中華開發金控
CHINA DEVELOPMENT FINANCIAL

TCFD REPORT

TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

2021

CONTENT

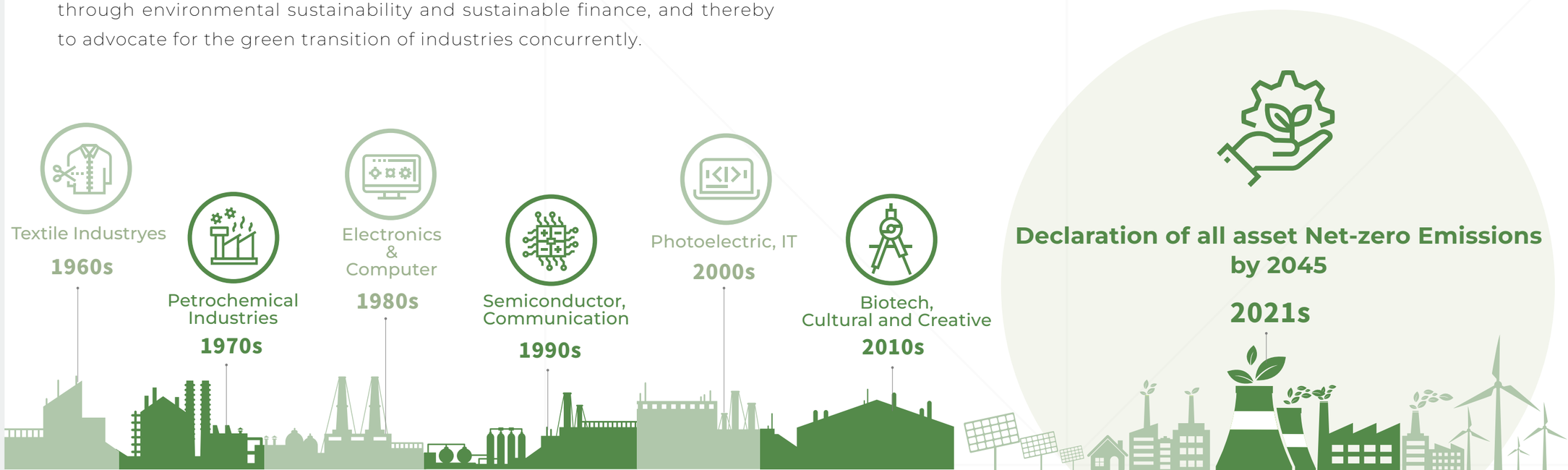
Content 02

Introduction 03

Introduction

Formerly known as the China Development Industrial Bank, China Development Financial Holding Corporation (hereinafter referred to as CDF) has long paid attention to the global industrial trends and fostering of startup companies of all regions, in addition to constantly supporting the industry and economic development of Taiwan through investment and financing. In sum of Taiwan's economic development course, CDF has been involved in the process from the textile industries, petrochemical industries, semiconductor and information high-tech industries since the 1960s, to the biotech, cultural and creative industries of the 2010s. This reveals CDF's close association with Taiwan's economic development and signifies the key role played by CDF in industry promotion. In the future, CDF will implement corporate sustainability and bring its financial influence into full play through environmental sustainability and sustainable finance, and thereby to advocate for the green transition of industries concurrently.

The increasing extreme climate phenomenon plus the scientific proof for the impact of human activities on climate start to draw global attention on the climate change related issues. The Financial Stability Board established the Task Force on Climate-related Financial Disclosures (hereinafter referred to as TCFD) in 2017 and explicitly divided the impact of climate change on finance into "transition risk" and "physical risks" with suggests for the financial institutions to assess the financial impact accordingly. Moreover, the CDF signed the TCFD in December 2018 and complied with the disclosure framework, including four core elements in governance, strategy, risk management, and metrics & targets, with open disclosure in CDF ESG report and TCFD report.



Under the impact of climate change and to meet the goal of controlling the rising temperature within the average 1.5 °C standard before industrialization, CDF became the first financial holding company in 2021 to commit net-zero all assets by 2045, pursuant to the Paris Agreement. CDF complied with the principles of United National Environment Programme (hereinafter referred to as UNEP) to develop the strategic and specific execution acts. We look forward to becoming the industry navigator and lead Taiwan industries to cope and transit towards sustainability.

To achieve the 2045 net-zero commitment, our net-zero transition plan will comply to the four strategic directions of “consideration of conformance to net-zero scenarios,” “complete carbon inventory,” “specific implementation solution,” “and “routine and transparent disclosure.” In 2022, we took initiate to participate in the Science Based Targets initiative (SBTi) based on scientific-based quantitative data plus the forward-looking evaluation, in order to develop reasonable and feasible objectives and execution solutions by stage. CDF and all subsidiaries committed to work towards the carbon reduction targets at various stages, including refusal to provide new financing or investment to businesses in expanding coal mining, coal-fired power plants and coal infrastructure. CDF also plans to gradually decrease and eventually phase out in the investment and financing in the coal mining and unconventional oil and gas industries.

With regards to operation management, we established the Environmental Sustainability Working Group at the Sustainability Committee to develop the internal carbon pricing of all business departments, thereby to improve energy efficiency, low-carbon power and fuel, and the R&D negative emission technology. The follow-up and optimization of carbon reduction management is committed to lowering the carbon reduction equivalent to the net-zero of five branches in 2022 and the net-zero of the headquarters by 2024 as the exemplary building. By 2030, all operation and management will reach net-zero and so the company will become the practical case of the industry with the outcome of net-zero.

With regards to the management of financing, we established the Responsible Finance Working Group at the Sustainability Committee in compliance with the Partnership for Carbon Accounting Financials (PCAF). We completed the 2021 carbon inventory of 100% investment and financing positions of equity, debts, and corporate loans, with complete disclosure of greenhouse gas emission. The configuration of exploratory scenarios on one hand aligns with Paris Agreement and become the specific reference for the planning of transition pathway on the other hand. Under the premise of sustainability, the ratio for green finance and investment is eventually increased, adding 15% of green finance and investment by 2023. We also strengthen the engagement strengthen with clients to lead them towards net-zero, in order to reduce the carbon emission for 50% of the portfolio by 2030, based on the mission of responsible financing and jointly upgrading the total sustainability of Taiwan.

The CDF framework of sustainability governance is established according to the aforementioned execution strategies. The roles in governance and scope of responsibilities are improved through scientific indicator methods from the process of footprint verification to risk assessment. Such quantitative data are implemented to conduct short, intermediate and long-term strategic planning, and thereby develop the sustainability DNA in CDF under the abovementioned framework, introduced to all business divisions for the detection and response to global movements with continuous changes.

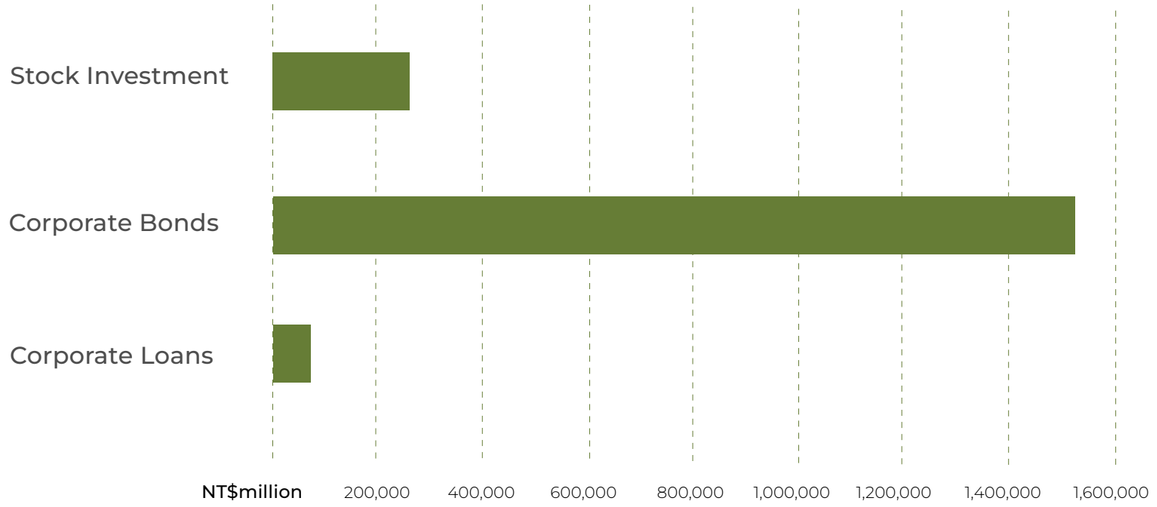
The Report discloses the following data and goals summary.

Climate Strategy Goals

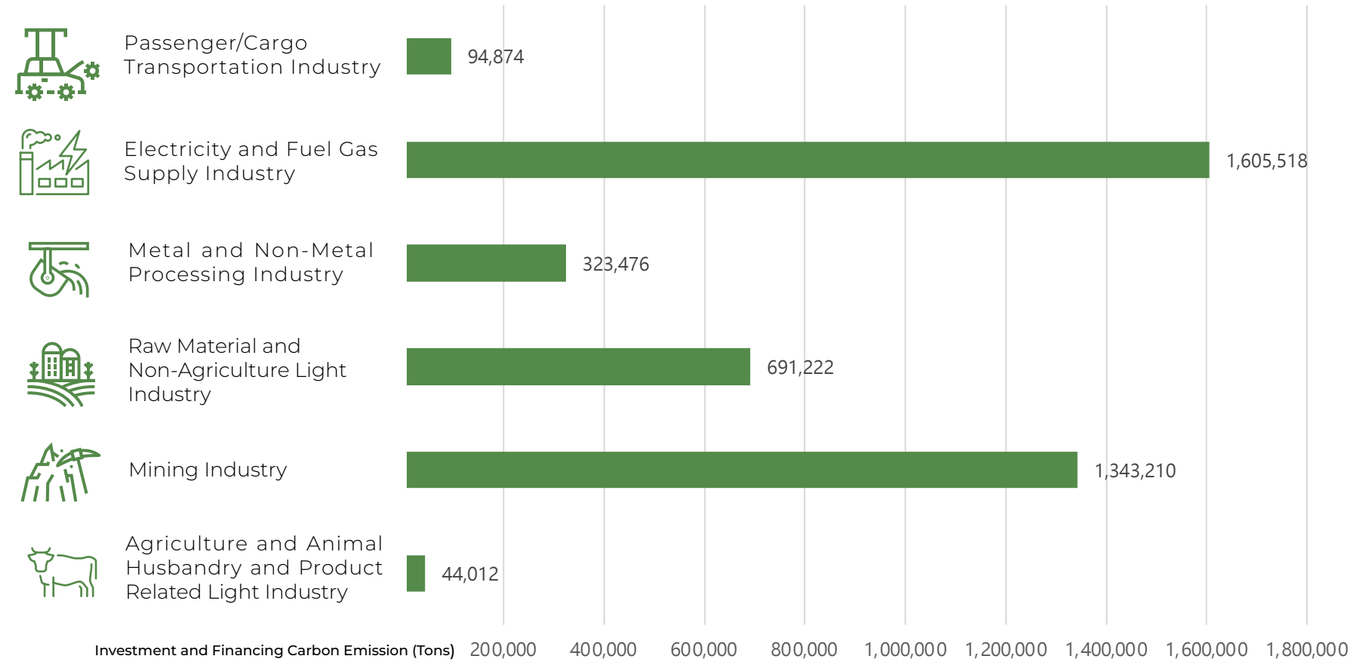
Index/Goals	Content
Carbon Reduction Goals	• Net-zero carbon emissions for its entire asset portfolio by 2045 • Net-zero carbon emissions for own operations by 2030 • Reduce 50% of investment/lending carbon emissions by 2030 • Reduce 25% of investment/lending carbon emissions by 2025
Engagement Goals	• Actively participate in Shareholders' Meetings and issue in-principle disapproval of proposals that impact the portfolio companies' sustainable development or corporate governance or violate ESG standards. • Managers who hold investment positions on the ESG watch list should negotiate with the company on relevant disputes and track the follow-up irregularly
Green Finance Goals	• Achieve net-zero emissions for total portfolio by 2045 (with 2020 as the base year). • Continue to increase green finance and investment, targeting at annual growth of 5%

Asset Status

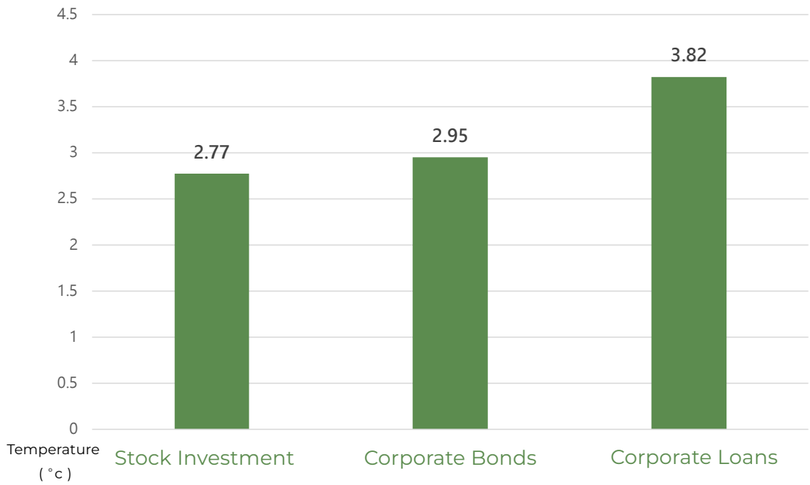
Index/Goals	Content
Scope of carbon inventory	100% investment and financing positions of equity, debts, and corporate loans
Total amount of investment and financing portfolios	NT$1,854,896 million
Asset ratio by category	Risk exposure ratio by asset category



Disclosure of Climate Risks

Index/Goals	Content	
Transition Risk	Total Financed Emission	4,670,481 tCO2e
	Financed Carbon Footprint	2.52 tCO2e/Million
	Data Quality	1.63 points
	Key Industry Carbon Emission Ratio	

Disclosure of Climate Risks

Index/Goals	Content	
Transition Risk	Benefits of Avoided Emissions	387,840.89 tCO2e
	Implied Temperature Rise (ITR)	
Physical Risk	Expected loss of operation nodes	NT$63-171 thousand
	Expected loss of real estate collateral for mortgage	NT$170 – 442 million

Financial Impact Assessment

Index/Goals	Content	
Transition Risk	Expected credit loss of orderly transition scenario	NT$584 million
	Expected credit loss of disorderly transition scenario	NT$536 million
Physical Risk	Expected credit loss of orderly transition scenario	NT$572 million
	Expected credit loss of disorderly transition scenario	NT$480 million

Engagement of Green Finance and investment

Index/Goals	Content
Green Investment Balance	NT$109,813 million
Green Finance Instruments	NT$65,879 million

01

Leader in Transition Finance

Course of Sustainability Action Involvement

2022

- Signed and joined SBTi
- "Corporate Social Responsibility Principles" was renamed "Sustainability Development Principles" and "Corporate Social Responsibility Committee" was reamed to "Sustainability Committee" to implement the objectives of sustainability development.
- Subsidiary KGI Bank signed and joined PCAF.

2021

- Listed in Dow Jones Sustainability Index (DJSI) composition for the second time.
- Public commitment in "2045 Total Asset Portfolio Net-zero Emission"
- Listed in FTSE4Good Emerging Market Index and FTSE4Good TIP Taiwan ESG Index 5 years in a row.
- Subsidiary China Life Insurance certified by the world's first certificate of verification and validation in "ISO14097 Report on Assessing and Reporting Investments Activities Related to Climate Change"

2020

- Listed in Dow Jones Sustainability Index (DJSI) composition for the first time.
- Complied with Principles for Responsible Investment (PRI), Principles for Sustainable Insurance (PSI), and Principles for Responsible Banking (PRB0
- CDF New Building awarded with "Gold-Level Green Building Marks Certificate."Related to Climate Change"

2019

- Participated in six case of renewable energy power generation financing projects, with corporate green energy credit balance reaching NTD20,425 million.

2018

- Signed and joined TCFD

2017

- Listed in FTSE4Good TIP Taiwan ESG Index composition for the first time.
- Issued the first green bond in Taiwan.
- Nearly 100% of major suppliers signed "Supplier Corporate Responsibility Commitment"

2016

- Signed and joined CDP
- Full introduction of ISO 14064-1 standard for quantifying and reporting greenhouse gas emissions with footprint

2015

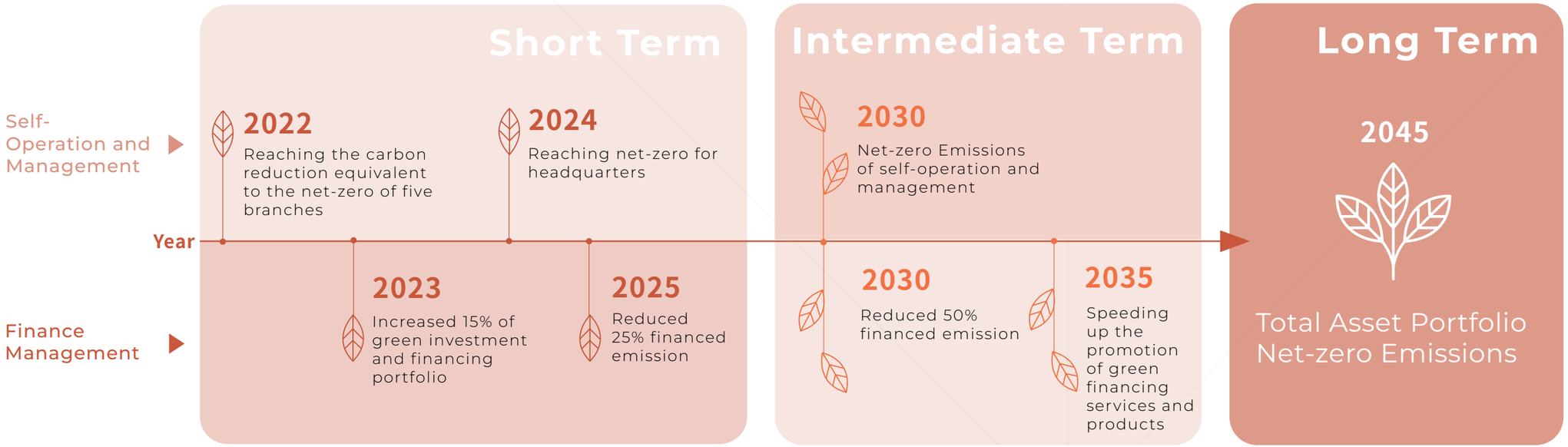
- Compliance with Equator Principles (EP).
- Set up the Corporate Social Responsibility Committee to promote the balance and sustainable development of economic, social and environmental ecology.

1.1 2045 Net-zero Goals

The level of human activities intensifying greenhouse effect and causing changes in earth is a fact that could not be neglected. TCFD also categorizes climate related financial risks into “low-carbon economy related transition risk” and “climate-change impact related physical risk” (TCDF, 2017). CDF has comprehensively introduced greenhouse gas inventory since 2016 and followed the initiatives and objectives of domestic and international carbon emissions over the long run, in addition to assisting with organizational responses to lead the group to shift towards sustainable development.

With regards to goal setting, apart from active response to the international carbon reduction goals for Paris Agreement, in addition to setting up the 2045 net-zero goals as long-term implementation, the goals be stage that can be implemented are the key strategies to accomplish the vision. Such strategies are included in the internal KPI evaluation so that all subsidiaries and the sales departments shall adjust their actions accordingly, including the dimensions in operation management and finance management. With regards to operation management, we expect to reach net-zero in our operation and management for all operation sites by 2030. With regards to finance management, the transition of target by stage can reduce the carbon emission from portfolio. In 2022, CDF has signed and joined the SBTi and shall follow scientific-based principles further in two years, which divides industries and asset categories to refine the emission goal by stage for net-zero.

2045 Total Asset Portfolio Net-zero Emission Goals



1.2 Credible Net-Zero Commitments

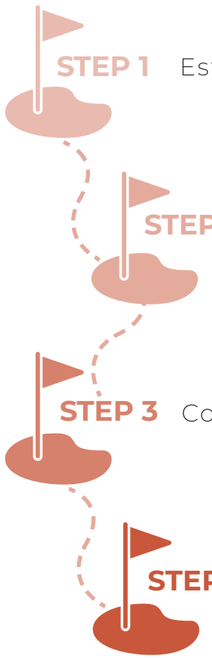
For climate change related risk governance, CDF complies with UNEP FI[1] by proposing the 11 advices in "Recommendations for Credible Net-Zero Commitments from Financial Institutions" to assure the feasibility of net-zero goal set up by the Company while ensuring the relevant action with adequate promotion standards.

[1] United Nations Environment Programme Finance Initiative (UNEP FI): Financial initiatives by UNEP that maintains consistency between economy and sustainable development through the actions of financial system.

Compliance with UNEP FI Towards Net-Zero

Direction of Strategies	UNEP Principles
Compliance with Net-Zero Scenario Configuration	1 Align with science-based, no/low overshoot 1.5°C scenarios 2 Align as soon as possible
Complete Carbon Emission Inventory	3 Establish near-term (ideally five-year) targets 4 Commit to transparent reporting of GHG emissions and their allocation to real-economy inventories 5 Establish an appropriate emission scope, striving for full coverage as soon as possible
Specific Implementation Practice	6 Strive for real-economy impact, enabling the transition 7 Require neutralisation of residual emissions 8 Finance the transition 9 Provide transparency on metrics and underlying scenarios and methods used to classify products as sustainable 10 Identify unique purpose implementation
Periodic Transparent Disclosure	11 Disclose transparently and comprehensively

CDF Net-zero Carbon Emission Goal Setting Schedule



STEP 1 Establish five major strategies for 2045 net-zero carbon emission

STEP 2 Set up different attitudes of goals, including “basic, intermediate and active,” according to the organization condition.

STEP 3 Conduct inventory count on all subsidiaries and for different execution paths according to own situations.

STEP 4 Validate the transition status of all subsidiaries through periodic monitoring and adjust the strategies and actions.

In compliance with the 11 principles, CDF implements the execution projects of net-zero emission in four strategic directions and completes the execution scheduling through four stages of process: establish strategic goals, set up attitude goals, develop proper transition routes, and periodically monitor.

The following describes the corresponding action to the four strategic directions of “Credible Net-Zero Commitments:”

1 Compliance with net-zero scenario Configuration

For net-zero scenario setup, CDF is committed to reach total asset net-zero in its operation management of Net-zero Emissions by 2030 and total asset net-zero by 2045, in addition to signing and joining SBTi. Pursuant to the principles of initiatives, we target at the 1.5℃ scenario resolved by Intergovernmental Panel on Climate Change (IPCC) and “Paris Agreement” as the objectives and route of carbon reduction, in order to reach net-zero before 205o. Additionally, CDF developed high-carbon emission industries and the relevant policies to lower its investment and financing ratio according to TCFD and domestic and international principles, recognized by Environmental Protection Administration, Executive Yuan of R.O.C. and the Sustainability Accounting Standards Board (SASB). For example, the suspension of new contracting coal mining by 2025, coal-fired power plant related investment and financing plan, the gradual decline and eventually withdrawal of non-standard petroleum related industries, and the concurrent upgrade of green financing ratio, the introduction of EGS evaluation in business process to take active action, lower absolute carbon emission, and compliance with net-zero scenario setup.

2 Complete carbon emission inventory

In spite of the relatively lower GHG emission by financial institutions from direct operations, CDP research report reveals that the financed emissions are at least 700 times that of its operation emission mainly due to the investment and financing conducts of financial units. Hence, the financial nits play certain role and function in assisting physical economies towards low-caron transition. The first step to implementing net-zero is the establishment of inventory capacity and the periodic follow-up on the inventory results.

CDF adopted the standard inventory provided by PCAF since 2021 and completed the carbon emission disclosure of 100% equity investment, corporate bonds, and corporate loans. In the future, CDF will eventually conduct inventory on other asset categories to upgrade the inventory coverage rate and continue the optimization of data quality. To engage in immediate conduct, CDF takes consideration of Net-Zero Owner Alliance (NZAOA) in the development of intermediate (2030) and short (2025)-term goals for the principles for setting up goals in investment and financing portfolio, namely recommending “carbon reduction by at least 16%~29% between 2020 and 2025.”

CDF is projected to reduce 25% of high-carbon emission investment and financing without transition by 2025, using 2020 as the base year. In the next five years, the average financed emission will be reduced by 5% annually. All inventory results will follow public and transparent principles and be disclosed on the report each year. See Chapter 3 for all inventory results for financed emissions.

3 Specific implementation method

The proposal of specific transition policies will help related departments with designing the implementation method. CDF mainly adopts emission reduction and compensation outside of value chain plus the neutrality measures to jointly form the mitigation strategies. CDF also refers to the recommendation for specific transition policies provided by NZAOA to establish diversity of channels and implementable conducts. We project to introduce principles of carbon management in the investment and financing review process to encourage real economies in the participation of low-carbon transition through the engagement mechanism, increasing the low-carbon technology ratio in the overall industries. After establishing the "Responsible Finance" working group in 2020, we also proposed commitment of sustainability finance to transition funds for companies intending to implement net-zero transition, including the supply of funds and preferential interest rates, design of sustainability linked loans, specification on the carbon emission intensity of Counterparty , and focus on specific products and services. For example, carbon capture and storage, and carbon sequestration.

CDF plans investment in special technological transition fund to promote acceleration of net-zero transition, and contacts with companies holding negative carbon emission technology in forestry and renewable agriculture to apply negative emission effect on the final residual carbon emission of neutrality through investment and collaboration. With regards to financial instruments, CDF complies with Taiwan taxonomy regulations for incorporation of investment and financing classification with applicable marking on the products and services, strengthening the communication with stakeholders and reducing concerns. CDF incorporates net-zero carbon emission actions in its operation process and implements low-carbon transition through design of products and services, and policies for sustainable finance and investment. Refer to Chapter4 on “Co-Establish Sustainable Economy” for sustainable finance and investment relate policies and statement of commitments.

4 Periodically transparent disclosure

Low-carbon transition is a global common goal and therefore financial institutions should independently and publicly disclose the annual progress in compliance with the net-zero goals. CDF complies with scientific climate scenarios and emission of asset levels to disclose the inventory results of GHG emission, including the direct and indirect GHG emission, and financed emission. Moreover the financed emission shall be disclosed by asset categories, subsidiaries and industry categories respectively while CDF should disclose its transition goals, including the methods of selecting goal setup, targeting year, description of goals, goal accomplishment and the accomplishment rate. CDF establishes the specific action for goal implementation using SBTi, which establishment of low-caron transition pathway aligns with Paris Agreement.

1.3 Five Strategies to Net-zero

According to the advices given by UNEP FI as principles towards net-zero goals, CDF further proposes give net-zero execution strategies: Compliance with UN standards, engagement targets, sector targets, portfolio emission targets, transition targets, and subsequent planning procedure, as the framework covering all levels and implementation of internal operations, thereby facilitate the recommendation of specific quantitative objectives with periodic monitoring and review.

In consideration of organizational structure and implementation from parent company to subsidiaries, the five execution strategies focus on the self-compliance of NZAOA while the Sustainability Committee integrates and plans the organization, the Sustainability related departments conduct situation comprehension and collection of domestic and international study cases to compile internal/external data and draft the preliminary proposition of governance framework. CDF also establishes the goals for different attitudes, set up the ratio of execution ratio by all subsidiaries, and the specific quantitative objectives in all strategies. Subsequently, the risk assessment office and the ESG Team of group marketing and planning office shall jointly design the execution plan through reviewing, giving feedback, and correcting the plan, thereby to communicate and collaborate with the relevant departments of all subsidiaries. The top-down goal formulation and bottom-up execution feedback offers consistent goals to different operations of the group without losing the consideration of practical execution.

Five Strategies to Net-zero and the Planning Procedures

Five strategies and procedure for Coordinating with subsidiaries

Prior to implementing to the execution level of all subsidiaries the five strategies are complied to establish the specific carbon reduction goals for each year or each stage. The addition of quantitative data helps the top-down introduction to all execution levels with periodic inspection and follow-up.

Compliance of UN Standards

1 In compliance with the principles of NZAOA goal setting and recommendation for disclosure, and compliance with financial related international standards, including “Principles for Sustainable Insurance (PSI),” “Principles for Responsible Banking” and “Principles for Responsible Investment (PRI).”

Engagement targets

2 Engage with specific objects, gradually increase the engagement coverage rate, and actively guide clients towards the direction of sustainability and net-zero, and provide sustainability link related financial services.

Sector targets

3 After understanding the carbon emissions and environmental impact of the sectors, define the company related high-carbon emission industries in compliance with legal requirement, to set up the goals of investment and financing proportion in order to reduce the financed carbon footprint and carbon emissions of CDF.

Portfolio emission targets

4 To achieve all portfolios aligned with the Paris Agreement, subsidiary goals will be set at the same time and the Group is making all efforts to accomplish phased goals.

Transition targets

5 CDF aims to achieve net-zero carbon emissions in its own operations by 2030, significantly increase the proportion of green finance and investment in its business

CDF Goal Setting

Five Strategies	Goals	
Compliance of UN Standards	◆ In compliance with the principles of NZAOA goal setting and recommendation for disclosure, and compliance with financial related international standards, including “Principles for Sustainable Insurance (PSI),” “Principles for Responsible Banking” and “Principles for Responsible Investment (PRI).”	
Engagement Targets	◆ Actively participate in Shareholders' Meetings and issue in-principle disapproval of proposals that impact the portfolio companies' sustainable development or corporate governance or violate ESG standards. ◆ Managers who hold investment positions on the ESG watch list should negotiate with the company on relevant disputes and track the follow-up irregularly	
Sector Targets	◆ After understanding the carbon emissions and environmental impact of the sectors, with a sustainable future in mind, CDF has formulated the investment and financing strategies of the sectors and carbon footprint goals.	
Portfolio emission targets	◆ Achieve net-zero emissions for total portfolio by 2045 (with 2020 as the base year). ◆ Reduce high-carbon emission based investment and financing portfolios and reduce carbon emission by 25% by 2025 and by 50% by 2030 (with 2020 as the base year).	
Transition targets	Self-Operations	◆ Achieve net-zero emissions for own operations by 2030 (with 2020 as the base year). ◆ Continue to save energy and reduce carbon, and increase the proportion of green electricity to achieve carbon reduction equivalent to five net-zero branches by 2022.
	Finance Related	◆ Continue to increase green finance and investment, targeting at annual growth of 5%

After validating the overall low-carbon transition goals and related execution and operation departments of the group, conducting climate-related indicatory inventory becomes the first step to understanding the current situations. The execution and evaluation methods shall be defined according to TCFD transition risk and physical risk, which will be described in more details in Chapter 3. After taking over the current inventory and analysis results as well as completing the goal setting, sets up goals and allocates to all subsidiaries by proportion, according to the procedures for climate risk management. CDF starts with climate risk identification to collect all types of risks and selects major climate risks for description, conducting scenarios analysis and evaluation. CDF then discovers in-depth the potential operation impact and opportunities to set up the risk response strategies under low-carbon transition pathway, and eventually implementing to the specific execution goals and subsequent follow-up monitoring of all subsidiaries.

18
19
20

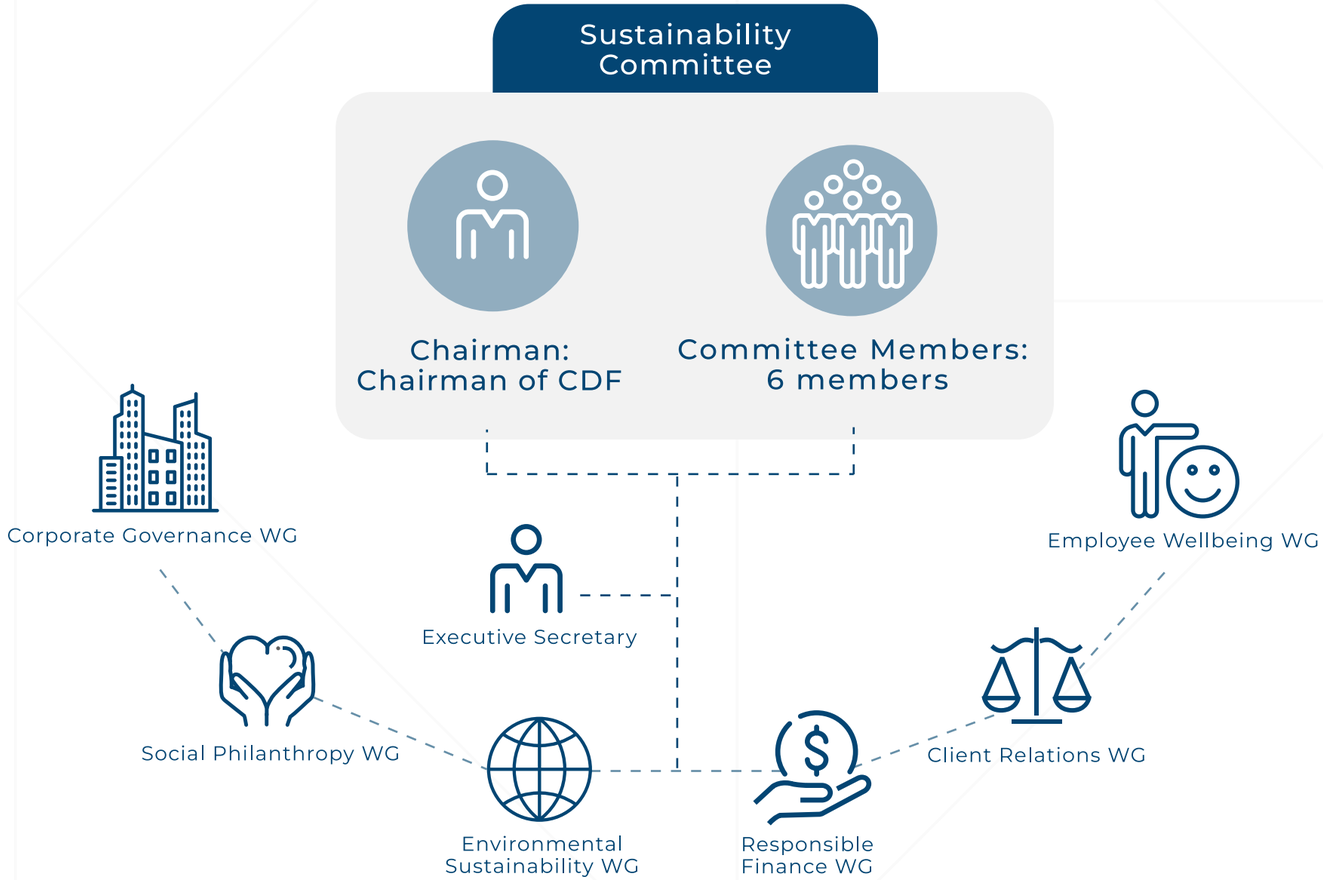
02

Governance in Climate Sustainability

2.1 Organizational Framework of Climate Governance

To implement carbon reduction goals, and effectively execute and follow up the monitoring of carbon reduction route, CDF established the Sustainability Committee under the existing organizational structure, which belongs to the Board of Directors as the Risk Management Committee. The Sustainability Committee chairman takes charge of the formulation and compliance standards related to climate governance. The Risk Management Committee adopts three levels of protection, from business division, management division to auditing division, to incorporate climate governance with existing risk operation process to upgrade corporate sustainability value through systematic risk management mechanism and culture.

Organizational Structure of the Sustainability Committee



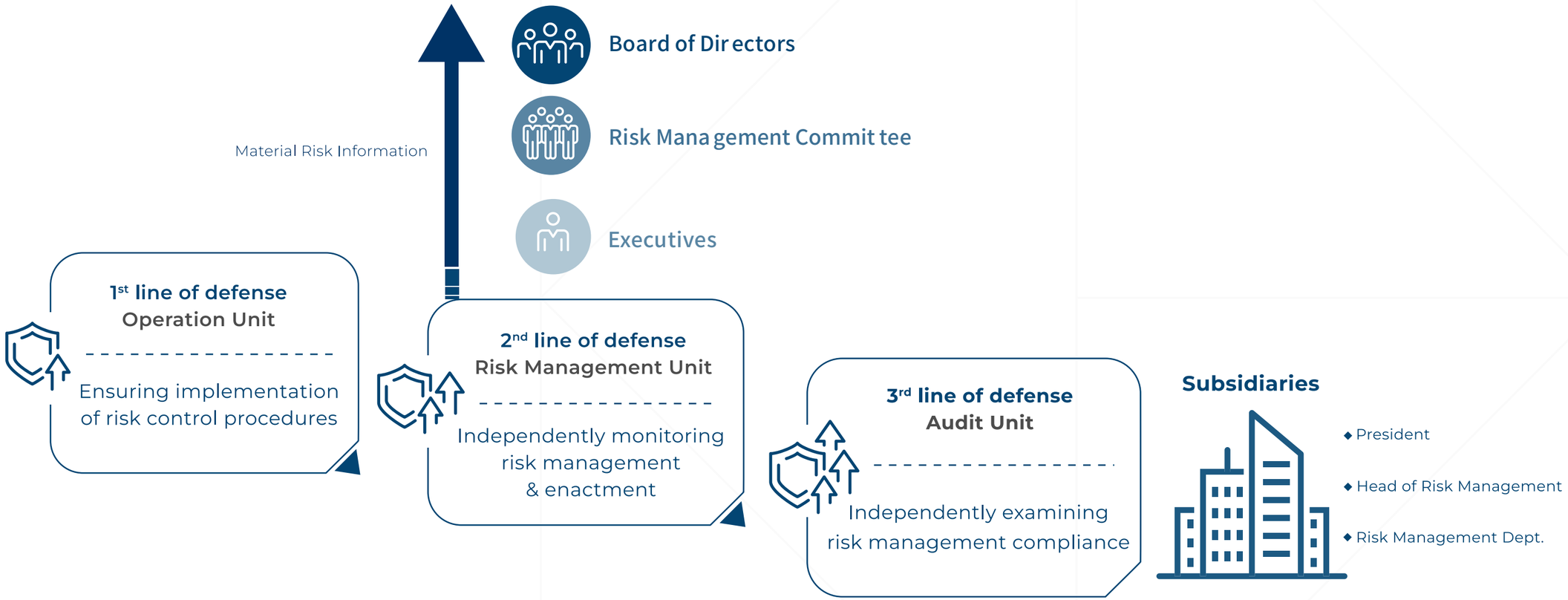
To better plan and execute sustainability related strategies, the Company renamed the Corporate Responsibility Committee under the Board of Directors to Sustainability Committee in 2022, thereby to establish six teams in environmental sustainability, responsible financing and others as well as to exhibit its determination in sustainability promotion. The Sustainability Committee is delegated by the Board of Directors to take charge of the planning of the overall sustainability issues and setup of carbon reduction goals.

The chairman takes office of the chairperson while the key climate risk assessment and decisions are subject to the periodic monitoring for the risk brought by climate and the governance of opportunities. The main tasks of Sustainability Committee include the actions plans in reviewing sustainability goals and guidance for work teams.In the six major climate related work teams under governance, senior supervisors acts as the team leader to collect and formulate climate-related indicator and goals of risks and opportunities agenda, grasping the direction of major climate issues over the long run, monitoring the subsidiaries with establishing climate mitigation and adaptation action measures through continuous improvement and sustainability action to introduce actual climate change into the business and management process.

2.2 Organizational Framework of Risk Management

The Company establishes complete risk management structure to cover the risk governance and policy drafting launch, risk identification measurement, risk management and risk reporting and monitoring. The Board of Directors act as the role for supervision and final responsibility. The Risk Management Committee notonly has to review, evaluate and monitoring the execution of risk management but also periodically report to the Board of Directors. Risk management adopts three levels of protection structure, where the first level of protection is the daily risk control conducted by the business division, implementing risk management regulations. The second protection is conducted by the risk management department that independently monitors the corporate risk related formulation and planning with supervision on the coordination and execution from the subsidiaries, providing risk information needed by Risk Management Committee and Board of Directors. The third protection consists of the auditing unit independently reviewing various risk management mechanisms in plan execution departments with audit on the compliance and execution. Additionally, all major subsidiaries set up risk control chief and risk management office to supervise and monitor the risk control matters of subsidiaries in addition to introducing climate change related risks into risk control mechanism.

Three levels of protection for CDF Risk Management



2.3 Procedures for Climate Risk Management

Steps and Procedures for CDF Climate Risk Management

1 Risk Identification
Compile data through historic events, domestic and international climate agenda and trends to identify the impact route for major climate risks, record risk dimension, risk type, and risk description.

2 Risk Evaluation and Assessment
Introduce climate risk assessment model to conduct scenario analysis and complete the quantitative assessment of climate change on the impact and potential opportunities of business.

3 Risk Strategies
Adopt mitigation, transfer, endurance, or control strategies according to the results of quantitative assessment and organizational status, and establish mitigation and adaptation action plan.

4 Goal Setting
Develop the specific organizational goals and indicators according to the low-carbon transition route and results of risk strategy formulation, in order to further allocate goals to all subsidiaries.

5 Goal Monitoring
Periodically monitor risks and opportunities of organization to validate the on-time accomplishment of goals by stage.

The scope of risk climate management includes risk identification, risk measurement and assessment, risk strategy formulation and goal monitoring. Under the TCFD disclosure framework, climate risks are divided into physical risks and transition risks. Data compilation is conducted through historic events, and trends in domestic and international climate agenda to identify the routes of major climate hazard impacts. The risk dimension, risk type and risk description are recorded to introduce the physical risk assessment model and transition risk calculation principles for scenario analysis, and thereby evaluating the impact on business and the potential opportunities. The reference data for mass production at this stage will help with the risk strategy setting for the next stage, which shall establish the mitigation and adaptation action plan under the route of sustainability transition. Meanwhile, the specific goals and indicators are formulated as the reference on long-term follow-up and review.

03

Climate Risk Assessment

Transition Risk

KGI Bank
KGI Securities
China Life
CDIB Capital

Equity Investment
Bond Investment
Credit Investment

Domestic／Foreign Top 20 Debt Position

PCAF Financial Asset Carbon Emission Calculation Method → Investment and Financing Carbon Emission Data, Avoid Carbon Emission Data

Expected Credit Loss Assessment Model → Expected Credit Loss Assessment Model

Implied Temperature Rise Index ITR Methodology → Investment and Financing Portfolio ITR

Physical Risk

KGI Bank
KGI Securities
China Life
CDIB Capital

Operating Office
Collateral Against Mortgage
Domestic Top 20 Debt Position

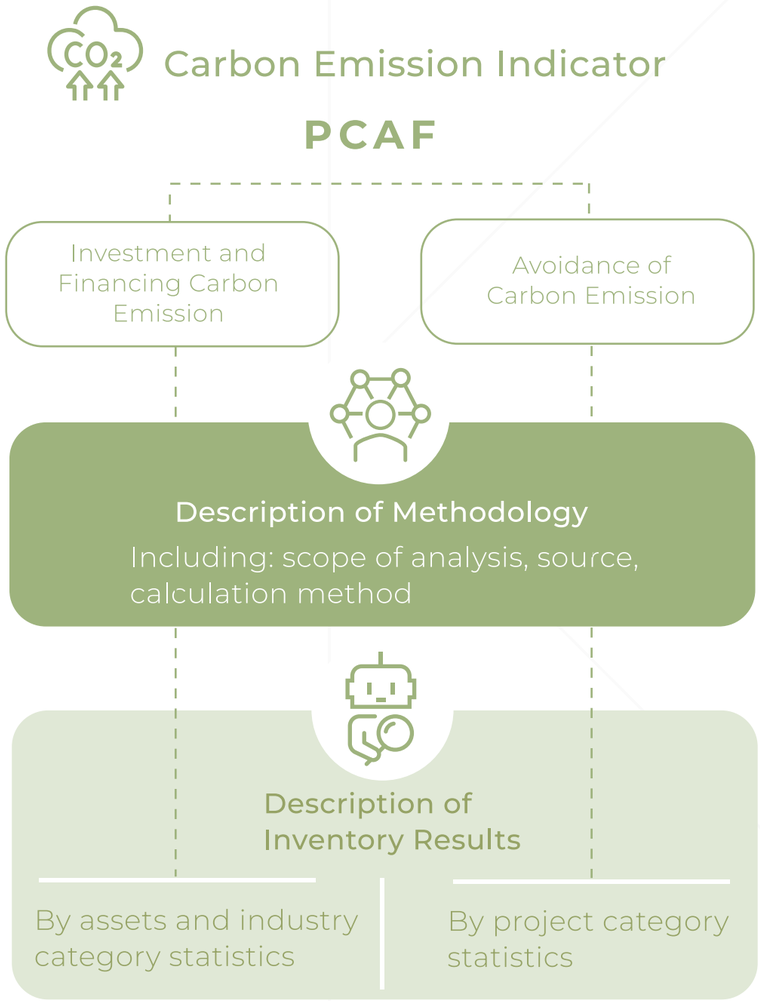
Climate Hazard Assessment Model

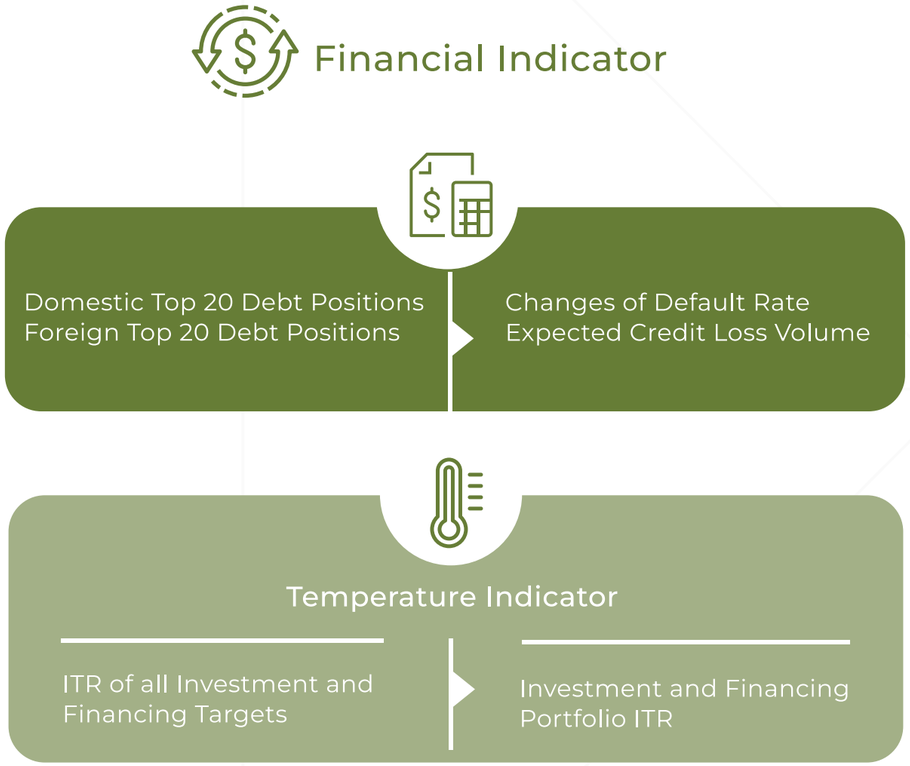
Financial Indicator Assessment Model → Revenue Loss Volume, Collateral Value Impairment

Expected Credit Loss Assessment Model → Expected Credit Loss Volume

3.1 Transition Risk

Transition risks mostly are risks related to policies, legal, technology, and market changes due to trends of low-carbon economy. With regards to transition risk assessment, CDF mostly emphasizes on financed emission inventory with links for carbon mission from portfolio and the carbon price under low-carbon transition scenarios, and thereby further evaluate the expected credit loss. Additionally, CDF also calculates the implied temperature rise indicator from the portfolio as the quantitative indicator for subsequent monitoring of portfolio.





3.1.1 Carbon Emission indicator

1.Investment and Financing Carbon Inventory

a. Description of Methodology

CDF adopts the inventory standards method provided by PCAF to conduct “financed emission inventory” on the portfolios of four subsidiaries. This indicator can be used to assist CDF with the evaluation on the financed emission caused by each unit of investment and financing line. This indicator also can be applied to the analysis of industries and investment with high financed carbon footprint, thereby used as the reference for the subsequent performance appraisal and investment and financing strategy planning. The scope of inventory is based on December 31, 2021, which includes the listing and non-listing equity investment, bond investment, and business loans of all subsidiaries, with the scope reaching 100%. The portfolio is based on existing holding and refers to the two asset categories of PCAF on the inventory of “Listed Equity and Corporate Bonds” and “Business loans and unlisted equity”.

According to the inventory standards provided by PCAF, the “Attribution Factor” and the “scope 1+2 Emission” are multiplied as the financed emission for a single investment and financing target. The “Attribution Factors” represent the “Proportion of the Investment and Financing Line of Financial Institutions to the Corporate Value of counterparty ,” while the “scope 1+2 Emission of counterparty can estimate the GHG emission using “disclosed carbon emission data” or based on “physical activities” and “economic activities.”

The following source is the data on the transaction parties of investment and financing collected by CDF	
Counterparty in Taiwan	• Financial Report of Listed and OTC Companies — Using PCAF suggested data from Yahoo finance databased for most public information
	• Financial Report of Non-Listed and OTC Companies — Acquired through engagement or credit required documents with clients
	• GHG Emission of Company — Data mostly from public data, including the CSR/Sustainability Report issued by enterprises, MOPS, and GHG reduction platform
Counterparty in other country	• Financial Report of Counterparty — Primary source includes Bloomberg and MSCI database
	• GHG Emission of Counterparty — Primary source from MSCI database

When the GHG emission data could not be acquired from the counterparty, CDF would estimate based on economic activities and multiple the revenue of the counterparty with the industry carbon emission factor to complete the estimation. The following generation method is based on the industry carbon emission factor:

Industrial Emission Factor :

Compile statistics on the companies in Taiwan already disclosed GHG emission to calculate the average GHG emission per each unit of revenue for all companies by industry category, as the average industrial emission factor.

Different estimation of carbon emission results in different error and hence CDF will weigh the estimation based on the outstanding amount, thereby to calculate the data quality of portfolio, improve quality objective and reduce error in inventory results. The following data correspond with the description provided by PCAF inventory standards (the lower the score suggests the higher the quality):

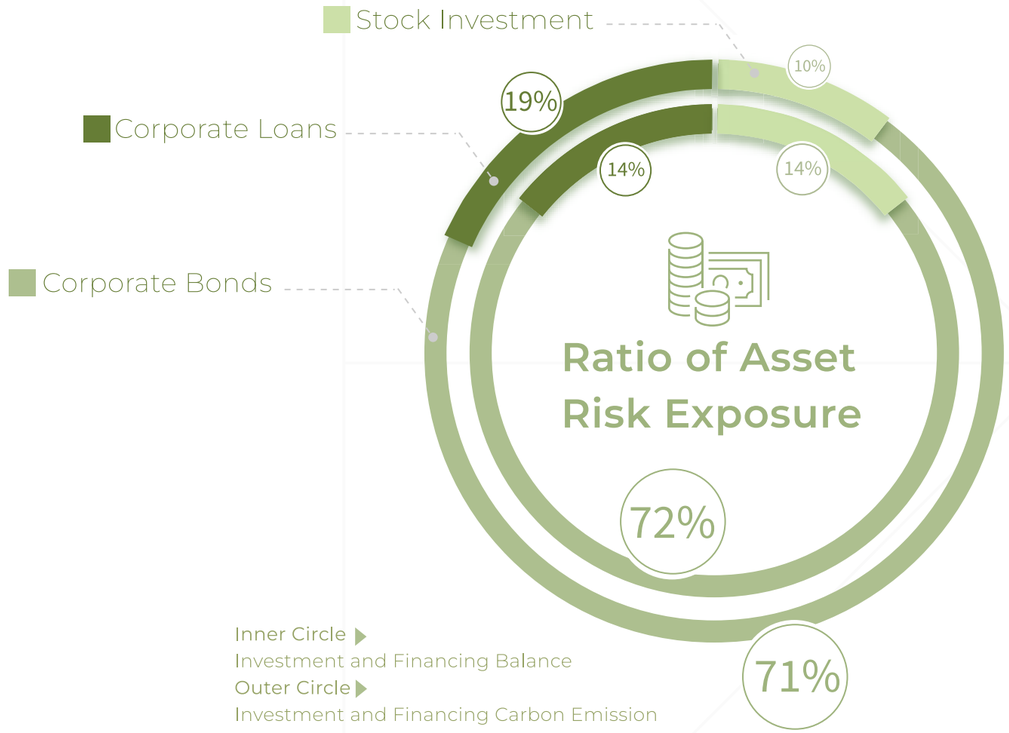
The following data correspond with the description provided by PCAF inventory standards (the lower the score suggests the higher the quality)

Inventory Principles	Inventory Method	Data Quality	Methods Adopted by CDF
Reported emissions	1a Verified GHG emissions	1	✓
	1b Unverified GHG emissions	2	✓
Physical activity-based Emissions	2a Estimated by energy consumption	2	
	2b Estimated by primary physical activity data for the company's production	3	
Economic activity-based emissions	3a Estimated by corporate revenue	4	✓
	3b Estimated by the asset emission of the sector	5	✓
	3c Estimated by the asset turnover ratios for the sector	5	

b. Description of Inventory Results

CDF conducted inventory on the financed emission at the end of December in 2020 and 2021 respectively. According to the inventory results, the total asset portfolio net-zero goals for 2045 have been formulated with annual reduction of 4.3% emission incorporated in the internal KPI review, in order to promote the collaboration between the business unit and counterparty for low-carbon transition. The following is the inventory analysis outcome of CDF:

As of end of December 2021, the total of portfolio consisting equity investment, bond investment and business loan was NTD1,854,895.94 million and financed emission was 4,670,481 tCO2e, with financed carbon footprint of 2.52 tCO2e/million. The data quality are 1.63 points.



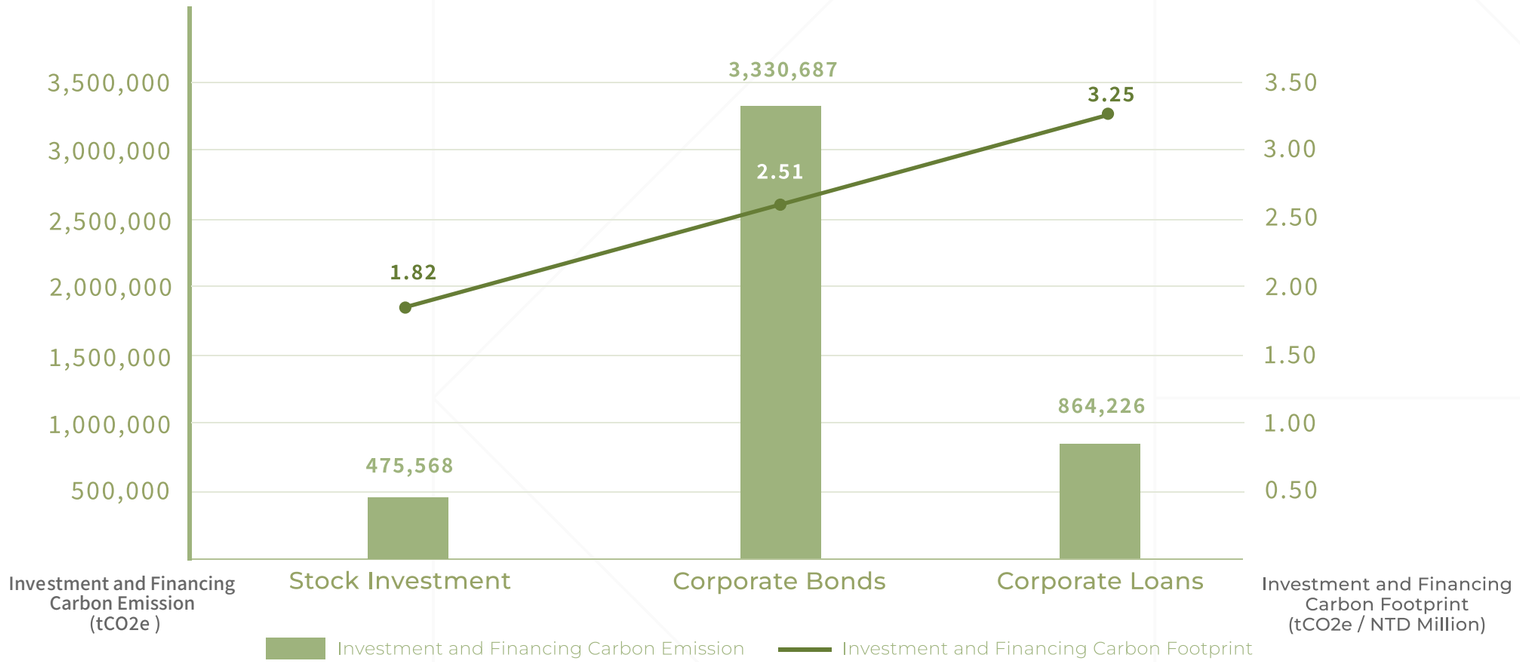
(1) Comparison of inventory results for end of December 2020, end of June 2021, and end of December 2021

The analytical results of diagram and data show that the financed emission and carbon footprint both declined significantly in 2021. Due to the non-significant change in portfolio, the main reason comes from the improvement on data quality and inventory scope.

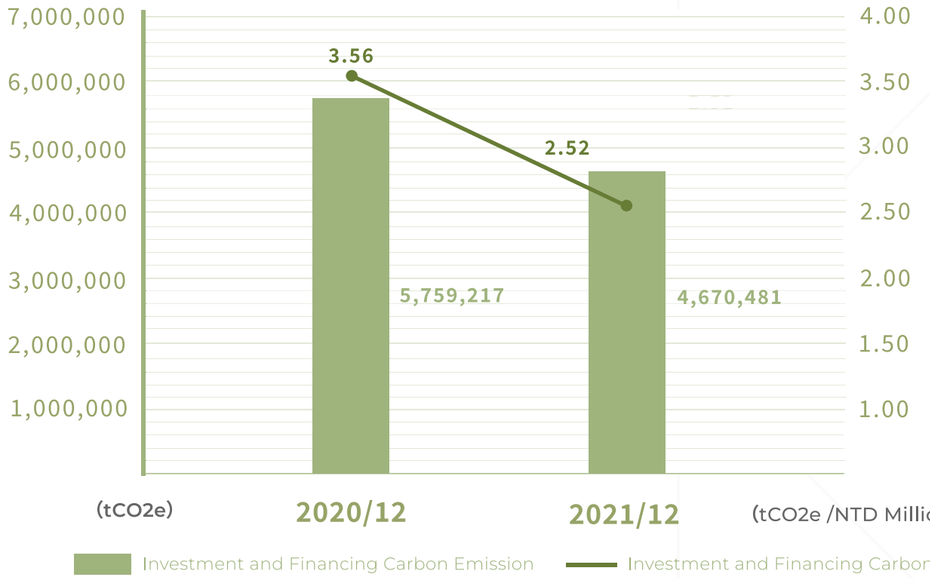
The comparison of inventory results in December 2020 and December 2021 shows that the financed emission and carbon footprint declined. Although the coverage rate for 2020 was lower, the credit line position was given priority before the inventory on high-carbon emission industry with lower date completion, which results in larger outcome in 2021 calculation.

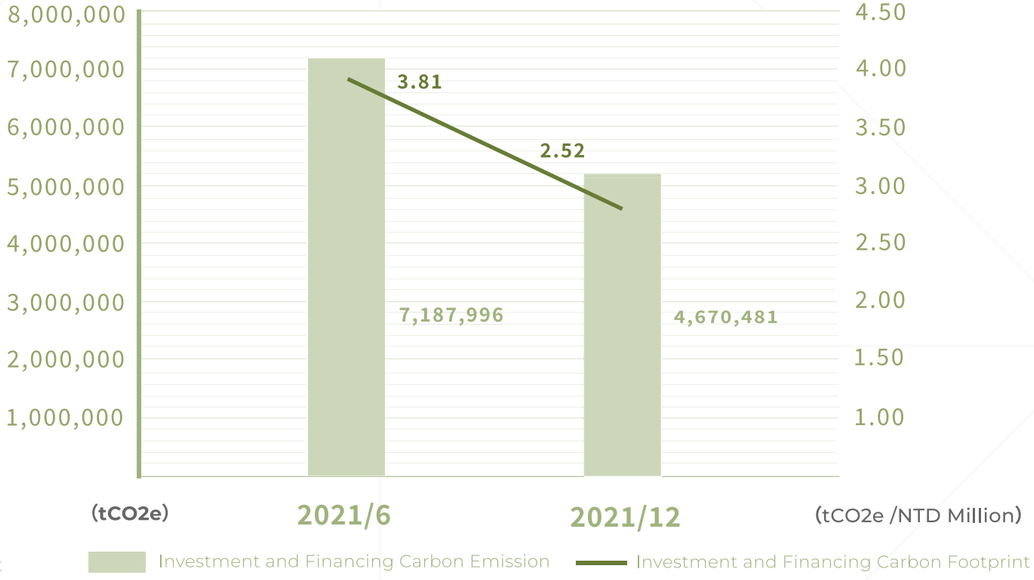
The comparison of inventory results for June 2021 and December 2021 shows that the inventory coverage rate for equity, bonds and business loans reached 100%. The completeness of data collection for June 2021 is lower and thence the emission and footprint are higher. The subsidiaries have completed the data of counterparty when conducting inventory on the position in December 2021 in order to improve the data quality and lower the financed emission to approximately 4.67 million tCO2e.

2021 Investment and Financing Portfolio Inventory Results



Investment Portfolio Carbon Emission/Carbon Footprint





The observation on the financed carbon footprint for all asset categories shows that the business loan is higher compared with other assets, which could be inferred the counterparty of business loans are mostly SMEs with inadequate data completion. Hence the inventory results could have been over-estimated. It is suggested that the engagement strength of the loaning parties could be reinforced with requirement on data collection to encourage the counterparty with conducting carbon inventory and low-carbon transition.

(2)Macro Analysis of Top 10 Carbon Emission Industries

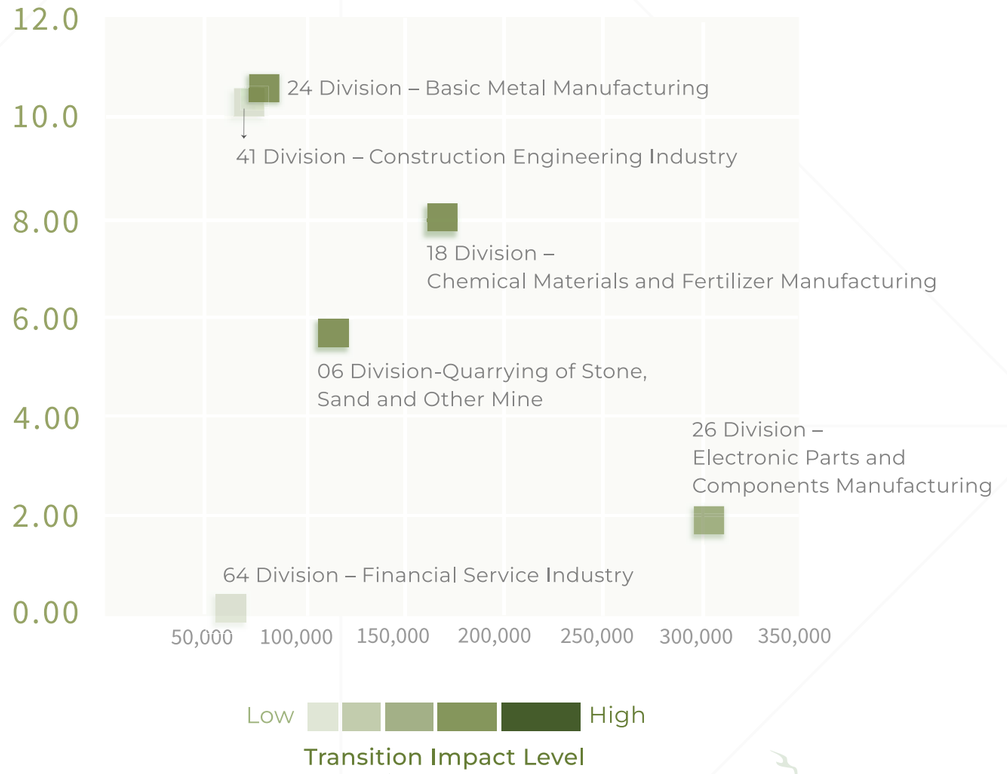
Diagram Description：

The analysis of the top 10 industries of financed emission in portfolios by financed emission (tCO2e) and by financed carbon footprint (tCO2e/NTD million) are prepared into scatter plot in five colors according to the level of impact on the industries.

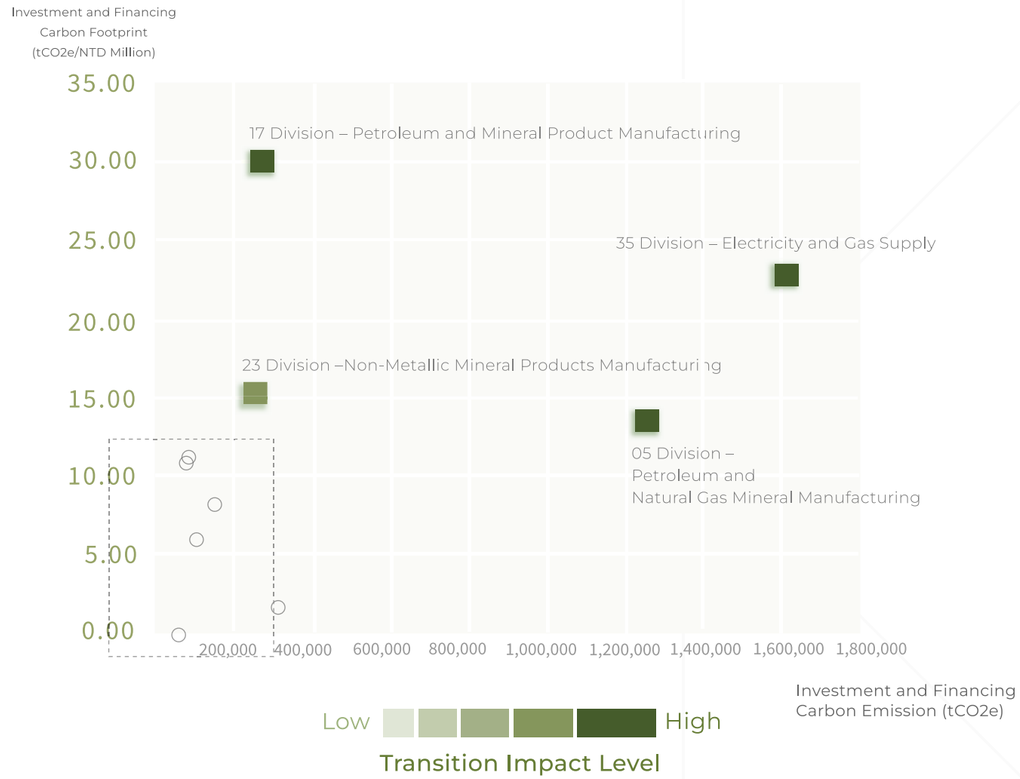
- **Colors of Scatter Plot:**
  Industries are divided into five groups according to the average emission factor of industries, where colors indicate the level of transition impact.

- **X Axis:**
  Financed Emission (tCO2e)

- **Y Axis:**
  Financed carbon Footprint (tCO2e/NTD Million)



Top 10 Industry for financed emission

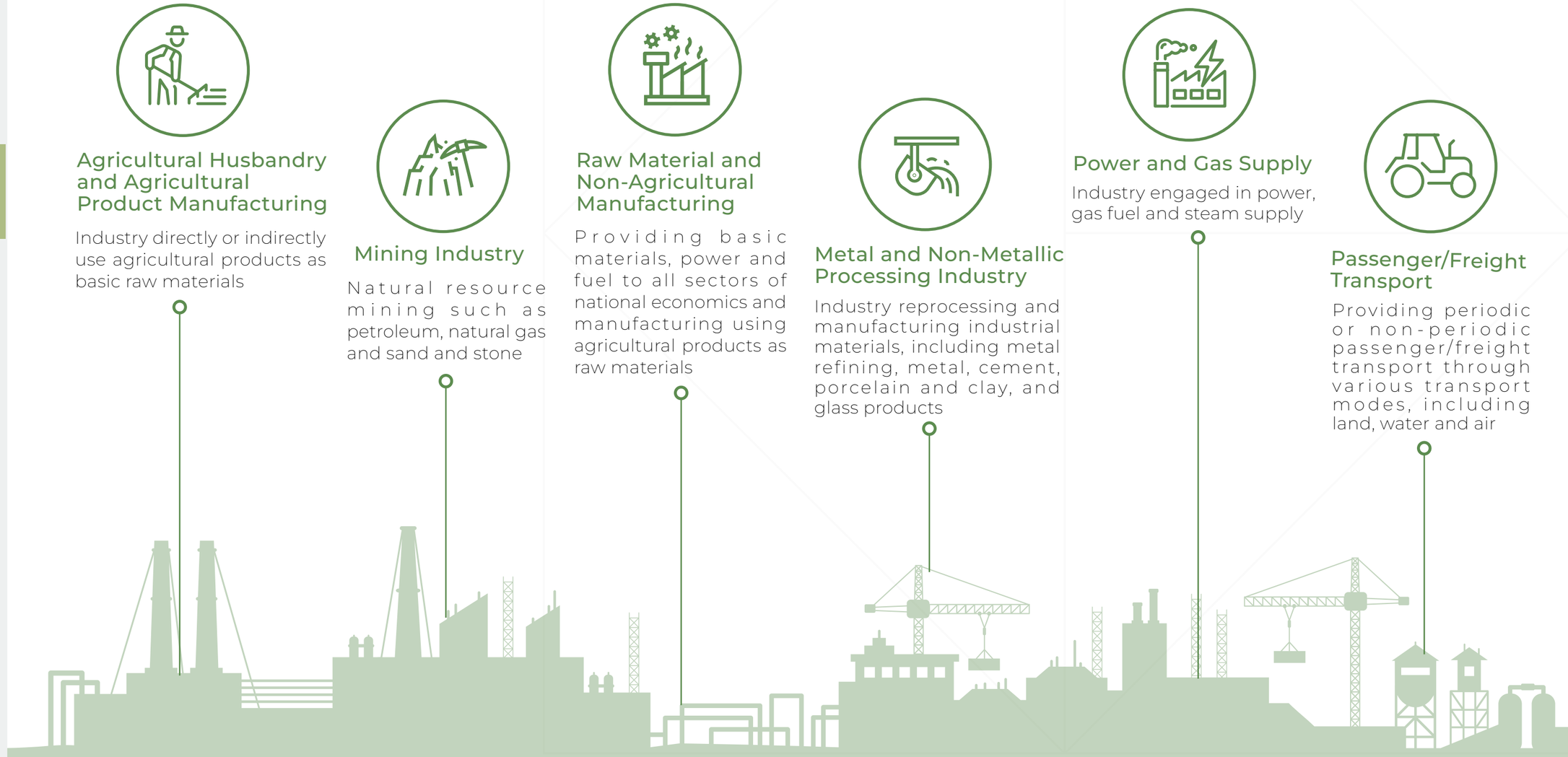


According to the above drawing, “Category 35 Electricity and Fuel Gas Supply Industry” and “Category 5 Petroleum and Natural Gas Mining Industry” are the industries with large emission and high level of impact. Additionally, “Category 17 Petroleum and Coal Product Manufacturing Industry” and “Category 23 Non-Metal Mining Product Manufacturing Industry” contain certain amount of carbon emission with financed carbon footprint over 12tCO2e/Million. Apart from the four industries of sources of major carbon emissions, the other six industries at the left corner of the drawing are industries of high emission but carbon footprint relatively insignificant.

CDF consolidate table information and refer to TCFD guidelines and domestic/international key industry standards to list the industries with large carbon emission and impact level as the key industries for the group. These industries are also incorporated in the de-carbonization process and consideration of sustainable finance to continue expansion to subsidiaries and being the influence of financial holding into full play.

(3)Analysis of Key Industry

CDF takes the high climate risk industries defined by TCFD and the domestic/international policies and standards as reference to ultimately define the six major key industries as follows:



Agricultural Husbandry and Agricultural Product Manufacturing

Industry directly or indirectly use agricultural products as basic raw materials

Mining Industry

Natural resource mining such as petroleum, natural gas and sand and stone

Raw Material and Non-Agricultural Manufacturing

Providing basic materials, power and fuel to all sectors of national economics and manufacturing using agricultural products as raw materials

Metal and Non-Metallic Processing Industry

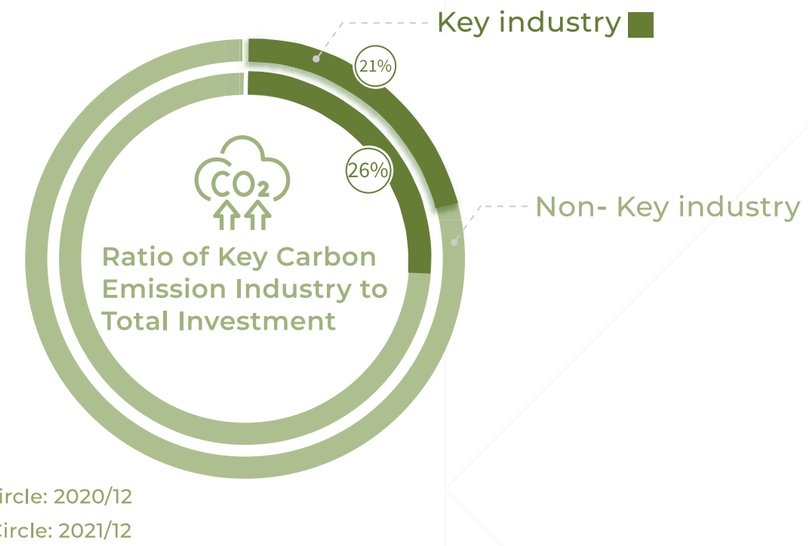
Industry reprocessing and manufacturing industrial materials, including metal refining, metal, cement, porcelain and clay, and glass products

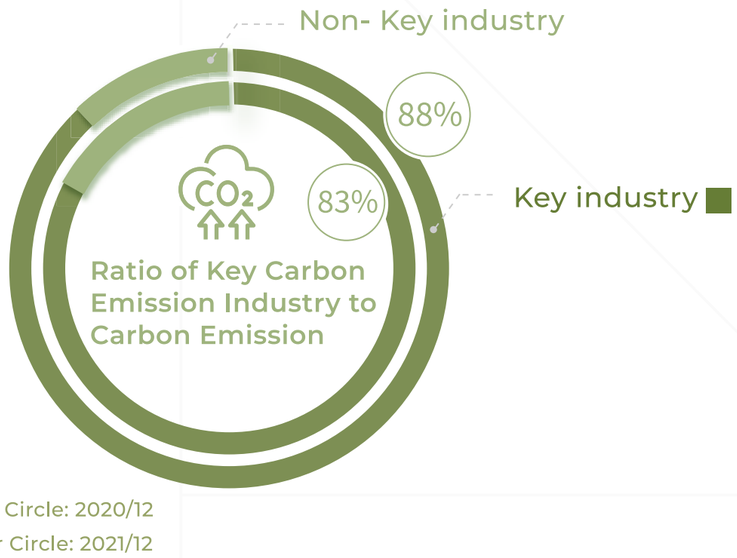
Power and Gas Supply

Industry engaged in power, gas fuel and steam supply

Passenger/Freight Transport

Providing periodic or non-periodic passenger/freight transport through various transport modes, including land, water and air





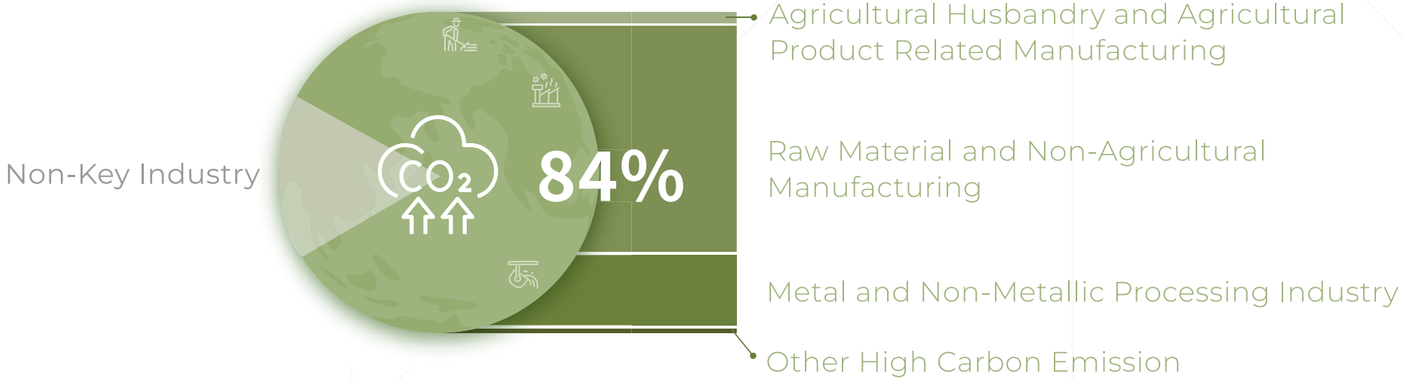
- The portfolio exposure in 2021 under the key carbon emission industries account for 21% of total emission, down about 5% compared with previous year.
- In terms of investment and financing balance, the balance was up in 2021 compared with that of 2020, indicating that CDF, regardless of in ratio or the actual amount, has gradually reduced the investment and financing in high-carbon emission industries. Except for function of sustainability commitment considered bring brought into full play, performance incorporated into KPI also becomes one of the benign incentives for carbon reduction.
- In 2021, the financed emission for key industries accounted for 88% of total financed emission and only 21% of investment amount.
- In 2020, the financed emission for key industries accounted for 83% of total financed emission and only 26% of investment amount.
- After the commitment of sustainability finance, all subsidiaries implement the management procedure related to carbon reduction and shift high-carbon emission investment to lower carbon footprint. The shift shows that the effective management of high-carbon emission industries in the portfolio by financial holdings cane effectively affect the portfolio emission of financial holdings.

(4)Analysis of financed Emission by Asset Category

a.Equity Investment

Credit Loan		
Industry Category	Amount Ratio (%)	2021 Financed Emission (tCO2e)
Agricultural husbandry and agricultural products related manufacturing industries	0.73%	23,394
Mineral Industry	–	–
Raw Material and non-agricultural manufacturing industry	9.48%	125,393
Metal and non-metal processing industry	3.17%	133,933
Electricity and fuel gas supply industry	3.06%	270,923
Passenger/Freight Transport Industry	1.23%	56,403
Other non-key industries	82.32%	254,181
Total	**100 %**	**3,330,687**

Equity Investment Business Carbon Emission Analysis



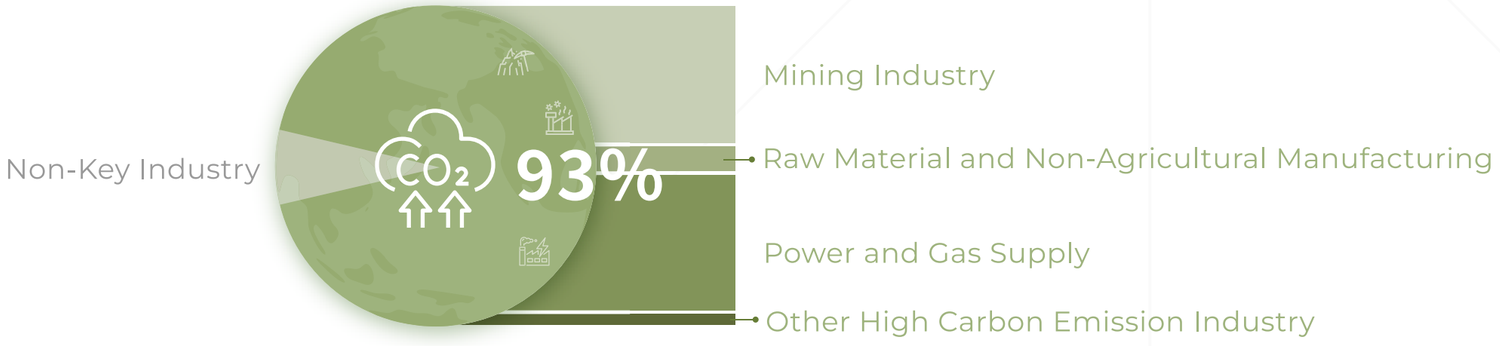
1.The key industries of equity investment consist of “Raw Material and non-agricultural manufacturing industry” and “Metal and non-metal processing industry.” Nonetheless in terms of carbon footprint, raw material and non-agricultural manufacturing industry account for the lowest ratio among the six major categories. In particular, electronic component manufacturing industry leads in the industry. In consideration of Taiwan being the major area of investment and financing of CDF and the industry patterns of Taiwan, the analytical results for investment purpose and maintaining customer interests are predicated.

2.CDF can apply its influence as the shareholder investors to conduct engagement, monitor corporate carbon reduction plan, and supervising the invested company with carbon reduction goals.

b.Bond Investment

Bond Investment		
Industry Category	Amount Ratio (%)	2021 Financed Emission (tCO2e)
Agricultural husbandry and agricultural products related manufacturing industries	–	–
Mineral Industry	12.84%	1,342,530
Raw Material and non-agricultural manufacturing industry	3.24%	284,508
Metal and non-metal processing industry	0.92%	100,355
Electricity and fuel gas supply industry	7.17%	1,330,338
Passenger/Freight Transport Industry	0.93%	32,802
Other non-key industries	74.90%	240,154
Total	**100 %**	**3,330,687**

Debt Investment Business Carbon Emission Analysis



1.The key industries for bond investment include “Electricity and fuel gas supply industry” and “Mineral Industry.” Electricity and fuel gas supply industry not only is high carbon emission but also relatively higher investment and financing footprint.

2.Another major source for carbon emission for bond investment: Particularly, the mineral industry consists of petroleum and coal product manufacturing industry. The industry type of mineral industry and electricity and fuel gas supply industry face with the pressure for carbon reduction from the advocating groups of all sectors.

3.Response Action：

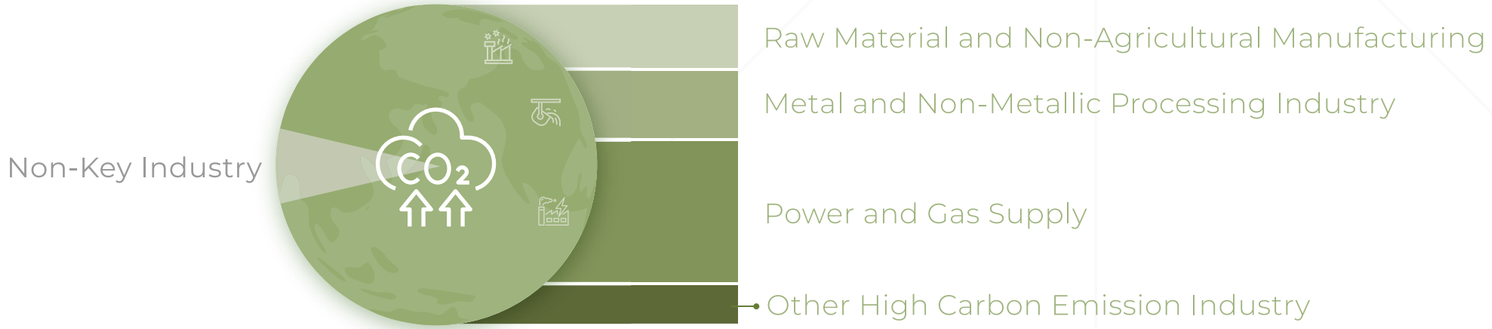
- Apart from the general corporate bonds, subsidiary China Life Insurance of financial holding cope with government’s green finance action plan 2.0 to promote the policies on the development of green financial instruments and investment in green bonds, including the green bonds issued by Ørsted. In the future, CDF will continue to invest in the green bonds/sustainability linked bonds related to the relevant industries, thereby upgrading the proportion of green bonds among bond asset category.

- In response to the transition risks to be faced by mineral industry, CDF proposed the “Principles of Decarbonization” in its sustainability financial commitment. The principles of decarbonization focused on fuel coal related industries while CDF is committed to comprehensively withdraw the involvement of relevant business operations before 2040, including infrastructure and project finance, credit line and loan, fixed income product underwriting business, and all voluntary, passive and commissioned investment positions by third-party management.

c.Business loan

Business loan		
Industry Category	Amount Ratio (%)	2021 Financed Emission (tCO2e)
Agricultural husbandry and agricultural products related manufacturing industries	0.73%	23,394
Mineral Industry	–	–
Raw Material and non-agricultural manufacturing industry	9.48%	125,393
Metal and non-metal processing industry	3.17%	133,933
Electricity and fuel gas supply industry	3.06%	270,923
Passenger/Freight Transport Industry	1.23%	56,403
Other non-key industries	82.32%	254,181
Total	**100 %**	**3,330,687**

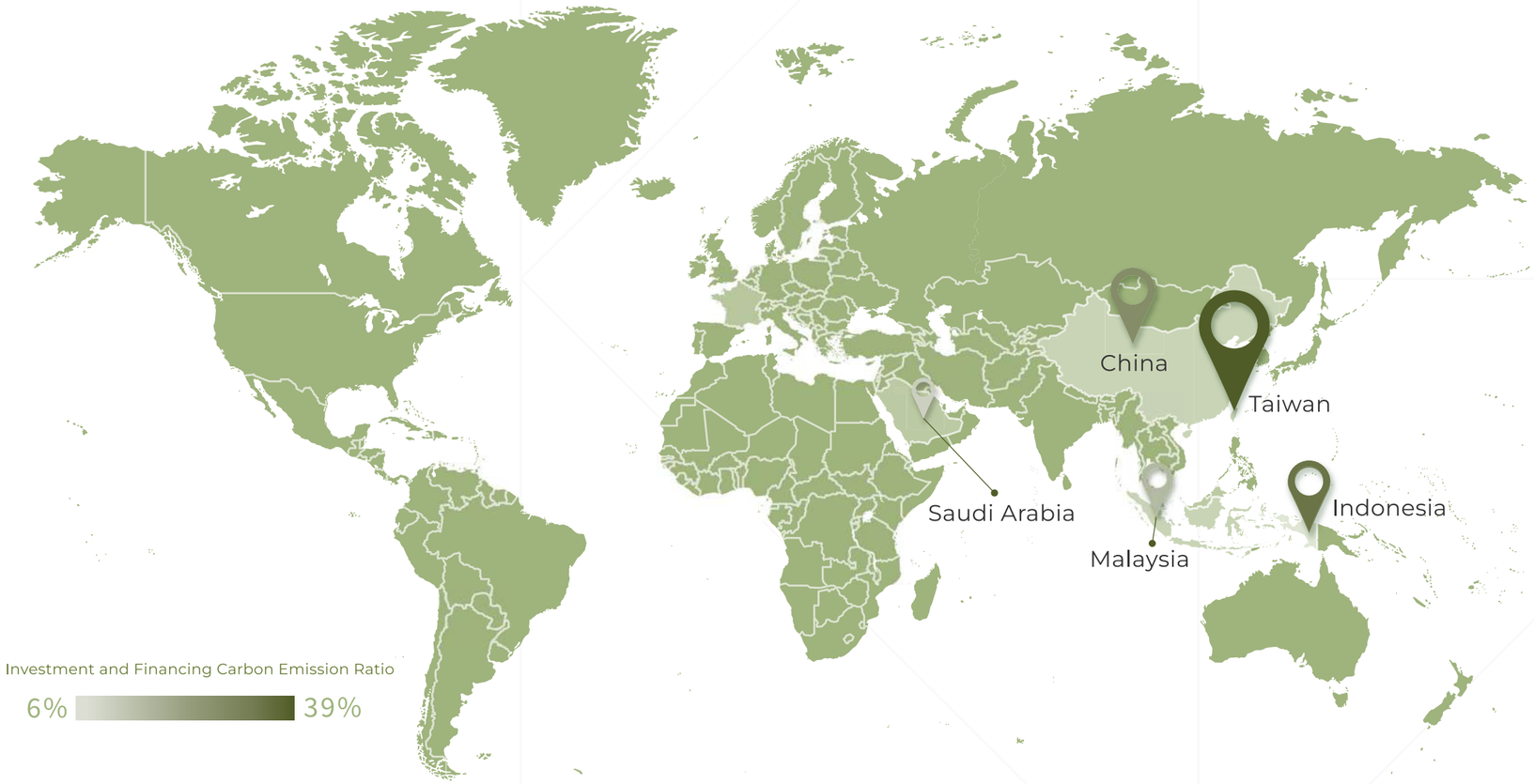
Credit Investment Business Carbon Emission Analysis



Currently, “electricity and fuel gas supply industry” is the one source of caron remission for credit business with high-carbon emission industries. Subsidiary KGI Bank can assist with the drafting of climate transition plan for the investment through active engagement action to advocate the counterparty to undergo low-carbon transition.

(5)Distribution ratio of financed emission and outstanding amount by region

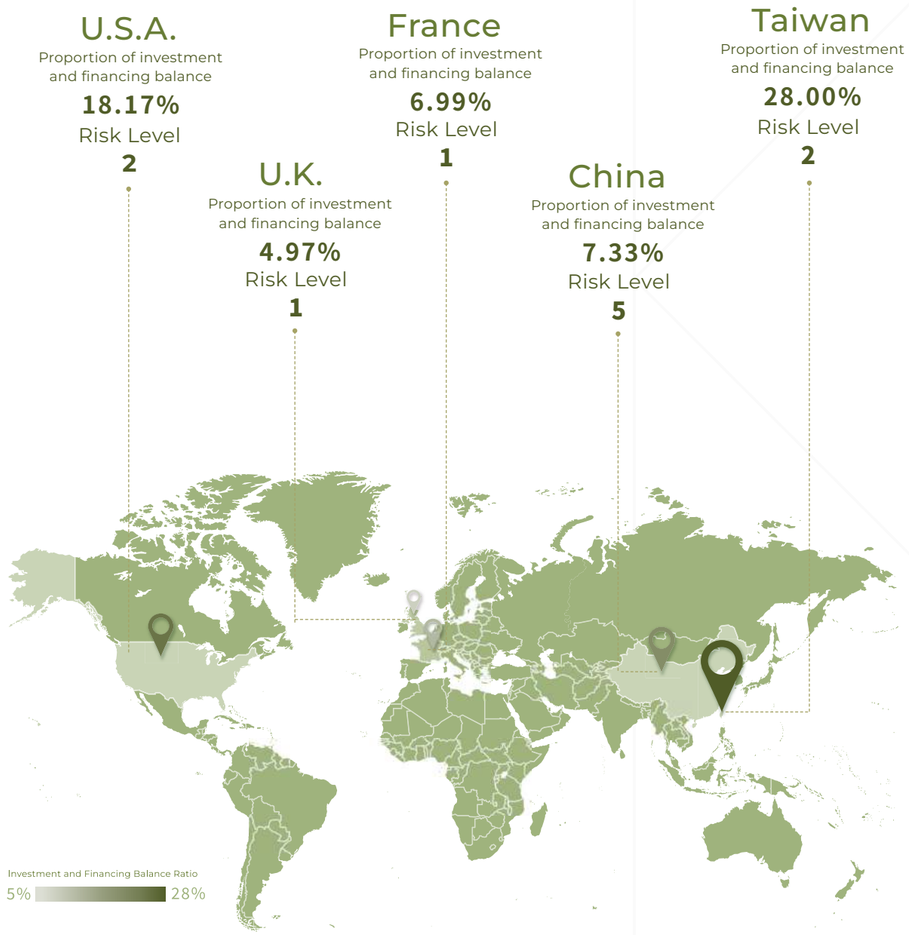
Investment and Financing Carbon Emission Ratio



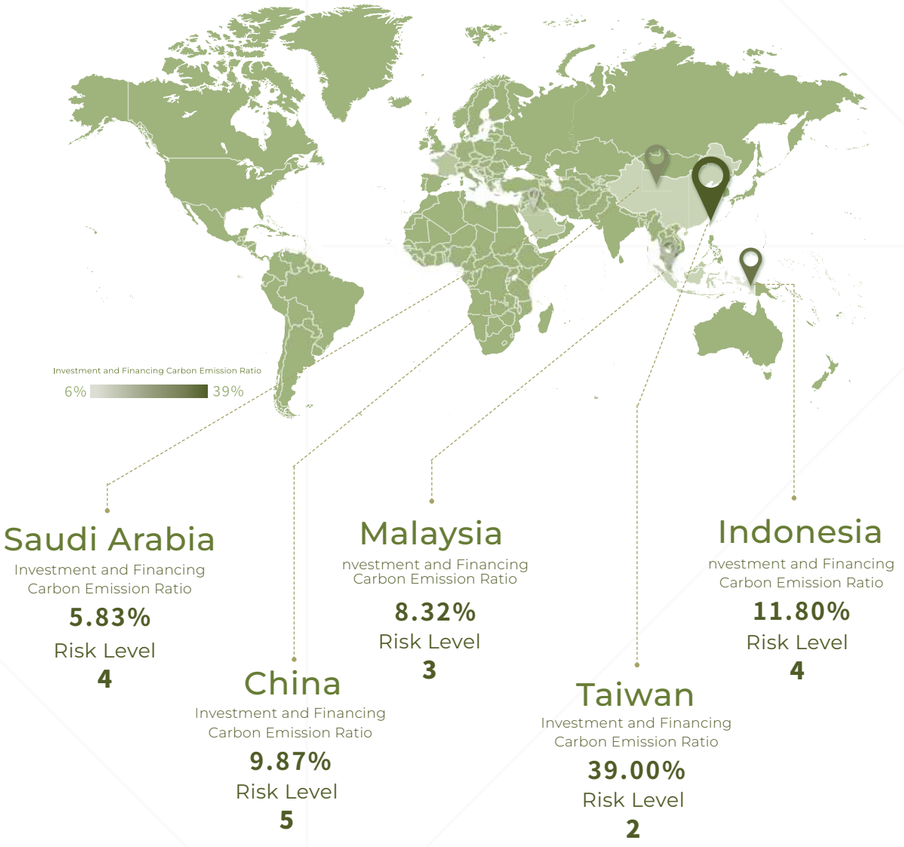
Investment and Financing Balance Ratio

CDF conducts analysis of distribution by region according to the operation/registration site of counterparty, in addition to consolidate the two scores according to the carbon emission factor and net-zero commitment, and to classify the countries by the transition risk of investment environment in five levels. The analysis consists of the risk level of region exposed to risk and is used as reference to choosing the subsequent investment and financing target.

Proportion of outstanding amount



Proportion of financed emission



Taiwan is the main operation region for CDF. The outstanding amount and financed emission are both the largest among the investment portfolios. The risk level is based on the carbon emission factor and Net-zero commitment. The two scores are consolidated to classify the countries by five levels of transition risk. The following is the scoring standard for two transition factors:

Risk Score	National Electricity Emission Factor (kgCO2e/kWH)	Net Zero Commitment (kgCO2e/kWH)
1	Under 0.15 (including 0.15)	Legislation
2	0.15~0.35 (including 0.35)	Draft legislation
3	0.35~0.52 (including 0.52)	Policy Agenda
4	0.52~0.80 (including 0.80)	Under discussion
5	(1) 0.80 or more (2) No data	(1) Commitment for 2050 or more. (2) No commitment.

After adding the standards scores of the two factors for all countries, the scores are classified by five risk levels (1 being minimum and 5 being maximum). The following the results of two scores added together:

Results of adding two risk scores	Level of transition risks
0~3	1 [Low]
4-5	2 [Low to Medium]
6-7	3 [Medium]
8	4 [Medium to High]
9-10	5 [High]

China is the only county among the five major investment regions with high risk level. Hence changes in the investment environment such as the changes in government policies that could easily affect the carbon emission of the group. The total amount of investment made by CDF subsidiaries in China for 2021 was at least 7% and hence closer attention must be paid to the carbon reduction route and social opinions for China in the future, in order to cope with the changes in the investment market more quickly.

2.Avoided Emissions Inventory

a.Description of Methodology

Apart from the investment and financing carbon inventory, CDF refers to the estimation of “avoided emissions” provided by PCAF in order to evaluate the renewable energy projects and carbon reduction benefits brought by green investment. The relevant investment and financing benefits is evaluated under the scope of inventory below :

1.KGI Bank:
Renewable energy project finance, including solar power plant and wind power plant.

2.China Life:
Renewable energy stocks investment.

3.China Life:
Green bond investment.

Although the current PCAF standards only include renewable project financing in the scope of inventory, CDF still takes consideration of the same logistics to conduct inventory estimation on green bonds and stocks investment as the review basis of the carbon emission benefits of internal investment. The following the calculation for avoided emissions:

Avoided Emissions

$$\frac{Outstanding\ amount(project)}{Total\ equity + debt\ (project)} \times Annual\ power\ production\ of\ project \times Emission\ factors$$

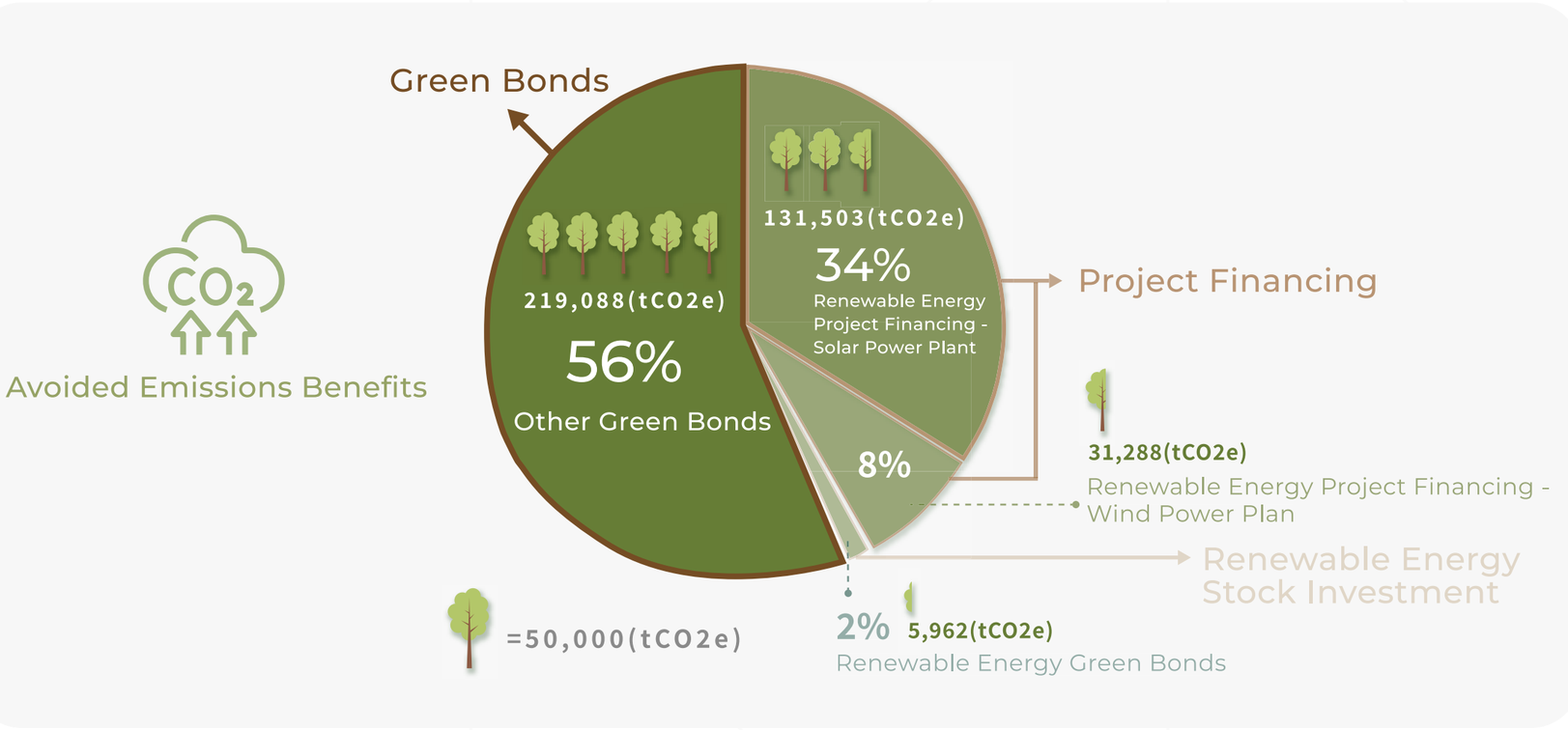
The following is the source of green investment and financing related data collected by CDF:

Project/bond/financial reports of counterparty	Engagement and direct acquisition from counterparty.
Annual power generation by renewable energy projects	From project documents
Factors of renewable energy capacity	Statistics from Taiwan Power Corp and the Energy Bureau of Ministry of Economics
Emission factor	Data source recommended by PCAF, the IFI Dataset of Default Grid Factors

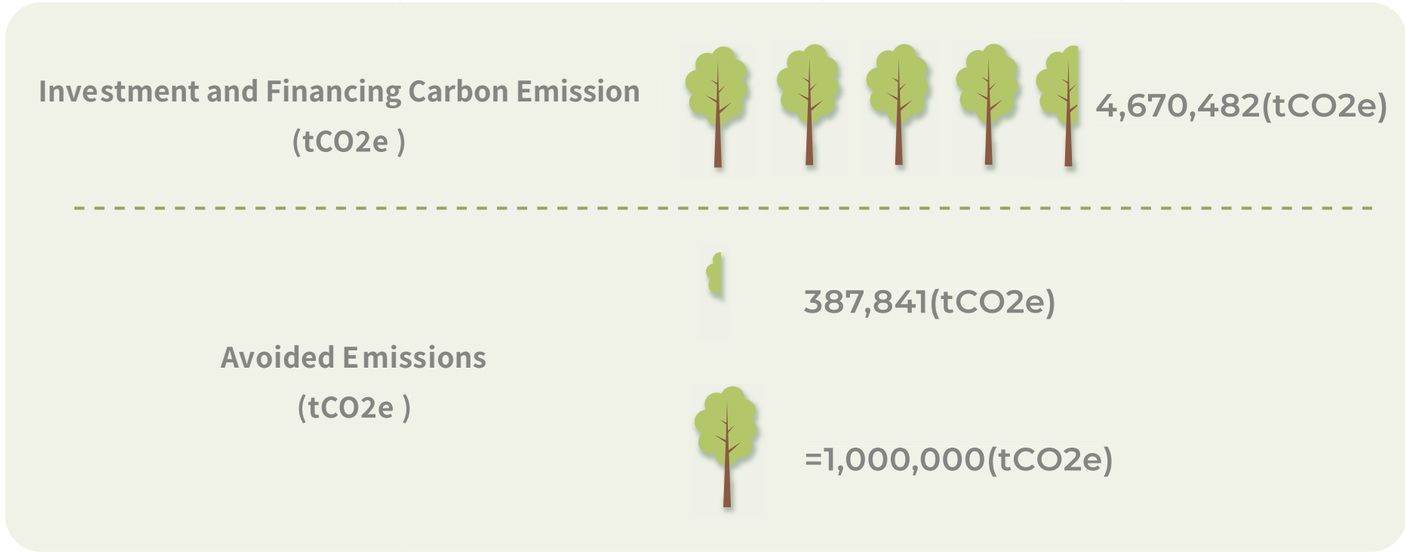
b.**Description of Inventory Results**

CDF has conducted inventory on the relevant benefits of avoided emissions for the investment and financing position at the end of December, 2021. The following is the benefit of avoided emissions from renewable energy project financing, renewable energy stocks investment, and green bonds:

CO_2	**Part 1** Renewable Energy Project Financing		**Part 2** Renewable Energy Stocks Investment	**Part 3** Green Bonds
	Solar Power Plant	Wind Power Plant		
Subsidiary	KGI Bank		China Life	
Outstanding amount (NTD Million)	11,612	4,708	576	
Avoided Emissions (tCO2e)	131,502.81	31,288.08	5,962	219,088
Total Benefits	162,790.89 tCO2e		225,050 tCO2e	



Comparison of Investment and Financing Carbon Emission and Avoided Emissions Benefits



According to PCAF and SBTi regulations, the avoided emissions can be used in the waiver of final residual carbon emission but could not directly offset the financed emission. Hence, CDF will compare the financed emission and the benefits of avoided emissions as the benefit evaluation of internal carbon reduction. In the future, the business division will gradually shift high-carbon emission industry to renewable energy and green related positions. The goal aims to upgrade the benefits of avoided emissions with reduction of financed emission. CDF plans to consolidate the two indicators to conduct internal assessment review and more precisely shift toward the low-carbon transition pathway, thereby bring the sustainability influence of financial industry through the investment in green industries.

3.1.2 Financial Indicator

To evaluate the changes in expected loss resulted from the portfolio due to impact of climate change, CDF follows the different climate scenarios to assess the financial quantitative impact for “Top 20 domestic and foreign debts” The following is the description for the methodology of evaluation and quantitative results:

- **Description of Significance**：Portfolios could face with face increase in operation costs and business loss resulted from international carbon pricing, due to the characteristics of industry and counterparty. Namely, the changes in macroeconomy could affect the business development. In consideration of relevant transition factors, the investment and financing conduct of financial institutions could increase its expected loss due to low-carbon transition.

- **Scope of Analysis**：Top 20 domestic and foreign debts (including: bonds and business loans).

- **Adoption of climate scenarios**：Use the disorderly transition scenario of Network for Greening the Financial System (NGFS) and 2050 orderly transition scenarios. The scope of time selected is 2030.

  Disorderly Transition Scenario — Active transitional non-linear scenario, and the global carbon emission will reach negative value by 2050.
  Orderly Transition Scenario — Active transitional linear scenario with steadily declined carbon emission since 2020. The global emission will reach negative value by 2050.

Methodology of Evaluation:

STEP 1

Using Bank Built-in PD Model

STEP 2 **Link Pathways include:**

Individual Pathway	Total Pathways
Carbon Price Simulation Data Source: IAM Model(GCAM, REMIND-MAgPIE, MESSAGEix-GLOBIOM)	GDP Unemployment Rate Interest Rate
Corporate Carbon Emission Data Corporate Public Information: Company website / CSR report, MOPS	
According to the domestic/foreign investment data collected Domestic ▶ Evaluating expected revenue loss according to the level o of industry risks Foreign ▶ Develop expected changes in rating according to the international rating results of debtor and the national risk level & industry risk level.	Source: IAM Model (GCAM, REMIND-MAgPIE, MESSAGEix-GLOBIOM)

STEP 3 **Calculate changes in expected loss**

Assume LGD and EAD remain the same, the change in expected loss mainly comes from changes in default rate:

$$\triangle PD \times LGD \times EAD$$

Remarks

△PD=Change in default rate caused by transition risk

LGD=Default loss rate, uncollateralized LGD default value is 96%

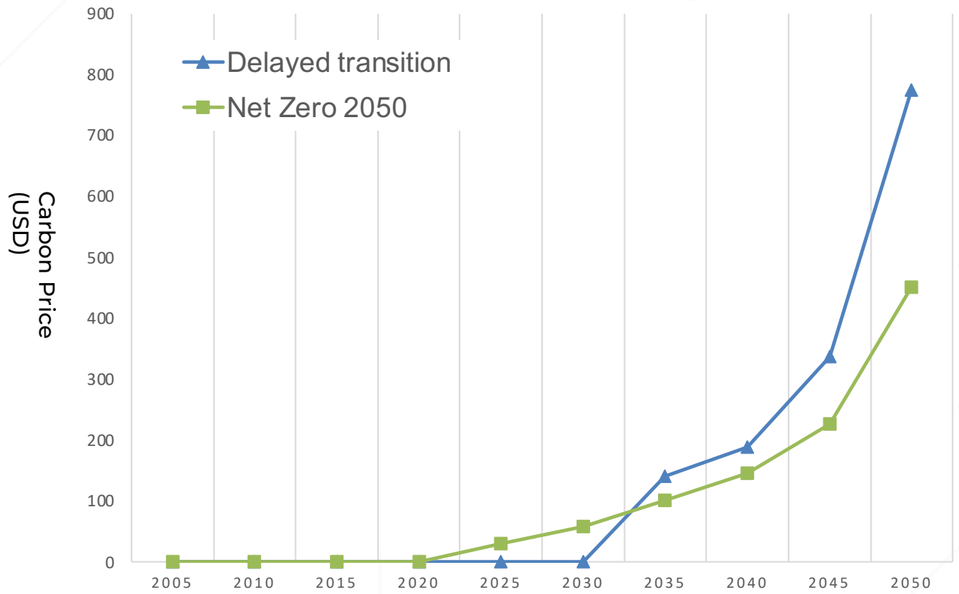
EAD=Amount of Risk Exposure

According to the “individual pathway” of step 2, the transition factors taken into consideration includes industry risks and national risks. CDF incorporates the different scenario of carbon pricing (as show in drawing) in Taiwan generated by IAMs model and provided by NGFS database, according to the industry of counterparty and national characteristics, as the base of calculating operating costs and further constructing the changes in default rate through PD Model.

- **Industry Risk Level**：According to the industrial emission factor,the industry classification of DGBAS is classified into five risk levels and taking timeline of scenarios according to the carbon emission. The additional cost caused by carbon price is regarded as the operating loss.

- **National Risk Level**：The transition risk level by country is classified according to the “National Electricity Emission Factor”and “National Net-zero Commitment Goals & Promotion Progress” by county.

Estimation of Carbon Price for Taiwan Under Different Scenarios (Model: GCAM5.3)

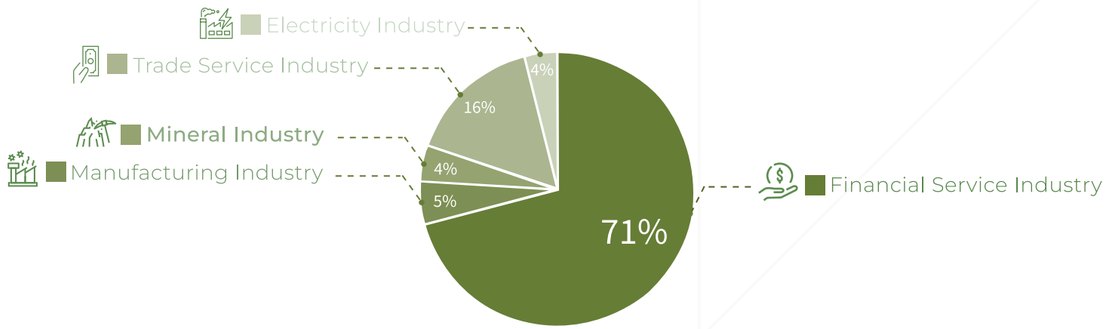


Assessment Results:

CDF mainly conducts assessment on changes in expected loss based on the top 20 domestic and foreign debt position, including two scenarios of assessment results. Due to the different factors taken into consideration for domestic and foreign investment, the following will explain in more details.

(1)Foreign Debt Assessment Results

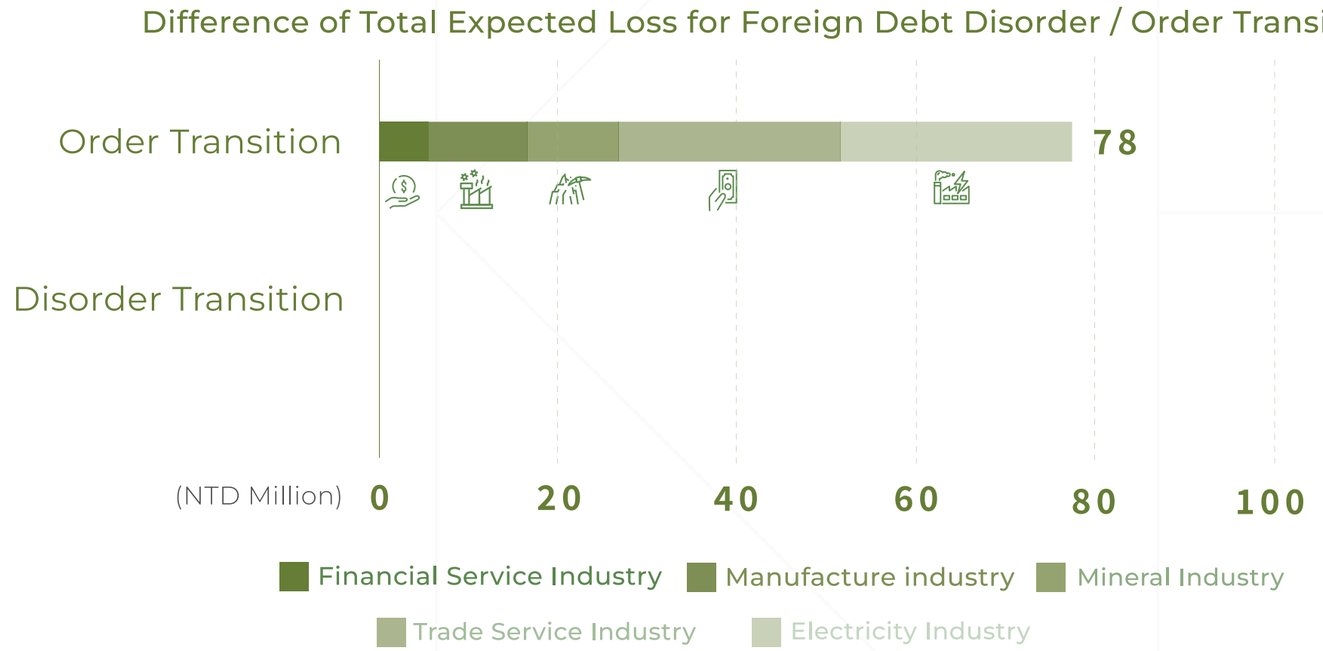
Foreign Debt Top 20 Risk Exposure Ratio



Industry Category	Amount of Risk Exposure (NTD Million)
Financial Service Industry	358,202
Manufacturing Industry	25,628
Mineral Industry	21,331
Trade Service Industry	80,114
Electricity Industry	19,549
Total	504,824

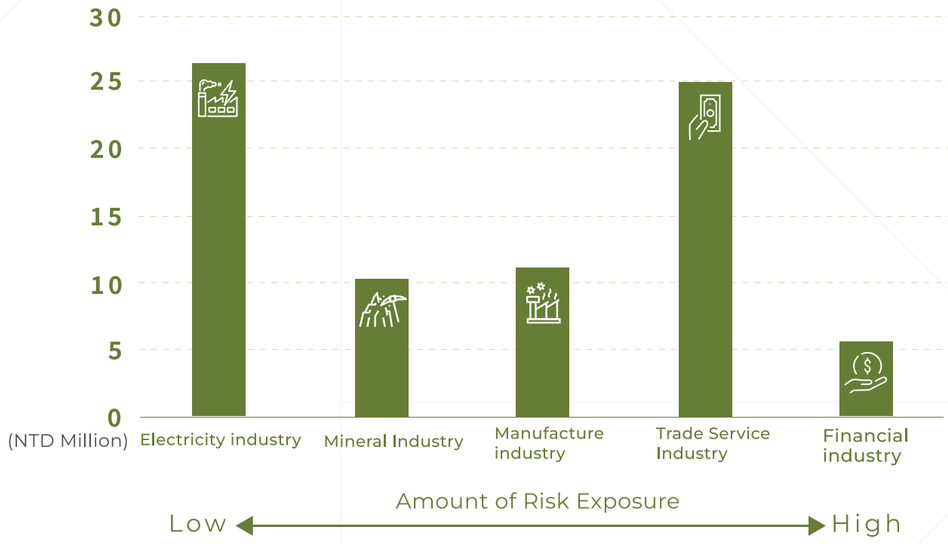
The foreign top 20 debts adopted reaches a total amount of risk exposure for NTD504,824 million, accounting for 39.27% of all foreign debts position of CDF. The results of calculation by expected credit loss assessment model, the 2030 disorderly transition scenario will not increase expected loss. The 2030 orderly transition scenario will have a total expected loss of NTD78 million (minimum value of change in default rate = 0%; maximum value of change in default rate =0.14%).

The analysis of expected loss with the industries shows that among the top 20 debt positions, the financial service sector is the main industry exposed to risks with total amount accounting for 71% of all exposed risk.



Industry Category	Changes in Expected Loss Disorderly Transition (NTD Million)	Changes in Expected Loss Orderly Transition (NTD Million)
Financial Service Industry	0	6
Manufacturing Industry	0	11
Mineral Industry	0	10
Trade Service Industry	0	25
Electricity Industry	0	26
Total	0	78

Change in Expected Loss of Foreign Debts in Order Transition Scenario



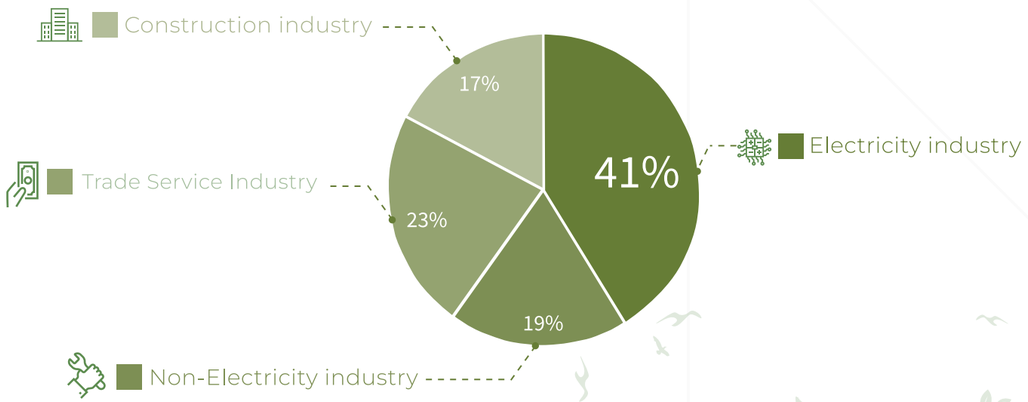
The analysis results indicate that orderly transition scenarios started active transition in 2020 while disorderly transition scenarios start transition only by 2030, hence the 2030 scenarios will be used as basis. The expected loss of orderly transition will be higher the disorderly transition. The foreign position takes consideration of the national risk level & industry risk level, and hence, the expected changes in international credit rating and corresponding default rates are assessed. Under the disorderly transition scenarios, there is no change in credit rating for the top 20 position and thereby no variation of expected loss. Additionally, in spite of the large amount of risk exposure faced by financial service industries, the variation in expected loss is the smallest while the expected loss for trade service industries and electricity industry is higher. Moreover, the amount of risk exposure faced by electricity industry is smaller, which represents higher potential risk.

(2)Results of domestic debt assessment

The top 20 domestic debt position adopted this time reaches a total amount of risk exposure of NTD60,195 million, accounting for 19.55% of all domestic debt position of CDF. The results of calculation using expected credit loss assessment model show that the changes in expected loss for disorderly transition scenarios by 2030 is NTD536 million (minimum value of changes in default rate = 0.02%; maximum value of changes in default rate = 2.27%). The changes in expected loss for orderly transition scenarios by 2030 is NTD584 million (minimum value of changes in default rate = 0.02%; maximum value of changes in default rate = 2.01%).

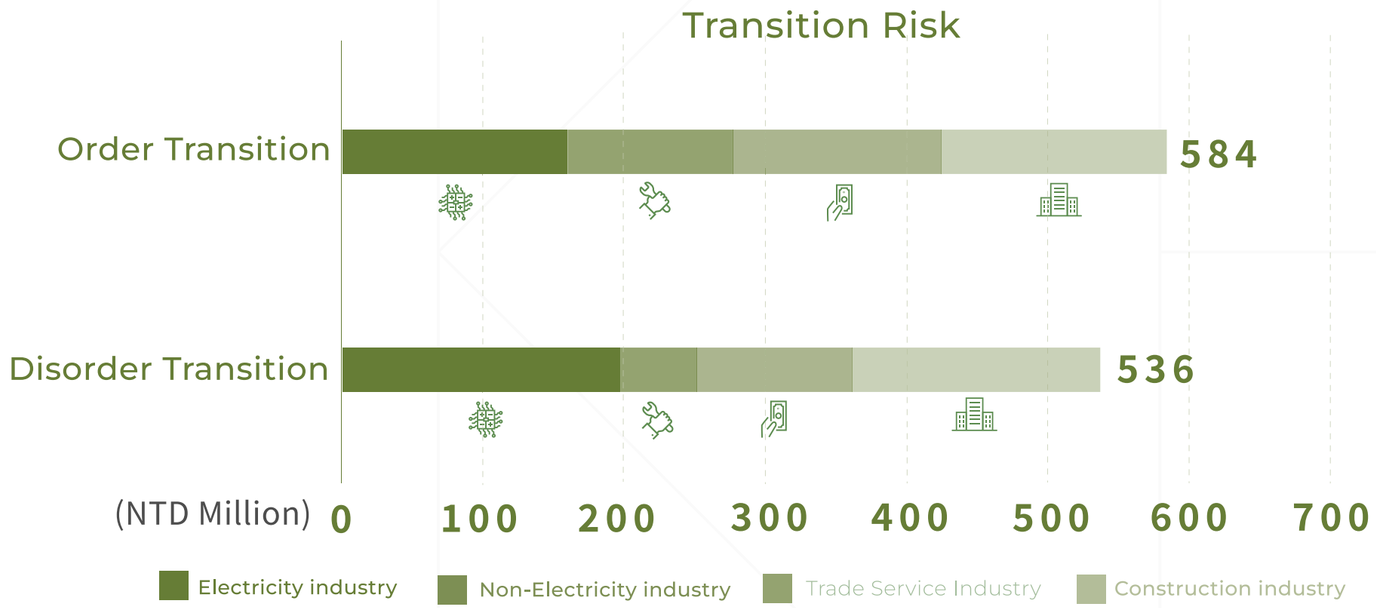
Industry Category	Amount of Risk Exposure (NTD Million)
Electronics Industry	24,876
Non-Electronics Industry	11,178
Trade Service Industry	13,773
Construction Industry	10,368
Total	60,195

Domestic Debt Top 20 Risk Exposure Ratio

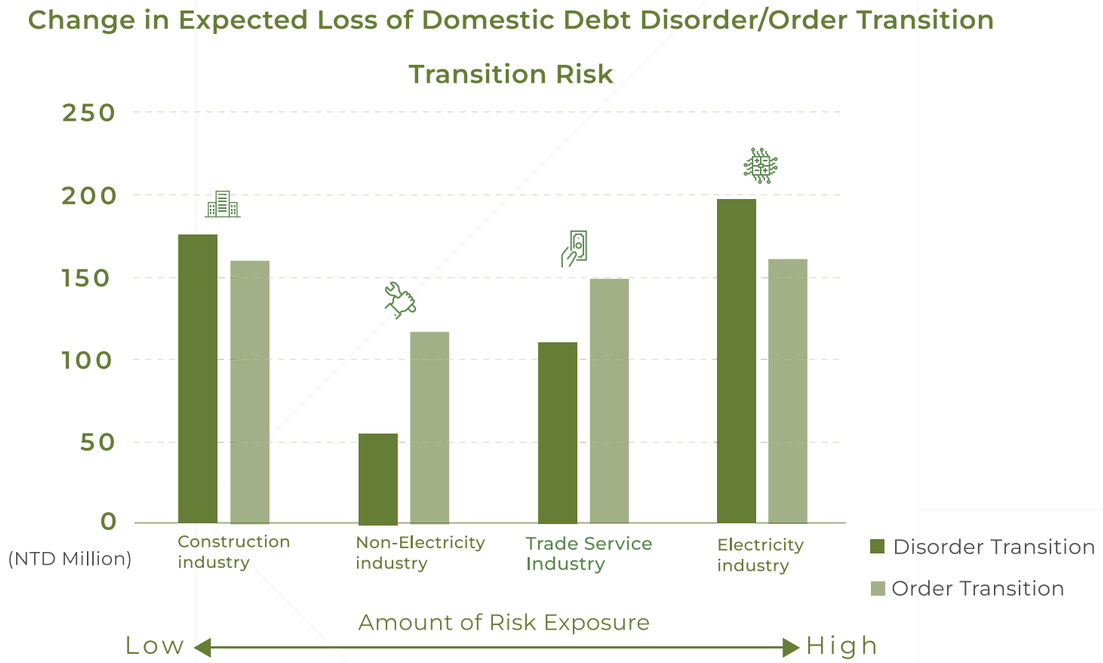


Furthermore, the industry categories uses supervised pressure testing as the base to analyze the expected loss of the industry. In the top 20 debts, the manufacturing industry (including electronics manufacturing industry and non-electronics manufacturing industry) is the main industry exposing to risks, with a total amount accounting for 60% of total risk exposure.

Change in Total Expected Loss of Domestic Debt Disorder / Order Transition Scenario



Industry Category	Changes in Expected Loss Disorderly Transition (NTD Million)	Changes in Expected Loss Orderly Transition (NTD Million)
Electronics Industry	196	160
Non-Electronics Industry	55	116
Trade Service Industry	110	148
Construction Industry	175	160
Total	**536**	**584**



The analysis results indicate that orderly transition scenarios started active transition in 2020 while disorderly transition scenarios start transition only by 2030, hence the 2030 scenarios will be used as basis. Additionally, the observation on the changes in expected loss for the four industries, electronic manufacturing industry and construction industry have higher expected loss under disorderly transition scenarios than orderly transition scenarios, indicating that the two industries should take active transition action at current stage, in order to lower potential loss. Moreover, in spite of the lower amount of risk exposure faced by the construction industry, the expected loss is the second larges and is a potentially high-risk industry for transition due to the high level of changes in default rate.

3.1.3 Temperature Indicator

In response to the carbon reduction indicator used by SBTi and apply consistent goals between the portfolio and Paris Agreement, CDF starts using implied temperature rise (ITR) this year to calculate and follow up the ITR of every counterparty and portfolio. ITR indicates the emission of specific company or portfolio while the global temperature potentially related to GHG is rising, which conforms to the TCFD recommended indicator principles with the advantage of easy communication and can be used as a powerful tool for financial institutions. CFD co-developed the ITR calculation methodology with World Wide Fund for Nature (WFF) with reference on CDP. The calculation is transparent and all enterprises and financial market participants can use freely. The climate scenario database based on IPCC 1.5 °C and IAMC coding have higher credibility and is the only method recognized by SBTi.

- **Description of Significance：**
  ITR indicator can accurately check the investment and financing portfolio for consistency with the goals in “Paris Agreement.” Featuring comparability,” “forward-looking,” “operability,” “public and transparency” as the indicators recognized by TCFD. In the future, CDF will take consideration of ITR as one of the carbon reduction goals while submitting SBTi goals.

- **Scope of Analysis：**
  Stock investment, bond investment and business loan in Taiwan

- **Outstanding Amount：**
  NTD516,673 million, accounting for 26% of all investment portfolio position.

- **Description of Calculation：**
  The ITR methodology of CDP and WFF is mainly used for incorporation of IPCC SR1.5 database through corporate carbon reduction goals, to establish the regression model, calculate ITR score and complete ITR calculation of single counterparty. Follow the weighted allocation of portfolio amount to complete the ITR portfolio.

- **Source of Related Data：**
  Completed the company of SBTi goal setup and public CSR report.

STEP 1

Corporate Goal ITRT

The Regression Model generated through the IPCC 1.5°C scenario database can be used to calculate the single goal ITR of the company.

STEP2

Short, Intermediate and Long-Term Goal ITRT

A company can have multiple goals, covering different scope and time frame, and this step can calculate the short, intermediate, and long-term goal ITR.

STEP 3

Investment Portfolio ITR_P

This step can calculate the index or the ITR of investment portfolio

Calculate ITR of Investment Portfolio

Allocate according to investment portfolio weight Weighted average temperature score (WATS)

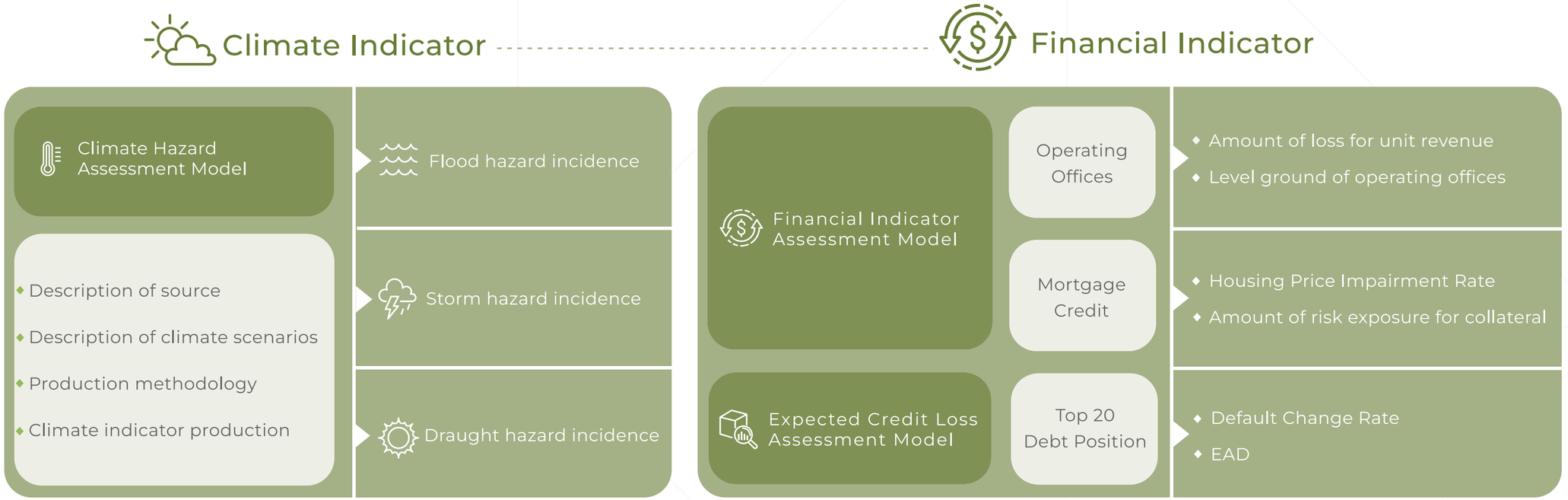
Formula $\sum_{n}^{i} Portfolio\ weight i \times ITR_C$

Calculation Results：

CDF calculate by asset category, as shown in the following results:

Asset Category	Equity Investment	Bond Investment	Credit Loan
ITR Indicator （℃）	2.77	2.95	3.82

3.2 Physical Risk



Physical risks mainly emphasize on the acute risk or chronic risk triggered by extreme climatic events , which usually result in the direct loss of company, such as flooding resulting in the operating loss of the office, plant loss or draught leading to the increased expenses for water consumed by the company. From the perspective of financial industry and apart from the loss in operating office, the expected loss increased due to risk on the counterparty must also be assessed. CDF introduced domestic and international climate data and conducts climate change data production through scientific method, and later link with climate indicator and the financial assessment indicator used frequently by the business division, to assess the impact of climate factors on the financial indicator of the organization and as the overall physical risk assessment framework.

3.2.1 Climate Hazard Assessment Model

1. Description of Climate Scenarios
For climate model selection, the simulation of Earth System Model (ESM) takes additional consideration of atmosphere, marine, and actual physical interactions between other different ecology zones, compared with the General Circulation Model (GCM). For this reason, CDF gives priority in selecting ESM and takes consideration of the scenario type, time scale, and climate proximity with Taiwan, selecting four models from the latest CMIP6 ScenarioMIP: CNRM-ESM2-1, MRI-ESM2-0, MIROC6, and IPSL-CM6A-LR, with reference on international trends and the evaluation of sustainability and economic development. A further selection of three reference scenarios for IPCC AR6 (Box3-1) was made: SSP1-1.9, SSP4-3.4, SSP5-8.5, to conduct the production of climate hazard likelihood. The context of climate scenario is described below:

- **SSP1-1.9 Scenario:** Using net-zero carbon emission as the future scenario, which is consistent with the 2050 net-zero carbon emission goals as shown in the 20-015 Paris Agreement. It is estimated that the temperature can be controlled under 1.5 °C at the end of the century, while the global GHG emission is negative.

- **SSP4-3.4 Scenario:** Currently the closet scenario with the carbon reduction pathway with counterparty has reduced some emission but could not meet net-zero. The temperature is estimated to be higher than 2 °C at the end of the century.

- **SSP5-8.5 Scenario:** High carbon emission scenario, indicating that no country has engaged in any carbon reduction behavior, which continues to increase GHG and temperature by 3.2 ~5.4 °C .

The scenario time slots we choose include 2021-2040, 2041-2060, and 2081-2100,are three time slots representing the late, intermediate and end of the century, as the key timeline for evaluating all indicators, thereby comprehensively assess the end-of-century scenarios, and assisting CDF with formulating short, medium and long-term goal setting.

Box3-1. IPCC AR6 (Sixth Assessment Report on Climate Change)

IPCC announced the 6th Assessment Report on Climate Change on August 9, 2021. Also known as AR6, the report in CMIP6 climate model simulation denotes the representative concentration pathways (known as RCPs) and Shared Socioeconomic Pathway (SSPs) for further integration and more complete presentation of social economic development and environmental interaction. In particular, RCPs refer to people with different level of warm pathways that provide the "scenario assumption" for GHG emission. SSPs are the scenario hypothesis on social and economic development after measuring the policy implementation. AR6 comes with seven scenarios, including: SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0, SSP4-3.4, SSP4-6.0, SSP5-8.5, and the description of situations, described below:

Scenario Name	Description of Scenario
SSP1-1.9	Conformance with Paris Agreement, end-of-century temperature rise controlled under 1.5℃.
SSP1-2.6	Sustainability given priority than economic consideration. End-of-century temperature rise controlled under 2℃, extended from CMIP5 RCP2.6.
SSP2-4.5	Compromise between sustainability and economy, end-of-century temperature rise controlled at about 2.5℃, extended from CMIP5 RCP4.5.
SSP3-7.0	All countries focus on the implementation of own energy and food safety goals by sacrificing wide development, competition and inequal deterioration.
SSP4-3.4	Conformance with NDC nationally determined contributions scenarios, diversity and inequal development between countries and regions.
SSP4-6.0	Inequality of international knowledge and technology, development of energy diversity, frequent turmoil, extended from CMIP5 RCP6.0.
SSP5-8.5	Economy given priority than sustainability consideration, adopting resources and energy intense lifestyle extended from CMIP5 RCP8.5.

2.Description of Source

Data	Spatial Dimension	Source	Time Dimension
Climate Change Scenario Data	ECMWF CDS	Day, Month	Approx. 100~300KM of Grid
Meteorological Data of weather station in Central Weather Bureau	Central Weather Bureau	Hour, Day, Month	Weather Station Points
Third Generation Flood Potential Data	Water Resources Agency, Ministry of Economics Affairs	—	Approx. 40 meter of grid data

- **Climate Change Scenario Data**

  Using the climate model of IPCC Couple Model Intercomparison Projects Phase-6 (CMIP6) with principles of selection based on the description of climate scenarios.

- **Meteorological Data of weather station in Central Weather Bureau**

  Select the relatively complete historical observation data of the testing station under the Central Weather Bureau and use the observational data of two time-scales, daily and hourly. The daily observational data can be used for estimating the characteristics of historic precipitation statistics while the hourly observational data is applied to analyzing the parameters of rain types for each testing station. The reference base period selected is between 1995~2014, for a total of 20 years of historic records.

- **Flood potential data**

  The Third-generation flood potential map provided by the Water Resource Agency of Ministry of Economic Affairs is selected as the newest generation of national flood simulation project results of Taiwan. The project features an advantage in 40m x 40m high-resolution grid, where the 10 different precipitation scenarios that could lead to flooding hazards are shown in the potential map. The level of hazard is determined by the depth of flood, classified in five levels. The simulation of flood potential drawing uses Horner design rain type as the basic assumption of rain type, which is consistent with the rain type used in the urban water sewage system design today.

3. Climate Change Data and Historic Meteorological Data Pre-Processing

The grid size of original data for climate change is too big for Taiwan plus the potential error existing between the simulation results of global climate model and the actual metrological data of Taiwan, which is not suitable for the direct use. Hence, the data must be pre-processed before applying to Taiwan. The data pre-processing must undergo the following three major steps: Data acquisition and compilation, spatial downscaling, and statistical down scaling.

Climate Change Data and Procedures for Historic Meteorological Data Pre-Processing

STEP 1 Data acquisition and compilation

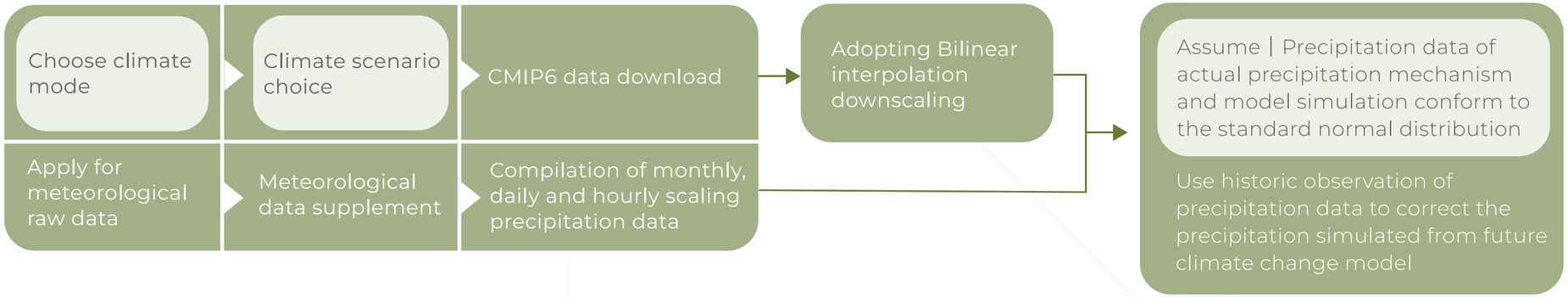
Primary data come from the CMIP6 data of ECMWF CDS and the meteorological observation data purchased from Central Weather Bureau. The CMIP6 data need to be reviewed and registered to validate the integrity of data downloaded. The meteorological observational data require the purchase of observational data from the test station, with the acquisition of historic data in three time-scales, including monthly, daily and hourly. Nonetheless, the observational data could be missing due to weather or environmental factors. The missing values shall be estimated and filled out by the data of adjacent weather station.

STEP 2 Spatial downscale

Since the primary data of climate change scenarios are grid-based data, the spatial scaling of the data is large and hence the data after compilation shall undergo bilinear interpolation for spatial downscaling to the points of weather stations.

STEP 3 Statistics downscale

After completing spatial downscaling, the statistical pattern and actual observational data still have some error. To solve the error issue, assume under the same time zone, the actual precipitation and the precipitation of model simulation conform to the standard normal distribution, the historic base period will be used to observe the precipitation value and the base and the statistical error between with the base period precipitation value of model simulation, in order to correct the precipitation simulated in future climate change.



4. Climate Hazard Indicator Production

◆ **Probability of storm/flood hazard occurrence**

The production of storm and flood hazard events are roughly divided into two sections: Establishment of precipitation intensity-delay-frequency curve (IDF), and calculation of hazard incidence.

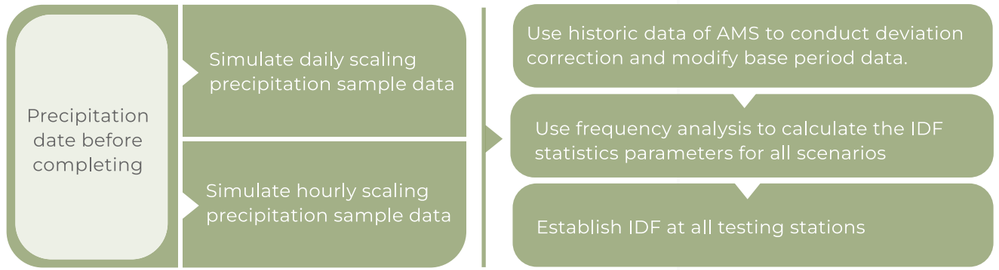
STEP 1 Establish precipitation intensity -delay-Frequency curve (IDF)

In extension of the previous stage of data pre-processing, the climate change of monthly scale with each weather station and the historic precipitation data are captured to produce the precipitation comparison data of climate change scenario and base period, with additional capture of the historic precipitation data by the daily scale of each weather station. The statistical distribution is selected to calculate the parameters of precipitation by each weather station. The aforementioned statistical parameters and precipitation parameters are used to simulate the daily precipitation. A total of 50 groups from 1000 years of data are simulated as the sample data for subsequent analysis. Then, the daily precipitation simulated are used to further simulate the hourly precipitation data.

The hourly precipitation data simulated are used while selecting precipitation delay to compile the statistics on historic and climate change data for the annual maximum series (AMS) of each weather station. The data undergo Bias Correction to correct the uncertainty due to the estimation from extreme climate from the statistical data distribution of the base period. Finally, the delay and recurrence interval are selected to conduct frequency analysis on all scenarios and establish the IDF of points at weather stations.

The hourly precipitation data simulated are used while selecting precipitation delay to compile the statistics on historic and climate change data for the annual maximum series (AMS) of each weather Station. The data undergo Bias Correction to correct the uncertainty due to the estimation from extreme climate from the statistical data distribution of the base period. Finally, the delay and recurrence interval are selected to conduct frequency analysis on all scenarios and establish the IDF of points at weather Station.

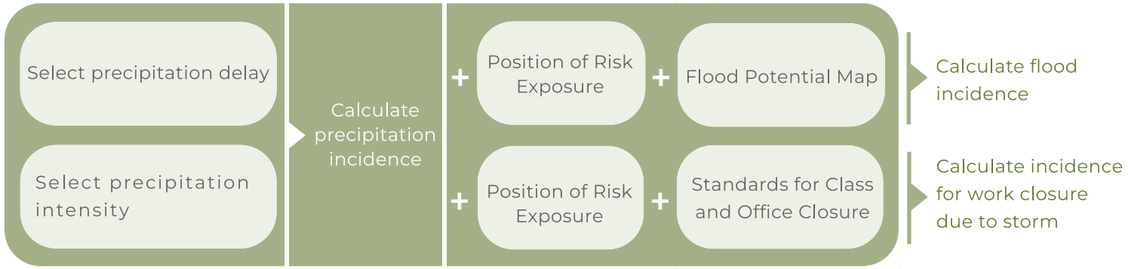
Procedure for Flood and Storm Hazard Incidence Processing



STEP 2 Calculate storm/flood hazard incidence

In extension of the IDF produced, rainfall duration and intensity selected for flooding and storm caused work suspension are replaced with target points to estimate the precipitation incidence. The Geographic Information System (GIS) software is adopted to overlap the maps and produce the “flood hazard information” and “rainstorm shutdown hazard information.” The former integrates precipitation incidence, the flood hazard level caused by simulation of precipitation, and the third-generation flood potential map data from Water Resource Agency to yield the asset damage and restoration costs caused on flood hazard incident on corporate (assuming the impairment of operating revenue). The later integrates the precipitation incidence and the simulation of the flood hazard level caused by precipitation, and the standards for school and office closures regulated by local governments to yield the loss from work suspension on counterparty due to rainstorm shutdown.

Procedure for Flood and Storm Hazard Incidence Processing



Description of Flood Hazard Data Overlap

Position of Risk Exposure

Convert the address of risk exposure (collateral/operating office) into longitude and latitude.

Tools: TGOS Taiwan Geospatial One Stop— door plate address matching services by batch

TGOS 地理資訊圖資雲服務平台

+

Flood Potential Map

Water Resource Agency 3rd Generation Flood Potential Map

+

Precipitation Probability

Use the aforementioned method to produce the precipitation probability for all administrative districts with 650 mm or higher for 24hrs.

Scenario:SSP4-3.4, 2030s		
County/City	Administrative District	Flooding Probability
Taipei City	Songshan Dist	0.069
Taichung City	Houli Dist	0.040
⋮	⋮	⋮
Tainan City	Beimen Dist	0.419

Position of risk exposure + Flood potential map

Determine if flooding will take place under 24hr 650mm scenario.

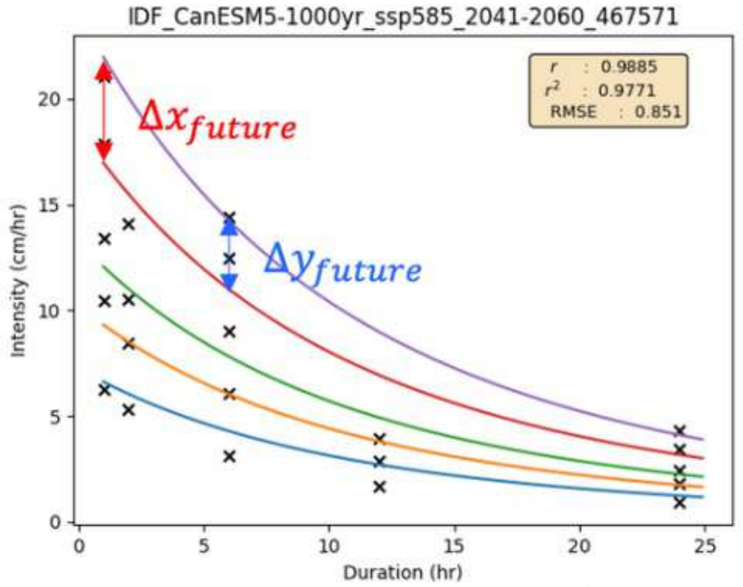
If case of flooding incident: Position of risk exposure + Precipitation probability

Determine the position of risk exposure with precipitation probability of 24ur and 650mm or higher.

Box3-2.

Precipitation Intensity-duration-frequency Curve (IDF)

In the planning and design of hydraulic engineering, other than taking consideration of the relation between precipitation intensity and duration, the probability of occurrence of certain specific precipitation intensity and the precipitation duration must also be taken into consideration. The relation curve drawn from the three variables - precipitation intensity, duration and frequency, is the IDF curve.



Box3-3.

Flood Potential Map

Flood potential map is the design of precipitation scenario, specific hydrological and geographical conditions, and hydraulic routing, simulating the possible flooding conditions of flood prevention facilities under normal operations. The content of flood potential map includes the design of precipitation scenarios through the description of precipitation assembly drawing, labeling the scope of the flooding depth and explain user restriction with different colors according to the different depth of flooding. CDF uses the third-generation flood potential map data from the Water Resource Agency of Ministry of Economic Affairs, which factors of consideration include the follows:

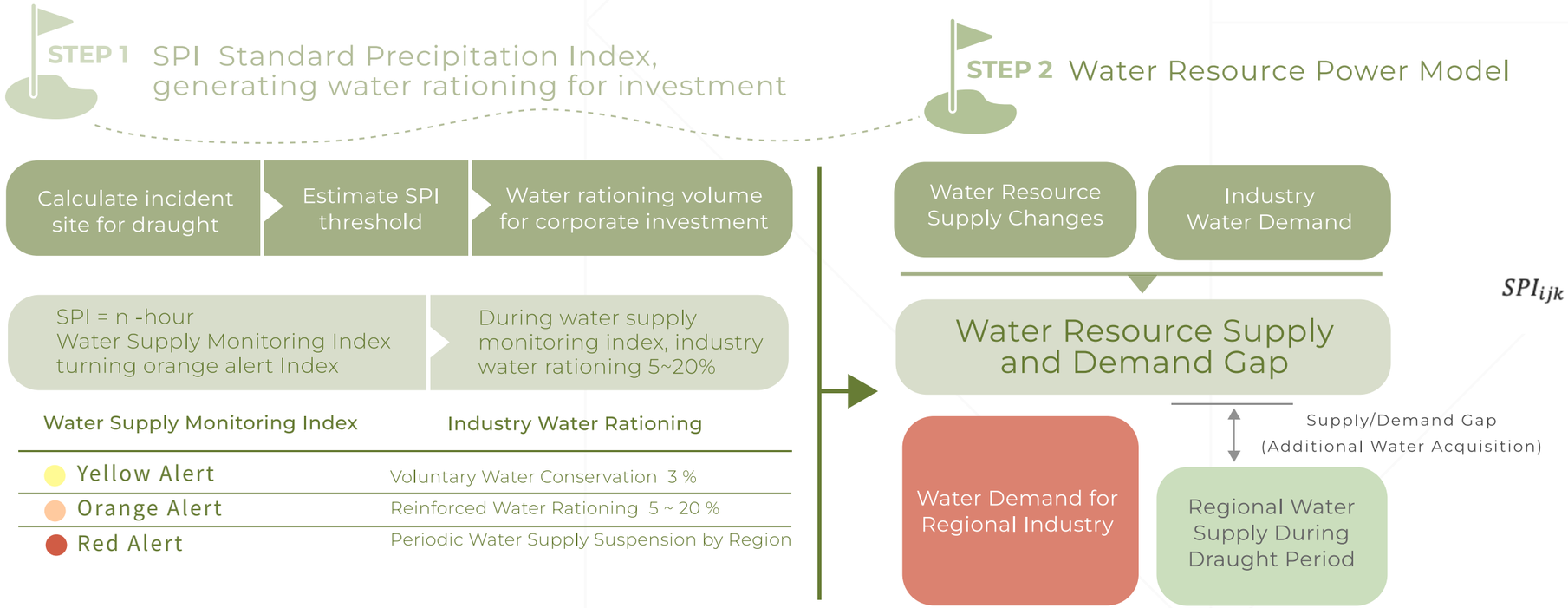
- Retarding basin and hydraulic structure, adding storm surge, wave overtopping, highland flooding, and the water overflow outside of central pipe river drainage.
- Water sewage system
- Simulation of regional drainage and flood
- Governance results of Flood-prone areas
- In consideration of flood course (flow speed and water rising rate)
- In consideration of different weight of precipitation between plain and mountain

(Source: Water Resource Agency, Ministry of Economic Affairs)

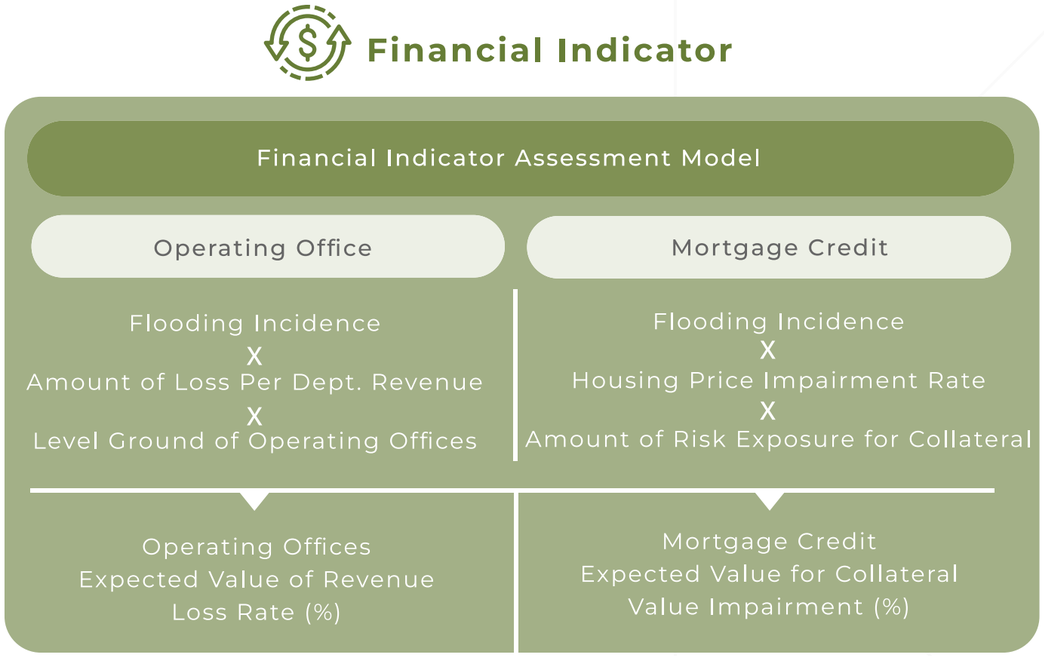
Probability of draught hazard occurrence

Probability of draught hazard occurrence evaluates the Standardized Precipitation Index (SPI) incorporated with water resource dynamic model to link draught events and water resource restriction of corporate. Following the meteorological data previously processed, the precipitation situations are standardized by the following equation to present the incidence points of meteorological draught. The historic data are used to analyze the historic SPI by region and the relation with water supply monitoring index, thereby generating the SPI threshold for changing the water supply monitoring index. Then follow the water supply monitoring index promulgated by Water Resource Agency / all science parks to cope with the industry water rationing policies to produce the water volume rationed for corporate, followed by integrating the water resource dynamic model to yield the changes in water resource supply. Such changes are coordinated with the industry water demand by region to estimate the gap between the water resource supply and demand and the incidence. The gap (%) between water resource supply and demand will be used for computing the additional costs for acquiring water consumption by corporate.

Procedures for Probability of Draught Hazard Occurrence Generation



3.2.2 Financial Indicators Assessment Model



After understanding the incidence of climate hazard, it is important to link with financial related indicators in order to yield the size of impact on all positions under the influence of climate change. CDF selects the “Possible Operating Loss from Extreme Rainfall Events to Operating Offices” and “Value Impairment Caused by Extreme Rainfall Events on Mortgage and Real Estate Collateral” according to the results of material risk identification as the critical issue for physical risk analysis. CDF also kinks financial indicator assessment model with climate indicators and financial indicators. The assessment of physical risk on foreign position have not undergone inventory county at this stage due to the inaccessibility to some data.

1.Possible Operating Loss from Extreme Rainfall Events on Operating Office

The flood incidence selected by climate indicators are produced by climate hazard model while the method linking financial indicators use the flood height and operating revenue loss curve provided by the Water Resource Agency of Ministry of Economic Affairs through the specific flood height and industry category to calculate the amount of loss per investment unit (NT10,000/level ground). The Company adopts the following calculation equation for the amount of loss in service industry:

$$Y = 0.004X_1 + 2.5 \times 10^{-10}X_2$$

Y: Unit of Amount of Loss Per Floor Area (**NT10,000/Level Ground**)

X_1: Flood Height (CM); X_2: Total Amount of Fixed Assets (NT Thousand)

Assuming floor height 50cm, namely X_1=50CM, X_2 = Total amount of fixed assets for county/city service industries (industrial and commercial), which after calculation by above equation yields the following amount of loss per level ground in all county/city operating offices (NTD10,000):

County/City	New Taipei City	Taipei City	Taoyuan City	Taichung City	Tainan City	Kaohsiung City	Yilan County	Hsinchu County	Miaoli County	Changhua County	Nantou County
Service Sector	0.328118871	1.079779667	0.266785457	0.318051064	0.250493405	0.287841833	0.213499234	0.22017757	0.210927931	0.220904891	0.214282964
County/City	Yunlin County	Chiayi County	Pingtung County	Taitung County	Hualian County	Penghu County	Keelung City	Hsinchu City	Chiayi City	Kinmen County	Lianjiang County
Service Sector	0.211034602	0.212424522	0.218629614	0.207783975	0.214498381	0.2042527	0.208180862	0.218049231	0.209352852	0.201406916	0.200631004

The collection of building level ground for operating offices of all subsidiaries and the operating loss from aforementioned climate indicators and departments shall be used to calculate the expected value of operating loss percentage (%) as the basis of physical risk analysis for operating offices under climate change.

2.Value Impairment of Extreme Rainfall Events for Real Estate Collateral of Mortgage

The climate indicator selects flood incidence to be produced by climate hazard model while the linking for financial indicators adopts the actual selling price data. Assume that certain administrative district was flooded after 2010, the average unit price of the building for similar building types in that region is calculated to yield the housing price impairment rate under flooding using Z-score and standardization. The purpose of standardization aims to correct the extreme fluctuation while Z-score is presented using several standard deviations of the average distance, assuming under the standard normal distribution. After standardizing the average unit price, the average fluctuation from the past period of time will be calculated to signify the overall housing price trends during this period as the basis of subsequent detrending. Then using the negative gradient slopes to carry out detrending motion and finally collect all fluctuations to establish fluctuation distribution and select the housing price impairment rate according to the different risk properties. The following are the meanings represented by all risk properties:

Risk Seeking：The minimum value after calculating all data for the region is the minimal level of flood impact on housing price.

Risk Neutral：The median after calculating all data for the region.

Risk Aversion：The maximum value after calculating all data for the region, namely the maximal level of flood impact on

The collection of amount of risk exposure for all collaterals and the aforementioned climate indicators and housing price impairment rate are used to calculate the expected impairment value of collateral value against mortgage (%) as the basis of physical risk analysis for mortgage credit business under climate change.

Procedures for Housing Price Impairment Estimation

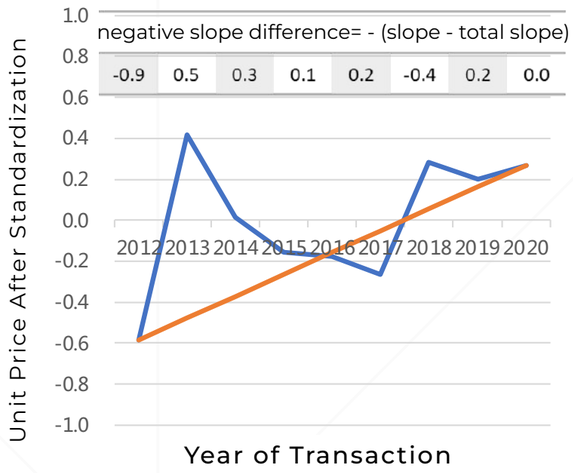
Take the value of the latest area if there is no data
(Limited to the same county/city)

Unit Price Negative Slope Difference
Calculate the building pattern for the same county/city and the average unit price for different transaction year, followed by calculating the negative slope difference of the unit price.

Z-Score & CDF

Chose Risk Preference

Illustration of Housing Price Impairment



Analysis Results

CDF has selected a total of 3 types of IPCC climate scenarios: SSP1-1.9, SSP4-3.4, SSP5-8.5, and risk neutral attitude to assess the calculation of climate risks.

1.Possible operating loss from Extreme Rainfall Events on operating office.

CDF uses flood potential map to conduct advanced monitoring of operating offices exposed to flooding environment, calculating the three climate related factors, including “Frequency of Flood Occurrence,” “Amount of Loss Per Revenue” and “Building area for Operating Offices.” Moreover, the adaptation measures are included in the consideration factors in the assessment on the climate risks faced by the 74 operating offices of CDF and its subsidiaries distributed in Taiwan. The assessment results show that 9 operating offices could be subject to the impact of flood that leads to loss in operating revenue under the impact of climate change and the overall loss is estimated between NTD63,000~171,000. Nonetheless such impact basically does not affect the business of the relevant operating offices and the expected loss under all climate scenarios are described below:

Scenario SSP1-1.9 2030s

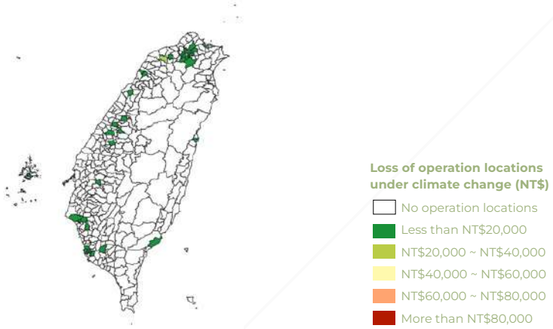
Under scenario SSP1-1.9 2030s, the expected loss is NTD171,000 (Figure).

Scenario SSP4-3.4 2030s

Under scenario SSP4-3.4 2030s, the expected loss is NTD63,000 (Figure).

Scenario SSP5-8.5 2030s

Under scenario SSP5-8.5 2030s, the expected loss is NTD82,000 (Figure).



CDF applies the aforementioned assessment results to the establishment of future offices and consideration for relocation. The inclusion of flood model assessment with complete response plans plus the fast operation digitalization service performance emphasize on the promotion of digital cannel and the weight of online transaction, which will lower the influence level of physical branches from natural disasters.

2.Possible value impairment resulted by Extreme Rainfall Events on the real estate collateral against mortgage

CDF uses flood potential map to conduct advanced monitoring on the position of real estate collateral against mortgage, exposed to flooding environment, taking factors of climate risk assessment, including “probability of flood hazard occurrence,” “housing price impairment ratio” and “amount of exposure on collateral.” CDF multiplies all three to calculate the expected losses per climate scenario as follows:

SSP 119-2030

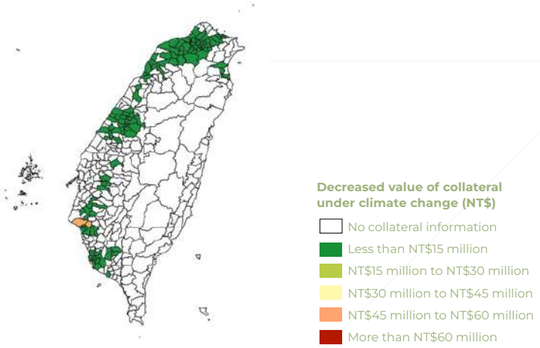
Under scenario SSP1-1.9 2030s, the expected loss is NTD 442 million, accounting for 0.54% of total mortgage amount.

SSP 434-2030

Under scenario SSP4-3.4 2030s, the expected loss is NTD 170 million, accounting for 0.21% of total mortgage amount.

SSP 585-2030

Under scenario SSP5-8.5 2030s, the expected loss is NTD321 million, accounting for 0.39% of total mortgage amount.



According to the assessment results and in consideration of the three scenarios, the maximum value of expected loss is NTD442 million and the minimum value is NTD170 million.

3.2.3 Expected Credit Loss Assessment Model

For position drawing high level of attention, CDF intends to further analyze the changes in expected credit risk under the climate scenarios by selecting the top 20 domestic debt positions (including bonds and credit positions) to assess the expected credit loss through the model. The following describes the methodology of assessment and the quantitative results.

- **Description of Significance :** Investment and financial portfolio could face with physical risks such as flood, labor suspension by storm and draught that lead to the increase in operating costs and business loss, which business development could also be affected by changes in macroeconomics. In consideration of relevant physical factors, the investment and financing behavior of financial institutions could raise their expected loss due to incidents resulted by climate change.

- **Scope of Analysis :** Top 20 domestic debts (including debts and credit positions).

- **Adoption of Climate Scenario :** Disorderly transition scenario using NGFS and 2050 orderly transition scenario, with 2030 selected as scope of time.

  Disorderly Transition Scenario — Active transitional nonlinear scenario that steadily declined since 2020, which global emission will reach negative value by 2050.
  Orderly Transition Scenario — Active transitional linear scenario that steadily declined since 2020, which global emission will reach negative value by 2050.

Methodology of Assessment:

Analytical Procedures of Expected Credit Loss Assessment Model

STEP 1 Use Bank Built-in PD Model

STEP 2 Establish climate and financial link pathway

Individual Pathway

1. **Long delayed storm – work closure**
   Source : Executive Yuan DGPA
2. **Short Delayed Storm – Flood**
   Source : Water Resource Agency, MOEA
3. **Draught**
   Source: Water Resource Agency consolidates and announces the county/city industrial water consumption (ton) and factory revenue (NTD10,000)

Total pathways

- **GDP**
- **Interest Rate**
- **Unemployment Rate**

STEP 3 Calculate changes in expected credit loss

Assume LGD and EAD remain the same, the main change of expected loss comes from the change in default rate:

$$\triangle PD \times LGD \times EAD$$

Remarks

△PD=Transition risk causing changes in default rate
LGD=Default loss rate, default value at 96% without collateral of LGD
EAD=Amount of risk exposure

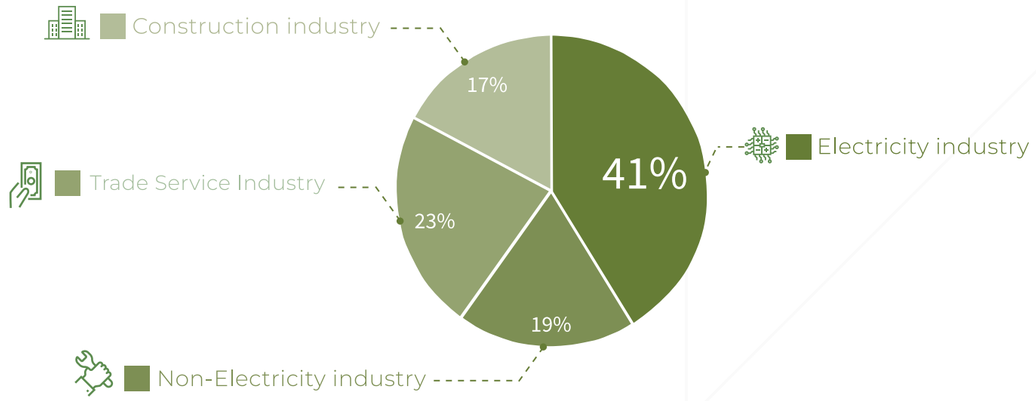
The expected credit loss assessment model used by CDF, assuming LGD and EAD remaining the same, dismantles the impact path of climate and financial factors through the PD model introduced for establishment inside the bank. Such model comprehensively takes consideration of the impact path of microeconomy and macroeconomy. The microeconomy paths include: Labor suspension, flood and draught caused impairment of operating revenue while the macroeconomy includes GDP, interest rate, and unemployment rate. Finally, the credit risk assessment formula ($\Delta EL = \Delta PD \times LGD \times EAD$) is applied to assess the change in expected credit loss caused by changes in default rate.

Microeconomic impact path	Assessment Method
Impairment in operating revenue caused by labor suspension due to long- duration storm	◆ Using the precipitation for school and office closure by region to observe the future precipitation intensity exceeding this standard frequency for all regions for the calculation of loss from work suspension. ◆ The hour of delay used is 24 hours and hence the frequency unit is based on “days,” assuming each time (day) of work suspension means a loss of 1/365 of annual revenue.
Impairment in operating revenue caused flood due to short-duration storm	◆ Flooding vulnerability (flooding height – damage curve of loss), represents the specific flooding height and amount of loss for the investment unit under the relevant properties.
Impairment in operating revenue caused by draught	◆ Calculating the water rationing policy caused by draught that leads to additional cost of water use by the corporate investment. ◆ Define the units of yellow alert, orange alert and red alert for water supply monitoring index, using the county/city industrial water consumption (tons) integrated and published by the Water Resource Agency and factory operating revenue (NTD10,000) to convert the aforementioned units of loss into loss to operating revenue ratio (%).

Assessment Results:

CDF adopts the top 20 domestic debt positions, which total amount of risk exposure reached NTD60,195 million, accounting for 19.55% of all CDF's domestic debt positions. The results of calculation through the expected credit loss assessment model shows disorderly transition scenario and the change in 2030 expected loss is NTD480 million (minimum value of change in default rate =0.02%; maximum value of change in default rate = 2.27%); orderly transition scenario and the change in 2030 expected loss is NTD572 million (minimum value of change in default rate =0.02%; maximum value of change in default rate = 2.01%).

Domestic Debt Top 20 Risk Exposure Ratio

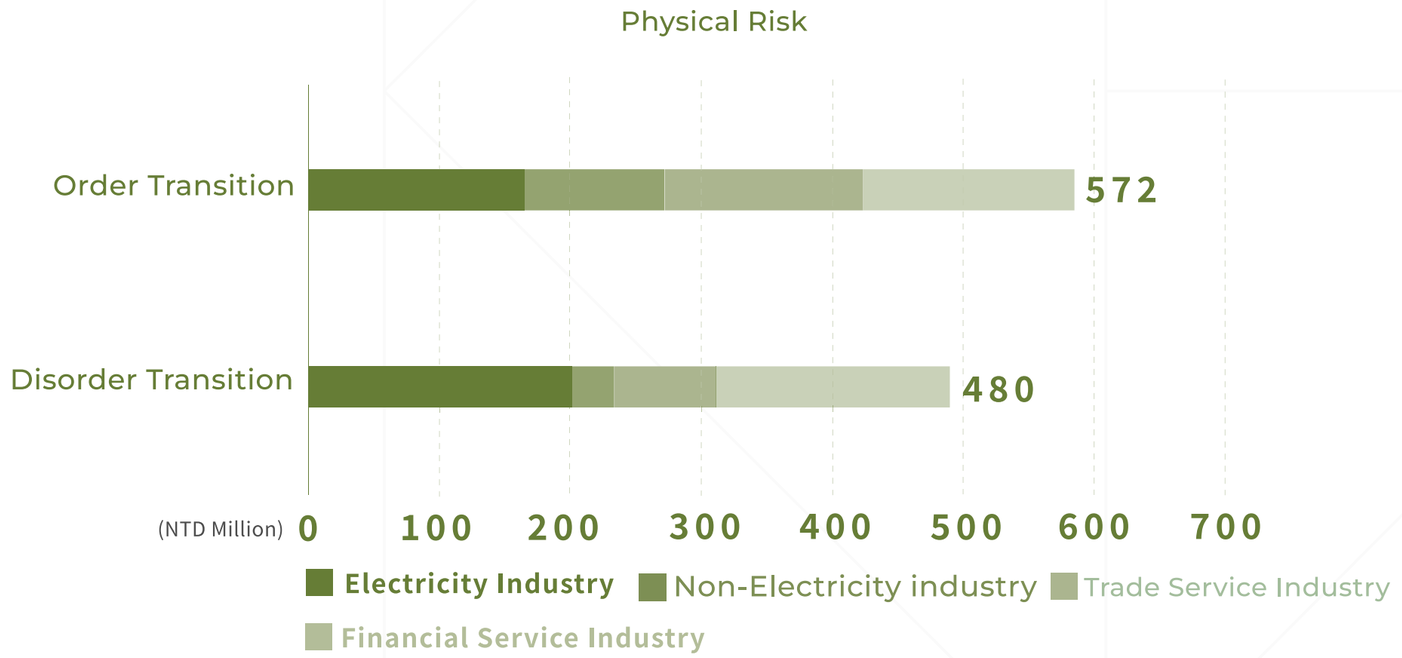


Industry category	Exposure amount (NTD million)
Electronics Manufacturing Industry	24,876
Non-Electronics Manufacturing Industry	11,178
Trade Service Industry	13,773
Construction Industry	10,368
Total	60,195

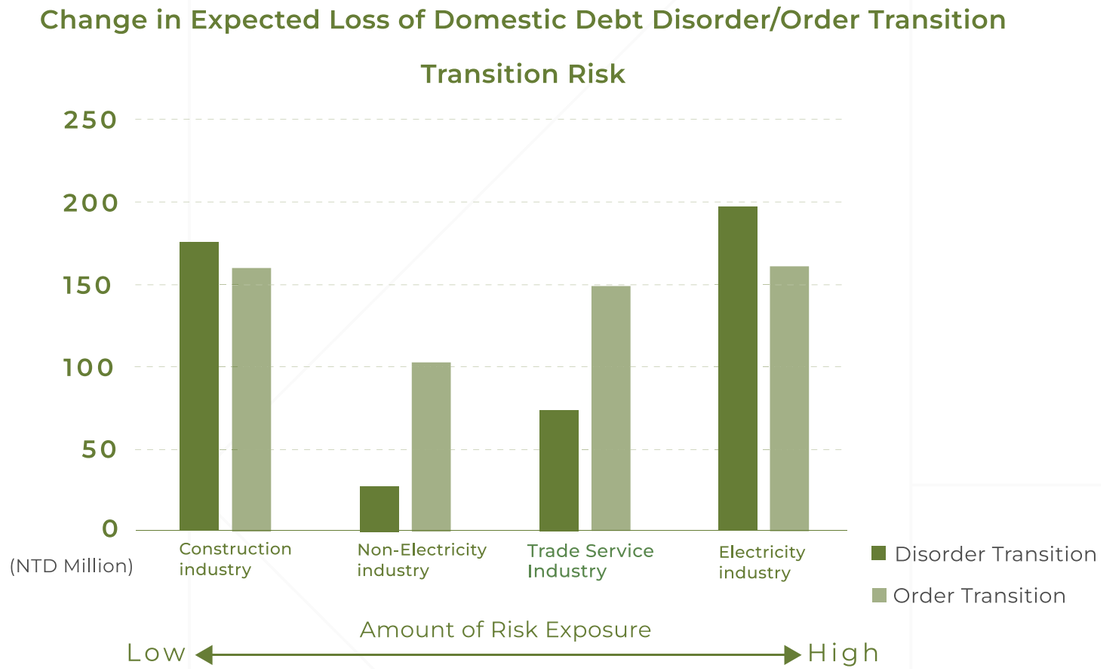
CDF further adopts the industry category of supervision pressure test as the base to analyze the expected loss of the industries. In this top 20 debt positions, manufacturing industries (including electronics manufacturing industry and non-electronics manufacturing industry) are the main industries exposed to risk, which total amount accounts for 60% of all risk exposure.

The analysis results suggest that since orderly transition scenario started active transition in 2020 and the disorderly transition scenario only started transition in 2030 and hence 2030 is used as the base scenario year. The expected loss of orderly transition will exceed disorderly transition. Additionally, the expected loss of electronics manufacturing industries and construction industry under disorderly transition scenario will be higher than that of orderly transition scenario, indicating the two industries should take active transition actions at the current stage in order to reduce potential loss.

Difference in Total Expected Loss of Domestic Debt Disorder/Order Transition Scenario



Industry Category	Changes in Expected Loss Disorderly Transition (NTD Million)	Changes in Expected Loss Orderly Transition (NTD Million)
Electronics Manufacturing Industry	196	160
Non-Electronics Manufacturing Industry	32	104
Trade Service Industry	77	148
Construction Industry	175	160
Total	480	572



The observation on the changes in expected loss for the four industries shows that although the construction industry faces with lower amount of exposure, its expected loss is the second largest, indicating the changes in the default rate of the industry is higher due to impact of climate change, which is a transitional industry with potentially high risks.

04

Co-Establish Sustainable

According to the risk assessment results in Chapter 3, the financial sector will need to include climate factors in impact assessment when conducting investment and financing business, in order to calculate the changes in expected loss. The business strategy should further include climate agenda into consideration to lower the risk, improve opportunities into direction, and commit to shift investment and financing portfolio to low-carbon transition pathway, and thereby to meet the 2045 total asset net-zero goals while bringing its sustainability influence into full play.

CDF responds to the principles of “Credible Net-Zero Commitments” by actively implementing net-zero actions in investment and financing policies to actually use funds on low-carbon transition through the reallocation of funds and active engagement with clients. To assure the investment behavior takes consideration of the environment, society and corporate governance, meet the vision of sustainability development while obtain the investment portfolio with profit potential under climate risk and maximize self-impact in sustainability financing, CDF established the “responsibility financing” task team in 2020 and proposed “commitment of sustainability financing” as the principles of implementing sustainability financing of the group. The commitment applies to objects including all business operations and investment and financing activities under the financial holding and all subsidiaries.

The asset categories include: counterparty of Listed Equity, Fixed Income, Private Equity, Infrastructure, Property, Derivatives & Alternatives, and financing. The following description will explain the CDF policies related to sustainability financing, including: ‘”responsibility investment policy,” “Principles for Responsible Banking,” “Stewardship Principles,” “ESG Integration Guide,” and “Principles for High Sensitivity Industries.”

4.1 Responsibility Investment Policy

To link with the Principles for Responsible Investment (PRI) of United Nations, all subsidiaries of CDF, except for those already signed the “Stewardship Principles for Institutional Investors” promulgated by the Taiwan Stock Exchange, we will further consolidate ESG issues and the investment fulfilment of group governance framework to build CDF’s investment risk management framework of six major responsibilities below:

CDF's Responsible Investment Policies

Responsible Investment Policies	Policy Content
ESG Integration Principles	Subsidiaries all formulate responsible investment policies, incorporating ESG principles into investment decision-making processes and fulfill stewardship objectives
Conflict of Interest Management	Establish mechanisms for information control, firewall design, segregation of duties, supervision and management, and reasonable remuneration to prevent conflicts of interest
Sector Specific RI Guidelines	Coal-mining or coal/thermal power plants that have been punished by competent authorities in the previous year for environmental pollution penalties should propose plans or improvement proofs
Exclusion Policy	1. There are specific evidence to prove that industries involving pornography, drugs, money laundering, financing of terrorist activities, slave labor, child labor, or human rights violations 2. Specific evidence to prove that the Board of Directors has violated laws, articles of association, resolutions of the shareholders' meeting and those who have a significant influence on the rights and interests of shareholders or investors.
Engagement Policy	1. Target companies/projects with better performance in the ESG appraisal are included in the "Encouragement List" and can be given priority for investment under the same financial evaluation. 2. Actively engage in ESG dialogues with investee companies, and through communication with them, guide them to reduce their negative environmental and social impacts and identify opportunities for sustainable development. Investment teams shall ask the portfolio companies or deals for the cause, development and handling of incidents, if any, where they breach laws, undermine the Company's ESG policy, or damage the Company's long-term investment value.
Voting Policy	In-principle disapproval for the proposals that impede the portfolio companies' sustainable development or corporate governance or violate ESG standards.

All subsidiaries shall comply with the responsibility investment policy for assets below:

KGI Bank	Investment in stocks measured at fair value through other comprehensive income (FVOCI) and investment in negotiable securities of banks
China Life Insurance	Equity fund investment
KGI Securities	Spot investment in dealers' stocks and bonds
CDIB Capital	Equity fund investment, and equity fund by fund raising and management (crowd funding)

4.2 Principles for Responsible Banking

Banks shall comply with the six principles of PRI in the commitment of investment portfolio and transaction behaviors to assure the investment and financing behaviors of banks in accordance with the sustainability development goals of UN and Paris Agreement. KGI Bank follows the Principles for Responsible Banking with consideration of Equator Principles (EP) to include ESG issues in credit decision, credit assessment projects, and post-loan management mechanism. The following considerations are taken by KGI Bank according to each credit project.

1 Project financing

For the handling of project financing cases with high water consumption and high pollution industries reaching more than US$10 million, various feasibility analyses are required in the credit report, including analysis of technology, market, finance and environmental protection, and are listed on a case-by-case basis.

2 Controversial companies

In principle, companies that do not comply with environmental protection standards, are involved in labor disputes or have corporate governance issues, and have no specific improvement plan will not undertake the contract.

3 Equator Principles

Incorporate the concept of the Equator Principles into the "credit rating table" of the case. If there are disputes over environmental protection issues, labor disputes, etc., the operation and management factors under the business risk item in the case "credit rating table" include risk management, corporate governance, etc. Projects are deducted points to reflect the risks of their operation and management.

4.3 Stewardship Principles

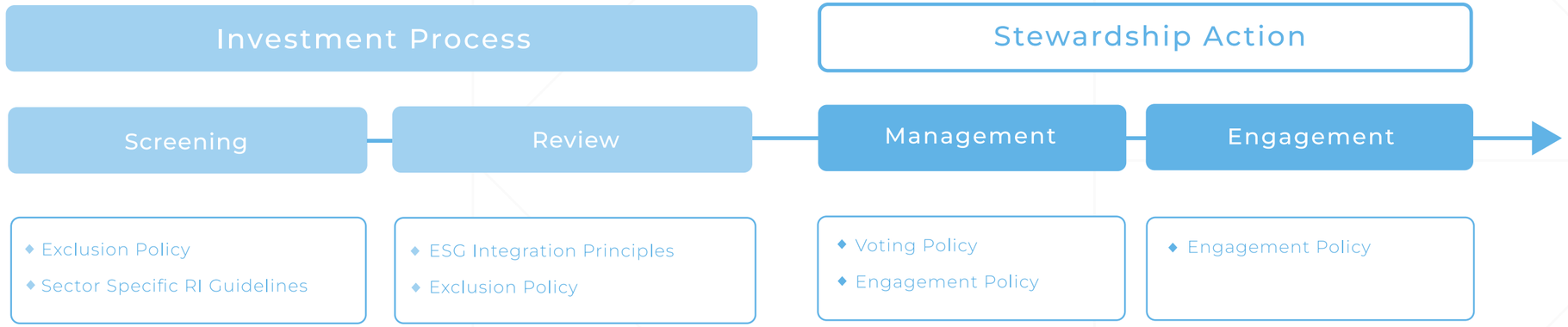
All CDF subsidiaries, except those having signed the “Stewardship Principles for Institutional Investors” promulgated by Taiwan Stock Exchange, whose investment and financing behaviors take into consideration of ESG issues in order to fulfill their duties in governance action while improving the investment value and increasing the long-term interests of the company and the shareholders. The policies related to duties fulfillment include the policy on conflict of interest, voting policy, and engagement policy. The execution method includes voting at Shareholders’ meeting, interaction and engagement with invested companies, major incidents of conflict of interests, and the internal investment of resources for implementing duties of governance. All subsidiaries periodically publish governance reports to disclose their engagement results and relevant policies. The following shows the compliance with “Stewardship Principles for Institutional Investors” by all subsidiaries in 2021.

China Life Insurance	KGI Bank	KGI Securities		
1.Periodically release “Disclosure Report on the Voting Results of China Life Insurance at the Invested Company’s Shareholder’s Meeting.” 2.At least 50% of the private funding and management companies participating in investment each year are members having signed PRI. 3.Attended the shareholders’ meetings of invested listing / OTC companies in 2021 with attendance rate reaching over 100%.	1.Actively carrying out conversation and interaction with invested companies: Attending 48 corporate investor’s meeting of invested companies, attending forums of invested companies, 58 seminars and workshops, attending phone interview with invested companies and conduct sessions of online meetings and physical visits. 2.Participated in the shareholders meeting with voting: 25 companies	1.100% Assign personnel by law to participate in the shareholders’ meeting executing e-voting process for 924 companies. In particular, 908 invested companies held e-voting at shareholder’s meeting (98.3%), 16 companies attended the meeting in person (1.7%) and the in-person attendance rate for shareholders’ meeting reached 100%.	2.Participated in the shareholders’ meeting for voting at 924 companies, with 4,607 cases of proposition and 4,585 propositions passe by voting, accounting for 99.5% of total agenda participation.	3.Actively carrying out conversation and interaction with invested companies: Conversation and interaction frequency with invested companies in 2021: Phone meeting and in-person meeting (3,240 sessions), participated in corporate investors’ meeting (592 sessions), or assigned personnel to participate in the general shareholders meeting to major shareholder provisional meeting (924 sessions)

CDIB Capital	KGI SITE
1.Attended the shareholders' meeting of invested companies in person (including attendance by e-voting) in 159 companies, one attendance for entrusted attendance, and 2 times absence with other reason.	1.Attended at total of 100 shareholders' meeting, the participation rate for invested listing/OTC companies is 100%. A total of 751 propositions were resolved (including director and supervisor election) with approval. 2.Voluntarily visited invested companies for 391 times.

4.4 ESG Integration Guide

CDF screens, reviews, manages, and engages in the process according to the different business properties of subsidiaries to conduct investment review. CDF also assures the including of ESG consideration at all stages to conduct integrated assessment on the environmental, social and corporate governance, thereby fulfilling duties and governance actions, improving investment value and advocating the sound development of the financial holding company and invested businesses.



In consideration of the integrity of investment market and rating information, the Company adopts ESG checklist and MSCI ESG rating as corporate screening data and divide the asset portfolios into three groups according to the leading level in ESG field: Leading groups (AAA~AA rating), Average Level (A~BB rating), and trailed group (B~CC rating). The group deliberately reviews all dimensions of investment business to assure the investment behavior in the implementation of ESG philosophy. the following is the investment portfolio performance of the group.

Investment Portfolio Position	ESG Rating Coverage Rate	Average and Over Standard Performance
Total Investment Portfolio	92%	94.9%
Stock Position	84.3%	90%
Financing and Corporate Bonds Position	93.5%	95.7%

4.5 Principles for High Sensitivity Industries

Principles for high sensitivity industries cover the industrial management principles and decarbonization strategy. The “industrial management principles” require all subsidiaries not to undertake new projects for highly controversial industries/activities. Those already undertaken shall terminate the cooperative relationship by the expiration. For “Highly ESG Controversial Industries and Activities,” the subsidiaries will commit to conduct deliberate assessment before undertaking and continue to follow up on the management of ESG issues after undertaking.

Decarbonization strategy are formulated according to the goals of no more than 1.5℃ of the average global temperature specified in Paris Agreement and the international consensus of meeting global GHG net-zero by 2050. We eventually reduce the investment and financing positions in fuel-coal related industries, non-standard crude oil/natural gas related industries, and other high-carbon emission industries. The goal is to comprehensively withdraw from fuel-coal related industries and non-standard crude oil/natural gas industries. CDF will stop the direct investment and financing on projects related to fuel-coal related industries and non-standard crude oil/natural gas industries before 2025.

The following description is the industry definition and corresponding actions for“3.1 Industrial Management Principles”and“Decarbonization

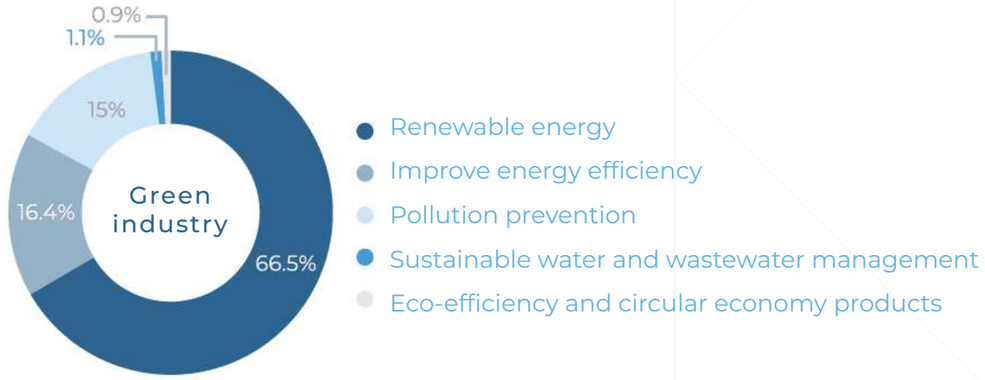
Principles	Principles of Property Management		Principles of Decarbonization
Industry Definition	Industry or activities with high level of controversies	Industry or activities with high level of TSG sensitivity	Fuel related industry, non-standard crude oil/natural gas related industry and other high-carbon emission industry.
Industry Category	Environmental and health consideration: tropical rainforest logging, tobacco industry and Polychlorinated biphenyls. Economic and social consideration: illegal gambling, pornography, drugs, nuclear weapon, money laundering, funding terror activities, slavering, employment of child labor or violation of human rights.	Energy industry Mineral industry Forestry Transportation industry Agriculture Husbandry	Fuel related industry: investment involving fuel mining, coal-fired power generation, and fuel related infrastructure. Non-standard crude oil/natural gas related industry: Involvement of oil sands, shale oil, oil gas, and the non-standard liquified natural gas extracted from the aforementioned sources, oil gas deep in under water, including the mining, sales and related infrastructure total life cycle. Other high carbon emission industries: including but not limited to agriculture, husbandry, mineral industry (petroleum, natural gas), manufacturing (coal, semiconductor/panel, wood and bamboo paper pulp, chemical materials, plastic/rubber, metal/non-metallic minerals), power and fuel gas supply, passenger/transport industry.
Action	No acceptance of new cases for industries/activities with high level controversies. Those accepted shall terminate collaboration with certain period of time.	Deliberate assessment before committing to taking various operations and continue to follow up the management of ESG issues involved after taking commitment.	Total withdrawal from business of related matters before 2040, including: infrastructure and project financing, credit line and loan, fixed income products subscribing business, and all voluntary, passive and entrusted investment to third-party management.

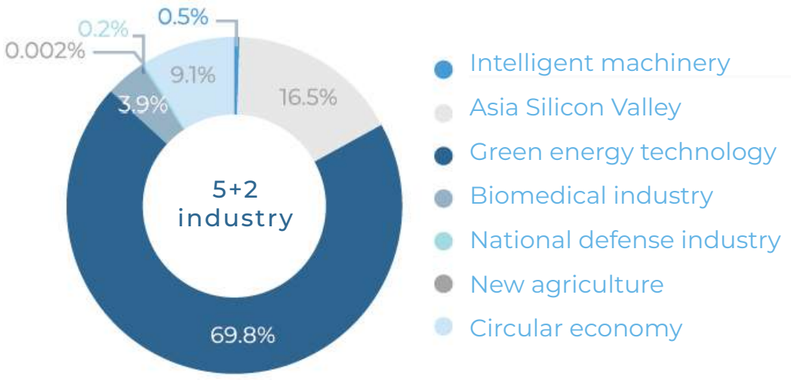
4.6 Description of Green Finance Action Outcome

The majority of group investments consist of bonds and listed/OCT stock investment and financing with intermediate to long-term purposes. Hence, the identification of climate-related physical and transition risks through intentionally transferring of investment position will help the group adapt to the intermediate to long-term changes in the market. According to the previous chapter that assesses the transition risk on portfolio, coal-fired power generation and high-carbon emission industries could increase the operating costs due to carbon risks while operating revenue decline. Or the lowered demand for petroleum, and contaminated power plant assets losing value in the market will become idle assets as well as other impacts. To cope with the impacts and bring the financial sustainability influence into full play, CDF will lower the investment and financing ratio for industries based on petroleum burning and other high-carbon emission industries, in addition to upgrading the investment and financing ratio of renewable energy, circular economy and other green related industries. Currently CDF group has invested approximately NTD110 billion in green industries. With regards to green financial products, CDF has undertaken over NTD60 billion in green credit, green bond and green funding. The following will explain the green finance and investment outcome for investment of proprietary assets and different subsidiaries (KGI Bank, China Life Insurance, KGI Securities, CDIB Capital, and KGI Site).

4.6.1 Investment of Proprietary Assets

CDIB Capital and China Life Insurance are two subsidiaries with investment of proprietary assets mainly from the green finance and investment of financial holding, with energy related investment accounting for the largest proportion currently. To appeal to the aforementioned principles for highly sensitive industry management, the subsidiaries reduce the transactions with petroleum related industries and diversify the transition enterprises as direction of investment. In particular, renewable energy related industries account for 66.5%, followed by energy efficiency improvement, contamination prevention, sustainable water resource and waste water management, ecology efficiency, and circular economy products. Additionally, the subsidiaries actively appeal to government policies by investing in 5+2 innovative industries with a total amount reaching NTD156.7 billion. Among which, nearly 80% are invested in green energy technology and the field of circular economy. Green energy technology and circular economy emphasize on renewable energy investment.





4.6.2 Subsidiary Related Outcome

1.KGI Bank

KGI Bank mostly focuses on green credit and project financing. With regards to business loan, KGI Bank supports diverse green credit portfolios, including energy conservation, energy storage, and the energy transition of smart system integration, plus the financing plan for renewable energy. In 2021, the green credit total balance reached NTD20,579 million, up over 20% compared with last year (note: the credit balance for green energy technology industry defined by Banking Bureau in the statistics on key innovative industries.).

Energy conservation

Develop high-efficiency variable frequency motors and optimize systems, thermal waste power generation, production process improvements, green building materials, deepen energy-saving technologies, and improve energy efficiency.

System integration

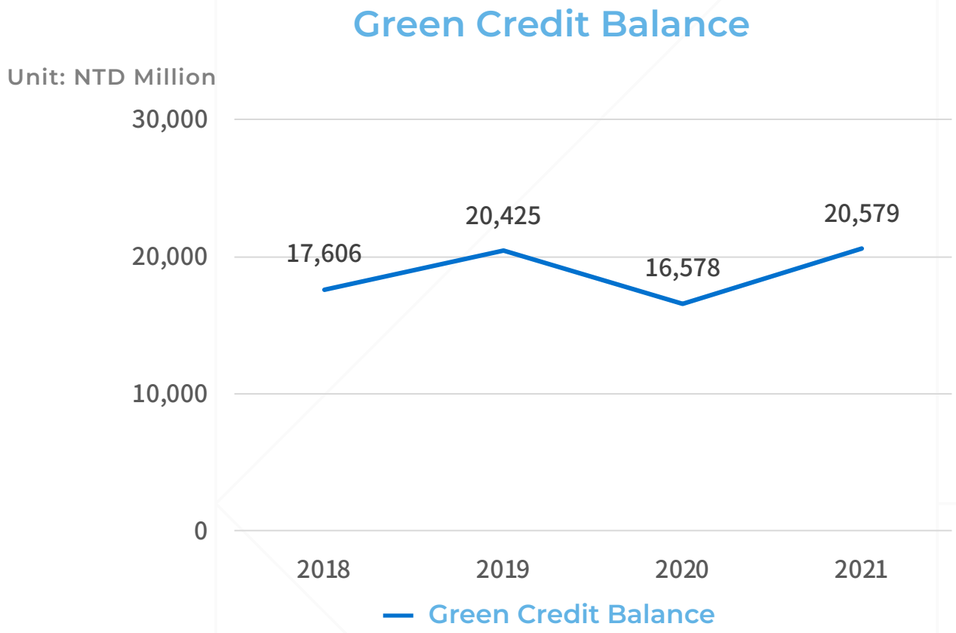
Promote the cross-sector system integration of the industry, introduce modular technologies and power generation management integrated with IoT, big data, and information communication technologies, and promote the circular economies of the energy service industry, smart grid, and carbon reducing clean coal.

Energy storage

Develop household/enterprise/grid-level energy storage systems, improve key materials, control management models, support power transmission and supply systems, and improve power supply reliability.

Green energy

Photovoltaics, wind power generation, fishery and electricity symbiosis, and water resource recycling.



In recent years, KGI Bank has participated in iconic large renewable energy power plant financing project. In view of government 2025 target for meeting renewable energy power generation for 20% of total installation capacity, KGI Bank actively invests in solar power, offshore wind power, biomass energy, geothermal energy, and marine energy related projects. In 2021, the financing and credit balance for solar power and offshore wind power renewable energy projects reached NTD6,088 million, which is expected to reduce carbon by 19,580 tons. Additionally, KGI Bank has been helping primary and secondary schools with building rooftops installed with local small sola power generation fields. It is expected that the total green credit amount in the following two years will reach a CAGR of 5%.

2.China Life Insurance

China Life Insurance responds to green financing through the launch of three major climate action plans for “renewable energy power plant investment,” “green bond investment,” and “high-carbon emission industry engagement.” China Life Insurance also reach low-carbon transition with invested targets through active engagement and communication.

First, with regards to the “renewable energy power plant investment,” China Life Insurance announced the alliance with Chenya Energy – the Taiwan subsidiary with 100% shareholding by Marubeni Corporation, in March 2022, to jointly invest in green energy industries. This collaboration project includes the Changbin Luanwei East No. 1 and No. 2 Power Plant, which is the largest marine solar power plant in the world, which is expected to generate 250 million kWh in green power to Taiwan each year., providing power consumption to 72,000 household units each year. As of 2021, statistic show that the investment in renewable energy power plant is expected to generate 311 million kWh in power generation.

With regard to “green bond investment,” China Life Insurance has invested approximately NTD10,200 million in green bonds as of 2021, including approximately NTD7,900 million in foreign green bonds and NTD2,300 million to green bonds issued by TSMC and Ørsted, in response to the government’s green financing action plan 2.0. Additionally, China Life Insurance also actively participated in the investment on the first sustainability bonds issued by Peru in 2021. The bonds are expected to commit in the climate change adaptation measures under the National Determined Contributions (NDC) and the COVID-19 recovery plan and industry low-carbon development plans. Currently the total amount for aforementioned domestic and green bonds and the Peruvian sustainability bonds is NTD12,800 million.

3.KGI Securities

KGI Securities help clients execute the fundraising business in the capital market. According to the provision of Taipei Exchange Operation Directions for Sustainable Bonds, the scope of sustainable bonds are green bonds, social responsibility bonds and sustainable bonds recognized by Taipei Exchange. KGI Securities participated in seven new domestic EGS related underwriting or counseling of sales cases priced in NT Dollars in 2021 (including five green bonds, one sustainable bonds, and one social bonds). A total amount of NT14,500 million have been issued.

Moreover, KGI Securities also raised 41 cases of equity funds in the capital market in 2021. The sponsored fund was approximately NTD35,000 million and environmental and green energy cases totaled 15 cases with over NTD18,000 million raised for the funds, accounting for 52% of the fundraising amount sponsored that year.

4.CDIB Capital

China Life Insurance currently manages private equity fund featuring themes and the total amount of Assets under Management (AUM) at fair value of NTD34,200 million. In particular, the social related themes in cultural and creative fund, innovative and biome funds totaled to AUM of NTD8,000 million. The theme for environmentally friendly and smart environment feature enterprise with core competency, including the investment in companies producing electronic scooter and automobiles, in the amount of NTD5,600 million, the two themes account for 23.4% and 16.4% respectively of the total management scale.

5.KGI SITE

KGI SITE invests in the core of “sustainability investment” and “value investment” by issuing the Global ESG Sustainable High Yield Bond Fund in August 2020. In September 2020, KGI SITE issued the Emerging Asia Sustainable Selection Bond Fund. As of the end of 2021, the scales of two funds were NTD2,169 million and NTD637 million.

In May 2021, KGI SITE issued the first two ETFs in Taiwan to adopt Bloomberg MSCI ESG bond index, namely 15+ Year EM USD Aggregate IG ESG Sustainable Bond ETF(Terminated trading at Taipei Exchange on June 2, 2022) and 15+Y US BBB ESG Sust Corp Bd ETF. As of end of December, 2021, the fund scale was NTD1,569 million. Additionally in September 2021, KGI SITE again raised funds for ESG Sustainable Emerging Market Bond Fund and the fund was focused on investment in bonds with ESG sustainable concepts. The investment in enterprises with sustainable and positive influence on the environment and society can take consideration of the ROI and goals in environmental and social sustainability development. As of the end of December, 2021, the fund scale reached NTD4,138 million.

Green Related Products and Assets

Related Subsidiaries	Asset Category	Project Name	Amount Involved (Million)
CDIB Capital	Private Equity Fund	Advantage Fund (environmentally protection and intelligence theme)	56,000
KGI Securities	Fundraising	ESG related underwriting or counseling sales cases	14,500
		Fundraising for cases of environmental protection and green energy	18,000
KGI SITE under KGI	Fund Management	Global ESG Sustainable HY Bd	2,169
		Emerging Asia Sustainable Selection Bond Fund	637
		KGI 15+Y US BBB ESG Sust Corp Bd ETF	1,569
		ESG Sustainable Emerging Market Bond Fund	4,138
China Life Insurance	Green Bonds	Foreign green bonds	7,900
	Sustainable Bonds	Peru sustainable bonds	2,600
	Green Bonds	Green bonds from TSMC and Ørsted	2,300
KGI Bank	General Credit	Green credit	20,579
	Project Financing	Renewable energy project financing	6,088

05

Active Participation in International Initiatives

2018
- CDF formally signed TCFD

2019
- China Life Insurance Introduced TCFD

2021
- CFD adopted PCAF

2022 February
- KGI Bank signed PCAF

2022 April
- CDF committed to SBTi

5.1 CDF Actively Participates in International Initiatives for Carbon Reduction

- CDF voluntarily signed TCFD in December 2018 and became a supporter to follow TCFD suggestions and key climate agenda for the Sustainable Committee to monitor the execution status periodically every half year.
- China Life Insurance introduced TCFD framework management climate risk in 2019 and take active carbon reduction and climate actions for the portfolio by acquiring the world's first ISO 14097 validation statement.
- CDF and all subsidiaries have adopted PCAF in 2021 to complete the 2021 carbon inventory of 100% investment and financing positions of equity, debts, and corporate loans with setup of annual carbon reduction goals. Moreover, KGI Bank also signed and joined PCAF in February 2022, and actively introduced the international standards of financed emission management.
- To systematically follow up the carbon reduction progress, CDF completed the signing and joined SBTi on April 7, 2022, implementing "Net-zero emissions for total portfolio by 2045" using internationally recognized scientific method.
- Although CDF could not join U.N., CDF still voluntarily complies with the relevant net-zero advocacy of U.N. in order to speed up low-carbon transition. For the formulation of carbon reduction goals, refer to the goal setting principles provided by NZAOA and comply with the "Credible Net-Zero Commitments" proposed by UNEP FI for the planning on carbon reduction practice and strategies, as well as the core development strategy of NZAOA.

UN environment programme | finance initiative

Credible Net-Zero Commitments

Strategic Direction

- Conformance with net-zero scenario setting
- Complete carbon reductio inventory
- Specific implementation practice
- Periodic and transparent disclosure

Net-Zero Asset Owner Alliance

Classification of Goal Setting

- Customer engagement goals
- Investment industry goals
- Investment and financing portfolio goals
- Owner transition goals

5.2 CDF Performance in the Promotion of Sustainability Development Project

Listed two years in a row

DJSI World Index

DJSI Emerging Market Index

Listed five years in a row

FTSE4Good Emerging Indexes

FTSE4Good TIP Taiwan ESG Index

Awarded 3 years in a row

TCSA Climate Leader Award

Awarded with Taiwan TOP 50 Enterprise Sustainability Award and Enterprise Sustainability Report from TCSA in 2021

中華開發金控

CHINA DEVELOPMENT FINANCIAL

TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES