

Task Force on Climate-related  
Financial Disclosures

2023

# Climate-Related Financial Disclosures TCFD Report



彰化銀行

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# Introduction

Chang Hwa Bank has announced its Sustainable Financial Commitments in 2023 in order to leverage its financial influence, promote the low-carbon transition of industries, and move towards a zero-carbon society, including “Incorporate ESG factors into financial business evaluation and management”, “Plan to set carbon reduction targets to reach net zero”, and “Gradually reduce investment and financing positions in industries related to coal and unconventional oil and gas”. And the Board of Directors approved to submit carbon reduction targets to the Science Based Targets initiative (SBTi) for review, demonstrating the Bank’s strong commitment and determination to undergo a comprehensive transition.

The Bank has received an A- rating in the Climate Change questionnaire evaluation by the international non-profit organization CDP for the first time. Additionally, it has been selected in the Top 10% of the S&P Global Sustainability Yearbook 2024. The Bank’s climate action performance has garnered attention from various sectors. It adheres to the principle of limiting global warming to 1.5°C in its own operations and has actively taken various actions to reduce greenhouse gas emissions. To achieve its target of reducing carbon emissions by 42% by 2030 compared to 2020, the Bank has achieved a remarkable reduction of 16.97% in emissions compared to the base year in 2023.

“2050 Net Zero” is a global consensus, and Chang Hwa Bank plays a crucial role in promoting the transition to net zero. As an institutional investor and fund provider, Chang Hwa Bank will implement responsible investment and due diligence, taking into account various aspects of development, to support companies’ green development and contribute to the environment.



# About the Report

## Boundary of Disclosure

The Scope of this report focuses on the operational activities of Chang Hwa Commercial Bank Co., Ltd. in the domestic market. The report contains information about subsidiaries and overseas branches. Any inconsistencies in scope will be explained in detail. The terms 'Chang Hwa Bank', 'the Bank', 'the Company', and similar terms used in this report, unless otherwise specified, refer to the same entity as mentioned above.

The reporting period for this report is from January 1, 2023 to December 31, 2023 (the same as below).

## Basis for Reporting

The Report adopts the core elements of the "Recommendations of the Task Force on Climate-related Financial Disclosures" (the "TCFD recommendations") released by the Financial Stability Board (FSB) as the framework, and the "Guidelines for Domestic Banks' on Climate Risk Financial Disclosure" (referred to as the TCFD Guidelines) established by the Financial Supervisory Commission.

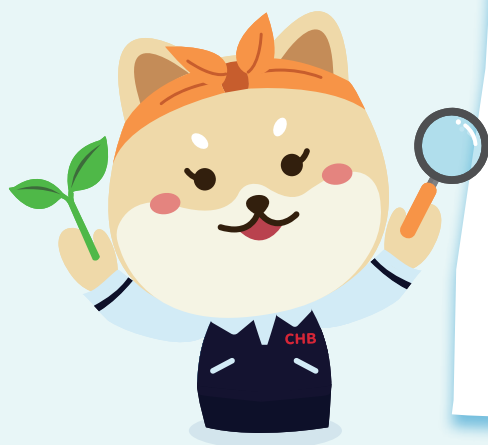
## Third Party Verification

### Verify content

TCFD Report  
Greenhouse gas emissions data  
Environmental Management System  
Energy Management System  
Water Efficiency Management System  
carbon-neutral branch  
Voluntary reduction of greenhouse gases emissions

### Verification method

Verified and issued a statement by a third party agency (conducted by BSI)  
An ISO14064-1 statement was verified and given by a third-party agency (conducted by BSI)  
An ISO14001 statement was certified and given by a third-party agency (conducted by BSI)  
An ISO 50001 statement was certified and given by a third-party agency (conducted by SGS)  
An ISO 46001 statement was certified and given by a third-party agency (conducted by BSI)  
An PAS 2060 statement was verified and given by a third-party agency (conducted by BSI)  
An ISO 14064-2 statement was validated and given by a third-party agency (conducted by BV)





## 01

# Climate Governance

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## 1-1 Climate Governance Progress

In line with international standards and to strengthen management and response to climate risks, the Bank has submitted for Board approval the inclusion of climate risk as part of the highest compliance guidelines for risk management, so as to complete the scope of risk management. By reviewing carbon reduction strategies within our investment and financing portfolio, we establish review criteria for counterparties' response to climate risks, engage with carbon-intensive-emitting companies that have yet to implement climate risk management, and support their transition to a low-carbon model. Chang Hwa Bank signed the Science Based Targets initiative (SBTi) in June 2022, making it the first state-owned Bank in Taiwan to commit to setting carbon reduction targets in accordance with SBTi. The Bank's Board of Directors approved the decarbonization targets for investment and financial portfolio which follow the SBTi methodology on January 29, 2024, and the review of SBTi target setting was completed in May. The Bank has set near term reduction targets for direct greenhouse gas emissions (Scope 1) and indirect emissions from energy (Scope 2) based on the scenario of limiting global warming to below 1.5°C. The base year is 2020 and the target year is 2030, with a total emission reduction target of 42%. For the financing portfolio component of other indirect emissions (Scope 3), the reference scenario is to limit global warming well-below 2°C, with the base year set as 2022. Carbon reduction targets are also established for asset categories that meet the SBTi requirements, including electricity generation project financing, commercial real estate, commercial loans, and listed equity and corporate bonds. In addition, the Bank is committed to the long-term target of achieving "2050 Net Zero Emissions" in accordance with national policies.



## ~2018

- We have successfully obtained verification for ISO14001 Environmental Management System, ISO50001 Energy Management System, and ISO 14064-1 greenhouse gas inventory certification.
- Expanded greenhouse gas reduction and management to all business operations and office premises in Taiwan
- Expanded the scope to all credit cases for record review following the Equator Principles
- Established energy policies and the Corporate Social Responsibility Standards of the Supplier
- Conducted a waste and resource reduction inventory to set reduction targets
- Set a five-year target of 5% or more electricity savings
- Filled out the CDP Questionnaire for the first time



## 2020

- Realized the full adoption of eco-friendly and energy-saving LED lamps by replacing lamps at the Taipei Building (home-office) with energy-saving ones
- Introduced TCFD to assess the risks and opportunities of climate change
- Awarded "B: Management level" in the climate change questionnaire by CDP

## 2022

- Signed the Science Based Targets initiative (SBTi) Commitment Letter
- TCFD verified by BSI and with the highest level (Level 5+:Excellence)
- The Board of Directors approved Scope 1&2 greenhouse gas reduction targets
- Climate risks are incorporated into the Integrated Risk Management Policy
- Climate Risk Management Policy has been issued by letter
- The Changhua Branch has verified the Carbon Neutrality Standard of PAS 2060
- Signed up to join the Equator Principles Association
- Awarded "B: Management level" in the climate change questionnaire by CDP

## 2030

- Achieve the target of limiting the temperature rise of SBTi Scope 1 and Scope 2 to 1.5°C and reducing total carbon emissions by 42% compared with 2020
- Achieve the target of controlling the temperature rise of investment and financing portfolios in Scope 3 to well below 2°C

## 2019

- Promulgated the Guideline for Chang Hwa Commercial Bank Encouraging Suppliers to Carry out Corporate Social Responsibility
- Carbon Disclosure Project (CDP) Rated "B: Management level" in the climate change questionnaire

## 2021

- Passed ISO 20400 Sustainable Procurement-Guidance Compliance Check
- Certified ISO 46001 Water Efficiency Management System
- Became the first government-owned bank to pass third-party TCFD verification (conducted by BSI) and obtain the highest level of certification
- Awarded "B: Management level" by the Carbon Disclosure Project (CDP)
- Signed up as a supporter of TCFD
- Scope 1 and Scope 2 greenhouse gas emissions reduction targets aim to achieve a 4.65% reduction compared to 2020.

## 2023

- Submit the application for the Science Based Targets Initiative (SBTi)
- Commitment to "2050 net-zero carbon emissions" as the long-term reduction target
- Listed as a constituent stock of the Dow Jones Sustainability Index "World Index" (DJSI World)
- Ranked among the top 20% of the first sustainable finance evaluation
- Awarded "A-: Leadership level" in the climate change questionnaire by CDP
- Won the "2023 National Sustainable Development Award"
- Won the "Special Contribution Award-Sustainable Financing" from Joint Credit Information Center (JCIC)
- Won the bronze level of the Ministry of Environment's "5th National Enterprise Environmental Protection Award"
- Shulin Branch passed PAS2060 carbon neutrality verification
- The first business location to obtain the Silver Green Building Label: Peimen Building
- The first domestic financial institution to obtain ISO 14064-2 certification for its voluntary greenhouse gas reduction project (Hsi-Sung Branch)
- TCFD verified by BSI and with the highest level (Level 5+:Excellence)

## 2050

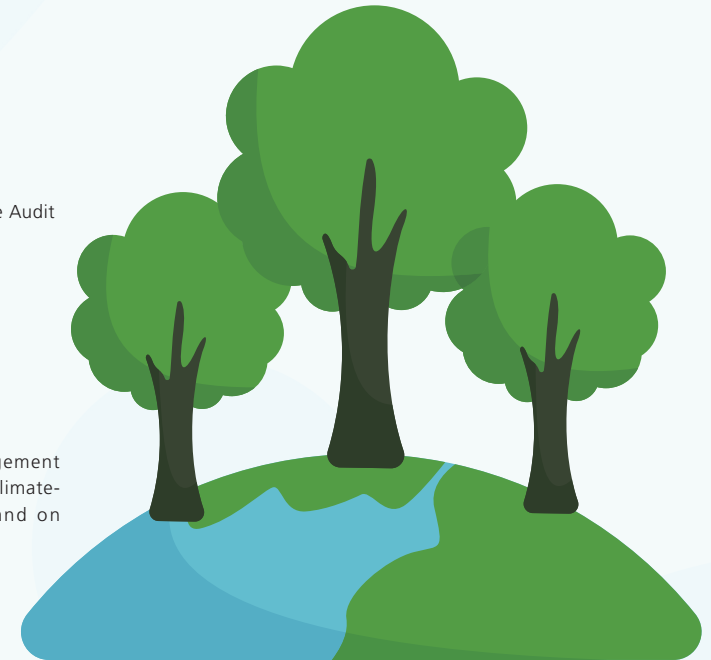
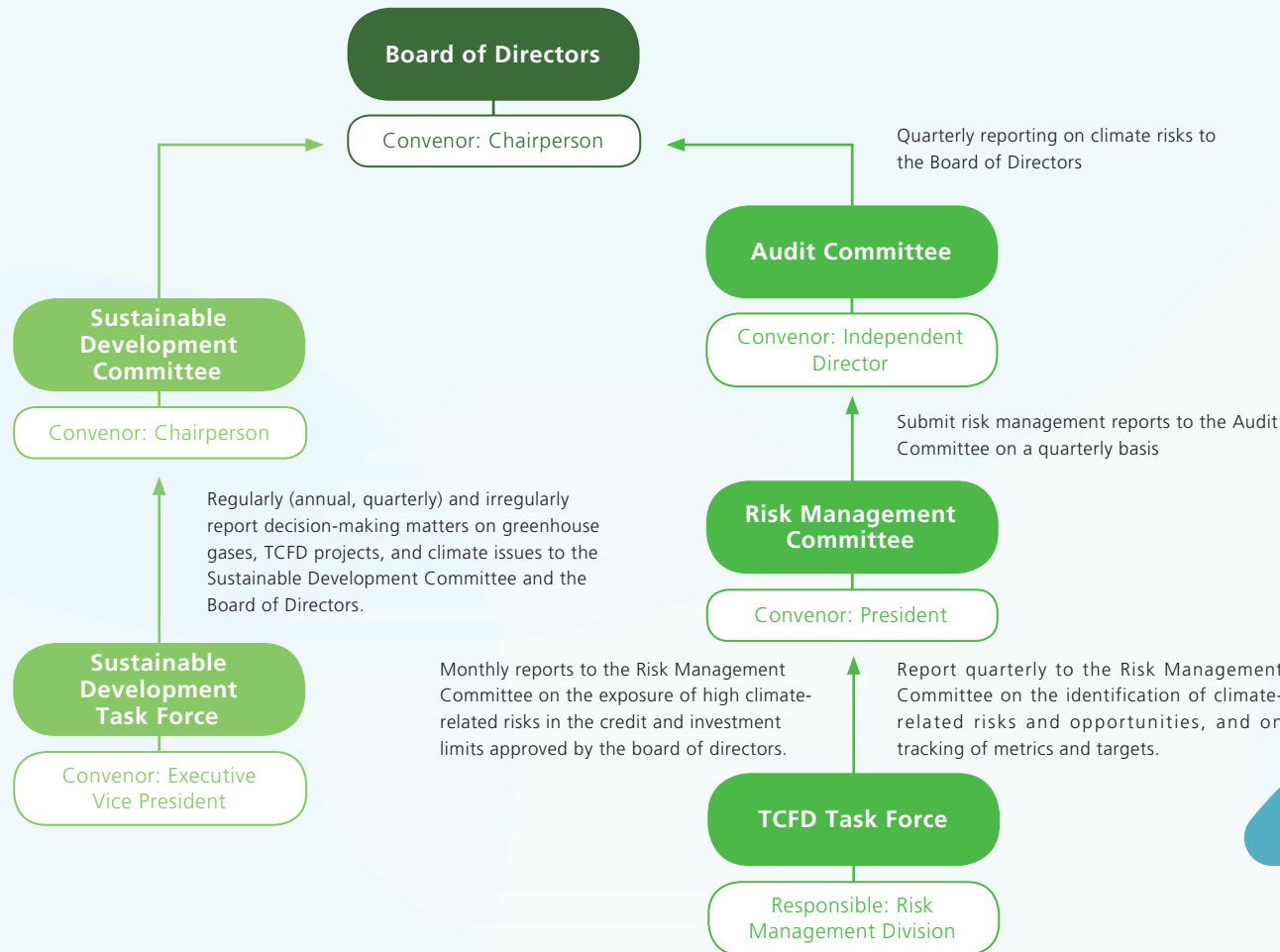
- In alignment with the "Taiwan's Pathway to Net-Zero Emissions in 2050" proposed by the National Development Council, we are working towards achieving the net zero emissions targets



## 1-2 Climate Governance Framework

The Board of Directors serves as the Bank's highest governance body for climate issues, guiding, supervising, and managing the Bank's exposure to climate risks, ensuring that the qualitative and quantitative measures adopted by the Bank align with its risk appetite. In late 2021, we formed the Task Force on Climate-related Financial Disclosures (TCFD), led by the Risk Management Division, to identify and assess climate risks and opportunities. The Bank developed relevant environmental action plans based on its climate-related policies and oversees their implementation. The Risk Management Division consolidates the progress and reports the monitoring status on a quarterly basis to the Board of Directors, the Sustainable Development Committee, the Audit Committee, and the Risk Management Committee. In addition, the Sustainable Development Task Force regularly and irregularly reports to the Sustainable Development Committee on greenhouse gas inventory, verification progress, greenhouse gas reduction implementation results, and decision-making matters on major climate issues. Additionally, overseas subsidiaries/branches are gradually establishing climate governance frameworks compliant to local regulatory requirements. They report climate-related opportunities, risks, and relevant management measures back to the head office in Taiwan.

### Climate Governance Framework (Reporting Process)



## Meeting frequencies and roles in climate governance framework of CHB units

Organizations	Frequency of Meetings	Role of Climate Issues	Main implementation Results
Board of Directors	Once per month (at least once per quarter as specified in the Articles of Incorporation)	The highest governance body for climate-related matters that oversees, supervises, and manages the Bank's exposure to climate risks, ensuring that the qualitative and quantitative measures adopted by the Bank align with its risk appetite. Chang Hwa Bank also organizes professional training programs on sustainability and climate-related topics for directors to enhance their understanding and keep them updated on climate-related issues.	The Bank has approved a reduction in the credit and investment limits for industries with carbon-intensive emissions <sup>1</sup> . It has incorporated the assessment of its own greenhouse gas emissions into its climate risk management policy, which covers Scopes 1, 2, and 3. In alignment with the Bank's net-zero target and the establishment of science based reduction targets for Scopes 1, 2 (or categories one, two), and for investment and financing portfolios, the Board of Directors will continue to monitor and manage their effectiveness. They will oversee the implementation of the Task Force on Climate-related Financial Disclosures (TCFD) recommendations and monitor the risks associated with carbon-intensive emission industries. Additionally, they will regularly supervise the execution of greenhouse gas assessments and verification work.
Audit Committee	At least quarterly and as necessary	Supervise the risk management of Chang Hwa Bank, oversee the control of existing or potential risks, and acquire climate risk management information.	In order to strengthen corporate governance and improve risk management, the Board of Directors approved the addition that the Risk Management Committee should submit risk management report to the Audit Committee regularly on November 9, 2023. The risk management report submitted to the Audit Committee includes the execution status of TCFD recommendations for the third and fourth quarters of 2023, as well as the risk situation in the carbon-intensive production industry. This inclusion aims to enhance the effectiveness of climate risk management oversight.
Sustainable Development Committee	At least twice per year and as necessary	The Sustainable Development Committee serves as the dedicated unit for sustainable development and is responsible for overseeing and reviewing the actions toward achieve sustainability goals.	In 2023, six meetings were conducted to report updates and work plans for the greenhouse gas inventory and verification, the outcomes of greenhouse gas and environmental indicators, and the progress of the Task Force on Climate-related Financial Disclosures (TCFD) project.
Risk Management Committee	Monthly	The main responsibility is to implement the climate risk and major decision management mechanism approved by the Board of Directors, monitor the exposure to climate risks, and assess the resilience of the Bank's response strategies in different climate scenarios.	Reports the exposures of carbon-intensive industries on a monthly basis in accordance with the credit and investment limits approved by the board of directors.
Sustainable Development Task Force	Ad hoc meetings	An Executive Vice President was assigned to serve as the convener by the Sustainable Development Committee, and each task force (Corporate Governance, Responsible Finance, Employee Care, Social Inclusion, and Sustainable Environment) implements sustainable work affairs, including climate issues.	Regular or irregular reports or submissions to the Sustainable Development Committee and the Board of Directors. In 2023, a total of 8 meetings were held to date, and the relevant meeting contents are as follows: (1) Regular Reporting: Quarterly reports on greenhouse gas-related indicators or project implementation progress, including greenhouse gas inventory and verification, greenhouse gas offset projects, and planning and implementation achievements. Annual reports on TCFD project implementation status, and so on. (2) Irregular Reporting: The Bank's implementation of ESG financing engagements (Equator Principles), waste reduction and resource recycling actions at the Bank's Taipei building, SBTi target setting, carbon neutrality verification results for the Shulin Branch according to PAS 2060, carbon footprint verification results for credit cards according to ISO 14067, and the Bank's draft of sustainable finance policy. (3) Other related proposals include the revision of the "Regulations Governing Information to be Published in the Annual Reports of Banks" to improve the disclosure of information on climate change and other issues, as well as the revision of our Bank's environmental resource and energy use management policy.
TCFD Task Force	Ad hoc meetings	The TCFD Task Force is led by the Risk Management Division. It convenes and coordinates various units within the head office to identify and assess climate risks and opportunities, set targets with regularly monitor and track, propose implementation plans, and oversee the implementation of environmental policies for modifications.	In 2023, there are three meetings about the proposal of carbon reduction targets to SBTi with relevant units, operational methods for engaging with investment/financing targets, and regular tracking of climate risk metrics and targets.

<sup>1</sup> Carbon-intensive emission industries include extraction of crude petroleum and natural gas, mining, manufacture of textiles, Manufacture of Paper, petrochemical industry, building materials, manufacture of cement, manufacture of iron and steel, manufacture of electronic, electricity supply by coal-fired, and air transport.



## 1-3 Climate Empowerment and Rewards

### Climate Empowerment

In order to strengthen climate risk management and opportunity development, Chang Hwa Bank encourages employees to participate in external professional training, including the net zero transition and climate change forum and training, project loans of offshore wind, green finance and low-carbon transition, and trends of green energy industry development. The Bank aims to raise awareness of climate change risks and bolster the competencies of all employees. The results of the climate and low-carbon transition training courses attended by directors and personnel at all levels in 2023 are as follows:

#### Climate-related education and training for CHB in 2023

Participate	Education and training topics	Number of participants/times	Participation hours
Member of the Board	COP Outlook:Take the pulse of the World Climate Summit by going global, 2023 ESG Finance Leaders Roundtable Forum, Sustainable Finance and Climate Change Summit Forum, etc.	14	27.6
All Employees	Various external training and internal climate risk management and opportunity development courses.	6,013	6,221.75
All Employees	Various sustainability/ESG/climate-related online courses of Commonwealth Leader Campus digital learning platform.	1,445	276
General Affairs Personnel	Greenhouse gas inventory (ISO 14064-1) and reduction training.	450	900
New Employees	Introduction to corporate culture, organizational structure, and sustainable development.	268	536

### Climate Performance Linkage

Every Employees of Chang Hwa Bank, from the highest level of directors to frontline personnel, has established targets and performance indicators connected to the Bank's climate transition plan.

The remuneration of directors is annually evaluated in terms of board's performance, in accordance with the Bank's Regulations for Board Performance Evaluation. This evaluation is conducted by the Remuneration Committee and the Board of Directors. It covers six aspects: participation in the Bank's operations, enhancement of the quality of board decisions, composition and structure of the board, appointment and continuous education of directors, internal control, and actions related to sustainable development (ESG). The aspect of actions related to sustainable development (ESG) includes elements related to climate.

"Sustainable Development Best Practice Principles" stipulates that performance assessment for senior executives<sup>2</sup> be aligned with sustainable development policies. Climate risk management and other related initiatives have been incorporated into division performance assessment and are positively correlated with annual performance bonuses and used to adjust fixed salaries.

Various climate-related indicators and performance will be used as assessment criteria for all employees of the Bank, directly impacting the assessment score of both divisions and individuals. This will serve as a reference point for bonus distribution, as well as non-financial rewards like commendations and promotions.

<sup>2</sup> Senior executives may include but not limited to President, Executive Vice Presidents, and Head of Divisions, etc.

## Climate Performance Indicators and Incentive Mechanisms at Chang Hwa Bank

Aspect	Reward Recipients	Performance Indicators	Alignment of Incentive Measures with the Bank's Climate Commitment and Transition Strategy	Actual Compensation Situation in 2023
Climate Governance	Board of Directors	Achievement of climate transition plans and climate-related targets approval by the Board.	By integrating the remuneration of directors and senior executives with their performance in sustainable management, we enhance internal control and policy efficiency of climate transition plans.	The performance evaluation of the Board of Directors for the year 2023 has been conducted in accordance with the Bank's performance evaluation method. The result of the 2023 Board of Directors' performance evaluation is "Exceeds Standard".
	Senior executive (weighted ratio between 15%-20%)	<ul style="list-style-type: none"> <li>Implementation of the greenhouse gas inventory and the program of "the ESG Advocacy Platform for Ministry of Finance" (weighted ratio: 15%)</li> <li>Enhancing environmental sustainability and governance performance of climate change (weighted ratio: 15%).</li> <li>Enhancing overall sustainable governance and performance evaluation, including climate-related evaluation items (weighted ratio 20%).</li> </ul>		All performance indicators have been met. For instance, we have participated in the Carbon Disclosure Project (CDP) organization's climate change questionnaire and achieved a rating of B or above. Additionally, we have attained a leadership level (A-) in Chang Hwa Bank's CDP questionnaire for 2023. These performance indicator results are positively correlated with annual performance bonuses and serve as the foundation for adjusting fixed salaries.
Operational Carbon Reduction	Senior executive	<ul style="list-style-type: none"> <li>Implementing the equipment replace plan to achieve carbon reduction targets. (weighted ratio: 15%)</li> </ul>	We annually review the performance of environmental sustainability and climate change governance, assess the effectiveness of various indicators, and consider Taiwanese and international trends in climate change or greenhouse gas emission management. We iteratively adjust indicators to improve climate results.	The performance indicators have been achieved, and the results of these indicators are used to determine variable salaries and serve as the foundation for adjusting fixed salaries.
	Executive officers and other senior managers	<ul style="list-style-type: none"> <li>Absolute emissions and total energy consumption reduction rate compared to the base year.</li> <li>Status of obtaining domestic and international certifications related to sustainability or climate change</li> <li>Establishment of Carbon Neutrality Branch</li> <li>Number of Sites for Solar Power System Installations</li> </ul>		Completed the Green Deposit Project, added ESG Factors into the general credit application process, implemented the Equator Principles, TCFD promotion and verification, signed SBTi and set targets, established the first carbon-neutral branch, and aimed for improved CDP ratings, etc. Employees who meet the target will receive bonuses and commendations.
Promotion of Green Financial Products and Services	Senior executive (weighted ratio between 6%-20%)	<ul style="list-style-type: none"> <li>Plan and implement a minimum of five environmentally-friendly financial products or services. (weighted ratio: 20%)</li> <li>Supervise the implementation of energy-saving and carbon reduction measures in the digital finance and credit card businesses. (weighted ratio: 6%)</li> <li>Increase investment and financing in green finance (weighted ratio: 15%).</li> </ul>	This expands the scope of sustainable finance and green lending, such as loans for solar power equipment and green enterprise loans. It also encourages an increase in the amount and percentage of green finance investments to support companies in their low-carbon transitions. We aim to increase mobile insurance to reduce paper usage as a part of our active paperless policy.	The results of these indicators are used for determining salaries and serve as the foundation for adjusting fixed salaries.
	Colleagues in the business	<ul style="list-style-type: none"> <li>Build of green deposit project</li> <li>Financing for renewable energy projects, loans for solar photovoltaic equipment, green credit cases, and green investment targets.</li> <li>Introduction of the Equator Principles</li> <li>Promote in Mobile Insurance Cases</li> </ul>		<ul style="list-style-type: none"> <li>The domestic and overseas branches have successfully achieved the targets of green credit projects and green investment projects, and they have received KPI scores in performance evaluations.</li> <li>320 sales representatives participated in the insurance competition via a mobile insurance application and received KPI scores in the performance evaluation.</li> <li>The results of KPI are used for determining variable salaries and serve as the foundation for adjusting fixed salaries.</li> <li>Based on the effectiveness of ESG-related business initiatives, Employees who meet the target will receive bonuses and commendations.</li> </ul>

# 02

## Climate Strategy

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## 2-1 Climate Risk and Opportunity

### 2-1-1 Climate Risk and Opportunity Identification Process

To address climate change-related risks and opportunities, the TCFD task force considers the types of climate risk, time range, degree of impact, likelihood of occurrence, relevance with existing financial risks, and the nature of various business operations. The task force has established a climate risk identification process to annually identify and assess climate risks and opportunities, and regularly monitor the implementation progress in climate-related initiatives.



Chang Hwa Bank adheres to the TCFD framework for identifying and assessing factors of climate risks, encompassing the risk types suggested by TCFD, such as immediate and long-term physical risks, policy and regulatory risks (including current regulations and potential emerging norms), technological risks, market risks, and reputational risks associated with transition. To identify and assess climate opportunities, factors such as resource efficiency, energy sources, products and services, markets, and resilience are taken into account. The Bank's own operations, upstream activities, and downstream activities/customers are included in the value chain segments for climate risk and opportunity identification (refer to the table below for more details). The assessment period covers the short, medium, and long term (refer to the table below for definitions). When evaluating the impact of risks, the interconnection between climate-related risks and traditional risks, such as credit risk, market risk, and operational risk, are also considered.

#### Climate Risks and Opportunities – Value Chain Scope

Value Chain Segment	Scope of Evaluation
Own Operations	Business Operations in Taiwan
Upstream Activities	All Suppliers
Downstream Activities/Customers	Bank-wide : Investment/Financing Business, Products, and Sales

#### Climate Risks and Opportunities – Time Range

Time range	Short-term	Medium-term	Long-Term
Year	Less than 1 year	1 to 7 years	More than 7 years



## Climate risks and opportunities – Degree of financial impact (Profit before tax)

Degree of impact	Definitions
Mild	Less than NT\$10 million
Moderate	Between NT\$10 million and NT\$32 million
High	Between NT\$32 million and NT\$480 million
Significant	Between NT\$480 million and NT\$650 million
Critical	Exceeds NT\$650 million

## 2-1-2 Climate Risk Identification

In 2023, a total of 12 climate-related risks were identified, rank the risk by the product of “probability of occurrence” and “impact level” through all managers’ judgments of each climate risk.

## Identified issues of climate risks in 2023

Type	Risk Factor	Number	Risk Event	Influential Value Chain Segment	Financial Impact Period	Connections to Traditional Risk	Potential Description of the Financial Impact
Physical risk	Immediate	R1	Disruption of operations and reduced production capacity due to natural disasters	Operations	Medium-term	Operational risk	Increasing severity and frequency of typhoons and torrential rains leading to operational disruptions or employees casualties.
		R2	Assets impairment of invested/financed entities	Investment/Financing business	Medium-term	Market risk Credit risk	The business operations or collateral of the investment/financing targets may located in high-risk areas, such as regions prone to severe flooding. This could potentially affect the clients’ operations and make loan recovery challenging for the Company. Additionally, it may result in a decrease in the value of the collateral, lead to losses in the investment/financing cases.
		R3	Natural disasters can lead to unstable or interrupted supply from suppliers.	Suppliers	Medium-term	Operational risk	The supplier may operate in areas with high physical risk. If there are climate change or extreme weather events, this could cause supply instability or interruptions, result in delivery delays and impacting our operations.
	Long-term	R4	Rising average temperature	Operations	Medium-term	Operational risk	The increasing occurrence of extreme temperatures is expected to gradually raise future electricity prices, resulting in increased operating costs.
		R5	Rising sea levels	Operations	Long-Term	Operational risk	Rising sea levels will cause business disruptions at business operations or lead to a decline in the value of owned real estate.



Type	Risk Factor	Number	Risk Event	Influential Value Chain Segment	Financial Impact Period	Connections to Traditional Risk	Potential Description of the Financial Impact
Transition risk	Market	R6	Failure to promptly address the demand for sustainable financial needs	Products and Sales	Medium-term	Strategy risk Reputation risk	Lack of active promotion of sustainable/green financial products and services, resulting in business and customer attrition, leading to a decline in revenue.
	Technology	R7	Businesses invested in/financed facing technological transition	Investment/Financing business	Medium-term	Market risk Credit risk	The businesses invested in or financed by the Bank may face increased default risk due to the need for substantial investment in R&D personnel and expenses for their transition.
	Reputation	R8	Increasing concerns of stakeholders for sustainable finance	Operations	Medium-term	Market risk Reputation risk	Investor concerns over climate-related risks resulting in fundraising challenges for banks.
	Policies and regulations	R9	Businesses invested in/financed facing regulatory risks related to transition	Investment/Financing business	Medium-term	Credit risk Market risk	The businesses attrition from tightening environmental regulations leading to increased operating costs for carbon-intensive industries.
		R10	Stricter investment and lending standards leading to a loss of clients.	Investment/Financing business	Medium-term	Strategy risk Reputation risk	The financial performance of carbon-intensive industries and carbon-intensive companies will be affected by relevant environmental regulations and policies, both domestically and internationally. For example, the EU has established the CBAM mechanism and Taiwan has issued the Climate Change Response Act. To mitigate risks and increase the requirements for credit and investment, our Bank may reduce the willingness of financing partners to cooperate, which could result in potential business losses.
		R11	Increased operational costs as a result of rising costs of greenhouse gas emissions.	Operations	Medium-term	Strategy risk Reputation risk	Increased operational costs for business operations due to stricter policies or regulations on carbon emissions.
		R12	The rise in greenhouse gas emissions costs has prompted suppliers to raise the prices of their products or services, leading to increased financial expenditures for the Bank.	Suppliers	Medium-term	Strategy risk Reputation risk	In response to future carbon pricing, regulatory authorities may require suppliers to pay carbon fees or taxes. This could lead to an increase in product or service prices and higher financial expenses for the Bank.

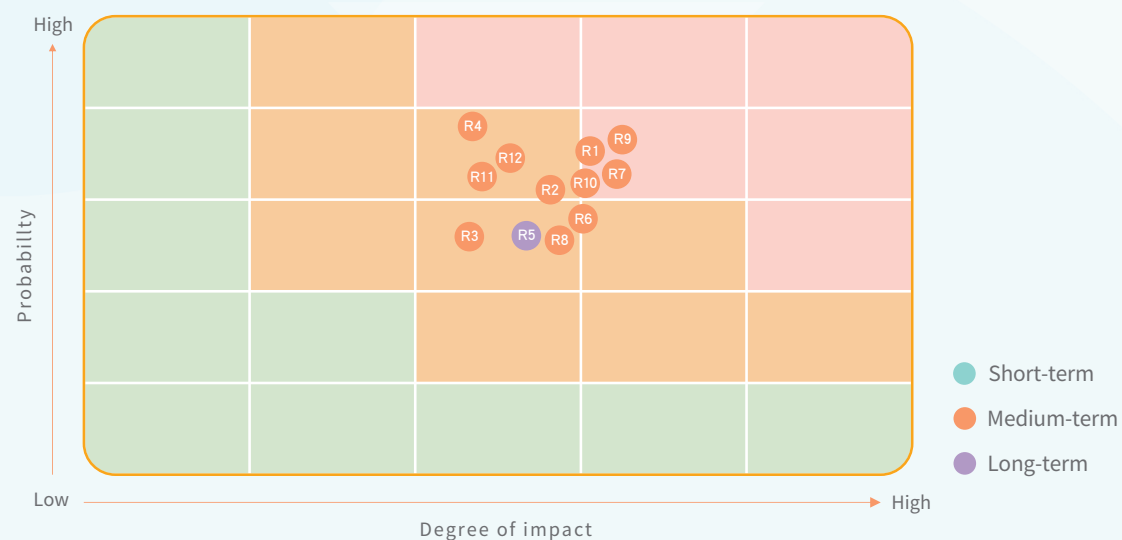
For the top three identified climate-related risk factors, their impact on operations and business, along with corresponding mitigation measures, are presented in the following table:

### Significant climate risk impact and mitigation measures in 2023

Rank	Number	Risk Event	Financial Impact Period	Scope of Impact	Traditional Risk	Impacts on Business and Strategy	Degree of Financial Impact	Corresponding Response
1	R9	Businesses invested in/financed facing regulatory risks related to transition	Medium-term	Investment/Financing business	Credit risk Market risk	<p>As requirements for carbon-intensive emission industries in Taiwan and internationally continue to rise, and even imposing carbon taxes/fees. This has resulted in increased operating costs for carbon-intensive industries, which may indirectly impact the profitability of the investment and financing targets and increase the default risk. If the Bank has a significant exposure to investments or loans in carbon-intensive industries, credit risks may also escalate.</p> <p>Based on the scenario analysis of transition risk of borrowers with large emitters (refer to section 2-2-1-(1) for details), the estimated financial impact ranges from NT\$0 to 422.86 million.</p>	High	<ul style="list-style-type: none"> <li>Incorporate climate risk assessment into the investment/financing process: Conduct climate risk monitoring for borrowers/investment targets listed in the Ministry of Environment's control list and Chang Hwa Bank's carbon-intensive industry list. And see if they join international advocacy organizations and request them to provide information on greenhouse gas emissions.</li> <li>Engagement with investment/financing targets: If the investment/financing targets in carbon-intensive industries have not engaged with any advocacy organizations, and have not disclosed or submitted information on greenhouse gas emissions, then engagement will be conducted based on industry attributes and the investment/financing targets themselves. They will be encouraged to participate in advocacy organizations and will be required to disclose their greenhouse gas emissions, reduction targets, and plans in the future, in order to align with international trends and address the Paris Agreement.</li> <li>Establish a database for greenhouse gas emissions to review and track the progress of carbon reduction for investment and financing targets.</li> </ul>
2	R1	Disruption of operations and reduced production capacity due to natural disasters	Medium-term	Operations	Operational risk	<p>Due to climate change, typhoons and torrential rains have become more severe and frequent, pose a risk for the Bank's business operations. This could result in damage to buildings, information equipment, and transportation equipment, leading to higher maintenance costs for our facilities, and may even result in operational disruptions or employees casualties.</p> <p>Based on the scenario analysis of physical risk of self-owned business operations (refer to section 2-2-2-(3) for details), the estimated financial impact ranges from NT\$21.17 to 24.23 million.</p>	High	<ul style="list-style-type: none"> <li>The Bank has formulated the "Chang Hwa Bank Business Continuity Plan (BCP)" to ensure that all units maintain normal operations in the event of an "operations interruption" due to climate change, extreme rainfalls, or other disasters. If the impact is short-term, remote work for personnel or off-site backup will be implemented. If the impact is long-term, the relocation of operational bases and personnel placement plans will be evaluated.</li> <li>Increasing climate change adaptation and disaster prevention awareness. This involves sourcing sandbags, operating flood gates, conducting pre-flood drain inspections, and more. Future new branches will also undergo risk identification and implement climate change adaptation plans and awareness programs to mitigate the impacts of climate change or extreme rainfall.</li> </ul>

Rank	Number	Risk Event	Financial Impact Period	Scope of Impact	Traditional Risk	Impacts on Business and Strategy	Degree of Financial Impact	Corresponding Response
3	R7	Businesses invested in/financed facing technological transition	Medium-term	Investment/Financing business	Market risk Credit risk	The investment and financing targets of the Bank may need to allocate a substantial amount of resources, including manpower and expenses, towards research and development in order to meet the low-carbon transition requirements of future markets and regulations. Failure to achieve this transition in a timely manner could result in irrecoverable investment costs, leading to a decline in revenue and even the risk of default, thereby indirectly impacting the Bank's earnings.	High	<ul style="list-style-type: none"> <li>Regularly monitor investment portfolios, review the financial and business performance of investment targets, and assess whether investment targets are experiencing losses due to technological transition. Engage in discussions or adjust investment positions with clients as required.</li> <li>Establish effective communication with credit borrowers,, provide engagement and guidance to help customers transition to a low-carbon model, and improve operational strategies.</li> </ul>

Climate-related risk matrix of 2023



### 2-1-3 Climate Opportunities Identified

In 2023, a total of 9 climate-related opportunities identified are presented in the following table:

#### Identified issues of climate opportunities

Opportunity Factor	Number	Opportunity Event	Influential Value Chain Segment	Financial Impact Period	Description
Resource efficiency	O1	Green procurement	Operations	Short-term	We prioritize equipment procurement with certifications for energy efficiency and water conservation to save resources and protect the environment.
	O2	Circular procurement	Suppliers, Operations	Short-term	Choosing suppliers of rent-to-own or shared services, transforms the previous linear economic consumption model into a circular procurement model. This encourages suppliers to integrate sustainable circular concepts into product design, maintenance, repair, and recycling, thereby prolonging the lifespan of products, reducing resource consumption and waste generation throughout the entire lifecycle, and indirectly decreasing operating costs for the Bank.
	O3	Improving energy efficiency and energy transition	Operations	Short-term	Our buildings and subsidiaries will be replacing outdated lighting and air conditioning systems with LED or advanced AC equipment. Additionally, we will incorporate fuel-efficient vehicles that utilize hybrid or electric. These measures will not only reduce energy consumption and operational costs but also contribute to the reduction of greenhouse gas emissions. Furthermore, they will promote the growth and advancement of related industries.
Resource efficiency and resilience	O4	Green buildings	Operations	Short-term	Using green building materials and sustainable design to improve the efficiency of architectural energy and resources.
Products and services	O5	Development of green financial services	Product and Sales, Investment	Short-term	Develop low-carbon products and services and provide green financial services.
	O6	Increasing credit facilities for green energy sectors	Financing business	Short-term	Exploring borrowers in the green energy technology sector to not only enhance resilience to climate risks but also create opportunities in the green economy.
	O7	Expanding digital financial services	Products and Sales, Operations	Short-term	Developing digital financial services to reduce paper use and save operational costs.
Market	O8	Increasing in green investments	Investment / Financing Business	Short-term	The investment portfolio has increased exposure to climate-related products, creating green business opportunities.
Source of energy, resilience	O9	Use of renewable energy	Operations	Short-term	Business operations are equipped with solar power facilities and procure renewable energy to enhance resilience to climate change risks.

For the top three identified climate change opportunities of the Bank, their impact on operations and business, and corresponding mitigation measures, are presented in the following table:

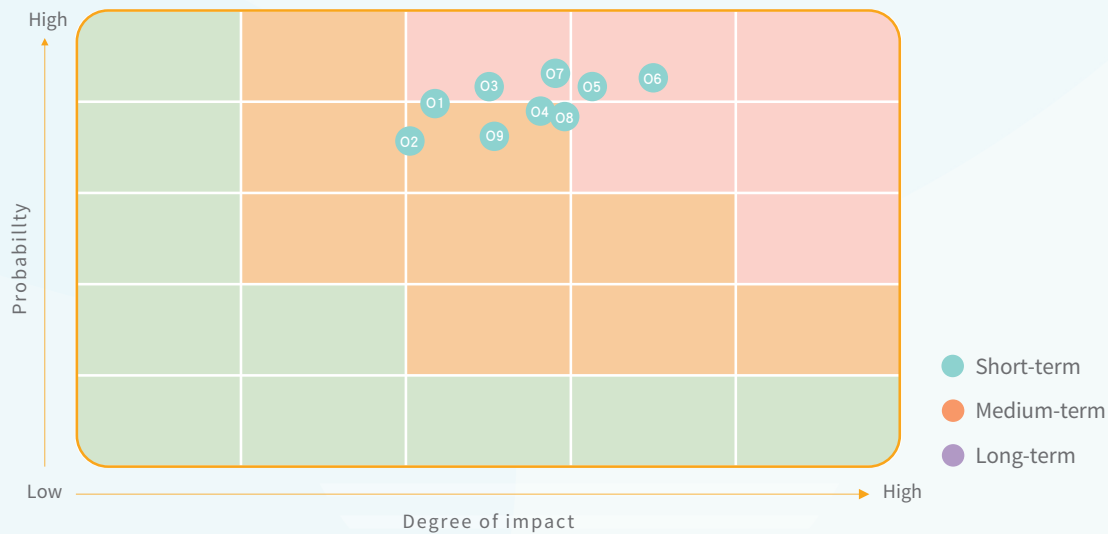
### Significant climate opportunity impact and mitigation measures in 2023

Rank	Number	Opportunity	Financial Impact Period	Scope of Impact	Impacts on Business and Strategy	Degree of Financial Impact	Corresponding Measures
1	O6	Increasing credit facilities for green energy sectors	Short-term	Financing Business	<p>Continue to explore borrowers of the green energy technology industry, such as participating in syndicated loan projects for green industry infrastructure, financing equipment and engineering for solar power plants, wind power generation, and environmental recycling projects. This not only builds resilience to climate change risks, but also creates green business opportunities.</p> <p>In relation to the Bank's green electricity and renewable energy sector, we project a potential growth of approximately 3% to 5% (NT\$4,761.28 million to NT\$7,935.46 million) in business opportunities for the next year. Consequently, our Bank foresees cost around NT\$35.62 million.</p>	Significant	In accordance with the government's "Program for Promoting Six Core Strategic Industries", we provide assistance to enterprises that are involved in or engaged in the green electricity and renewable energy sectors to secure financing. We will continue to explore borrowers in the green energy technology industry through financing.
2	O5	Development of green financial services	Short-term	Products and Sales, Investment Business	<p>In response to the global trend of sustainable finance, we are developing low-carbon products and services and offering green-related financial services, such as green deposits and bonds, to capitalize on new business opportunities.</p> <p>The Bank is expected to invest around NT\$5.75 million.</p>	High	<ul style="list-style-type: none"> <li>We will actively plan to continue issuing green bonds, with a target issuance quota of NT\$1 billion for sustainability bond in 2023.</li> <li>Continuously promote the sale of insurance products to address the risks associated with climate change. These products include comprehensive home insurance, which provides compensation for typhoons, floods, and earthquakes. Additionally, we offer exclusive green energy clauses that encourage repairs using environmentally friendly building materials. We also provide residential fire insurance, commercial fire insurance, and special offers for solar equipment loan insurance.</li> </ul>



Rank	Number	Opportunity	Financial Impact Period	Scope of Impact	Impacts on Business and Strategy	Degree of Financial Impact	Corresponding Measures
3	07	Expanding digital financial services	Short-term	Products and Sales, Operations	<p>Expand the range of digital financial services offered to promote the use of e-services, including online banking, mobile payments, and online ordering/insurance transactions. This initiative will help reduce paper consumption in our operations and customer interactions, resulting in lower operating costs.</p> <p>The Bank is expected to invest around NT\$17.8 million.</p>	High	<ul style="list-style-type: none"> <li>Actively promote the mobile insurance business, increase the usage rate of mobile insurance through incentive activities, and continuously expand the number of insurance companies to broaden the range of available products.</li> <li>Continuously promote online services such as online Banking, online ATM, online account opening, Chang Hwa Bank's "eLoan online loan platform", mobile payment (including Chang Hwa Bank Wallet), to enhance paperless and mobile services. This will help reduce counter operations and customer visits to the Bank, thereby reduce carbon emissions.</li> </ul>

Climate-related opportunity matrix of 2023



## 2-2 Scenario Analysis for Transition Risks and Physical Risks

### 2-2-1 Scenario Analysis for Transition Risks

As the Bank's net income in 2023 mainly came from the loan interest, we pay particular attention to the impact of climate change issues on borrowers. Among the top three climate transition risks identified this year, the first risk is the imposition of carbon taxes/fees on carbon-intensive industries, which will increase the operating costs of carbon-intensive industries, indirectly affecting profit performance and possibly increasing the risk of default. In view of this, a scenario analysis transition risks in 2023 was conducted to review the borrowers who on the list published by the Ministry of Environment that should inventory and register their greenhouse gas emissions (large GHG emitters), and to understand how future policies and regulations will affect the operations of borrowers. The impact will further affect the expected credit losses of CHB.

#### • Transition Risks Scenarios

CHB adopted the model of the Network of Central Banks and Supervisors for Greening the Financial System (NGFS), three scenarios were selected: Net Zero by 2050, Delayed Transition, and Nationally Determined Contributions (NDC). These scenarios are used to estimate the carbon fees for borrowers listed by the Ministry of Environment at different time points. The analysis also evaluates the indirect potential financial impact on the Bank. Listed separately the Hong Kong Branch, in accordance with the requirements of Unit GS-1 "Climate Risk Management" of the "Supervisory Policy Manual" of the Hong Kong Monetary Authority, uses the disorderly scenario developed by NGFS to calculate the expected credit losses of its carbon-intensive emission loans and bond portfolio objects.

#### Applied Transition Risks Scenarios

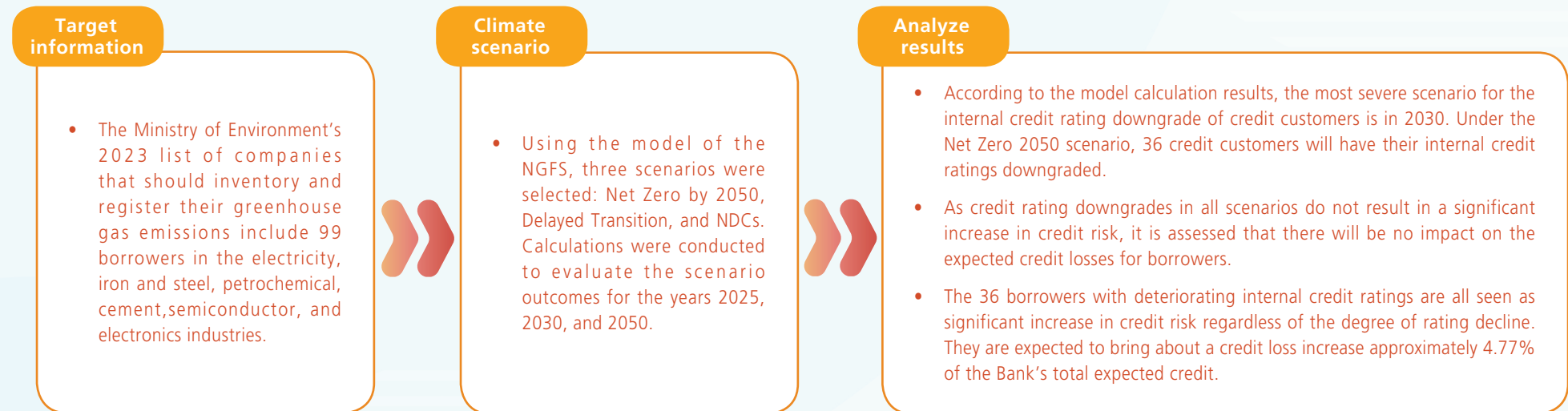
Aspect	Analysis target	Risk description	Connections to traditional risk	Data base / Organization	Climate scenario options		Time frame
					~2°C	>2°C	
Financing	Borrowers are the large GHG emitters in Taiwan	The loan position is indirectly affected by the imposition of carbon fees on carbon-intensive industries.	Credit Risk	Network of Central Banks and Supervisors for Greening the Financial System (NGFS)	<ul style="list-style-type: none"> <li>Net-zero by 2050</li> <li>Delayed Transition</li> </ul>	Nationally Determined Contributions, NDCs	2025, 2030, 2050
	Hong Kong Branch Carbon-intensive Emissions Loan and Bond Portfolio Objects		Credit Risk		Disorderly scenario	--	2035

- Note 1. Net Zero 2050, also known as the orderly transition scenario, describes the global step-by-step path to achieve net zero emissions by 2050.
2. Delayed Transition, also known as a disorderly transition scenario, describes a path that delays the start of transition but still requires reaching net-zero emissions in 2050.
3. Nationally Determined Contributions (NDCs), also known as the no-policy scenario, are used to assess the climate change risks caused by governments maintaining the status quo and not implementing or implementing low-level carbon reduction efforts.

(1) Analysis on carbon fee collection scenarios for borrowers those were on the list published by the Ministry of Environment that should inventory and register their greenhouse gas emissions

Taiwan issued the “Climate Change Response Act” in February 2023, In response to this law, CHB has targeted industries such as the electricity supply, manufacture of iron and steel, manufacture of cement, manufacture of semi-conductors, thin film transistor liquid crystal display, and manufacture of petroleum refined, as well as those whose annual emissions of greenhouse gases from fossil fuel combustion exceed 25,000 tCO<sub>2</sub>e, conduct situational analysis of carbon fee collection. The estimated carbon fee of NT\$300 per metric ton is used as the parameter of the NDCs scenario. If a borrower is classified as a large GHG emitter, their financial soundness may be affected by the payment of carbon fees or allowances. The internal credit rating model assesses whether there is a potential downgrade in the credit rating of the borrower. The assessment of potential expected losses resulting from the increased credit risks for the Bank is as follows:

### Carbon fee scenario assessment process



Internal credit rating model calculations - credit rating downgrade of borrowers, difference amount of expected loss and the ratio to the bank’s expected losses

In NT\$ millions/%

Year/Scenario	2025			2030			2050		
Calculation result	Number of borrower	Difference amount of expected loss	Ratio	Number of borrower	Difference amount of expected loss	Ratio	Number of borrower	Difference amount of expected loss	Ratio
Net Zero 2050	7	20.90	0.24%	36	422.86	4.77%	12	48.68	0.55%
Delayed Transition	0	0	0.00%	0	0	0.00%	34	255.89	2.89%
NDCs	4	15.35	0.17%	4	15.35	0.17%	3	14.42	0.16%

## • Response Measures

Based on the results of the scenario analysis, the Bank will continue to mitigate climate-related transition risks by lowering the limits for carbon-intensive industries and enhancing the management of borrowers' transition plans and decarbonization efforts. Please refer to Section 3-2-2 for detailed management policies and response strategies regarding responsible financing.

### (2) Stress test results of the Hong Kong branch

In keeping with the Hong Kong Monetary Authority's Pilot Climate Risk Stress Test, the Hong Kong branch uses the disorderly scenario developed by the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) to assess transition risks. Under this scenario, the expected credit losses (ECL) for carbon-intensive industries in the loan and bond portfolio are increasing from 1.03% to 2.71% by 2035.

## 2-2-2 Scenario Analysis for Physical Risks

The second largest risk identified by Chang Hwa Bank in 2023 is the potential damage to the Bank's business operations or the risk of operational disruption caused by extreme weather events. Through the result of risk identification, Chang Hwa Bank conducts a scenario analysis of the physical risks at all of its business operations in Taiwan. In addition, a physical risk scenario analysis is conducted on the real estate collateral of all borrowers and the operating locations of suppliers in Taiwan. This analysis assesses the impact of extreme weather conditions on asset impairment.

### • Application of Scenario Analysis for Physical Risks

The Bank assesses the potential asset impairment amounts in medium and high risk areas at different time frame based on the scenarios set by the Intergovernmental Panel on Climate Change (IPCC) and using the Representative Concentration Pathways (RCPs) from the Fifth Assessment Report (AR5). Among them, the RCP8.5 scenario represents the most severe climate change situation due to the lack of transition policies, while the RCP2.6 scenario represents the most proactive scenario for transition and emission control, taking into account various types of climate disasters.

### Application of scenario analysis for physical risks

Aspect	Analysis target	Risk description	Connections to traditional risk	Climate scenario option			Time frame
				Data base/Organization	~2°C	>2°C	
Financing	Real estate collateral in Taiwan	Amount of collateral value impairment due to extreme weather events <sup>3</sup>	Credit risk	XDI Data base/UN Intergovernmental Panel on Climate Change (IPCC)	RCP 2.6	RCP 8.5	2025, 2030, 2040, 2050
	Real estate collateral in Hong Kong		Credit risk		--	RCP 8.5	2050, 2060
Operating	Business operations in Taiwan	Amount of asset value impairment of business operations due to extreme weather events	Operational risk		RCP 2.6	RCP 8.5	2025, 2030, 2040, 2050
Supplier	Supplier operations in Taiwan	Extreme weather events caused disruptions in supplier operations, which accounted for a portion of the Bank's total procurement amount.	Operational risk		RCP 2.6	RCP 8.5	2025

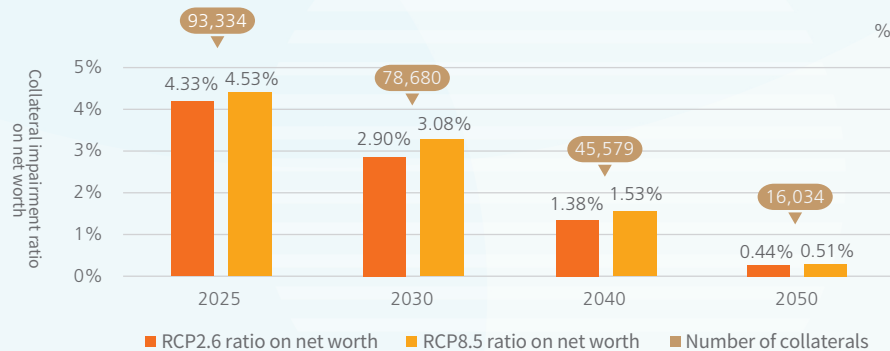
<sup>3</sup> The assessment takes into account extreme weather events such as extremely strong winds, surface flooding, land subsidence, wildfires, riverine flooding, and coastal lowland flooding.

### (1) Scenario Analysis of Real Estate Collateral

The majority of our credit portfolio is collateralized by real estate. Extreme weather events can cause varying degrees of damage to buildings. This will intensify the risks in the traditional financial industry, such as Interruptions of borrowers' operations or impairment of the value of real estate collateral, resulting in difficulty in repayment of borrowers, thus increasing the probability of default of borrowers. The Bank analyzes the physical risk of real estate collateral in Taiwan. Using the climate risk analysis database recommended by the United Nations Environment Programme Finance Initiative (UNEP FI), we input parameters include real estate address, durable years of building, building material, latitude and longitude, construction year, reconstruction cost, etc. To assess the climate Value-at-risk (VaR) for all real estate collateral locations in 2025, 2030, 2040, and 2050. The assessment takes into account the probability and amount of asset value impairment that may occur due to extreme weather events such as extremely strong winds, surface flooding, land subsidence, wildfires, riverine flooding, and coastal lowland flooding.

In 2023, the Bank evaluated the impact for approximately 90,000 real estate properties in Taiwan. Considering the loan term, the potential impairment impact from the analysis decreases over time. Based on the model's outcomes, impairment is the most severe under RCP8.5 by 2025, with an impairment of about 4.53% of net worth. Based on 2023, by 2050, most real estate secured loans will have little impact on the Bank as they have expired, and the impact amount has decreased to approximately 0.51% of net worth. Analyze the ratio of collateral value impairment to net value and the number of credit customers in different years as detailed in the chart below.

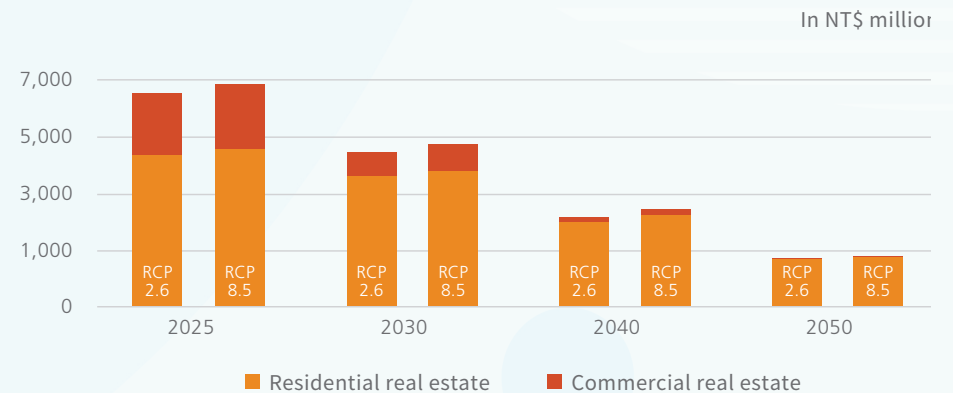
#### Financial impact of real estate collateral



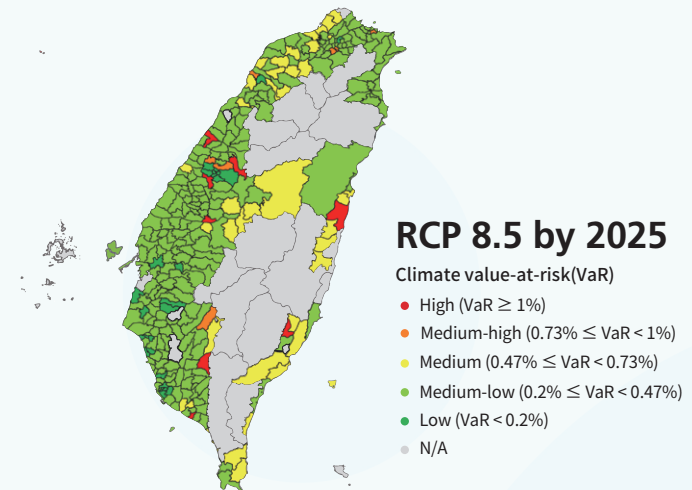
### • Trend Analysis of Impairment Amount Based on Purpose of Real Estate Collateral

The real estate collateral of Chang Hwa Bank is categorized into residential and commercial properties based on their usage. As depicted in the graph below, the impairment loss on the collateral decreases over time under the RCP2.6 and RCP8.5 scenarios. The increase in the proportion of impairment losses attributed to residential real estate is primarily a result of the Bank's longer duration of holding residential real estate.

#### Change in impairment amount of real estate collateral



#### Map of potential disaster in the areas of real estate collateral

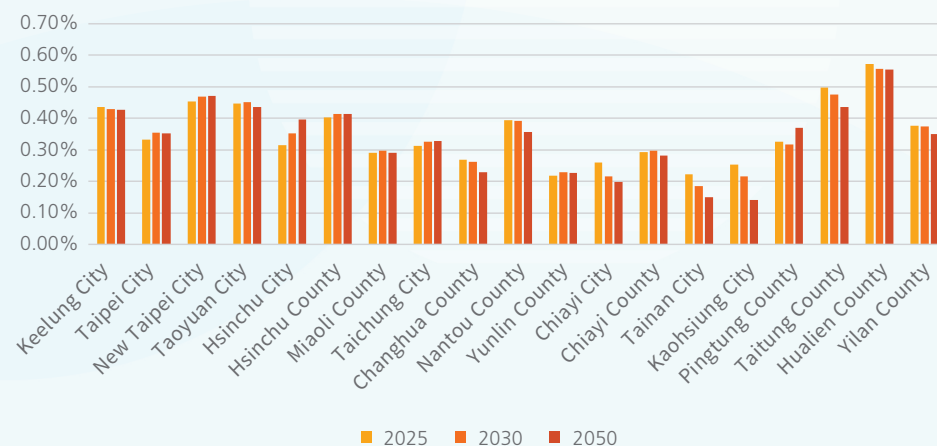




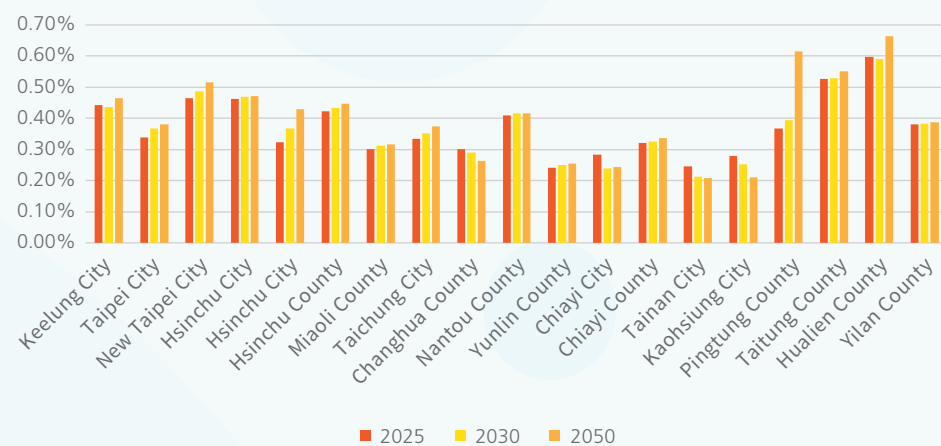
## • Trend Analysis of Impairment Amount Based on Cities and Counties

The two figures below display the climate value-at-risk (VaR) for every city and county in Taiwan under the RCP2.6 and RCP8.5 scenarios for the years 2025, 2030, and 2050. Based on the figure, Hualien County is classified as a medium-level risk<sup>4</sup> in both the RCP2.6 and RCP8.5 scenarios. Of the two scenarios, the most significant increase in risk is observed in Pingtung County, where the risk level in the RCP8.5 scenario changes from medium-low-level to medium-level.

Climate VaR for Each City and County under the RCP2.6 Scenario



Climate VaR for Each City and County under the RCP8.5 Scenario



<sup>4</sup> The climate value-at-risk (VaR) falls within the following risk ranges: low-level risk range of 0% to 0.2%; medium-low-level risk range of 0.2% to 0.47%; medium-level risk range of 0.47% to 0.73%; medium-high-level risk range of 0.73% to 1%; and high-level risk range for values exceeding 1%.



### • Response Measures

Given the potential impact of climate change on the value of collateral impairment for borrowers, the Bank discloses the loan balance and overdue status of real estate collateral on a monthly basis to the Risk Management Committee, taking the location of the collateral into account. Moreover, the Bank avoids accepting collateral that is vulnerable to natural disasters like typhoons, floods, and droughts. It also requires regular inspections (at least once a year) to monitor the use of real estate collateral. Additionally, the Bank has implemented a climate risk forecasting model to assess the risk level of real estate collateral, categorizing it as low, medium, or high. The model automatically includes the real estate appraisal submission form and appraisal report for reference during the review process. If the collateral meets specific conditions and is classified as high risk, an evaluation must be conducted to ensure that it will not significantly impact the Bank's credit claims before proceeding with the commitment. In addition, Chang Hwa Bank also offers comprehensive home insurance that covers typhoons, floods, earthquakes, and exclusive green energy clauses that encourage repairs using environmentally friendly building materials. As well as commercial fire insurance with additional coverage for natural disasters, including typhoon and flood insurance, subsidence or landslide insurance. These insurance plans help mitigate losses by transferring risks for residential and commercial real estate.



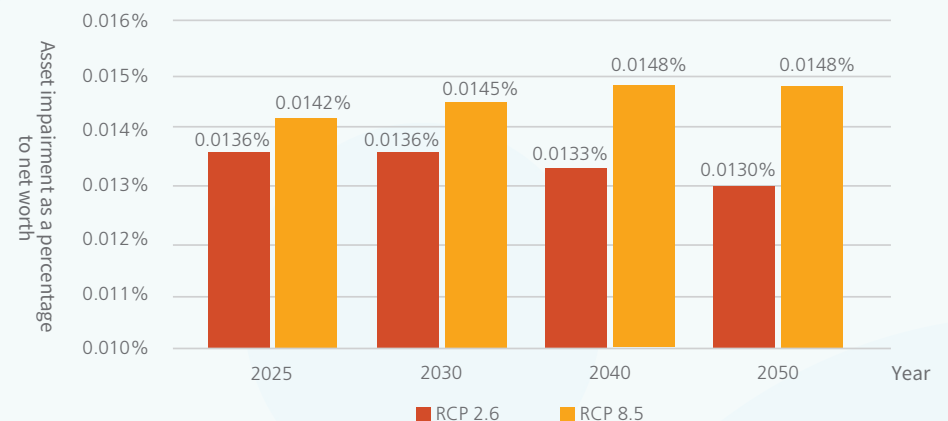
### (2) Stress Test Results of the Hong Kong Branch

The Hong Kong Branch adheres to the Guidelines for Banking Sector Climate Risk Stress Test issued by the Hong Kong Monetary Authority and adopts the scenarios outlined in those Guidelines. Considering the RCP 8.5 scenario, which is typically regarded as the most severe physical risk scenario, and adopting the conservative approach, it utilizes the IPCC's RCP 8.5 scenario in its climate risk stress testing. By evaluating the specific locations of real estate collateral held by credit borrowers, it has calculated that under such scenario, the stressed physical risk losses about 0.01% of the branch's net worth by 2050, increasing to 0.02% by 2060.

### (3) Analysis of Self-Owned Business Operations

The Bank's main source of revenue is banking-related business. We pay close attention to the climate risk posed to our branches. Situations such as typhoons and floods can result in water damage to assets and equipment, requiring repurchasing or even temporary suspension of operations. This may lead to a decline in operating income, and in more severe cases, it could cause a decrease in property values, resulting in impairment of our own assets. The amount of asset impairment for Taiwan's self-owned business locations in the RCP2.6 and RCP8.5 scenarios at the time points of 2025, 2030, 2040, and 2050 in the current fiscal year. The analysis result shows that in the RCP8.5 scenario of 2050, the asset impairment is projected to be the most severe, with an estimated loss impact amounting to around 0.0148% of net worth.

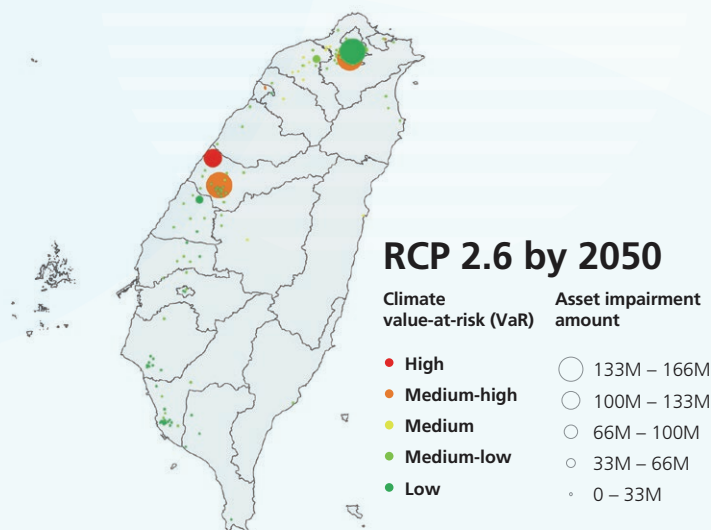
Financial impact on Bank-owned operating sites



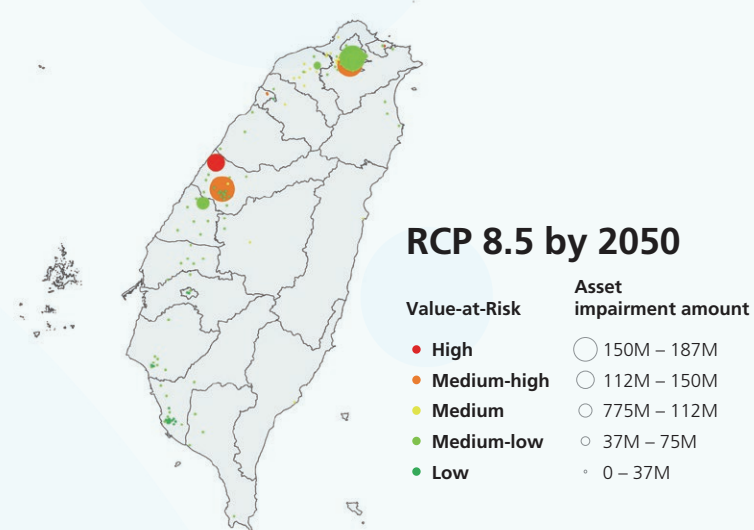
## • Trend Analysis of Impairment Amount Based on Cities and Counties

The two figures below depict the distribution of asset impairment amounts and risk values in the Taiwan region under the RCP2.6 and RCP8.5 scenarios in 2050. Based on the analysis results, in the most severe asset impairment scenario of RCP8.5 in 2050, a total of 2 branches have been identified as high-level risk, and 9 branches have been identified as medium-high risk.

**Climate Value-at-Risk of Operational Sites by Region  
under RCP 2.6 by 2050**



**Climate Value-at-Risk of Operational Sites by Region  
under RCP 8.5 by 2050**



## • Response Measures

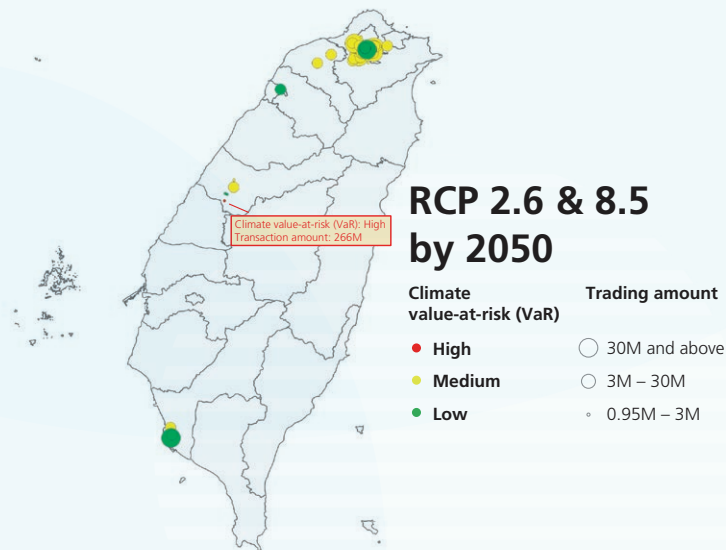
Based on the results of the scenario analysis, Chang Hwa Bank has developed the “Chang Hwa Bank Business Continuity Plan (BCP)” to effectively mitigate climate-related physical risks by enhancing disaster prevention measures of business operations. In terms of disaster response, corresponding adaptation plans are established based on the location of the business operations and the level of climate risk, which is categorized as high, medium, or low. Please refer to section 3-3-1-(1) for detailed management guidelines and corresponding strategies regarding the climate change risk management policy.

## (4) Scenario Analysis of Supplier Locations

If the supplier operates in areas with high physical risk, under extreme weather events could cause supply instability or interruptions, resulting in delivery delays and impacting our operations. Chang Hwa Bank conducted a physical risk scenario analysis for the 48 suppliers in Taiwan, which accounted for 81% of the total procurement amount in 2023, assessed the distribution of physical risks among suppliers in the RCP2.6 and RCP8.5 scenarios for the year 2025. In the RCP2.6 and RCP8.5 scenarios, the procurement amount with a high physical risk is NT\$2.66 million, which accounts for approximately 0.3% of the total procurement amount in 2023. It is also assessed that there is one supplier with a high physical risk.

## Physical Risk Analysis Results of Supplier Site for Suppliers in 2023

Scenario		RCP 2.6 and RCP 8.5 in 2025	
Company/Factory Registration Address Risk Level	Number of Suppliers	Transaction Amount(NT\$ million)	Transaction Amount Ratio(%)
High	1	2.66	0.3
Medium	39	612	80.2
Low	8	148	19.5
Total	48	763	100

Transaction Amount of Supplier Sites in the 2025  
RCP 2.6 and RCP 8.5 Scenarios

## • Response Measures

As for suppliers located with high climate risks, the Bank will offer suitable assistance in implementing climate risk management through disseminate and visitation of suppliers. Chang Hwa Bank will also continue to raise awareness of climate change issues among suppliers. For detailed management policies and response strategies, please refer to Section 3-3-2 Responsible Procurement.



## 2-2-3 Domestic Bank's Planning for Climate Change Scenario Analysis

Chang Hwa bank perform scenario analyses based on the "Operational Plan on Climate Change Scenario Analysis by Domestic Banks (2022 Edition)" issued by the Financial Supervisory Commission. The calculation covers domestic and foreign credit positions and banking book investment positions (bills, bonds and equity), and evaluates the expected credit risk losses as a percentage of net worth and pre-tax income for the base year (2023).

### • Current Climate Scenario Settings

Taking into account the domestic transition status and the severity of climate risks, it establishes three scenarios for the subsequent analysis of climate change scenario. The time scale of climate change and the business cycles of the banking industry are also considered, with the time horizons of the scenarios in the 2030s and 2050s.



### Domestic Banks Conducting Climate Change Scenario Analysis – Scenario Settings

Scenario Category		Orderly Transition (Net Zero 2050)	Disorderly Transition	Business-as-usual
Scenario Description		The world's progressive path towards net zero emissions by 2050	Delay in starting the transition, but still requires a path to net zero emissions by 2050	Without transition policies, governments around the world maintain the status quo and fail to implement or implement low-level carbon reduction efforts
Corresponding Situations	NGFS (Transition)	Net Zero 2050	Delay Transition	Baseline
	IPCC (Physical)	RCP2.6	RCP2.6	RCP8.5

### • Macroeconomic Factors Setting

The impact of climate change on individuals is assessed using various scenarios and numerical factors. The macroeconomic factors used as indicators include the GDP growth rate, unemployment rate, and long-term interest rate. These factors are used to simulate the changes in default rates for each position.

### • Environmental Factor Setting

By inputting environmental and temperature change values, this plan generates future trends for the physical risks and hazards addressed in this plan, such as heavy rain, flooding, and drought. It also predicts the changing impact levels on individuals with different attributes.

### • Results of Scenario Analysis

In the three hypothetical scenarios, the table below displays the anticipated losses as a percentage of the Bank's net worth and pre-tax income for the years 2030 and 2050. Among them, the "Disorderly Transition" in 2050 is projected to experience the greatest decline, with an estimated total loss of 12% of the net value in the base year (2023) and 119% of the pre-tax profit and loss. In the future, the Bank will continue to conduct regular scenario analysis and stress testing to assess the level of climate risk we face. This will enable us to evaluate our resilience and adaptability. Based on the analysis and test results, we will develop appropriate policies and strategies for adjustment.



### Percentage of expected credit risk loss of net worth and the base year's pre-tax income in the analyzed scenarios

In percentages

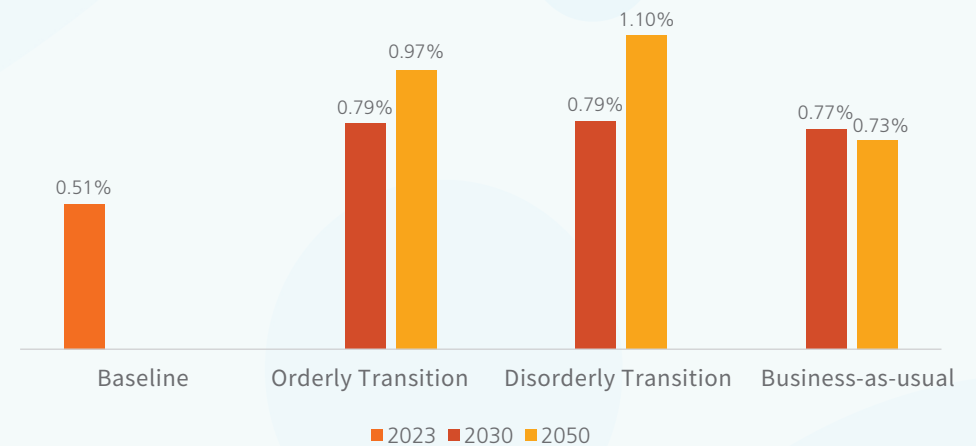
Percentage	Position	Orderly Transition		Disorderly Transition		Business-as-usual	
		2030	2050	2030	2050	2030	2050
Percentage of expected loss to base year's pre-tax income	Business Loan	56%	73%	56%	94%	52%	52%
	Personal Loan	3%	3%	5%	3%	3%	4%
	Investment-Banking Book	10%	14%	9%	22%	8%	8%
	Total	69%	91%	69%	119%	64%	64%
Percentage of expected loss of net worth	Business Loan	6%	7%	5%	9%	5%	5%
	Personal Loan	0%	0%	0%	0%	0%	0%
	Investment-Banking Book	1%	1%	1%	2%	1%	1%
	Total	7%	9%	7%	12%	6%	6%

#### Financial Impact of High Credit Concentration Industry in Transition Risk and Physical Risk

The Bank defines industries with a credit balance ratio exceeding 8% as of December 2023 as having a high concentration of credit exposure. The ranked industries in this category are the "Financial and Insurance Industry (10.39%)" and the "Real Estate Development Industry (8.84%)". However, the "Financial and Insurance Industry" is excluded from the calculation due to its lack of appropriate risk parameters, such as the Business Finance Ratio, and default linkages, and is not directly impacted by climate change risks. The following expected loss rates for each scenario are evaluated at two time frames, 2023 and 2050, considering the conditions of an Orderly transition, Disorderly transition, and Business-as-usual.



#### High Credit Concentration Industry — Expected Loss Rates for Each Scenario



## 2-3 Chang Hwa Bank's Strategy for Low Carbon Transition

Chang Hwa Bank consider financial institutions the key role of sustainable transition and low-carbon economy through assisting enterprises in doing low-carbon transition by capital injection and financial products and services. The Bank has established climate-related risk management mechanisms, such as investment and financing risk management, operational risk management, and value chain management, based on risk identification and scenario analysis. Chang Hwa Bank's strategy for low-carbon transition and its corresponding chapters are as follows:

### Overview of low-carbon transition and development strategy

Strategies	Items	Main Strategies and Actions	Corresponding Chapter
Investment and Financing Risk Management	Responsible Investments	<ul style="list-style-type: none"> <li>Strengthening Engagement with Carbon-intensive Industries: Incorporating carbon emission checks into the investment process. If the target company belongs to a carbon-intensive industry and has not participated in any advocacy organizations or disclosed/submitted emission information, it should engage with the company, encouraging its participation in advocacy organizations and requiring future disclosure of carbon emission information to guide the company's transition to a low-carbon economy.</li> <li>Set the carbon reduction target for each asset in investment and financing portfolios separately, invest or finance clients setting the target first.</li> </ul>	3-2-1
	Responsible Financing	<ul style="list-style-type: none"> <li>Lowering the Credit Limit for Industries with Carbon-intensive Emissions</li> <li>Reassessment before financing to carbon-intensive industries: If the credit applicant is included in the most recent annual list of large GHG emitters from the Ministry of Environment, or is classified as a carbon-intensive industry, an additional climate risk assessment should be carried out.</li> <li>The Equator Principles framework incorporates environmental risk management into the project financing credit approval process.</li> </ul>	3-2-2
Operational Risk Management	Operational Carbon Reduction	<ul style="list-style-type: none"> <li>In order to achieve the objective of reducing emissions by 42% in Scope 1 and Scope 2(or Category 1 and 2) by 2030, compared to 2020, three key strategies for carbon reduction have been implemented, including enhancing the energy efficiency of air conditioning and lighting, transitioning fuel vehicles to hybrid or electric power, and increasing the utilization of renewable energy to complement the carbon reduction gap.</li> </ul>	3-3-1-(2)
	Climate Adaptation Plan	<ul style="list-style-type: none"> <li>Establish climate adaptation plans according to the climate risk level of business operations.</li> <li>Strengthen climate change adaptation measures, such as acquiring sandbags, operating and using waterproof gates, inspecting pre-flood drainage ditches, and disseminate disaster prevention.</li> </ul>	3-3-1-(1)
Value Chain Management	Responsible Procurement	<ul style="list-style-type: none"> <li>Expand the scope of suppliers who signed the "Corporate Social Responsibility Standards of the Supplier".</li> <li>Organize a supplier conference to establish a communication platform between the financial industry and suppliers, with the aim of promoting the concept of sustainable development throughout the supply chain and fostering a sustainable development ecosystem.</li> </ul>	3-3-2
Green Finance	Green Products and Services	Actively planning and issuing green bonds, increasing the number of green loan and green deposit projects, in order to seize climate-related opportunities and business prospects, and exert financial influence.	4-1

## 03

# Climate Risk Management

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## 3-1 Climate Risk Management Policy

Chang Hwa Bank integrate climate risk into “The Integrated Risk Management Policy for Chang Hwa Bank” in 2022. Additionally, the Bank updates the “Management Regulations for Detection of Operational Risks” by the end of the same year to incorporate climate risk as a component of its operational risk. In order to strengthen climate risk management, a new policy called “Climate Risk Management Policy” has been implemented. The TCFD task force will be responsible for identifying and evaluating climate risks and opportunities, establishing environmental policies, ensuring their implementation, and regularly monitoring the progress of climate-related measures. In order to comply with the promulgation of the Climate Change Response Act in 2023, the climate risk management process will include the integration of greenhouse gas inventory, disclosure, and verification, to ensure the establishment of a comprehensive climate risk management procedure.

Climate Risk Management  
Policy of Chang Hwa  
Commercial Bank





### 3-1-1 Process of Climate Risk Management

To effectively identify, measure, monitor, and report climate risks and opportunities, Chang Hwa Bank has integrated climate risk management mechanisms into “The Integrated Risk Management Policy for Chang Hwa Bank”. This involves incorporating existing risk management procedures, such as identification, measurement, monitoring, reporting, and execution procedures, and establishing the following climate risk management process:



### 3-1-2 The Three Lines of Defense in Climate Risk Management

By taking inventory of climate risks related to our operations and business activities, we have effectively applied risk management through the three lines of defense within our climate risk management framework.

Line of Defense	Unit Responsibilities
First line: Risk-bearing unit	<p>Risk management of business and risk self –assessments, including identifying the sources of climate risks, assessing the extent of impacts, and response to risk.</p> <ul style="list-style-type: none"> <li>When applying for credit, additional climate risk checks should be conducted for industries with carbon-intensive emissions, and the list of greenhouse gases inventoried by the Ministry of Environment.</li> <li>The business unit introduces carbon emissions review into the investment process.</li> <li>Learn the clients' transition plan, evaluate the impact of climate change on our customers. Have a further engagement with clients if they don't disclose or submit carbon emission information.</li> </ul>
Second line: Independent risk management unit	<p>Responsible for risk monitoring, strategy and policy formulation to ensure the neutrality and consistency of Chang Hwa Bank in identifying, assessing, monitoring, and reporting risks.</p> <ul style="list-style-type: none"> <li>Incorporate climate risks into "The Integrated Risk Management Policy". To enhance climate risk management, a separate "Climate Risk Management Policy" has been established, which includes greenhouse gas inventory, disclosure, and verification.</li> <li>Establish carbon emission quotas for carbon-intensive industries and provide monthly reports on potential risks to the Risk Management Committee. Additionally, conduct climate-related scenario analysis.</li> <li>The Compliance Division should ensure that all business management units comply with climate-related regulations and promptly update the operational norms and management regulations related to business responsibilities.</li> </ul>
Third line: Internal audit unit	<p>Regularly review the actual implementation of risk management in each division. Compile audit matters based on the results of climate risk assessment and the execution of climate risk management policies.</p>

## 3-2 Investment and Financing Risk Management

Climate-related risks in the financial industry primarily stem from investment and financing business. Chang Hwa Bank adheres to the United Nations Sustainable Development Goals (SDGs), the Principles for Responsible Investment (PRI), the United Nations Global Compact, and the Equator Principles. It also aligns with the Financial Supervisory Commission's "Corporate Governance 3.0 -Sustainable Development Roadmap" and "Green Finance Action. Plan 3.0" to implement the concept of responsible finance. By excluding negative industries, incorporating climate checks into investment and financing processes, and engaging with investment and financing targets, Chang Hwa Bank aims to gradually realize its vision of sustainable investment and financing, bringing positive benefits to the environment, society, and economy.

To fulfill its financial responsibility and achieve the national target of net zero emissions by 2050, Chang Hwa Bank is committed to gradually reducing its investment and financing position in the coal and unconventional oil and gas industries. This includes industries such as coal mining, coal-fired power generation, and coal infrastructure, as well as shale oil, tar sands, polar oil and gas, and liquefied natural gas extracted from

unconventional fossil fuels. It also includes the extraction, processing, manufacturing, exploration, and expansion projects of deep-sea oil and gas, and the infrastructure supporting these activities. By 2040, Chang Hwa Bank will completely eliminate its involvement in these industries. During this period, investment and financing projects that are related to green transition, sustainable development, or have specific plans for carbon reduction and industrial transition may be evaluated and considered for acceptance. Additionally, there may be ongoing communication and engagement on carbon reduction and transition. In addition, credit limit management is implemented in the investment and financing positions for industries with carbon-intensive emissions. This is accomplished by integrating relevant due diligence procedures into the investment and financing process to improve information transparency. Regarding the development strategy of the Investment and Financing for the low-carbon industry, the main objective is supporting the national low-carbon transition policy and key strategic industries. For more information, please see Chapter 4-3-2 for an overview of investment and financing of carbon-intensive industries.

## Climate Risk Management Strategy of Chang Hwa Bank's Investment and Financing Positions

Position of Thermal Coal and Unconventional Oil and Gas	Position of Industries with carbon-intensive Emissions	Position of Green Industries <sup>5</sup>
<ul style="list-style-type: none"> <li>Gradually decrease investment and financing positions.</li> <li>Engaging for carbon reduction or transition.</li> <li>Funds used for green transition or carbon reduction projects are approved after evaluation.</li> <li>Complete elimination by 2040.</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of Investment and Financing Limit Management</li> <li>Conducting Due Diligence</li> <li>Conducting Engagement</li> </ul>	<ul style="list-style-type: none"> <li>Support for National Low-Carbon Transition Policy</li> <li>Increase the amount of investment and financing year by year.</li> </ul>

### Chang Hwa Commercial Bank Sustainable Financial Commitments



<sup>5</sup> Referring to the government's key industries for startups - the green energy technology industry and the Bank's "Green Enterprise Loan Project" the green industry classification combination includes: manufacturing of plastic raw materials, steel casting, manufacturing of other plastic products, construction of public utility facilities, wholesale of chemical raw materials and products, marine transportation industry, engineering services and related technical consulting industry, wastewater and sewage treatment industry.

## 3-2-1 Responsible Investments

### (1) Responsible Investment Policy and Process

Chang Hwa Bank introduced the ESG performance of the companies into its investment activities. The Bank complies with the "Stewardship Principles for Institutional Investors", and has formulated the "Chang Hwa Bank Stewardship Principles", which cover the implementation and disclosure of the responsibilities towards funding contributors and stewardship regulations, and incorporated ESG (Environmental, Social, and Governance) issues into the investment evaluation process to enhance the overall interests of funding contributors (including clients, beneficiaries, and shareholders of the Bank) and fulfill the responsibilities for stewardship. The Bank interacts with invested companies through engagement, dialogues or interaction, to understand and achieve the sustainable operation goals of the investee companies and create long-term value for capital providers and the overall financial market.

To implement responsible investment, the Bank has first excluded negative industries targets, then consider companies ranked in the top 5% of corporate governance evaluation results, and evaluate selected targets' ESG situation by "ESG Checklist (including climate risk)", also review if there are any significant violations of ESG-related issues to determine the feasibility of the investment. Regarding carbon-intensive industries, observe environmental issues, such as resource consumption and greenhouse gas emissions.

### (2) Management of Limits for Carbon-intensive Industries

In order to strengthen the strict control of industries with high climate risk, Chang Hwa Bank has lowered the investment limit for industries with carbon-intensive emissions. This limit is closely monitored on a daily basis and the utilization level to the Risk Management Committee.





### (3) Incorporating Climate Check into the Investment Process

Chang Hwa Bank adheres to the Principles of Responsible Investment (PRI), including incorporating ESG issues into the investment analysis and decision-making process. The Bank also considers external indicators such as Bloomberg's ESG Disclosure Score or FTSE Russell's ESG rating to prudently assess or avoid investments that may have significant adverse impacts on environmental or social sustainability. When investing in carbon-intensive industries, the Bank conducts climate risk assessments to evaluate whether the companies participate in advocacy organizations (CDP, RE100, SBTi) and disclose their greenhouse gas emissions. Additionally, the bank will decide to reduce or divest positions if the company cannot get back costs due to industrial transition and impact revenue significantly while reviewing positions regularly.

Chang Hwa Bank and its subsidiary, Chang Hwa Venture Capital Co., Ltd. (referred to as the Chang Hwa Venture Capital subsidiary), actively support investments in enterprises that align with the concept of sustainability. As of the end of 2023, Chang Hwa Bank has invested in 41 domestic listed companies that have been selected as constituents of the Dow Jones Sustainability Index (DJSI) or the Taiwan Sustainability Index, which is an increase of 9 companies and the investment amount accounts for over 70% of the total compared to 2022. Additionally, the Bank has invested in 40 companies that have participated in CDP assessments (with a score of B- or above), RE100, or have implemented initiatives such as SBTi. In addition, the total investment

in green industry equities and sustainable development bonds amounted to NT\$1.873 billion and NT\$17.6 billion, respectively. The balance of sustainable development bonds increased by 17% compared to last year. By the end of 2023, the Chang Hwa Venture Capital subsidiary's investment in the environmental sustainability industry accounted for 26% of its total investments, representing a 3% increase from the previous year.

### (4) Engagement with Investment Targets

When Chang Hwa Bank applies for the investment target, it incorporate carbon emission checks into the investment process. If the company belonged to a carbon-intensive emission industry and didn't participated in any advocacy organizations or disclosed/submitted emission information, it should engage with the company, the bank will encourage them to participate in advocacy organizations and establish low carbon projects. Also, they have to disclose carbon emission information in the future. In 2023, the Bank actively engaged with investee companies through participation in shareholder meetings, analyst conferences, online meetings, and email communication. Additionally, the Bank engaged with other institutional investors to conduct online meetings and discuss Company A's overall ESG performance and information disclosure.

#### Agenda for Online Meeting on Sustainable Issues

Chang Hwa Bank and other institutional investors conducted a comprehensive review of Company A's ESG status. They provided recommendations on various aspects, including social, economic (including corporate governance), environmental, and disclosure. A trilateral online meeting is scheduled for June 2023 to further discuss these matters. Regarding the implementation of ESG practices by Company A, additional monitoring is planned to encourage the company to enhance its ESG practices.



#### Engagement Results

In response to stakeholder demands, including the government, customers, and investors, Company A has actively participated in various international initiatives related to climate change in recent years. It has already submitted its commitment to the Science Based Targets initiative (SBTi) in 2023 and aims to complete the SBTi target review by 2024. Additionally, the company has assessed the potential risks and adaptation strategies of climate change on its current and future operations using the Task Force on Climate-related Financial Disclosures (TCFD) methodology and has adopted the Sustainability Accounting Standards Board (SASB) sustainability indicators. In terms of the structure and operation of the board of directors, it is recommended to elect female directors and increase the number of independent directors. Chang Hwa Bank will continue to monitor and track its progress.

### 3-2-2 Responsible Financing

#### (1) Responsible Credit Policy and Process

Adhering to the concept of responsible finance to implement the goal of sustainable development, Chang Hwa Bank promotes green finance, energy transition and sustainable development through credit activities. In addition to following the general credit process to handle loan business, the Bank implemented ESG financing principles to the credit process procedures of enterprises/personal financial. During credit application, it is also necessary to understand whether the borrower is involved in negative ESG news and whether the use of funds is related to green finance. Complemented by green related products colligated with the credit review process, and relevant control mechanisms were established to encourage and guide customers to strengthen ESG and reduce the operational risks caused by climate change. Additionally, the Bank assesses the potential impact of transition risks on borrowers' credit risks through scenarios involving carbon levies. This approach strengthens the control and monitoring of climate risks, while various mitigation actions are undertaken to minimize potential risks and financial losses.

#### (2) Management of Limits for Carbon-intensive Industries

Chang Hwa Bank monitors the daily usage of financing for carbon-intensive industries and reports the usage level of the quota to the Risk Management Committee on a monthly basis. Furthermore, as a condition of linking the third-party verified sustainability indicators, such as "control of greenhouse gas emissions", "carbon reduction effectiveness", "power management", "energy consumption", and "waste reduction", if one of the indicators improves compared to the previous year, it will be used as the basis for the next interest rate increase or decrease of the sustainability performance link credit concessionary loans. This is done in order to achieve the purpose of encouraging enterprises to increase their financing for green and sustainable development.

#### (3) Incorporating Climate Check into the Credit Process

Chang Hwa Bank recognizes the crucial role of financial institutions as key intermediaries and drivers of sustainable development. To further guide the flow of funds towards sustainable projects, starting from February 2023, additional assessments will be conducted to monitor climate risks as in the table below for credit applicants listed for large GHG emitters or carbon-intensive industries. If the credit applicant is a publicly listed company and has not participated in any initiative organization or has not provided emission information, we will engage with them to request future disclosure of carbon emissions and reduction information, as well as encourage participation in initiative organizations. This aims to guide companies towards low-carbon transitions and achieve a balance between economic growth and environmental sustainability.

Review Item	Criteria
Disclosure and Communication	Participation of Advocacy Organizations Whether the borrowers disclose per any of the following organizations/initiatives: <ul style="list-style-type: none"> <li>Carbon Disclosure Project (minimum grade required: B- or above)</li> <li>RE100 (Global Renewable Energy Initiative led by Climate Organization and Carbon Disclosure Project)</li> <li>SBTi (Science Based Targets Initiative)</li> </ul>
	Emission Information Whether the credit applicant has submitted the annual scope 1 and scope 2 greenhouse gas emissions or annual energy consumption. Whether the credit applicant has submitted the annual scope 3 greenhouse gas emissions

Chang Hwa Bank's Nanjing Subsidiary conducted a review to analyze how climate change affects the financial condition and operations of credit borrowers. It also observed companies who cause pollution, high environmental risk, and negative effect to ecosystem. Borrowers from industries, which result massive pollution, excess capacity, and so on, have high risk of environment, society, and governance, are required to fill the "Chang Hwa Bank Corporate Environmental Behavior Credit Scorecard" out. The Bank follows a list-based management system and provides support to borrowers ranked green, and prohibits lending to borrowers ranked red or black.



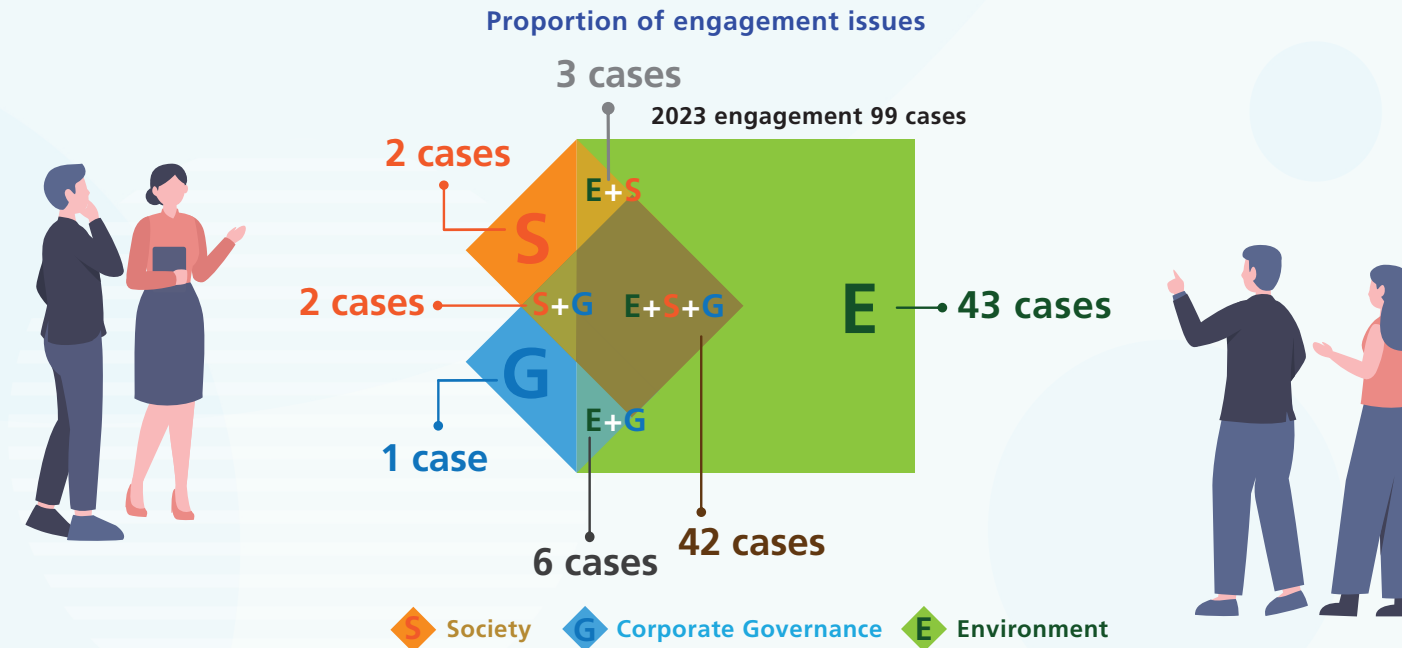
## (4) Engagement with Borrowers

As of the end of December 2023, the engagement mainly involving syndicated loan and sustainability linked loan, the majority of which are in the electronics and technology sectors. We engage with customers regarding environmental aspects such as carbon reduction and energy management will continue to monitor their follow-up actions on these issues, collaborating with customers in their journey towards sustainable development. The following are examples of relevant credit recipients:

## Case of engagement with borrowers

Engagement party	Engagement topics and key points	Engagement method
OO Industrial Co., Ltd	Target of saving 2% energy per year and disclose it in the sustainability report.	Written
OO Electronics Co., Ltd	1% decrease in the total greenhouse gas emissions over the previous year, disclosed in the ESG Report.	Written
OO Co., Ltd	Reduce carbon emissions by 4.2% per year, or reduce air pollution emissions, greenhouse gas emissions, energy use, water stewardship water withdrawals, and waste sewage discharge by 1%, and provide third-party certification report information or disclose these in the sustainability report.	Written

There were a total of 99<sup>6</sup> credit-related cases associated with Chang Hwa Bank's lending activities. The ratio of engagement issues is as follow graph.



<sup>6</sup> The agreement covers multiple issues, including 11 issues related to EG, ES, and SG, and a total of 42 issues related to ESG. The remaining 46 issues bring the total to 99.

### (5) Enhancing Real Estate Collateral Management

Due to the impact of extreme weather events in recent years, potential disaster damage may lead to the devaluation or destruction of real estate collateral provided by borrowers, which could indirectly affect our Bank's claims. To enhance the control and management of the risks associated with our real estate collateral financing business, we have determined that real estate collateral susceptible to natural disasters (such as typhoons, floods, and droughts) should not be accepted as per our Bank's "Collateral Handling Operations Guidelines". Additionally, the Bank has implemented a climate risk forecasting model to assess the risk level of real estate collateral, categorizing it as low, medium, or high. The model automatically includes the real estate appraisal submission form and appraisal report for reference during the review process. If the collateral meets specific conditions and is classified as high risk, an evaluation must be conducted to ensure that it will not significantly impact the Bank's claims before proceeding with the commitment.

### (6) Equator Principles

Chang Hwa Bank, as a signatory bank of the global Equator Principles voluntary initiative (an Equator Principles Financial Institution, EFPI), has conclusively introduced the Equator Principles and norms in all aspects of the credit process, with the business units and credit management division carrying out processes such as case applicability judgment, case risk classification, environmental and social risk assessment and review, submission and signing of contracts, and post-loan management. If the application of the Equator Principles involves transition or physical climate risks, the Bank requires the submission of appropriate risk assessments and mitigation measures prior to proceeding with the case. Additionally, the Bank will keep overseeing and managing the case throughout the loan period to ensure the efficacy of the corresponding mitigation plans.



### 3-3 Operational Risk Management

#### 3-3-1 Climate Operational Risks

##### (1) Strategies regarding the climate change risk management policy

In response to climate-related major disasters, the Bank has devised the “Chang Hwa Bank Business Continuity Plan (BCP)” (covering all domestic and overseas operating sites) to ensure that all units maintain normal operations in the event of an operational disruptions due to climate change, extreme rainfalls, or other disasters. This is done to safeguard customer rights and minimize damages to personnel and assets.

The BCP includes a section on “Disaster Protection and Emergency Measures”. In the event of a climate-related disaster that results in the inability to promptly restore information and accounting systems or operate business premises, relevant units have contingency plans in place for reporting and response to prevent operational disruptions. In the pre-disaster response section, Chang Hwa Bank has identified all branches in the asset impairment amount and risk value distribution chart for the RCP8.5 scenario in 2050 (please refer to Section 2-2-2-(3) Physical Risk - Own Operating Locations Scenario Analysis). The Bank sets 2050 as the target year (reviewed annually) and develops corresponding adaptation plans based on the operating locations and the degree of climate risk, categorized as high, medium, or low, as shown in the table below. The adaptation plan applies to all existing operational sites and will also be implemented for all overseas sites, subsidiaries, and newly established branches in the future. This includes conducting risk identification and implementing climate change adaptation plans to reduce the impacts of climate change or extreme rainfall.

In the event of operational disruptions, relevant business management units are responsible for reviewing the causes and course of the incident. They should propose improvement measures or areas of attention within their responsibilities and continually report the handling and improvement status to the original reporting level in a level-by-level manner. Procedurally, the Risk Management Department is responsible for monitoring the improvement plans of business management units. Based on the circumstances, the business management units may be required to report to the Risk Management Committee, which then consolidates the information in the quarterly “Risk Management Report” for submission to Audit Committee and the Board of Directors.

In addition, Chang Hwa Bank conducts annual disaster prevention training and drills. The General Affairs Department plans and supervises the implementation by all units. The business units are responsible for security maintenance and regular security inspections per Chang Hwa Bank’s “Safety Maintenance Inspection Report” to address any deficiencies and make necessary improvements.



Risk Level of RCP 8.5 Scenario in 2050	Number of Branches	Adaptation Plan	Implementing Targets
High Risk	2	Construction of waterproof gates, raft-style foundation catchment pits, and the procurement of appropriate disaster insurance.	The adaptation plan in question is anticipated to be finalized by 2025.
Medium-High Risk	9	Before the flood season, it is important to enhance disaster prevention measures and take appropriate actions. These actions include understanding the source of sandbags, ensuring the floodgates are functioning properly, testing the submersible pumps for normal operation, and inspecting the drainage ditches.	The Chang Hwa Bank has established the “Chang Hwa Bank Security Maintenance Operation Regulations”, “Chang Hwa Bank Business Continuity Plan”, and “Chang Hwa Bank Employee Self-Defense Drill Implementation Guidelines” to effectively implement measures for disaster prevention and mitigation.
Medium Risk	30		
Medium-Low Risk	116	Promote climate change adaptation and disaster prevention advocacy:	
Low Risk	28	(1) Pre-employment training and promotion of disaster prevention concepts for new employees (2) Regular disaster drills are conducted annually.	

## (2) Low-carbon operations

To address climate change and align with national greenhouse gas reduction policies, we have implemented environmental management system (ISO 14001), energy management system (ISO 50001), and water resource efficiency management system (ISO 46001). Our target is to limit global temperature increase to 1.5°C from the base year 2020 and have established a carbon reduction target to reduce greenhouse gas emissions from Category 1 and Category 2 by 42% compared to 2020 levels by 2030. In order to achieve its carbon reduction targets, the Bank has developed three strategies and implemented six actions aimed at reducing carbon emissions. These initiatives are projected to result in a reduction of 995.72 tCO<sub>2</sub>e. For detailed information on carbon emissions, energy consumption, and water usage reduction targets, please refer to Section 4, Climate metrics and targets.



### Carbon Reduction Strategy 1: Improvement of energy efficiency for AC equipment and lighting

Carbon Reduction Action	Implementation Units	Funding Allocation (NT\$ million)	Estimated energy saved (kWh)	Estimated Carbon Reduction (tCO <sub>2</sub> e)
Complete replacement with LED lighting	116	18.85	1,335,683	661.16
Priority replacement of AC equipment aged over 30 years	29	11.23	190,953	94.52

### Carbon Reduction Strategy 2: Transition of fuel vehicles to hybrid or electric models

Carbon Reduction Action	Implementation Units	Funding Allocation (NT\$ million)	Estimated fuel reduction (L)	Estimated Carbon Reduction (tCO <sub>2</sub> e)
Replacement of fuel cars with hybrid cars	39	5.65	30,762	72.45
Replacement of fuel scooters with electric scooters	Implementation will begin in 2024.			

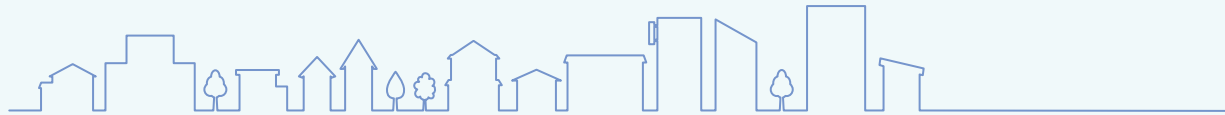
### Carbon Reduction Strategy 3: Increase in the utilization of renewable energy to offset carbon reduction gap

Carbon Reduction Action	Implementation Units	Funding Allocation (NT\$ million)	Electricity Consumption/ Generation (kWh)	Estimated Carbon Reduction (tCO <sub>2</sub> e)
Installation of solar power generation systems on branch rooftops for self-consumption	1	1.23	3,413	1.69
Purchase green energy	2	2.04	337,672	167.15



### (3) Green buildings

Green building design is also a method for the Bank to achieve operational carbon reduction benefits. The current target for the Peimen Branch, Chengtung Branch, the Tianjin Street dormitory, the building of the Chiencheng Branch, and the Yuanli Branch, all involved in urban renewal projects, are all striving to achieve "Green Building Certification". Among them, the Peimen Branch urban renewal project, completed in 2023, successfully obtained the Silver-level Green Building Certification by incorporating environmentally friendly elements such as green landscaping, water conservation, energy efficiency, and water resource recycling.



Completion of the Peimen Branch Urban Renewal Project

### (4) Renewable energy and carbon credit planning

To achieve the medium-term target of renewable energy accounting for 10% by 2030, Chang Hwa Bank has been entering into contracts with renewable-energy-based electricity generating or retailing enterprises since 2022. Additionally, solar power generation systems will be installed on the rooftops of our own branches in the central and southern regions in Taiwan, operating on a photovoltaic self-consumption model. In 2023, a total of approximately 340,000 kWh of electricity be used, with 337,672 kWh wheeling from renewable-energy-based electricity generating or retailing enterprises and 3,143 kWh from own solar power generation. This accounts for approximately 1.28% of renewable energy.



Chang Hwa Branch Rooftop Solar Power System

### 3-3-2 Responsible Procurement

#### (1) Value Chain Climate Risk Management

Chang Hwa Bank prioritizes local partner companies and has developed a "Sustainable Procurement Policy" to reduce procurement risks and create innovation opportunities, with the aim of achieving sustainable supply chain management. The Bank has also obtained ISO 20400:2017 compliance certification to promote sustainability principles among its partner companies. To ensure compliance, the bank has established the "Corporate Social Responsibility Standards of the Supplier of Chang Hwa Bank" and the "Guideline for Chang Hwa Commercial Bank Encouraging Suppliers to Carry out Corporate Social Responsibility". These guidelines require suppliers with single transaction amounts of NT\$800,000 or more for "Goods Procurement" and "Construction and Renovation Projects" to sign the "Undertaking to Commit to Social Responsibility by the Supplier". The bank's target is to achieve a 100% signing rate by 2023.

Starting in 2023, in accordance with our Bank's climate risk policy, we conducted a climate risk assessment for 48 suppliers. Upon evaluation, it was determined that one supplier is at high risk of physical damage by 2025 under the RCP2.6 and RCP8.5 scenarios. The transaction amount associated with this supplier represents 0.3% of the total. For a detailed analysis of the physical risk at supplier locations, please refer to Section 2-2-2-(4) Physical Risk - Supplier Location Analysis. The Bank plans to review suppliers' strategies, actions, or management mechanisms in response to climate risks through advocacy and supplier visits. We aim to provide appropriate assistance to enhance the resilience of suppliers facing high climate risks, thereby ensuring effective climate risk management.

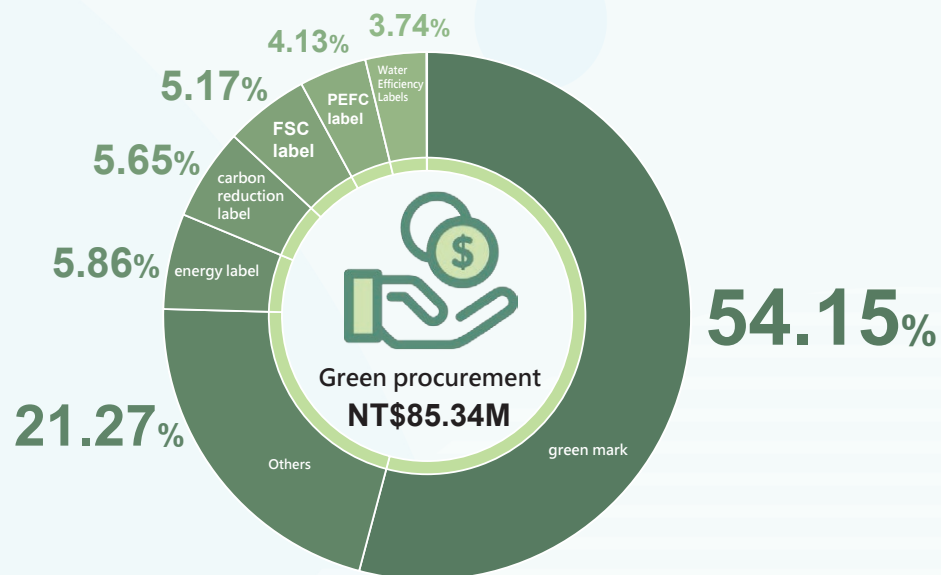


#### (2) Green Procurement

To demonstrate our commitment to environmental protection, Chang Hwa Bank prioritizes procurements of green mark, carbon reduction, energy label, Water Efficiency Labels, green building material, and sustainable forestry labels, in order to minimize the environmental impact of our operations. The total amount of green procurement in our Bank in 2023 exceeded NT\$85.34 million, which is nearly 3.3 times higher than last year, reaching a new high in recent years. Among these, green-marked products accounted for more than half of the total amount of green procurement.

NT\$ million

Item	2021	2022	2023
Green procurement	24.91	25.57	85.34



## 04

# Climate Metrics and Targets

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## 4-1 Overview of Metrics and Targets

Chang Hwa Bank is actively responding to the global trend of low-carbon transition and collaborating with the national 2050 net-zero emission policy. Our aim is to direct funds towards green industries and sustainable economic activities, thereby establishing a more comprehensive green financial system. We have established short, medium, and long-term climate-related targets to facilitate the transition to a low-carbon economy and align our business development strategy with the Paris Agreement. The Bank signed the Science Based Targets initiative (SBTi) commitment in 2022 and successfully completed the target set in May 2024. For more information, please see section 4-4 on Science Based Targets.



The climate-related metrics and targets of Chang Hwa Bank are summarized as follows.

Category	Metrics	Description	Unit	2020	2021	2022	2023
Operations	GHG Emissions <sup>7</sup>	Category 1 Greenhouse gas emissions <sup>8</sup>	tCO <sub>2</sub> e	2,374.304	2,097.131	2,075.020	2,133.566
		Category 2 Greenhouse gas emissions <sup>9</sup>	tCO <sub>2</sub> e	15,862.188	15,356.797	15,016.773	13,008.712
		Total emissions (Category 1+ Category 2)	tCO <sub>2</sub> e	18,236.492	17,453.928	17,091.793	15,142.278
		Category 1+ Category 2 Carbon emissions intensity <sup>10</sup>	tCO <sub>2</sub> e / NT\$ million	0.6676	0.6084	0.5007	0.3926
		Inventory boundary <sup>11</sup>	%	100	100	100	100
		Verification boundary <sup>12</sup>	%	89.7	89.7	100	100
		Category 3 GHG emissions <sup>13</sup>	tCO <sub>2</sub> e	5,242.152	5,244.309	4,727.668	5,318.750
		Category 4 GHG emissions <sup>14</sup>	tCO <sub>2</sub> e	7,541.974	8,077.079	9,602.441	8,988.433
		Category 5 GHG emissions <sup>15</sup>	tCO <sub>2</sub> e	239.003	266.894	229.763	369.383
	Electricity consumption	Implemented ISO 50001 Energy Management System, with electricity consumption as the metrics	MWh	30,613	30,006	29,243	26,567
		Statistical boundary <sup>16</sup>	%	100	100	100	100
	Renewable energy	Total renewable energy usage of domestic business operations, including solar power generation and green electricity transfer	kWh	0	0	100,000	341,085
		Renewable energy utilization / (total electricity consumption across all business operations)*100%	%	0	0	0.34	1.28
	Gasoline consumption	Mainly from fuel usage in official vehicles	L	673,175	518,923	526,359	532,497
		Statistical boundary <sup>16</sup>	%	100	100	100	100
	Water consumption	Implemented ISO 46001 Water Efficiency Management System, with water usage as the metrics	m <sup>3</sup>	163,944	160,777	147,532	154,083
		Statistical boundary <sup>16</sup>	%	82.2	82.2	89.7	98.43

<sup>7</sup> From 2020 to 2021, all overseas business operations and subsidiaries were included in the scope of the greenhouse gas emissions inventory for category 1 and 2. It differed from the 2022 TCFD report.

<sup>8</sup> Category 1 emissions ("Scope 1" in ISO 14064-1:2006) primarily comprise emissions from the combustion of fuel in official vehicles, diesel generators, gas, natural gas, as well as emissions from greenhouse gas extinguishing agents, refrigerant-filled equipment, and septic tanks.

<sup>9</sup> Category 2 emissions ("Scope 2" in ISO 14064-1:2006) are of emissions from purchased electricity generation. Calculated using a market-based method in 2023.

<sup>10</sup> Carbon emissions intensity = (Category 1 + Category 2 emissions) / Net income.

<sup>11</sup> Refers to the revenue coverage of Category 1 + Category 2 greenhouse gas inventory for all branches and subsidiaries of Chang Hwa Bank domestically and overseas. The scope of greenhouse gas emission disclosure is consistent with the scope of the company's consolidated financial statements.

<sup>12</sup> Refers to the revenue coverage for Category 1 and Category 2 greenhouse gas verification for all domestic and overseas branches and subsidiaries of Chang Hwa Bank.

<sup>13</sup> Category 3 emissions are indirect greenhouse gas emissions caused by transportation, including employee work trips, employee commutes, and transportation of consumables for business use.

<sup>14</sup> Category 4 emissions are indirect greenhouse gas emissions related to the products purchased for the organization, including the emissions of consumable products and information assets during their lifecycles, incineration of general waste, and transportation of recycled waste.

<sup>15</sup> Category 5 emissions are indirect greenhouse gas emissions in the downstream of the products manufactured by the organization, including the disposal of debit cards and credit cards.

<sup>16</sup> Starting from this year, it has been adjusted to be calculated based on the revenue ratio, so it is different from the data in the 2022 TCFD report. The boundaries of electricity and oil consumption are all domestic and overseas locations and subsidiaries; the boundaries of water consumption are all domestic locations.

Category	Metrics	Description	Unit	2020	2021	2022	2023
Investment and Financing Portfolio	Carbon emissions of investment and financing portfolio	Carbon emissions of investment and financing portfolio	tCO <sub>2</sub> e	1,133,555	1,031,326	1,433,353	7,646,568 <sup>17</sup>
		Inventory coverage	%	19.06	20.20	46.74	70.62
		Economic emission intensity of investment and financing portfolio	tCO <sub>2</sub> e / NT\$ million	3.8	3.0	1.7	3.97
		Avoided emissions from financing projects	tCO <sub>2</sub> e	12,764	17,726	18,261	32,923
		Emissions from carbon-intensive industries	tCO <sub>2</sub> e	64,110	77,779	92,473	3,943,393
		Economic emission intensity of carbon-intensive industries	tCO <sub>2</sub> e / NT\$ million	7.5	6.49	7.24	22.29
		Proportion of carbon-intensive industry exposures to total corporate exposures in the inventory	%	14.8	13.8	14.8	14.75
Promoting Businesses Related to Green Initiatives for Low-carbon Transition	Sustainability-related bond investments	Invest in various sustainable development bonds, including green bonds, sustainable development bonds, social responsibility bonds, and sustainability-linked bonds	NT\$100 million	48	45	63	30
	Green industry investment	Cumulative investment amount of green industry equity and green bonds for investment projects including climate, environmental protection, energy conservation, carbon reduction, etc., since 2019.	NT\$100 million	58.7	91.7	125.7	138.7 <sup>18</sup>
	Green credits balance <sup>19</sup>	The loan is used for green expenditures	NT\$ million	–	–	6,962	17,183
	Offshore wind power industry loan balance	Manufacturers and related suppliers that meet the conditions of the “Offshore Wind Power Planning Site Capacity Allocation Operation Regulations” and have obtained project wind farm development qualifications.	NT\$ million	137	1,080	2,200	3,088
	Amount of Green deposit project	Guiding customers’ funds into projects that meet the green credit standards of the Join Credit Information Center	NT\$100 million	–	–	26	30
	Enhance Digital financial transactions	Percentage of electronic transactions	%	60.13%	64.22%	67.00%	69%
		Number of e-statements sent	Number	3,755,021	4,446,935	5,553,416	8,224,935
		Cumulative transacted amount for payment services, online ATMs, and collection services	NT\$ million	15,221	26,526	38,912	44,266

<sup>17</sup> In 2023, the Bank expanded the asset categories included in the inventory and included calculations for sovereign bonds, small and medium-sized enterprises, and short-term credit extensions.

<sup>18</sup> Excluding the Hong Kong branch’s investment in the green industry of NT\$ 460 million.

<sup>19</sup> Green credit reporting and management commenced in 2022. It encompasses credit for green expenditures, including but not limited to the following ten categories and “others” category, a total of eleven categories: renewable energy, energy conservation, pollution prevention, sustainable management of life and natural resources, sustainable management of land use and the environment, protection of regional and aquatic biodiversity, clean transportation, sustainable water sources and wastewater treatment, climate change adaptation, products/production technologies/or processes with ecological efficiency and circular economy adaptation, green buildings, and others.

Climate-Related Targets	Targets Description	Short-term targets	Medium-term targets	Long-term targets	Progress towards 2023 Targets
GHG Emissions (Base Year 2020)	Annual greenhouse gas emissions by domestic and overseas operations, Category 1 and 2 (or Scope 1 and 2)	Average annual reduction in carbon emissions of approximately 4.2%	A decrease of 42% compared to the base year in 2030.	Net zero by 2050	A decrease of 16.97% compared to the base year.
	Annual electricity consumption of all domestic and overseas operations	Average annual reduction of approximately 1%	A decrease of more than 10% compared to the base year.		Reduced 13.22% compared to the base year.
	Renewable energy utilization rate	1% by 2023	10% utilization rate by 2030.		The renewable energy utilization rate for 2023 has increased to 1.28% compared to the base year, and there are plans to gradually increase the proportion of green electricity usage. In addition, a total of 337 renewable energy certificates were purchased in 2023.
	Carbon credit purchase	We purchase annual carbon credits to offset the carbon emissions of one branch to build a carbon-neutral branch.	Starting from 2030, we purchase annual carbon credits to offset the carbon emissions of five branches to build a carbon-neutral branch.		Verified through the British Standards Institution (BSI) PAS 2060 carbon neutrality standard, the Shulin Branch has become the Bank's carbon-neutral branch.
	Annual gasoline consumption of official vehicles (cars and motorcycles) at all domestic and overseas operations	Average annual reduction of approximately 1%	A decrease of more than 10% compared to the base year.		Official vehicles main focus has shifted towards the use of hybrid electric vehicles for official cars, resulting in a significant 20.9% reduction in fuel consumption compared to the base year.
	Annual water usage of all domestic operations	Average annual reduction of approximately 1%	A decrease of more than 10% compared to the base year.		Reduced 6.01% compared to the base year.





Climate-Related Targets		Targets Description	Short-term targets	Medium-term targets	Long-term targets	Progress towards 2023 Targets
Carbon Emissions of the Investment and Financing Portfolio	Listed Equity and Corporate Bond	Listed equity, corporate bonds and REITs	Chang Hwa Commercial Bank, Ltd commits to 51.9% of its listed equity, corporate bonds and REITs portfolio by invested value setting SBTi validated targets by 2028 from a 2022 base year.			The submission was made by the end of 2023, and the target was set in May 2024.
	Power Generation Project Finance	Renewable electricity related project finance	Chang Hwa Commercial Bank, Ltd commits to continue providing electricity generation project finance for only renewable electricity through 2030.			
	Commercial Real Estate	Department Stores, Hotels, Factories, Office Buildings, and Warehousing	Chang Hwa Commercial Bank, Ltd commits to reduce its real estate loan portfolio GHG emissions 50.0% per square meter by 2030 from a 2022 base year.			
	Business Loans	Electricity generation	Chang Hwa Commercial Bank, Ltd commits to reduce GHG emissions from the electricity generation sector within its corporate loan portfolio 40.9% per MWh by 2030 from a 2022 base year.			
		Corporate Loans for the Finance, Retail, Service, Food and Lodging, Accommodation, and Real Estate Development sectors	Chang Hwa Commercial Bank, Ltd commits to reduce GHG emissions from the finance, retail, service, food and lodging, and real estate development sectors within its corporate loan portfolio 50.0% per square meter by 2030 from a 2022 base year.			
		Loans to Companies in the Fossil Fuel, Electrical and Electronic Equipment, Manufacturing, and Semiconductor sectors	Chang Hwa Commercial Bank, Ltd commits to 36% of its other long-term corporate loan portfolio by invested value within the fossil fuel, electrical and electronic equipment, general manufacturing and semiconductor sectors setting SBTi validated targets by 2028 from a 2022 base year.			



Climate-Related Targets		Targets Description	Short-term targets	Medium-term targets	Long-term targets	Progress towards 2023 Targets
Promoting Businesses Related to Green Initiatives for Low-carbon Transition	Green Industry Investment	Investment in Green Industries for Climate, Environmental Protection, Energy Conservation, and Carbon Reduction Projects	The investment amount in the green industry reached NT\$14.5 billion in 2025.	The investment amount in the green industry reached NT\$16 billion in 2030.	The investment amount in the green industry increases year by year.	Investment in 2023 reached NT\$13.87 billion.
	Green Credit	Green Credit Disbursement Status	The amount of green credit has increased by 3% compared to the previous year.	The amount of green credit has increased by 3% annually starting from 2026 compared to the previous year.	Continuously expanding the scope of green credit business	Increased by 146.81% compared to 2022.
		Green Credit Project and Services	In 2025, there were eight projects related to green credit.	In 2030, there were eleven projects related to green credit.	Increase the number of green credit projects, the number of contracts undertaken, or services provided each year.	Currently, there are five projects related to green credit.
	Green Financial Products and Services	To enhance financial services for green and low-carbon products and direct customer funds towards environmentally friendly products.	Accumulated introduction of 2 new products for mobile insurance in 2023.	By 2025, the cumulative total of new products launched in the mobile insurance sector reached 4. By 2027, the mobile insurance sector increased to 8.	Cumulative introduction of new products for mobile insurance has been increasing year by year.	Cumulative introduction of 24 new products for mobile insurance in 2023. The cumulative product for mobile insurance totaled 46 in 2023.
			By 2025, the annual sales of green financial investment products should <sup>20</sup> comprise at least 5% of the newly launched products each year.	By 2030, the sales of green financial investment products should comprise at least 10% of the newly launched products each year.	Continuously expanding the scope of green financial investment product business.	The sales of green financial investment products in 2023 comprises 42.39% of the newly launched products.
		Continuously promote digital deposits to enable customers to open accounts online using a single device, thereby eliminating the need for paper and reducing carbon emissions throughout the entire process. <sup>21</sup>	As of 2023, the total number of digital deposit accounts has reached 738,000.	By 2030, it is estimated that this initiative will reach approximately 1.4 million.	By 2050, it is estimated that this initiative will reach approximately 2.31 million.	As of 2023, the total number of digital deposit accounts has reached 771,000.

<sup>20</sup> Green financial investment products encompass various products that are associated with green environmental protection, corporate governance, and corporate social responsibility. These products include funds, foreign bonds, stocks, and ETFs.

<sup>21</sup> Compared to opening an account at the counter, digital deposits can save at least 5 sheets of paper per customer and reduce carbon emissions by at least 90 grams per customer. Based on the benchmark year of 2023, with 771,000 accounts, the estimated carbon emissions are projected to decrease by 69,390 kilograms. By 2030, when the number of households is expected to reach 1.4 million, the reduction in carbon emissions is estimated to be approximately 126,000 kilograms. This represents a conservative estimate of a 50% reduction compared to 2023.

## 4-2 Sustainable Operation Metrics and Targets

### 4-2-1 Internal Carbon Pricing

Starting in 2022, Chang Hwa Bank has incorporated an internal carbon pricing model into its procurement decision-making process for the replacement with LED lighting equipment. The reduction in carbon costs is calculated using shadow pricing and the carbon fee rate announced by the regulatory authority (NT\$1,500 per ton). In 2023, the scope of implementation of the internal carbon pricing model is expanded to include three carbon reduction measures: replacement with LED lighting, replacement of AC equipment, and adoption of hybrid electric vehicles for official use. In order to achieve the carbon reduction target for 2023, the Bank continuously implements a range of carbon reduction actions. For significant actions, we estimate the amount of carbon reduction and associated costs using internal carbon pricing. This will serve as a reference for making resource allocation decisions in the future, particularly when resources are limited.

Unit: NT\$

Carbon Reduction Action	Implementation Units	Estimated Energy Cost Saved	Estimated Reduction of Carbon Price	Estimated Total Cost Saved
Replacement with LED lighting	116	4,007,048	991,744	4,998,793
Replacement of AC Equipment	29	572,859	141,783	714,642
Replacement of official cars with hybrid cars	39	955,777	108,677	1,064,454

### 4-2-2 Carbon Neutrality Branch

Net-zero by 2050 has become an international trend. In order to deploy our net-zero plan in advance, the Bank has formulated carbon neutrality goals for our branches. Based on the PAS 2060 carbon neutrality standard and other international carbon neutrality standards, the Bank identifies branches with the potential for reduction and provides guidance to help them transit to carbon-neutral branches. By implementing energy-saving and carbon reduction measures, such as replacing old air conditioning and lighting equipment, and offsetting carbon emissions through the purchase of carbon credits that meet the international Gold Standard, the Chang Hwa Branch and Shulin Branch have been certified as carbon-neutral branches in 2022 and 2023, respectively, by the British Standards Institution (BSI) PAS 2060 carbon neutrality standard. Moving forward, we will continue to support other branches in their transition to carbon neutrality. By setting targets for renewable energy usage and procuring carbon credits, we are making progress towards achieving the target of net-zero emissions by 2050.

## 4-3 Sustainable Finance Metrics and Targets

### 4-3-1 Emissions of the Investment and Financing Portfolio

According to the methodology published by the Partnership for Carbon Accounting Financials (PCAF), Chang Hwa Bank calculates the carbon emissions of its investment and financing portfolio using the practical manual for financial carbon emissions (Scope 3) provided by the Bankers Association. The Bank actively pursues opportunities to reduce greenhouse gas emissions. In 2023, the Bank expanded the scope of asset categories under investigation to include sovereign bonds, small and medium-sized enterprises, and short-term credit. The target was to gradually complete the calculation of financial carbon emissions. The Bank's investment and financing investigation in 2023 had a coverage of 70.62% (the percentage of investigated positions compared to the total investment and financing positions)<sup>22</sup>. When using the PCAF methodology, the coverage was 73.45% (the percentage of positions that comply with the PCAF methodology compared to the total investment and financing positions). The financed emissions amounted to 7.65 million tCO<sub>2</sub>e, and the overall economic emission intensity was 3.97 (tCO<sub>2</sub>e per NT\$1 million of investment and financing amount).

<sup>22</sup> The investigation encompasses the investment and financing departments of Chang Hwa Bank and its subsidiaries, both domestically and overseas



### Scope 3 Investment and Financing Inventory Coverage in 2023

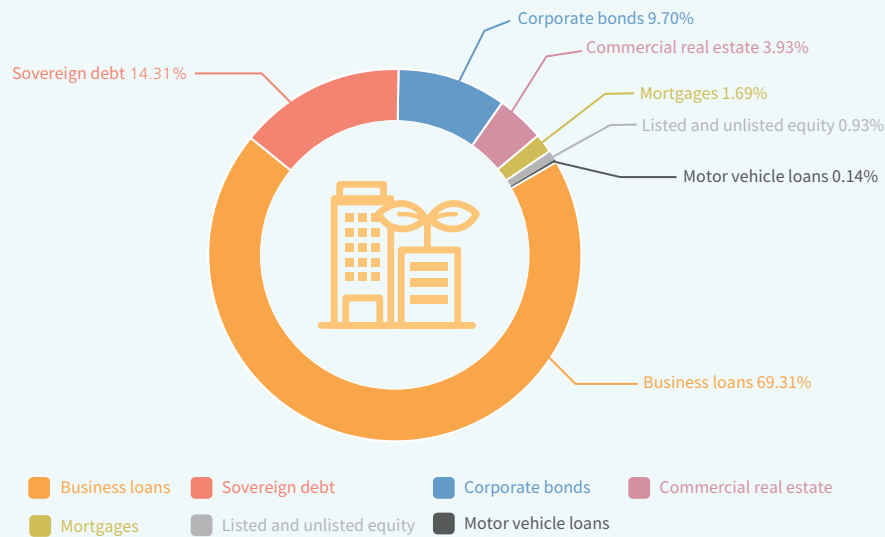
Asset category	investment and financing amount (NT\$ million)	Coverage using the PCAF methodology(%)	Positons of inventory amount (NT\$ million)	Inventory coverage (%)	Coverage (%)
Commercial real estate	147,795.77	5.63	147,795.77	5.63	100.00
Business loans	978,713.60	37.28	904,403.84	34.45	92.41
Motor vehicle loans	2,538.22	0.10	2,538.22	0.10	100.00
Mortgages	423,360.25	16.13	423,360.25	16.13	100.00
Project finance	2,722.22	0.10	2,722.22	0.10	100.00
Corporate bonds	187,625.56	7.15	187,625.56	7.15	100.00
Listed and unlisted equity	33,021.07	1.26	33,021.07	1.26	100.00
Sovereign debt	152,331.80	5.80	152,331.84	5.80	100.00
<b>Positions of inventory</b>	<b>1,928,108.50</b>	<b>73.45</b>	<b>1,853,798.77</b>	<b>70.62</b>	<b>96.15</b>
Unable to inventory <sup>23</sup>	697,018.91	26.55			
<b>Total</b>	<b>2,625,127.41</b>	<b>100.00</b>			

### 2023 Scope 3 Investment and Financing Financial Carbon Emissions

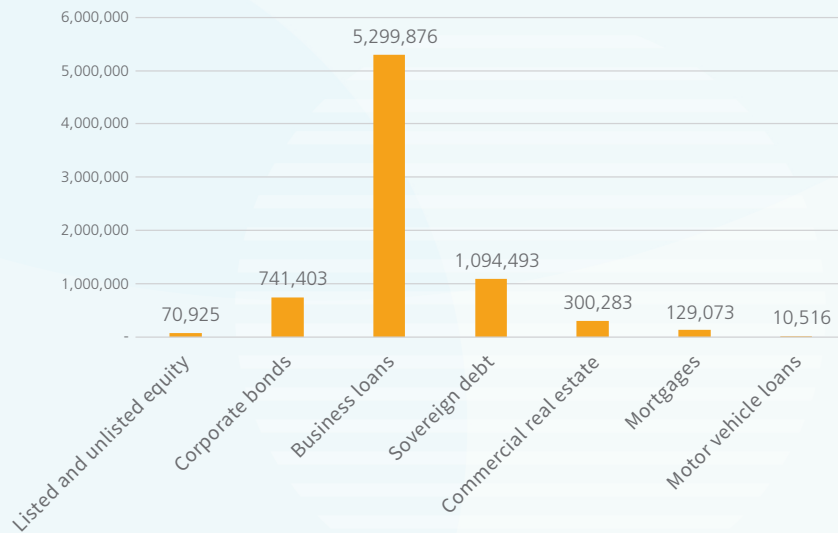
Asset category	Investment and financing amount (NT\$ million)	Financial carbon emissions (tCO <sub>2</sub> e)	Financial carbon emissions ratio(%)	Economic emissions intensity (tCO <sub>2</sub> e/ NT\$ millions of investment and financing amount)	Data quality ranges from 1 to 5 (best being 1 and worst being 5)
Listed and unlisted equity	33,021.07	70,924.53	0.93	2.15	1.67
Corporate bonds	187,625.56	741,403.12	9.70	3.95	2.88
Business loans	978,713.60	5,299,875.78	69.31	5.42	3.31
Sovereign debt	152,331.80	1,094,493.06	14.31	7.18	1
Commercial real estate	147,795.77	300,283.23	3.93	2.03	4
Mortgages	423,360.25	129,072.75	1.69	0.30	4
Motor vehicle loans	2,538.22	10,515.52	0.14	4.14	5
<b>Total</b>	<b>1,925,386.28</b>	<b>7,646,567.99</b>	<b>100.00</b>	<b>3.97</b>	<b>3.26</b>

<sup>23</sup> The unable to inventory positions mainly are assets excluded by the PCAF methodology, such as ETFs, private equity funds, sustainable bonds, local government loans, green bonds, personal unsecured loan, derivative financial products, and exposure to the central bank.

### Proportion of financial carbon emissions from investment and financing in 2023 (tCO<sub>2</sub>e)

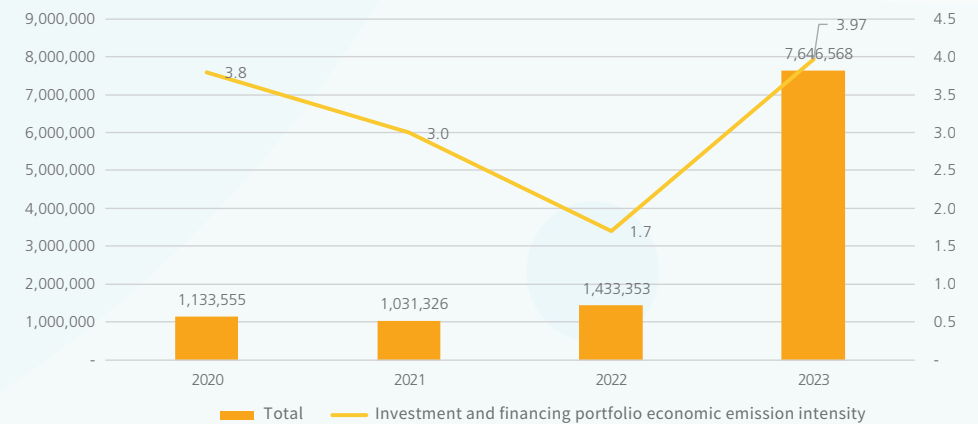


### Financial carbon emissions (tCO<sub>2</sub>e)



The total carbon emissions from the investment and financing portfolio in 2023 amounted to 7,646,568 tCO<sub>2</sub>e, which is a significant increase compared to the previous year. The main reason for this increase is the expansion of the scope of investigation, this year, new sovereign bonds were inspected, and the credit area was expanded from large enterprises and loans with a maturity of more than one year to cover all credit customers and short-term loans. As a result, the coverage of the investigation has increased from 46.74% to 70.62% of the total investment and financing amount.

### Comparison of investment and financing portfolio carbon emissions and economic emission intensity in the past four years (2020-2023)



According to the calculation of investment and financing portfolio carbon emissions by industry<sup>24</sup> in 2023, the top three industries in terms of absolute carbon emissions are “Manufacture of Petroleum and Coal Products”, “Electricity and Gas Supply”, and “Wholesale Trade”, accounting for 27.9%, 25.9%, and 6.1% of the total, respectively. The top three industries in terms of economic emission intensity are “Manufacture of Petroleum and Coal Products”, “Electricity and Gas Supply”, and “Wholesale Trade”. The table below displays the financial carbon emissions and economic emission intensity of industries that contribute more than 1% of carbon emissions in 2023. The remaining industries are classified as “Other”.

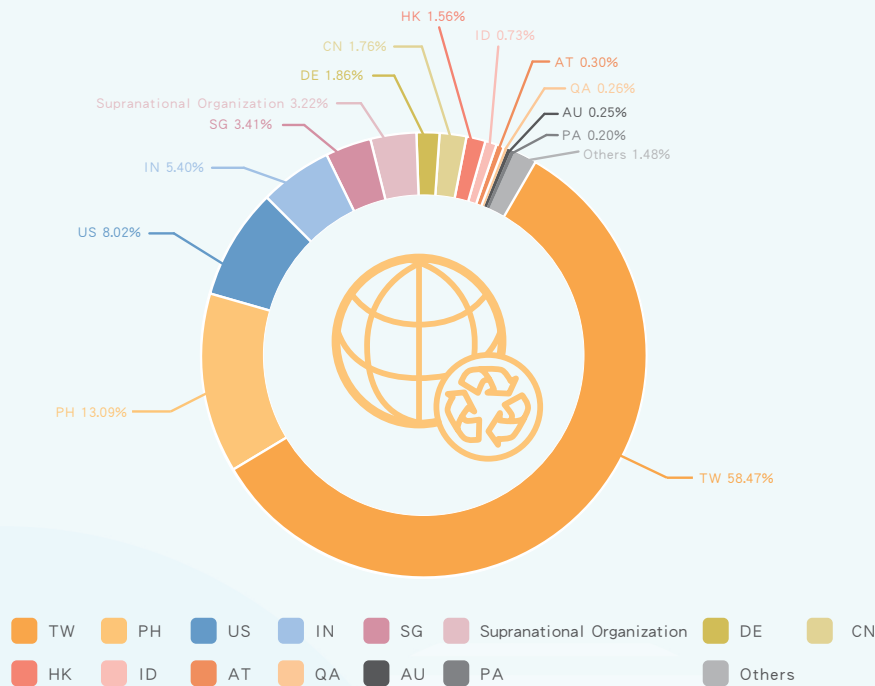
### Proportion of carbon emissions by industry

Industry	Financial carbon emissions (tCO <sub>2</sub> e)	Financial carbon emissions ratio(%)	Economic emissions intensity (tCO <sub>2</sub> e/NT\$ millions of investment and financing amount)
Manufacture of Petroleum and Coal Products	1,705,545.86	27.9	46.63
Electricity and Gas Supply	1,582,511.84	25.9	37.83
Wholesale Trade	373,138.90	6.1	3.51
Manufacture of Other Non-metallic Mineral Products	360,248.45	5.9	22.93
Manufacture of Electronic Parts and Components	293,747.43	4.8	3.52
Manufacture of Paper and Paper Products	204,238.86	3.3	30.45
Manufacture of Food Products and Prepared Animal Feeds	146,072.56	2.4	5.37
Retail Trade	132,743.41	2.2	4.11
Manufacture of Basic Metals	120,899.17	2.0	2.97
Manufacture of Plastics Products	113,247.80	1.9	6.86
Manufacture of Chemical Material and Fertilizers	102,487.26	1.7	6.06
Water Transportation	95,416.80	1.6	9.30
Support Activities for Transportation	87,588.51	1.4	10.75
Manufacture of Fabricated Metal Products	78,147.35	1.3	1.75
Manufacture of Textiles	65,025.18	1.1	4.49
Specialized Construction Activities	58,911.77	1.0	4.27
Others	592,232.28	9.7	0.87
Total	6,112,203.43	100	5.10

<sup>24</sup> The calculation of the carbon emissions of carbon-intensive industries encompasses business loans, corporate bond investments, and equity investments.

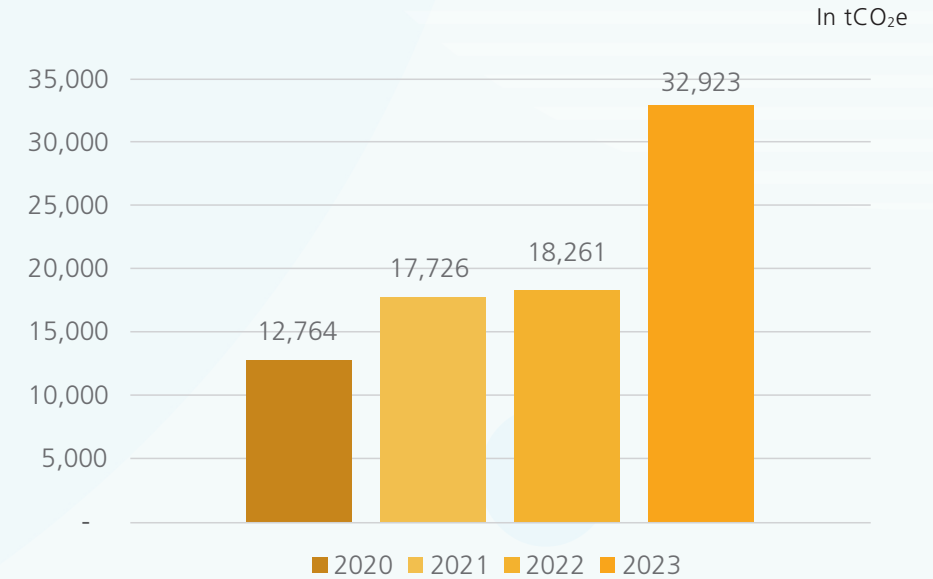


**Proportion of carbon emissions by country/region  
(business loans, corporate bonds, listed and unlisted equity,  
sovereign bond)**



In addition to accounting for carbon emissions from investment and financing activities, Chang Hwa Bank also take inventory of the avoidable carbon emissions from its renewable energy financing projects. As shown in the chart below, the Bank has been increasing its financing projects year by year, resulting in an increase in avoidable emissions reaching 32,923 tCO<sub>2</sub>e in 2023.

**Avoided emissions from financing projects**



#### 4-3-2 Overview of the Investment and Financing of Carbon-intensive Industries

In response to carbon regulation requirements imposed by various governments, such as the Climate Change Response Act and the European Union's Carbon Border Adjustment Mechanism (CBAM), the Bank has implemented limits on the autonomous management of investment and financing in carbon-intensive industries. The credit and investment limit ratios have been gradually reduced year by year. Over the past three years, there has been minimal change in the balance of loans to carbon-intensive industries. This is primarily due to the Bank's implementation of rigorous due diligence procedures in the investment and financing process, which has increased information transparency and facilitated ongoing discussions with the relevant stakeholders. In 2023, the Bank's credit and investment in carbon-intensive industries accounted for 11.81% of the total corporate exposure. To effectively manage this, starting from 2023, the Bank will implement additional climate risk assessments for credit applications and investments. These assessments will evaluate whether the company is involved in initiative organizations such as CDP, RE100, and SBTi, and discloses its greenhouse gas emissions to monitor its climate risk.

##### Proportion of carbon-intensive industries in the total investment and financing positions of corporations by asset in the past three years

Assets	2021	2022	2023
Loan <sup>25</sup>	9.10	8.24	9.75
Investment <sup>26</sup>	1.97	2.27	2.07
Total	11.07	10.51	11.81

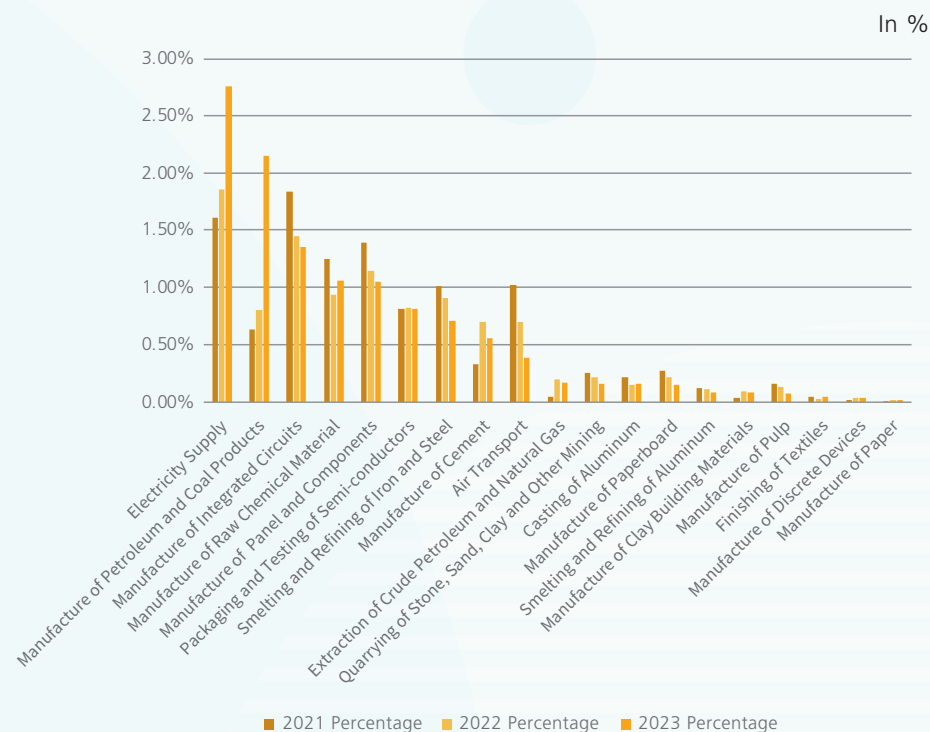
Note: The credit lines and total exposure mentioned here include committed financing limits that have not been utilized.

<sup>25</sup> Starting from January 2024, Chang Hwa Bank include the "Manufacture of Electronic" as a carbon-intensive industry to cover the industrial scope of industries with large greenhouse gas emissions, according to statistics from the Ministry of Economic Affairs' manufacturing department.

<sup>26</sup> Refer to the definition of green electricity and renewable energy industries in the government's "Program for Promoting Six Core Strategic Industries" and the bank's "Green Enterprise Project Loans" for the industry classification combinations involved.

Further analysis of carbon-intensive industries reveals that in recent years, the industries with higher risk ratios are the "Electric Supply", "Manufacture of Petroleum and Coal Products", and "Manufacture of Integrated Circuits". When analyzing the changes in each industry, the "Air Transport" has shown the most significant decline. Conversely, the investment and financing ratios of the "Manufacture of Petroleum and Coal Products" and the "Electricity Supply" have been increasing year by year. Chang Hwa Bank will also use this result as the basis for policy revisions and position adjustments. This includes setting limits on assets related to carbon-intensive emission industries, thermal coal related industries, unconventional oil and gas industries, and other assets related to Science-Based Targets (SBT).

##### Proportion of carbon-intensive industries in the total investment and loan positions by industry



The proportion of carbon-intensive industries in Chang Hwa Bank's investment and financing portfolio<sup>27</sup> is approximately 14.75%, whereas the proportion of financial carbon emissions is 64.52%. Among them, the "Manufacture of Paper", "Electricity and Gas Supply", and "Petrochemical Industry" are the industries with the highest economic emission intensity. Chang Hwa Bank will use the results as the basis for policy and positional adjustments. Please refer to 3-2-1-(2) and 3-2-2-(2) Management of Limits for Carbon-Intensive Industries.

Carbon-intensive industries	Investment and financing amount (NT\$ millions)	Investment and financing in percentage (%)	Financial carbon emissions (tCO <sub>2</sub> e)	Financial carbon emissions ratio (%)	Economic emissions intensity (tCO <sub>2</sub> e/ NT\$ millions of investment and financing amount)
Petrochemical Industry	48,630.57	4.05	1,698,299.84	27.79	34.92
Electricity Supply by Coal-fired	39,421.70	3.29	1,482,393.06	24.25	37.6
Manufacture of Cement	8,013.34	0.67	255,406.11	4.18	31.87
Manufacture of Electronic	50,324.89	4.20	223,831.37	3.66	4.45
Manufacture of Paper	3,032.76	0.25	145,609.40	2.38	48.01
Air Transport	6,667.54	0.56	54,726.50	0.90	8.21
Manufacture of Iron and Steel	14,307.32	1.19	50,910.39	0.83	3.56
Extraction of Crude Petroleum and Natural Gas	2,206.35	0.18	21,384.46	0.35	9.69
Building Materials	1,097.23	0.09	7,549.77	0.12	6.88
Manufacture of Textiles	424.53	0.04	2,956.34	0.05	6.96
Mining	2,787.82	0.23	325.41	0.01	0.12
Total	176,914.06	14.75	3,943,392.64	64.52	22.29

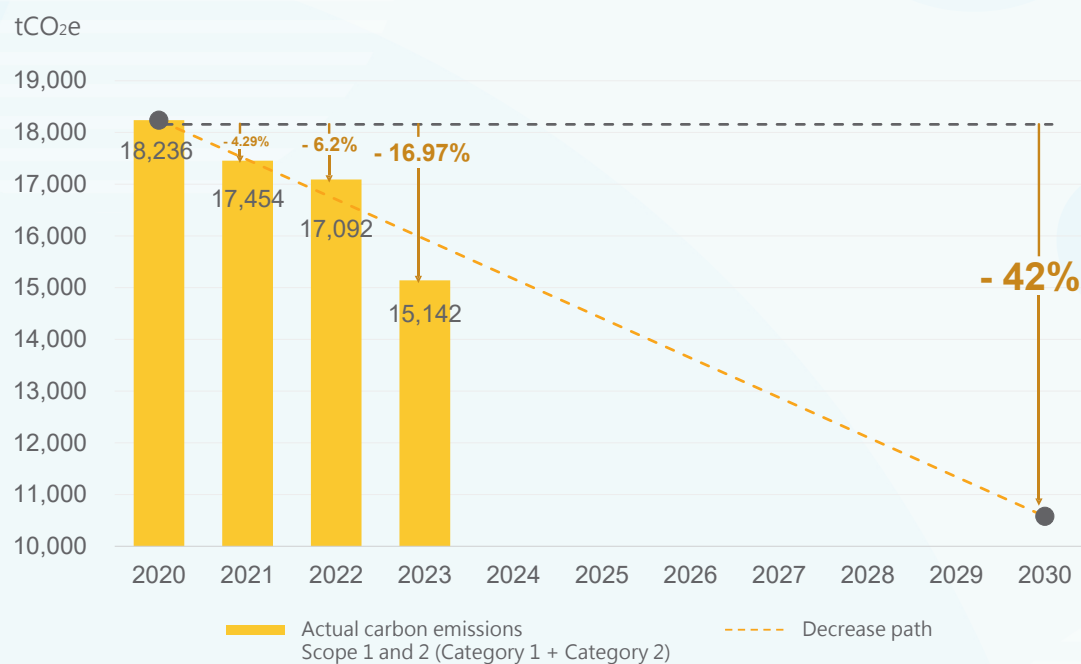
<sup>27</sup> The calculation of the carbon emissions of carbon-intensive industries encompasses commercial loans, corporate bond investments, and equity investments.

## 4-4 Science Based Targets

Chang Hwa Commercial Bank has signed the Science Based Targets initiative (SBTi) Commitment Letter in 2022. And set the SBTi near-term target in May 2024 to limit global warming to below 1.5°C and align with the Paris Agreement.

### 4-4-1 Scope 1 and 2

Chang Hwa Commercial Bank, Ltd commits to reduce absolute scope 1 and 2 GHG emissions 42% by 2030 from a 2020 base year. The target coverage is 100% of emissions in the base year, and the reduction path is estimated as follows:



#### 4-4-2 Scope 3 Portfolio Targets

Chang Hwa Commercial Bank, Ltd's portfolio targets cover 14% of its total investment and lending by total assets as of 2022.

Asset class	Item	Method	Target language
Lending			
Electricity generation project finance	Renewable electricity related project finance	Sector Decarbonization Approach <sup>28</sup> (SDA)	Chang Hwa Commercial Bank, Ltd commits to continue providing electricity generation project finance for only renewable electricity through 2030.
Corporate loan: commercial real estate	Department stores, hotels, factories, office buildings, warehousing	Sector Decarbonization Approach (SDA)	Chang Hwa Commercial Bank, Ltd commits to reduce its real estate loan portfolio GHG emissions 50.0% per square meter by 2030 from a 2022 base year.
Corporate instruments (loans) <sup>29</sup>	Electricity generation	Sector Decarbonization Approach (SDA)	Chang Hwa Commercial Bank, Ltd commits to reduce GHG emissions from the electricity generation sector within its corporate loan portfolio 40.9% per MWh by 2030 from a 2022 base year.
	Other long-term debt	Sector Decarbonization Approach (SDA)	Chang Hwa Commercial Bank, Ltd commits to reduce GHG emissions from the finance, retail, service, food and lodging, and real estate development sectors within its corporate loan portfolio 50.0% per square meter by 2030 from a 2022 base year.
		Portfolio Coverage Approach <sup>30</sup>	Chang Hwa Commercial Bank, Ltd commits to 36% of its other long-term corporate loan portfolio by invested value within the fossil fuel, electrical and electronic equipment, general manufacturing and semiconductor sectors setting SBTi validated targets by 2028 from a 2022 base year.
Investment			
Corporate instruments	listed equity, corporate bonds and REITs	Portfolio Coverage Approach	Chang Hwa Commercial Bank, Ltd commits to 51.9% of its listed equity, corporate bonds and REITs portfolio by invested value setting SBTi validated targets by 2028 from a 2022 base year.

<sup>28</sup> Sector Decarbonization Approach (SDA): For specific industries (such as Manufacture of Iron and Steel, Manufacture of Cement, Electricity Supply, Manufacture of Paper, etc.), carbon reduction planning and related target calculations are carried out based on the amount of greenhouse gases emitted per unit of activity (in carbon intensity units), in order to comply with the International Energy Agency's Emission reduction paths set by industry.

<sup>29</sup> Excludes corporate loans with a remaining term of less than one year.

<sup>30</sup> Portfolio Coverage Approach: Analyze the proportion of corporate exposure risk in the current investment and financing portfolio that have set carbon reduction targets through SBT, and linearly increase it to the target path of reaching 100% of the companies in the investment and financing portfolio setting SBT as this method in 2040.



# Future Outlook

## Future Outlook

Given the ever-evolving international climate change regulations, Taiwan regulatory authorities have established disclosure and calculation regulations for climate-related financial disclosures and climate scenario analysis. Chang Hwa Bank has started collecting climate-related data and enhancing its climate change management methods. We collaborate with external organizations to conduct regular or irregular education and training sessions, as well as participate in TCFD working group meetings, to enhance the understanding of climate change impacts and regulations among all levels of the company. We develop relevant management policies while considering cost and benefits, and ensuring a balance with stakeholders.

Chang Hwa Bank has successfully completed the SBTi target setting and integrated climate change issues into its long-term strategy. The Bank has implemented mechanisms to manage investment and financing risks, operational risks, and value chain management, showcasing its commitment to climate change management and facilitating the transition to a low-carbon economy. In the future, we will also develop a low-carbon transition strategy to harness the positive impact of the financial industry. We will collaborate with our business partners to achieve net zero 2050.



Aspect	General Guidelines		Corresponding Chapter
Governance	Describes the Board's oversight of climate-related risks and opportunities.	1-2	Climate Governance Framework
	Describes the management's role in assessing and managing climate-related risks and opportunities.	1-2	Climate Governance Framework
Strategy	Describes the short-, mid-, and long-term climate related risks and opportunities identified by the organization.	2-1-2 2-1-3	Climate Risk Identification Climate Opportunities Identified
	Describes the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	2-1-2 2-1-3	Climate Risk Identification Climate Opportunities Identified
	Describes the organization's strategic resilience, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	2-2	Scenario Analysis for Transition Risks and Physical Risks
		2-3	Chang Hwa Bank's Strategy for Low Carbon Transition
Risk Management	Describes the organization's processes for identifying and assessing climate-related risks.	2-1-1	Climate Risk and Opportunity Identification Process
	Describes the organization's processes for managing climate-related risks.	3-2	Investment and Financing Risk Management
		3-3	Operational Risk Management
	Describes how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	3-1	Climate Risk Management Policy
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	1-3 4	Climate Empowerment and Rewards Climate Metrics and Targets
	Disclose Category 1 and 2, and greenhouse gas (GHG) emissions of investment and financing portfolios, if appropriate, along with the related risks.	2-2	Scenario Analysis for Transition Risks and Physical Risks
		4-1 4-3-1	Overview of Metrics and Targets Emissions of the Investment and Financing Portfolio
	Describe the targets employed by the organization in managing climate-related risks and opportunities, as well as the performance in implementing those objectives.	4	Climate Metrics and Targets
Aspect	Supplemental Guidance for the Financial Sector		Corresponding Chapter
Strategy	Describes significant concentrations of credit exposure to carbon-related assets.	4-3-2	Overview of the Investment and Financing of Carbon-intensive Industries
Risk Management	Considers the interconnectedness between disclosing climate-related risks and traditional banking risks such as credit risk, market risk, liquidity risk, and operational risk.	2-1-2	Climate Risk Identification
Metrics and Targets	Provide metrics for assessing the impact of short-, medium-, and long-term climate-related risks (transition and physical risks) on its financing and other financial intermediation activities.	2-2-3	Domestic Banks' Planning for Climate Change Scenario Analysis
	Disclose greenhouse gas emissions from financing and other financial intermediary business activities.	4-3-1	Emissions of the Investment and Financing Portfolio





## 2023 Climate-Related Financial Disclosures TCFD Report