing recipients be evaluated before proceeding, and prohibit new investment in sectors to be avoided. Require highly sensitive industries and high climate risk industries comply with industry specific directives and require due diligence and careful assessment be performed, no adverse effect on sustainability be concluded and exception management mechanisms be installed before approval. Inspect ESG and climate performance of investment/financing recipients on an ongoing basis after transactions and engage businesses in conversation in depth to help businesses complete net zero transition.

Successful engagement case study — Caiwang Enterprise

TBB provided a NT$12 billion sustainability index linked loan to Caiwang Enterprise, an affiliate of Test Rite International. In support of global carbon reduction trends, the company used the funds to upgrade to energy saving light, improve waste removal and wastewater processing, and optimize logistics management. In addition, to reusing pallets and design optimal distribution routes in logistics, the company dedicated itself to working with suppliers to improve shipping methods and switch to cross-docking. The improvement reduces total shipping volume and achieve energy saving and carbon reduction. TBB supports businesses through green banking and successfully reduces carbon dioxide emissions to improve the environment and the quality of life while and bringing businesses together in the march toward green sustainability.

Actions	Description
Boundaries	**Scope of high pollution/energy intensive industries** The scope of high pollution/energy intensive industries for TBB is based on the Environmental Protection Administration's list of major carbon emitting companies and the TCFD recommended disclosure framework as well as domestic and foreign climate change studies and definitions from other financial institutions. Details of exposure in the high pollution/energy intensive industries can be found in 4.3.1 Carbon asset risk exposure.
Implement	**high pollution/energy intensive industries maximum investment/financing limits** Given GHG emissions are included in the calculation of approved industry limits, percentage limits have been created for high carbon emission industries in order to better manage credit risk in high pollution/energy intensive industries. In the future, the unit handling credit risk plans to monitor utilization of industry limits on a daily basis, report credit risk exposure by industry regularly to the Risk Management Committee, and inspect concentration of credit risk limit by industry regularly every year.
Calculate	**investment/financing activities financed carbon emissions** Financed carbon emissions to be amortized are calculated based on the Partnership for Carbon Accounting Financials (PCAF). Plans have been made to submit the carbon reduction target for investment/financing portfolio to the SBTi in 2024. Details of financed carbon emissions can be found in 4.3.2 Carbon emissions from investment/financing portfolios.
Perform	**climate risk in investment/financing activities scenario analysis** The unit handling climate related operation regularly tracks, compares, and analyzes performance of climate actions and corresponding key climate targets. Performance is projected according to trends in the past and in the future, and low carbon transition action plans are modified on a rolling basis. In addition, scenario analysis is performed to list operational and financial impacts on TBB in order to have a clear view of the resilience of TBB's climate strategies for investment/financing activities under specific climate scenarios. Details of the scenario analysis process can be found in 2.2 Scenario Analysis.
Support	**investment/financing activities engagement** TBB has started engaging 31 companies as of the end of 2022. TBB helps companies start dealing with global carbon reduction trends and environmental initiatives early. TBB utilizes sustainability linked loans and green lending to encourages customers to actively reduce carbon emissions and pay attention to environmental sustainability.

CH4 Climate metrics and targets

TBB is committed to global citizenship. While seeking to expand its business, TBB is steadily building up a strong base for environmental sustainability in order to achieve the climate targets in the Paris Agreement in the long term. Besides actively reducing its own carbon emissions, TBB works hard to extend its external influence as a financial institution. Setting targets according to the SBTs methodology, TBB develops low carbon banking services and creates systematic energy and resource management procedures. The system shapes the Bank's low carbon transition blueprint and action plans and steady progress toward net zero.

4.1 Low carbon banking services

The impacts of climate-related risks and opportunities identified by TBB on the company's business, strategies, and financial planning can be found in products and services, value chain, R&D, and business management. Following "mitigation" and "adaption" as the two major climate response measures, the Bank inspects the performance of its strategies and actions regularly to meet long term low carbon transition goals in investment and financing activities. Details of the sustainability and climate finance disclosure can be found in the TBB Sustainability Report 2022 - 4.2 Sustainable Financial Services.

Moving toward net zero

support for SME partners in net zero transition

Personal banking	• Green Consumer Loans • Green Credit Card • Innovative digital financial services	• Promote personal green loans, encourage personal green and sustainable purchasing and spending, and work together to support environmental sustainability. • Promote Sustainable Life Card and other credit cards of environmentally friendly materials, encourage green spending, and support environmental protection with an emphasis on environmental sustainability. • Simplify processes, adopt paperless practice, and increase "green value" in financial services in order to reduce paper and energy consumption.
Corporate banking services	• Environmentally friendly loans • Sustainability-linked loans	• Launch various environmentally friendly loans and help customers obtain funds for purchasing renewable energies and pollution prevention and energy saving equipment. • Encourage businesses set and achieve ESG targets and provide rewards and incentives for meeting targets.
Green and sustainable investment	• Sustainability themed bond investment	• Invest in approved green bonds, social responsible bonds, sustainable bonds, and other ESG bonds.

4.2 Low carbon operations

In the interest of avoiding more severe climate disasters, reducing GHG emissions, and keeping global temperatures within an adequate range, the 2050 net zero initiative has become the world's common goal. Building on Taiwan's Pathway to Net-Zero Emissions in 2050, TBB follows the action requirements provided explicitly on the MOF ESG Initiative Platform for State-owned Financial Institutions and sets carbon reduction targets and transition strategies. In addition, the Bank has completed signing up for the SBTi.

TBB low carbon transition action plan

	Item	Carbon reduction target	Actions
Scope 1	• Fuel for company cars • Air conditioning coolant diffusion from frozen goods • Filling for fire extinguishers	Reduce carbon by 4.2% every year with 2020 as the baseline year.	• Promote the use of low carbon transport as company cars • New air conditioning equipment to be purchased must be Class 1 energy efficient products and use environmentally friendly coolants.
Scope 2	• Power consumption	Reduce carbon by 4.2% every year with 2020 as the baseline year.	• Perform inventory, energy saving diagnosis, and replacement of energy intensive equipment • Devise insulation, waterproof, and green building guidelines for exterior walls of buildings • Usage of renewable energy
Scope 3	• Carbon emissions from investment and financing portfolios	Follow SBTi to set carbon reduction pathways for different asset categories	• Sectoral decarbonization approach • Portfolio coverage approach
Scope 3	• Business trips • Procurement and services of upstream/ downstream goods (including utilities, electricity, gas/diesel, natural gas, and printer paper)	--	• Monitor water consumption and devise water saving strategies • Green Procurement • Carbon reduction seminars for supply chain and energy saving advisor groups

TBB net zero schedule for own operations

	2022 to 2025	2026 to 2030	2031 to 2040
Milestone	**SBTi commitment Submit carbon reduction targets**	**21% carbon reduction by 2025 42% carbon reduction by 2030**	**75% carbon reduction by 2035 Net zero by 2040**
Management and promotion	• The entire bank (including subsidiaries, sub-subsidiaries and overseas offices) is included in the ISO14064-1 carbon inventory • Expand the scope of ISO14001 and ISO50001 • Take inventory of total bankwide waste and set reduction targets	• Use GHG inventory to create a carbon management platform	• Use and refine the carbon management platform
Low carbon operations	• Promote carbon reduction in employee behaviors • Optimize use of air conditioning and replace old air conditioning equipment • Take inventory and make plans for low carbon transport • Promote internal carbon pricing	• Promote carbon offset and carbon neutral programs • Reduce paper use as part of digital transformation • Promote low carbon transport • Organize supplier conferences to raise ESG awareness	• Refine above action plans on an ongoing basis
Renewable energy	• Install 1 solar powered branch per year • Supply green power to provide 10% of the bank's power consumption	• Install 1 solar powered branch per year • Purchasing T-RECs • Sourcing from renewable energies and reduce carbon emission by 42% by 2030	• Sourcing from renewable energies and reduce carbon emission by 75% by 2035 • Sourcing 100% from renewable energies by 2040
Sustainability initiatives	• Branches work with SME clients to create an integrated energy saving and carbon reduction platform • Promote environmental education and organize beach/mountain cleanups • Promote the circular economy • Support the green workplace		

4.2.1 GHG emissions from own operations and renewable energies

The Bank takes a GHG inventory every year and passes certification of the ISO14064-1 GHG Inventories. A complete inventory enables TBB to stay informed of carbon emissions and devise GHG reduction action plans. GHG emissions from TBB's own operations in recent years are shown in the table below:

GHG emissions from own operations in last three years (certified by third party institution)

Item\Year	2020	2021	2022
Direct GHG emissions (Scope 1) (tonneCO_2e)	153.32	1,062.31	1,173.59
Indirect GHG emissions from energy use (Scope 2) (tonneCO_2e)	1,186.99	9,234.73	11,050.77
Total Scope 1 and Scope 2 emissions (tonneCO_2e)	1,340.31	10,297.04	12,224.36
Carbon emission intensity: (Scope 1 + Scope 2)/ person (tonneCO_2e/person)	--	--	2.254
Number of employees (person)	5,256	5,321	5,424
Total other indirect GHG emissions (Scope 3) - business travel (tonneCO_2e)	--	10.35	34.45
Total other indirect GHG emissions (Scope 3) - purchased goods and services (tonneCO_2e)	--	2,329.72	2,557.64
Total other indirect GHG emissions(Scope 3)(tonneCO_2e)	--	2,340.07	2,592.09
Third party certification coverage	13.60%	96.60%	100%

Note1: The scope of Scope 3 inventory for 2021 is all of TBB's offices in Taiwan. The emission categories are other indirect GHG emissions from "business travel" and "employee commuting".
Note2: The scope of Scope 1 and Scope 2 inventory for 2020 is TBB's head office building. The scope of Scope 1 and Scope 2 inventory for 2021 is all of TBB's offices in Taiwan. The scope of Scope 1 and Scope 2 inventory for 2022 is all of TBB's offices in the country, overseas branches, and subsidiaries by the operational control method.
Note3: Based on the actual water consumption and electricity consumption, the emission data of all domestic bases, overseas branches and subsidiaries of TBB in the past two years are estimated. In 2020, Scope 1 emissions are 1,179.73 tonneCO_2e, Scope 2 emissions are 13,023.85 tonneCO_2e, and Scope 1+2 emissions 14,203.58 tonneCO_2e; Scope 1 emissions in 2021 are 1,180.19 tonneCO_2e, scope 2 emissions are 11,816.97 tonneCO_2e, and scope 1+2 emissions are 12,997.16 tonneCO_2e.
Note4: The external certification institute for 2020, 2021, and 2022 is SGS.
Note5: The certification coverage ratio is based on the number of employees.

The Bank implemented the ISO50001 energy management system and the ISO14001 environmental management system. Energy consumption baselines and energy intensive equipment operational guidelines were established by taking a detailed operation inventory by equipment. Energy saving and improvement plans were executed to achieve long term targets in annual energy saving and ongoing energy efficiency improvement.

The Bank is constantly promoting energy improvement measures. Low carbon and energy saving action plans implemented in 2022 are the following:

Replacement of old and energy consuming equipment

Carbon reduction performance (tonneCO_2e)	140.79	Input cost (NT$)	18,600,000

- Old and energy consuming equipment in the Zhongnan building was completely replaced by LED lightings.
- The air conditioning equipment at the Linkou server rooms was upgraded and a monitoring system was installed to improve electricity efficiency.
- Old elevators at the head office building were replaced.

Installation of solar powered branches

Carbon reduction performance (tonneCO_2e)	26.98	Input cost (NT$)	5,180,000

- Solar powered branches were installed. In addition to creating shade on the roof to lower the temperature, the power generated is supplied first to the branches.

The Bank understands that in addition to an active internal effort to reduce carbon emissions, it is also necessary to purchase renewable energies in order to meet the net zero challenge. As the government's policy and regulation become more open and start allowing direct purchase of renewable energies (green power supply), TBB intends to enter into "renewable energy purchase agreements" with renewable energy sellers in 2023 and start officially supplying renewable electricity at the end of 2023.

4.2.2 Supplier carbon management

TBB supports the green office initiative and has signed the "Private Businesses and Groups Green Procurement Letter of Intent" to give priority to products with environmental certification. The green lifestyle is incorporated into the workplace through sourcing management. With green procurement totaling NT$11.53 million in 2022, TBB was named an "Outstanding Green Procurement Organization" by the Environmental Protection Administration of the Executive Yuan and the Department of Environmental Protection of Taipei City Government for the 11th consecutive year. Furthermore, 99.8% of the procurement costs were associated with local suppliers. TBB supported local businesses and saved energy and procurement processing time in order to reduce environmental impacts.

Meanwhile, the Bank has the Supplier Management Guidelines in place. The supplier solicitation process consists of 3 stages, pre-procurement evaluation, interim management, and post-procurement assistance. More efforts are made in supplier communication, evaluation and assistance, and rewards. The goal is to encourage suppliers to take action on ESG issues and join the campaign to reduce the supply chain's environmental impacts.

STEP 1 Pre-procurement evaluation

Subjects: Suppliers participating in bidding/negotiation and tendering processes.

Corporate Social Responsibility Self-Assessment

All suppliers are required to complete the CSR self assessment form and answer economic, environmental, social, and compliance questions.

Joint Commitment

All suppliers are required to sign the "Statement of Commitment to Human Rights and Environmental Sustainability".

STEP 2 Interim management / **STEP 3 Post-procurement assistance**

Subjects: Energy saving, IT equipment and maintenance, and construction/renovation projects of NT$10 million or more.

ESG Review

- Before entering into a contract, TBB will make inquiries whether the supplier violated any regulations of the Environmental Protection Administration or the Ministry of Labor or was subject to disciplinary action.
- Before entering into a contract, TBB will inquire to ensure the supplier is not on the Bank's AML/CFT blacklist.

Reward for Carbon Reduction

Suppliers are rewarded for obtaining third party certification of ISO50001 energy management system.

Evaluation of Procurement Product Energy Performance

Suppliers are required to complete the Supplier Energy Performance Evaluation Form in order to achieve the energy saving and carbon reduction targets.

Supplier meeting

Supplier meetings are held as needed to bring everyone together to promote corporate sustainability and environmental protection and encourage suppliers to fulfill their social responsibility.

Recognition of outstanding suppliers

Suppliers who have demonstrated concrete good practices in corporate social responsibility, environmental sustainability, occupational safety and health, and respect for labor rights may be recognized and awarded the Excellent Supplier Certificate, subject to approval by the Bank's department.

4.2.3 Internal carbon pricing

TBB works in the banking sector and energy consumption derives mainly from electricity use in office buildings. Electricity use accounts for 91% or more of GHG emissions (Scope 1 + Scope 2). Therefore, Scope 2 GHG emissions were chosen to be the boundaries for implementation of internal carbon pricing. The implicit cost of operational carbon emissions is based on shadow prices. Air conditioning and lighting equipment, which are the two largest electricity users in the bank, are the first to be included in internal carbon pricing.

In response to the Taiwan Roadmap to Net Zero by 2050, the Bank follows the Climate Change Response Act and sets the internal price for carbon at NT$300/ tonne CO_2e. When a purchase is to be made, the internal price for carbon will be used to assess carbon reduction provided by the equipment and to perform the cost and benefit analysis for replacement and calculate the payback period. The system is expected to optimize the purchase process and give priority to environmentally friendly products.

Going forward, TBB will continue to combine the ISO50001 energy management systems to achieve synergy and expand applicability to investment/financing activities. Internal carbon pricing is also modified according to TBB's SBTs and international carbon pricing trends in order to provide a basis for assessment and management of climate change transition risks and related decision making.

4.3 Climate-related metrics and targets

TBB understands fully that setting effective key climate metrics and targets will facilitate implementation of climate risk management and management of related opportunities. It is also a way of better meeting the expectations of internal and external stakeholders regarding the Bank playing a key role in net zero transition. Given key climate metrics and targets are closely interconnected, the Bank combines key climate indicators that are relevant to climate targets and can be tracked and measured, and selects qualitative or quantitative climate indicators based on the purpose of management and nature of each indicator in order to track and monitor results. Details of the level and frequency of reporting for the metrics and targets can be found in 1.1 Climate Governance Framework.

Category	Dimensions	Metrics	2022 Progress	2023-2028 Targets	Actions
GHG emissions	Operations	Scope 1 and Scope 2 emissions (tonneCO_2e)	12,224.36	**Short-term (2023)** **2%** carbon reduction with 2020 carbon emissions as the baseline **Medium- and long-term (2024-2028)** **10%** carbon reduction with 2020 carbon emissions as the baseline	• Complete inventory certification for all domestic and foreign offices. • Manage tasks and progress of the FSC Sustainable Development Guidemap for TWSE and TPEx Listed Companies.
		Financed carbon emissions from investment/ financing portfolios (tonneCO_2e)	1,273,195.10	**Short-term (2023)** Assess and set carbon reduction **SBTs**. **Medium- and long-term (2024-2028)** Follow the **SBTi** methodology, set SBTs, and pass the SBTi review	• Follow the PCAF methodology to calculate carbon emissions from investment/financing portfolios. • Sign up for the SBTi commitment and keep business development strategies aligned with the targets of the Paris Agreement.
Energy use	Energy-saving measures	Power consumption by all offices in Taiwan (MWh)	21,730.35	**Short-term (2023)** **1%** energy saving with 2020 electricity consumption as the baseline **Medium- and long-term (2024-2028)** **10%** energy saving with 2020 electricity consumption as the baseline	• Implement energy saving measures in all offices in Taiwan and extend the ISO 50001 energy management systems to cover more offices in order to link energy saving and business performance.

Category	Dimensions	Metrics	2022 Progress	2023-2028 Targets	Actions
Energy use	Renewable energy	Percentage of renewable energy consumption (%)	**3.77%**	Short-term (2023) **10%** sourcing from renewable energies with 2021 as the baseline. Medium- and long-term (2024-2028) **3%** annual increase of renewable energy use with 2021 as the baseline	• Solar power facilities are installed at the offices to create 108.025 kW in total capacity and expected to generate a total of 134,000 kWh per year. • Green power supply agreements are signed and expected to lead to a purchase ratio of 63.5% by 2040.
Transition risk	Investment	Percentage of investment in high pollution/energy intensive industries (%)	**24.93%** (down by 11.09% compared to the previous year)	The percentage continues to be monitored and managed according to the investment/financing limits on high pollution/ energy intensive industries.	• The board of directors has approved the maximum limits for investment/financing in "high pollution/energy intensive industries" as management targets to monitor exposure in high climate risk sensitive sectors. TBB will refine climate risk management on an ongoing basis and set stronger credit risk concentration limits, indicators, and differentiation thresholds. • The unit handling credit risk plans to monitor utilization of industry limits on a daily basis, report credit risk exposure by industry regularly to the Risk Management Committee, and inspect concentration of credit risk limit by industry regularly every year.
	Loans	Percentage of medium- and long-term loans to high pollution/ energy intensive industries (%)	**10.80%** (down by 1.82% compared to the previous year)		
	Responsible Investment/ Lending Guidelines	Implement the Responsible Investment Guidelines and the Responsible Lending Guidelines	**As the target since 2023**	Short-term (2023) Implement **the Responsible Investment Guidelines**	• ESG factors are included in the investing/lending decision making process.
Physical risk	Decrease in value	Percentage of loans in high physical risk regions in RCP8.5 (%)	**1.58%**	The methodology is introduced as a start. The scope will be expanded in the future and short-, medium-, and long-term targets for related exposure be set up for regular monitoring.	• Climate risks are assessed regularly to monitor high physical risk exposure. Scenario analysis results are used to set risk limits or alert thresholds corresponding to the risk appetites.
Climate-related opportunities	Corporate loans	Percentage of green and ESG loans (%)	**2.24%** (up by 340% compared to the previous year)	Short-term (2023) The ratio of green loans to total private sector loans reaching **4%** Medium- and long-term (2024-2028) The ratio of green loans to total private sector loans reaching **8%**	• Provide preferred financing terms to encourage customers to purchase renewable energy powered equipment in order to reduce carbon emissions and energy consumption. • Inject capital into environmental friendly and green energy industries and provide financing advice and trust management services under one roof in order to guide customers to implement ESG sustainability.
		Number of sustainability indexed loans	**26** (new business in the current year)	Short-term (2023) The number of new sustainability indexed loans reaching **30** Medium- and long-term (2024-2028) The number of new sustainability indexed loans reaching **36 every year**	

Category	Dimensions	Metrics	2022 Progress	2023-2028 Targets	Actions
Climate-related opportunities	Investment	ESG Bond investment volume growth rate (%)	**7.35%** (Target rate:3%)	**Short-term (2023)** **3%** increase in ESG bond investment every year compared to the previous year **Medium- and long-term (2024-2028)** The percentage of ESG bonds out of total investment reaching **5~7%**	• The Responsible Investment Guidelines are established to provide a clear definition of "sustainable enterprises" and direct funds toward sustainable economic activities.
	Other financial products and services	Number of environmental friendly credit cards issued (cards)	**45,025 cards**	**Baseline: 199,434 cards in circulation in total at the end of 2020** **Short-term (2023)** The percentage of credit cards issued with environmentally friendly materials was **23%** **Medium- and long-term (2024-2028)** The percentage of credit cards issued with environmentally friendly materials was **25%**	• Promote Sustainable Life Card, which advocates vegetarian diet and carbon reduction, green energy, and the sharing economy, and provide high cash back on green channels. • Launch ESG investment products.
		Number of ESG funds	**1**	**Short-term (2023)** **3** ESG funds launched in total **Medium- and long-term (2024-2028)** **10** ESG funds launched in total	
Resource allocation	Climate-related Capital expenditure	Investment in energy saving and carbon reduction projects (NT$)	**NT$27,630,000** (up by 3.8% compared to the previous year)	Inspect climate governance resource allocation regularly according to the Bank's net zero path and support resource requirements made by the responsible units.	• Total green procurement was NT$115.28 million in 2022. TBB was named an "Outstanding Green Procurement Organization" by the Environmental Protection Administration of the Executive Yuan and the Department of Environmental Protection of Taipei City Government for the 11th consecutive year.
Internal carbon pricing	Operations	Internal carbon price (NT$/ tonne$CO_2$e)	**300**	Used in the asset procurement process. The use of internal carbon pricing in other areas will be considered in relation to environmental benefits of different brands of equipment.	• Internal carbon pricing (ICP) is calculated and used in routine operations to enable more sustainable procurement decisions and facilitate more energy saving and carbon reduction projects.

Category	Dimensions	Metrics	2022 Progress	2023-2028 Targets	Actions
Climate governance	Climate knowledge and capacity	Continuing climate training for directors	**58 hours**	The board of directors and executive management should be aware of climate risks faced by **TBB** and the regulations to be followed in order to oversee climate risk management methods.	• Training courses are designed and training frequency and format are decided according to the roles and responsibilities of each unit on each level. In addition, training programs are inspected regularly and updated based on latest developments in climate change issues.
	Climate performance and remuneration link	Sustainability based board performance evaluation	Sustainability issues provide an important basis for evaluation of the Sustainable Development Committee's performance.	A link between performance and sustainability performance is actively promoted in order to make **ESG** part of performance evaluation metrics.	• Performance evaluation for overall board operation and individual directors are conducted according to the TOPIX Bank Board of Directors Performance Evaluation Guidelines every year. The scope of evaluation includes environmental and human rights issues.
	Climate rankings	Carbon disclosure project (CDP) ratings	**B**	Complete **the Carbon Disclosure Project (CDP)** every year on an ongoing basis.	• Received a B score in 2022, above the global average among financial institutions (B- score) and Asia average (C score).

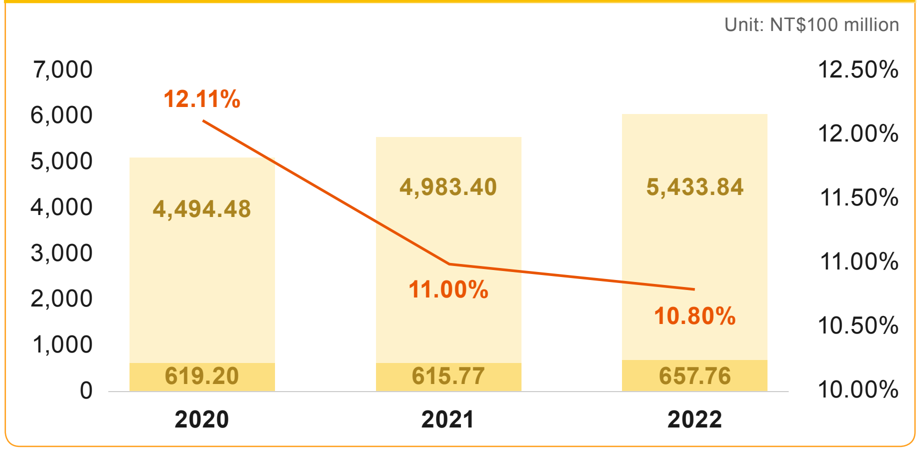
To ensure key climate metrics provide practical management tools, the Bank intends to check validity of the indicators by relevance, reliability, and comparability in the future so that indicators are calculated in correct and impartial manner and able to assist internal management.

4.3.1 Carbon asset risk exposure

As the world moves towards net zero, carbon intensive industries will face the first wave of transition related policies and regulations as well as more severe challenges in fund utilization and market competition. TBB classifies printing and dyeing, leather manufacturing, paper manufacturing, oil and refinery, basic chemical materials manufacturing, manmade fibers, cement, steel, metal processing semiconductors and optoelectronic, power supply, and marine/air transport industries as high pollution/energy intensive industries.

The outstanding balance of medium- and long-term loans to the high polluting/ energy intensive industries was NT$65.776 billion in 2022, which accounted for 10.80% of the total outstanding balance of medium- and long-term loans. The investment is NT$21.410 billion or 24.93% of total investment and is classified as carbon asset exposure. The trend of the loan and investment balance and distribution for the Bank in the last three years are shown as follows:

Trend of balance of medium- and long-term loans to businesses

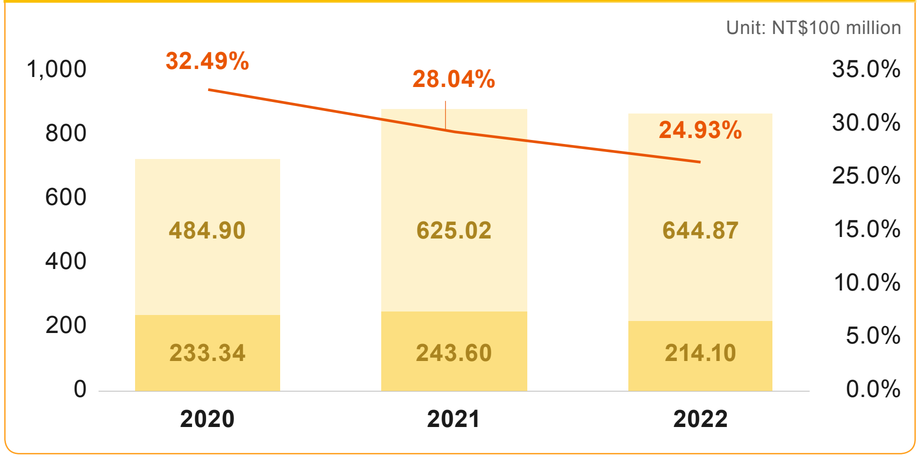


Balance of medium- and long-term loans to high pollution/energy intensive industries

Balance of medium- and long-term loans to non-high pollution/non-energy intensive industries

Ratio of balance of medium- and long-term loans to high pollution/energy intensive industries to total balance

Trend of investment balance



Balance of investment in highly polluting/energy intensive industries

Balance of investment in non-highly polluting/non-energy intensive industries

Ratio of balance of investment in high pollution/energy intensive industries to total balance

TBB's main source of income in 2022 was net interest income, which accounted for 72% of the net income. Deposit and loan sources and interest spread changes are crucial to net income. To provide a clear understanding of impacts of high pollution/ energy intensive industries on TBB's lending business, details of climate-related physical risk and transition risk faced by energy/carbon intensive industries can be found in 2.2. Scenario Analysis.

4.3.2 Carbon emissions from investment/ financing portfolios

Carbon emissions from investment/financing activities are calculated according to the PCAF methodology to assess the potential impact of climate change risk on the investment/financing portfolios. TBB actively explores opportunities to reduce GHG emissions.

In 2022, total Scope 3 GHG emissions by the Bank was 1,273,195.10 tonne CO_2e and total carbon footprint was 5.85 tonneCO_2e/NT$ million investment or financing. The scope covered emissions from medium- and long-term loans, power generation project financing, commercial real estate loans, and equity and bond investment portfolios. The asset inventory categories will be expanded by the new PCAF methodology to better monitor overall carbon emissions from financial assets.

Item	2020	2021	2022
financed carbon emissions (tonneCO_2e)	1,123,563.89	1,152,520.45	1,273,195.10
Avoided financed carbon emissions (tonneCO_2e)[Note 1]	4,809.95	5,181.40	58,084.82
Carbon emission intensity (tonneCO_2e/ NT$ million investment or financing)	5.70	5.57	5.85
Data quality score	2.06	2.10	1.83
Total percentage out of investment/ financing portfolios [Note 2]	12.27%	11.32%	11.58%

Note 1: The Bank takes an active approach to providing green loans by helping customers obtain funds to purchase renewable energy equipment and avoid related carbon emissions and working with customers to complete low carbon transition.
Note 2: The Bank sets carbon reduction targets based on the SBTs approach and takes inventory of the asset categories that must be included. The scope covers TBB and its subsidiaries.

Financed carbon emissions by asset class (tonneCO_2e)	2020	2021	2022
Corporate loans	378,319.03	279,972.24	337,354.85
TWSE/TPEx-listed stocks and bond investment	678,554.11	804,814.00	869,638.53
Power generation project loans	13,089.69	12,401.39	11,884.66
Commercial real estate loans	53,601.06	55,332.82	54,317.07
Carbon emission intensity by asset class (tonneCO_2e / NT$ million investment or financing)	**2020**	**2021**	**2022**
Corporate loans	4.66	3.82	3.71
TWSE/TPEx-listed stock and bond investment	6.29	6.57	7.66
Power generation project loans	14.02	12.69	5.79
Commercial real estate loans	7.41	5.54	4.91
Data quality score by asset class	**2020**	**2021**	**2022**
Corporate loans	1.98	1.98	2.17
TWSE/TPEx-listed stock investment	1.06	1.21	1.28
Corporate bonds	2.05	2.14	1.34
Power generation project loans	2.00	2.00	2.00
Commercial real estate loans	4.00	4.00	4.00

Financed carbon emission by industry ($tonneCO_2e$)	2020	2021	2022
Building materials	286,208.32	404,118.08	538,039.51
Composite utilities	279,023.16	280,583.62	214,971.73
Company	276,368.90	197,863.33	214,082.66
Electronic equipment, instruments and components	79,591.16	56,726.85	103,923.44
Metals and mining	33,885.48	30,697.84	39,186.19
Other	101,796.12	114,796.52	96,789.85
Carbon emission intensity by industry ($tonneCO_2e$/NT$ million investment or financing)	**2020**	**2021**	**2022**
Building materials	19.21	23.71	28.04
Composite utilities	27.39	30.06	27.22
Company	7.11	5.63	6.58
Electronic equipment, instruments and components	3.79	2.76	4.85
Metals and mining	3.38	2.85	2.27
Other	1.08	1.12	0.91

Note: Calculation of financed carbon emission and emission intensity by industry does not cover "power generation project loans" or "commercial real estate loans".

Financed carbon emission by geographic region ($tonneCO_2e$)	2020	2021	2022
Taiwan	1,007,842.34	1,026,092.90	1,114,356.73
The United States	9,879.65	9,929.47	20,726.28
Australia	16,017.31	16,649.45	17,475.88
Japan	427.55	774.10	14,804.66
China	5,989.37	4,126.95	12,425.16
Other	16,716.92	27,213.37	27,204.66

Note: Calculation of financed carbon emissions and emission intensity by geographic regions does not cover "power generation project loans" or "commercial real estate loans".

The Bank is actively planning and setting carbon reduction targets for different asset categories according to SBTi requirements for investment/financing targets. The Bank expects to follow SBTi requirements and submit carbon reduction targets for review by the end of 2024 and to modify management mechanisms for carbon intensive industries and engage investment/financing recipients in strategy discussions.

CH5 Future

Climate change risk is an important risk that businesses cannot afford to ignore. By publishing the TCFD report, TBB expects to facilitate understanding of the environmental, social, and governance importance of climate risk and call attention to the urgency of climate action. TBB understands that achieving the targets in Paris Agreement will require not only the industries working together but also the government and the private sector and other value chain partners joining forces in supporting the global climate action and targets. This report marks the beginning of TBB's response to climate change. TBB will continue to increase its resilience to climate change risk, and observe international research institutes and other financial institutions in their approaches to reducing the impact of climate risk on banking services and creating sustainable value for stakeholders.

Appendix I: TCFD Indicator Reference Table

Following the FCFD published by the FSB in 2017, disclosure in the report correspond to the four pillars of disclosure as follows:

Dimensions	General Indicators	Corresponding Section
Governance	Describe the board's oversight of climate-related risks and opportunities.	1.1.1 Duties of the Board of Directors
	Describe management's role in assessing and managing climate-related risks and opportunities.	1.1.2 Roles and responsibilities of executive management
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	2.1.1 Identification of climate risk issues 2.1.2 Identification of climate opportunity issues
	Describe the impact of climaterelated risks and opportunities on the organization's businesses, strategy, and financial planning.	2.1.3 Management of climate change risks and opportunities 4.1 Low carbon banking services
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	2.2 Scenario Analysis
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks.	2.1 Climate Risks and Opportunities
	Describe the organization's processes for managing climate-related risks.	3.1 Climate risk management framework 3.2 Climate risk management in investing/financing activities
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	

Dimensions	General Indicators	Corresponding Section
Metrics and Targets	Disclose the metrics used by the organization to assess climaterelated risks and opportunities in line with its strategy and risk management process.	4.3 Climate-related indicators and targets
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	4.2.1 GHG emissions from own operations and renewable energies
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	4.3 Climate-related indicators and targets

Dimensions	Additional Banking Indicators	Corresponding Section
Strategy	Banks should describe significant concentrations of credit exposure to carbon-related assets.	4.3.1 Carbon asset risk exposure
Risk Management	Banks should consider characterizing their climate-related risks in the context of traditional banking industry risk categories such as credit risk, market risk, liquidity risk, and operational risk.	2.2 Scenario Analysis
Metrics and Targets	Banks should provide the metrics used to assess the impact of (transition and physical) climate-related risks on their lending and other financial intermediary business activities in the short, medium, and long term.	4.3 Climate-related indicators and targets
	Banks should disclose GHG emissions for their lending and other financial intermediary business activities where data and methodologies allow. These emissions should be calculated in line with the Global GHG Accounting and Reporting Standard for the Financial Industry developed by the PCAF Standard or a comparable methodology.	4.3.2 Carbon emissions from investment/financing portfolios

Appendix 2: TCFD

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Conformity Statement

Climate related Financial Disclosure

This is to conform that

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Holds Statement Number CFD 792165

As a result of carrying out conformity check process based on TCFD requirement, BSI declares that:

- TAIWAN BUSINESS BANK, LTD. follows the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) with Supplemental Guidance for the Financial sector (Banks sector) to disclose climate-related financial information which is clear, comparable and consistent its organizational risks and opportunities as well as its financial impacts. The disclosures cover the four core elements of the TCFD and is prepared based on the seven guiding principles for effective disclosures.
- The maturity model for the Climate-related Financial Disclosures with Supplemental Guidance for the Financial Sector(Banks sectors) is **Level 5+: Excellence** grade.

For and on behalf of BSI

Managing Director BSI Taiwan, Peter Pu

Latest issue: 2023-08-11 Expiry date: 2024-08-10

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Statement number: CFD 792165

Location:	Conformity Check Overall Result:
TAIWAN BUSINESS BANK, LTD. No. 30, Ta Cheng St. Da Tong Dist. Taipei City 103405 Taiwan	The maturity model for the Climate-related Financial Disclosures with Supplemental Guidance for the Financial Sector(Banks sectors) is **Level 5+: Excellence** grade.
臺灣中小企業銀行股份有限公司 臺灣 台北市 大同區 塔城街 30 號 103405	涵蓋金融業補充指引(銀行)之氣候相關的財務揭露的成熟度模型為[第五級 Plus：優秀]等級。

Latest issue: 2023-08-11 Expiry date: 2024-08-10

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