Shinhan Bank Climate Finance Report

Shinhan Bank

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Interactive User Guide

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Shinhan Bank's Climate Action

Shinhan Financial Group is the first financial group in East Asia to declare an eco-friendliness strategy, 'Zero Carbon Drive' in 2020, to join the global cooperation to mitigate climate change. Zero Carbon Drive is Shinhan's own differentiated eco-friendliness strategy in line with global decarbonization policies. It is not only for managing loans and investments for carbon-intensive companies and industries, but also for the transition to low-carbon economy through greater financial support for eco-friendly efforts within the industries. Against this backdrop, Shinhan Bank is bringing financed emissions in its asset portfolio down to zero by integrating climate change risk management into the business process to accelerate the transition to low-carbon economy. To that end, Shinhan Bank plans to devise a roadmap for climate change risk management and takes various decarbonization measures to take the initiative in the transition.

Roadmap for Climate Change Risk Management

Phase 1 (2017-2020)		Phase 2 (2021-)
Step 1	Step 2	Step 3
Building the basis for adopting social and environmental risk management	Establishing the policy and process for social and environmental risk management	Integration into the business process
Review on environmental and social risks	Management of risk areas	Advancement of the climate risk management system
Grading environmental and social risks · Large-scale overseas PF (USD 10 Mn or up) · Risk level analysis (grade A-C) Review on environmental and social risks · Mandatory inspection on grade A and B risks	Elaborating the review on environmental and social impact · Establishment of a screening system based on global standards · Disclosure (e.g., status per risk level) Establishment of a risk area management policy · Selection of key areas and establishment of management measures	Building Measuring Management system for scope 3 emissions · PCAF-based measurement of emissions from 6 asset classes · Reflecting the result per sector in the portfolio ESG-based loan/investment screening process · Writing a checklist for inspecting companies' climate action · Simulation of emission for loan/investment application

Governance

1. Management and Oversight of Climate Change Risks and Opportunities – Board of Directors

In March 2022, Shinhan Bank established the ESG Committee to reinforce the monitoring and decision-making for sustainable management under the Board of Directors, which is the highest decision-making body of the bank. The Committee consists of all the directors and the CEO, considering the importance of ESG management, and the ordinary meetings are held once half a year. Shinhan Bank is the first commercial bank in Korea to establish the ESG committee, and Shinhan Bank aims to become an ESG leading bank. To that end, Shinhan Bank provides regular training programs and education on climate change risk management to build its employees' expertise and capability to manage climate change risk.

Organization for ESG and Climate Change Risk Management

Category	Climate Change Risk Management Oversight	ESG Operation Oversight
Dedicated Team	Risk Oversight Department	ESG Planning Office
Person in Charge	CRO	CSSO
Management Consultative Body	ESG Management Committee	
Relevant Sub-Board Committee	Risk Management Committee	ESG Committee

2. Management and Oversight of Climate Change Risks and Opportunities – Management

Shinhan Bank operates the ESG Management Committee consisting of all management to distinguish the roles and responsibilities for sustainable management. The Committee regularly deliberates and resolves ESG matters, such as climate change. The ESG Management Committee convened 4 times in 2022 where the members resolved the establishment and operation of the ESG Committee, the adoption of a system to measure and manage carbon emissions, and the operation of the reduction TF.

R&R of ESG-related Committees within Board

Category	Risk Management Committee	ESG Committee
Resolution Item	· Climate change risk management system · Climate change risk management policy (in case of measuring internal and regulatory capital) · Setting a limit to achieve the reduction target (in case of setting a limit)	· Financed emission reduction target for decarbonization · Strategy to mitigate climate change risks and utilize opportunities
Report Item	· Result of financed emission management and monitoring · Result of scenario analysis and Impact of physical risks · Key matters related to the disclosure of climate change risks	· Result of the strategy to mitigate climate change risks and utilize opportunities · Key matters related to disclosure

3. Management of Climate Change Risks and Opportunities – ESG Management Organization

Considering that climate action is managed within the ESG operation system, Shinhan Bank operates an ESG management organization within it on top of the risk management organization. Shinhan Bank seeks to enhance expertise by establishing the roles and responsibilities of the climate change organization and the ESG management and implementing specific tasks in each area. The climate risk management organizations, the Risk Oversight Department and ESG Planning Office, are responsible for the standard, management system, policy and strategy of our climate change risk management. Each business division devices detailed management plans per area based on those matters and apply them in business plans.

R&R for ESG and Climate Change Risk Management

Category	Climate Change Risk Management	ESG
Risk Identification	· Identification of the cause of risks	· Discovery of opportunities
Risk Assessment	· Measurement of financed emissions and scenario analysis · Measurement of internal capital (if necessary) · Measurement of regulatory capital (if a regulation is adopted)	· Establishment of a strategy to execute the discovered opportunities
Risk Management	· Intensity management · Selection and management of carbon-intensive industries · Setting and managing exposure limits per industry or large-scale borrower	· Setting and monitoring a reduction target for financed emissions aligned with decarbonization · Establishment and management of a strategy to achieve the reduction target
Disclosure	· Risk disclosure · Support for disclosure tasks	· Sustainability Report (ESG Report), TCFD Report

Strategy

1. Method of Climate Scenario Analysis

Climate change risks are now measured through a scenario analysis that reflects socio-economic changes instead of conventional statistical methods due to the complexity and wide-ranging impact. Thus, Shinhan Bank adopted scenario analysis in identifying the impact of climate change on the portfolio for both transition risks and physical risks. Shinhan Bank analyzed transition risks with a top-down method that utilizes the analysis result of the Bank of Korea based on the loan assets of Shinhan Bank for the first time this year. Shinhan Bank also analyzed physical risks on the basis of the impact of a decrease in the value of real estate mortgage using the climate risk model of Ewha Womans University and the Financial Supervisory Service. Shinhan Bank will continue to address climate change by elaborating the climate-related transition and physical scenario methods.

Climate Change Risk Scenario Analysis Methodology

Category	Transition Risk	Physical Risk
Analysis Method	Analysis of the impact by utilizing the analysis result[1] of climate-related transition risks of the Bank of Korea	Using the climate risk model of Ewha Womans University and the Financial Supervisory Service
Analysis Result	Impact, such as Shinhan Bank's BIS ratio[2], etc.	Expected bad debt following a decrease in the value of real estate mortgage in Korea as part of Shinhan Bank's loan assets

1) Bank of Korea (Dec. 2021), Climate-related Transition Risks & Financial Stability
2) Calculated by dividing equity capital by risk-weighted assets by the capital adequacy ratio and converting it into a percentage

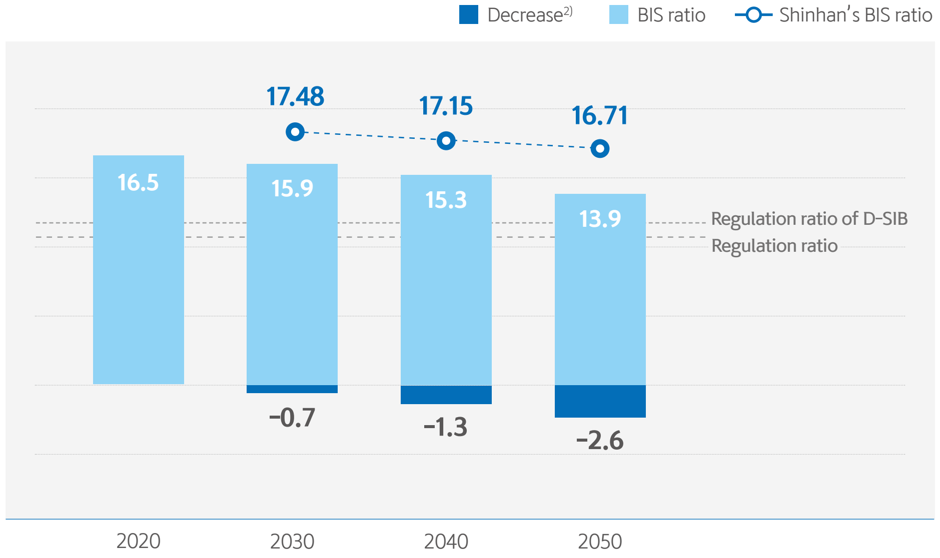
2. Result and Implication of Climate Scenario Analysis

The Bank of Korea measured the impact of transition risks on domestic industries (changes in the bankruptcy rate in high-carbon industries) and the impact on financial institutions (changes in the BIS ratio, etc.) that hold financial assets in those industries through an analysis on the impact of transition risks following climate change. They used the 1.5℃ scenario and the 2℃ scenario of the Network for Greening the Financial System (NGFS) and analyzed the impact of stronger GHG reduction policies and low-carbon technology on the fall in the value of related financial assets to estimate the changes in the BIS ratio of Korean banks.

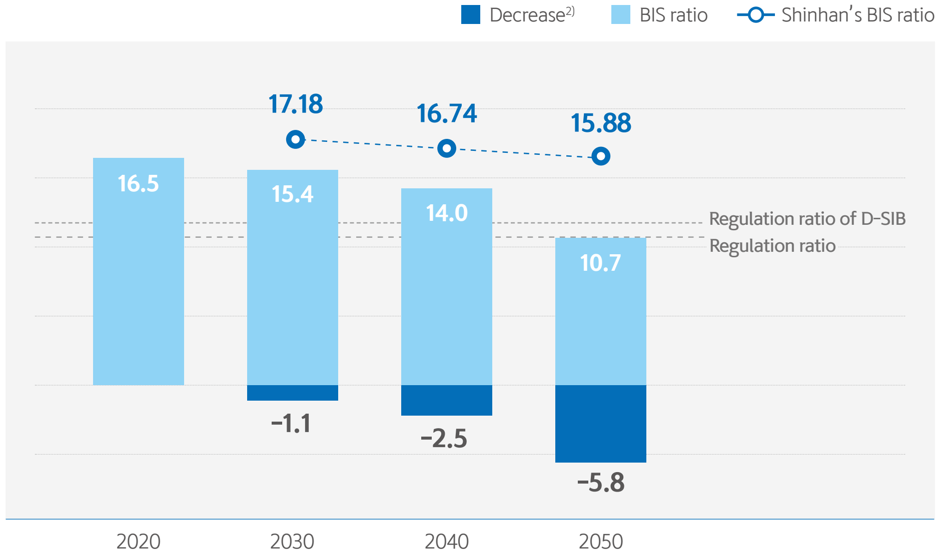
Shinhan Bank reflected the Bank of Korea's analysis that the bankruptcy rate of high-carbon industries and low- and mid-carbon industries is increasing in the bank's portfolio and analyzed the impact of BIS ratio, assuming that the structure of financial assets is the same during the analysis period (2021-2050) and the base period. The BIS ratio as of 2050 decreases by 1.47%p in the 2℃ scenario and 2.30%p in the 1.5℃ scenario, incurring negative impact.

Changes in BIS Ratio of Korean Banks due to Transition Risks[1)]

2℃ Scenario (Unit : %)



1.5℃ Scenario (Unit : %)



* Source: Bank of Korea, Reorganization of Climate-related Transition Risks & Financial Stability, 2021
1) Regulation standard 10.5% (D-SIB 11.5%)
2) BIS ratio of Korean banks decreased by 2.6%p in the 2℃ scenario and 5.8%p in the 1.5℃ scenario (as of 2050)
BIS ratio of commercial banks decreased by 1.6%p in the 2℃ scenario and 3.7%p in the 1.5℃ scenario (as of 2050)

Risk Management

1. Assessment and Management of Climate Change Risks

Shinhan Bank defined environmental and social risks systematically based on the risk categorization system in the TCFD recommendation to regularly identify and monitor climate risks and vulnerable areas. Shinhan Bank established a climate risk assessment and management process based on it and strive to advance the system.

1) Risk Identification, Assessment and Management Process

Identification of Climate Risks	→	Calculating Financed Emissions and Identifying High-Risk Areas	→	Monitoring and Management	→	Report to Board and Management
Identification of climate risk management targets based on risks incurred by climate change and the impact on the financial system	→	Identification of high-risk areas*, such as carbon-intensive areas, by calculating financed emissions of the bank using the financial and emission data of loan/investment companies	→	Changes in financed emissions, carbon intensity, etc. identified on a dashboard for high-risk areas and some sectors designated as management focus areas and managed with an exposure limit	→	Monitoring and management status reported to the Committee and management, reflected in climate decision-making and response strategy

* Group's level of exposure, financed emissions and carbon intensity, TCFD definition of risk areas (energy, transportation, raw materials and construction, agricultural products/food and forest products), and reports of the Bank of Korea and research institutes are considered comprehensively.

2) Identification and Assessment of Key Risks

Shinhan Bank categorizes and manages climate-related risks based on the risk categorization system in the TCFD recommendation.

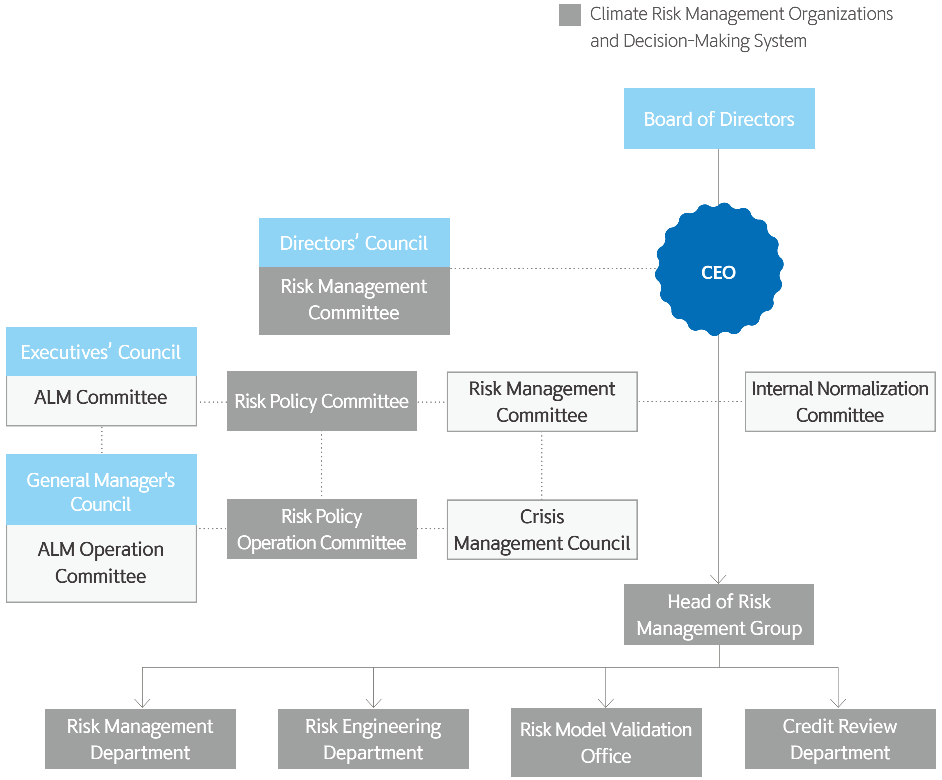
Risk Type		Financial Risk			Non-financial Risk			
		Credit	Market	Reputation	Regulation	Technology	Legal	Physical
Transition Risk	Policy & legal risk	●	●		●		●	
	Technology risk	●			●	●		
	Market risk	●	●			●		
	Reputational risk	●		●	●		●	
Physical Risk	Acute risk	●			●			●
	Chronic risk	●			●			●

1. Assessment and Management of Climate Change Risks

3) Integrated Risk Management that Incorporates Climate Change

Shinhan Bank established a risk management system to preemptively respond to risks that may occur in management activities, including climate change. The Board of Directors and the management are assigned with roles, and the internal control structure enables mutual check in the independent risk management governance system. The Risk Policy Committee decides on the bank's credit risk management and the direction of loan policies, sets key tasks per management system and reflect them in the incentives of those in charge for successful risk management.

Risk Management Governance



Key Tasks per ESG Risk Management System

Category	Content	Team
Establishing and advancing the financed emission management system	Developing a measurement method for financed emissions to achieve the bank's reduction target and monitoring and reporting financed emissions	Risk Management Department
Climate finance governance and disclosure	Discussing the direction of Climate Finance Report (within the TCFD recommendation), advancing climate organizations and systems and managing the outcome of efforts to reduce financed emissions	ESG Planning Office
Developing an internal ESG model	Developing and upgrading a model to assess and grade the counterparty's ESG factors	Risk Engineering Department
Establishing a loan/investment review process considering ESG	Establishing and advancing a review process that reflects ESG factors when making decisions related to loans and investments	Corporate Credit Analysis & Assessment Department, IB & Global Credit Analysis & Assessment Department

2. Climate Change Risk Management Activities

Shinhan Bank conducts climate risk management activities, such as 1) developing a system to measure and manage carbon emissions 2) selecting carbon-intensive areas and portfolio operation 3) a loan/investment review process focusing on ESG 4) a financed emissions dashboard 5) climate risk management guidelines and work manual 6) training to relevant teams and branches and 7) encouraging customers to manage climate change risks.

1) Developing System to Measure and Manage Carbon Emissions

Shinhan Bank is the first financial institution to establish a system to measure and manage carbon emissions as part of achieving 2050 Net-zero. The system estimates changes in carbon emissions following an adjustment in asset portfolio and shows carbon reduction in real time.

Emissions Calculation Process

01 Categorization of Assets Measured

- Listed stocks and corporate bonds
- Corporate loans and unlisted stocks
- Project Finance (power generation and infrastructure)
- Commercial real estate
- Mortgage
- Automobile loans

02 Measurement per Emission Scope

- SCOPE 1: Direct carbon emissions from enterprise-owned/controlled sources
- SCOPE 2: Indirect carbon emissions from consuming purchased power, etc.
- SCOPE 3: Carbon emissions not directly owned or controlled by the enterprise but generated within the enterprise's value chain

03 Emission Calculation

Estimation and disclosure of financed emissions corresponding to the ratio of loan and investment balance provided by the financial institution compared to the borrower's asset value among the total emissions of the borrower with a balance

Carbon emissions of the emitter

×

[Loan/investment balance of financial institution / value of the emitter (company, etc.)]

↓

Financed emissions

Key Features of Carbon Emissions Measurement System

- Viewing the scope 1, 2, and 3 data of the borrower
- Viewing emission data of branches of each business group per category, such as an asset class
- Viewing the emission data of a borrowing company per asset class (listed stock, corporate bond, corporate loan, etc.)
- Viewing carbon-intensive companies' (TOP500) emissions
- Viewing emissions per sector
- Time-series viewing of the bank's emission measurement results per business group, customer and sector
- Simulation of financed emission and intensity for corporate loan applications

Current Carbon Emissions Measurement System

① Monitoring Financed Emissions and Managing Portfolio in Net-zero Perspective

Shinhan Bank identifies carbon-intensive companies and sensitive areas by monitoring per asset class, customer, business group and carbon-intensive company and share the result with the Risk Policy Committee, Risk Management Committee and ESG Steering Committee to be reflected in the portfolio management.

② Used in Loan/Investment Screening Process

Shinhan Bank calculates the financed emissions and intensity of loan/investment to be given and examines the impact on the bank compared to the peer level. In the case of companies subject to the emission trading system, the level of actual emissions compared to the allocation is examined and used for screening.

2) Selecting Carbon-intensive Areas and Portfolio Operation

Carbon-intensive Sector

- Power generation, steel, petrochemical, etc.

Portfolio Management Plan

- Differentiation of limits reflecting the adjustment rate for carbon emissions

2. Climate Change Risk Management Activities

3) Loan/Investment Review Process Focusing on ESG

Shinhan Bank built a loan/investment review process to boost the efforts for Zero Carbon Drive following the establishment of a financed emission measurement system and ESG assessment system.

ESG Screening Process to Manage Carbon Emissions

Category: Corporate (loan) | IB (investment)

Process: **Examining Top Carbon-Emitting Sectors**

Checking the emission status of the top carbon-emitting sectors and reduction efforts / Examining ESG risks

- Check emissions level in the industry, emission trend of individual companies etc.
- Carry out emissions simulation inspection
- Focused inspection of checklist such as carbon emission status, compliance with environmental laws, accident/disputes complaints etc.

Strategy Category:

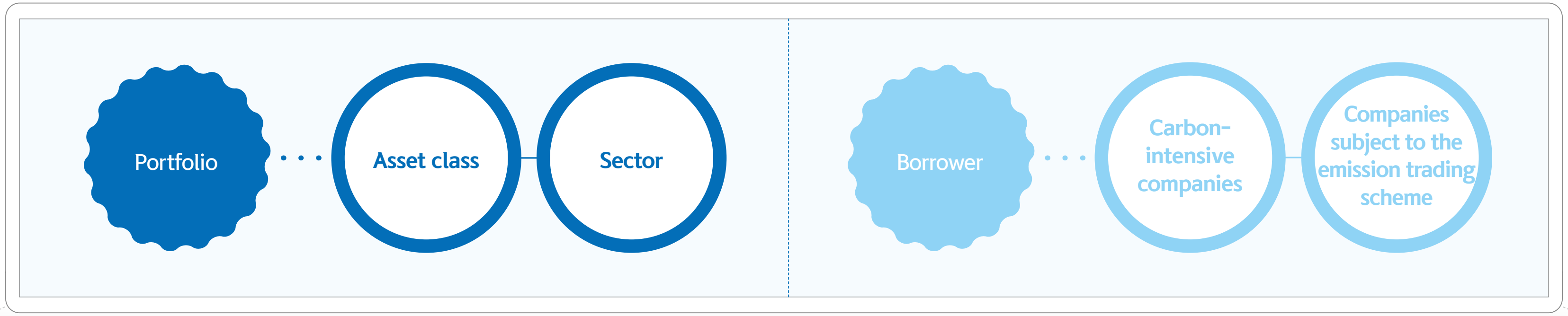
- **Differentiation considering carbon emission status and reduction efforts**
- **Checklist-based carbon emissions and ESG reviewed and reflected in screening, including the limit**

2. Climate Change Risk Management Activities

4) Financed Emissions Dashboard

Shinhan Bank regularly estimates and monitors financed emissions with a system that shows the financed emission figures and intensity at the company level. Moreover, Shinhan Bank operates a dashboard of financed emissions to effectively manage risks from a surge or concentration of financed emissions and intensity in the asset portfolio. Shinhan Bank identifies and manages the financed emission figures per portfolio and borrower on the dashboard. Shinhan Bank established a plan to manage financed emissions per sector individually based on priority depending on how much they exceed the threshold.

Current ESG Dashboard and Monitoring System (example)



Category	Exposure (trillion)			Financed Emissions (ton)				Intensity (ton)			
	Dec. 2020	Dec. 2021	Oct. 2022	Dec. 2020	Dec. 2021	Oct. 2022	Reference level	Dec. 2020	Dec. 2021	Oct. 2022	Reference level
Sector A	10	12	13	1 million	1.3 million	1.6 million		35.0	37.5	43.0	
Sector B	8	9	11	10,000	3,500	15.0		10.5	10.0	9.5	
Sector C	13	10	8	30,000	7,000	18.0		17.5	18.0	18.3	

2. Climate Change Risk Management Activities

5) Climate Risk Management Guidelines and Work Manual

Climate Risk Management Guidelines

Shinhan Bank established the Climate Risk Management Guidelines that stipulate specific standards needed to identify, measure and manage climate risks. The guidelines include the standard, process and method of estimating financed emissions, subject of climate risk management and strengthening the climate risk management capacity. Financed emissions are estimated as per the Global GHG Accounting & Reporting Standard for the Financial Industry of PCAF(Partnership for Carbon Accounting Financials), and greenhouse gas emissions are calculated as per the process in data score and option. Shinhan Bank plans to expand the scope of climate change risk management from carbon emissions, financed emissions and intensity to vulnerability to abnormal weather events, unsustainable energy practices and relevance, deforestation and pollution. Moreover, Shinhan Bank regularly conducts training to reinforce the climate risk management capacity of employees to secure expertise in managing climate risk.

Climate Risk Work Manual

In addition to the guidelines, Shinhan Bank established the Climate Risk Work Manual for effective climate risk management. The manual aims to enhance resilience to climate risk by proposing a standard for climate risk management and raise awareness on climate risk in the bank. It highlights that the implementation of eco-friendly economy to respond to climate change is a task Shinhan Bank must tackle for the sustainable growth of the society and an opportunity for it to utilize as a future growth engine and describes the importance of identifying, assessing and managing risks to enhance resilience to climate change and mitigate climate risks.

6) Training for Relevant Teams and Branches

Shinhan Bank provides training on the concept of climate change risks and internal systems to the members of relevant departments, such as the screening department, and branches in and outside Korea to enhance their capabilities on dealing with climate change risks.

7) Encouraging Customers to Manage Climate Change Risks

Shinhan Bank encourages its customers to participate in carbon reduction to reduce corporate carbon emissions, and thus, financed emissions. Shinhan Bank seeks to establish a structure of cooperation to minimize transition risks from both the bank and the customers. Also, Shinhan Bank manages the share of its portfolio to adjust how much of the financial assets is exposed to the risks, and Shinhan Bank plans to manage climate change risks by collectively considering climate-related regulations, companies' climate action, technological advancement and portfolio structure in terms of climate change. To that end, Shinhan Bank awards RMs (relationship managers) who engage in ESG financial support and companies that make environmental or social improvements to promote ESG practices in sales in collaboration with customers and motivate them to take lead in ESG management efforts. To motivate them, Shinhan Bank offers gifts or awards to companies that practice eco-friendly management in an innovative way or companies that engage in transition finance and eco-friendly finance and their RMs through a quarterly and annual review. Along with this, Shinhan Bank is the first commercial bank to provide ESG management consultation to SMEs(Small and Medium Enterprises) to enhance their understanding of ESG and spread ESG management across the industry. Shinhan Bank will share its know-hows through consultation services for SMEs and support them in ESG efforts and green transition.

Participation-Inducing Reduction

Participation-inducing reduction refers to encouraging companies – the source of financed emissions and customers – to take part in carbon reduction to minimize their exposure to transition risks while preventing the transition risks of the companies from being transferred to Shinhan Bank. With the participation-inducing reduction efforts, Shinhan Bank plans to encourage carbon-intensive companies to reduce emissions, induce investment into new facilities and renewables, which address stranded assets[1], increase investment and green finance in eco-friendly innovative technology (CCUS[2], hydrogen reduction, innovative materials, etc.) and monitor companies' improvement of intensity per unit and intensity per sales.

1) Stranded asset: Asset that has suffered from premature write-downs, devaluations or conversions to liabilities due to climate risks, etc.

2) CCUS (Carbon Capture Utilization and Storage): Technology to capture carbon emissions emitted during industrial activities and liquefy them with pressure to be used or stored underwater or underground

Metrics and Targets

1. Assessment Methodology of Climate Change Risks and Opportunities

Shinhan Bank determines the priority of risks and opportunities of a climate-related issue by assessing the impact of the issue on loan or investment activities. Shinhan Bank identifies carbon-intensive areas[1] in investment, and if the carbon intensity of an investee is high compared to industry peers, Shinhan Bank determines as a high risk and reflects in the assessment of climate risks and opportunities. Shinhan Bank also assesses potential risks and opportunities due to climate change and the financial impact of climate change on investees to rank the risks and opportunities.

1) Carbon-intensive areas: Sectors that have significant impact on climate change, such as power generation, chemical products and mining

Current Scope 1, 2 and 3 Emissions

Scope	2020	2021	Jun. 2022	Note
Scope 1	10,604	10,413	5,149	Internal emissions[2]
Scope 2	61,628	61,628	32,756	Internal emissions
Scope 3	36,560,051	39,932,789	41,765,832	Financed emissions

2) Internal emissions to be verified by the government by the end of March 2023

2. Disclosure of Scope 1, 2 and 3(if applicable)Emissions and Related Risks

① Current Regulations

One of the well-known regulations related to GHG emissions in Korea is the Emission Trading System(ETS). The government implements the National Emission Allocation Plan for each phase, in which the government determines the total amount of emissions and allocates it to companies. If a company emits more than allocated, the company needs to purchase carbon credits. Such costs may negatively impact the company's financial structure and the impact may increase depending on the price of carbon credits.

② New Regulations

Shinhan Bank determines how to respond to climate-related regulations through an analysis on financial impact including direct and indirect impact. As Shinhan Bank is subject to the GHG and energy target management regulation, Shinhan Bank may need to adopt the ETS if the regulation is strengthened, which is expected to raise general operational costs due to GHG and energy reduction activities and purchase authorization. In addition, the need for standardized disclosure of financial data is heightening following the increase in financial risk due to climate change, and it is likely that Shinhan Bank will be subject to data disclosure following the establishment of the IFRS S1 and S2 sustainability disclosure standard guideline and disclosure becoming gradually mandatory. Thus, regulatory and reputational risks may occur if the company's analysis capability is inadequate for disclosing ESG issues, including climate-related issues.

③ Lawfulness

Shinhan Bank determines whether to make investment based on the financial impact on the investee or project through the environmental and social risk management system. Shinhan Bank responds preemptively to such risks with conditional financial support that makes it mandatory to take impact reduction measures if necessary. It is unlikely that GHG emissions would lead to a lawsuit because of the nature of the financial service industry, but if the investee is punished from a climate-related litigation involving the investee or project, it may weaken the company's financial soundness as the image and reputation of the investee or project would be lost.

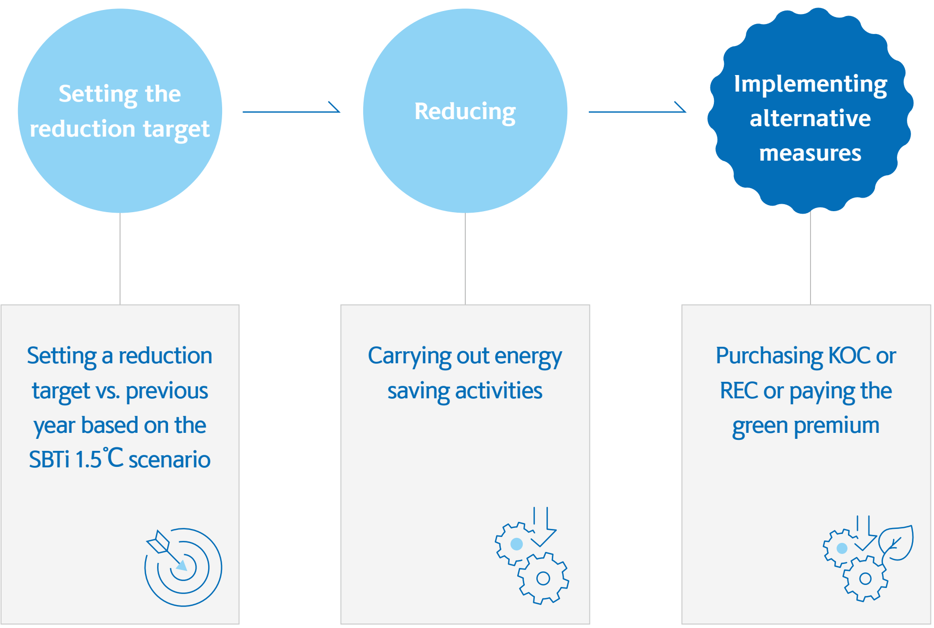
3. Description of Targets and Achievements Used by Organization to Manage Climate Change Risks and Opportunities

Shinhan Bank manages financed emissions from the borrowers or investees in our asset portfolio (scope 3) and internal carbon emissions from Shinhan Bank (scope 1 and 2).

Internal Carbon Emissions - Scope 1 & 2

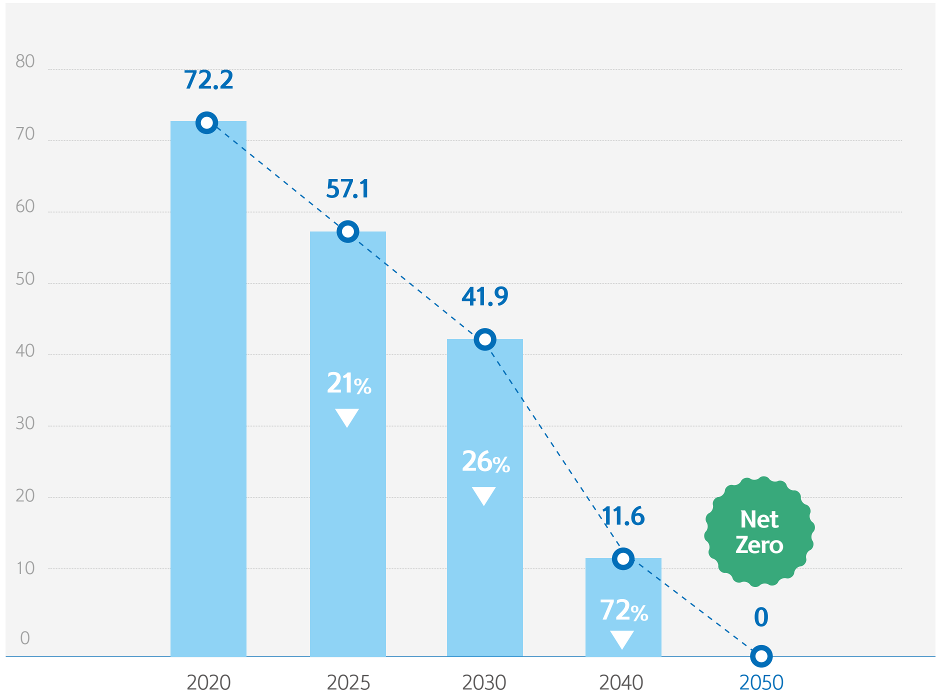
Shinhan Bank strives to achieve net-zero by 2050 by reducing 5% of internal carbon emissions per year, using scientific tools based on the Paris Agreement (1.5℃ scenario) set forth in the Science-based Target Initiative (SBTi). To reduce internal carbon emissions, Shinhan Bank saves energy by making air conditioning, heating and ventilation efficient particularly at the HQ and switch gasoline vehicles to zero-emission vehicles. Shinhan Bank is discussing purchasing reduction measures, such as Korean offset credits and certificates and paying the green premium, in case of not achieving the target.

Internal Carbon Emission Reduction Roadmap



2050 Internal Carbon Emission Reduction Targets

(Unit : 1,000 tCO_2e)

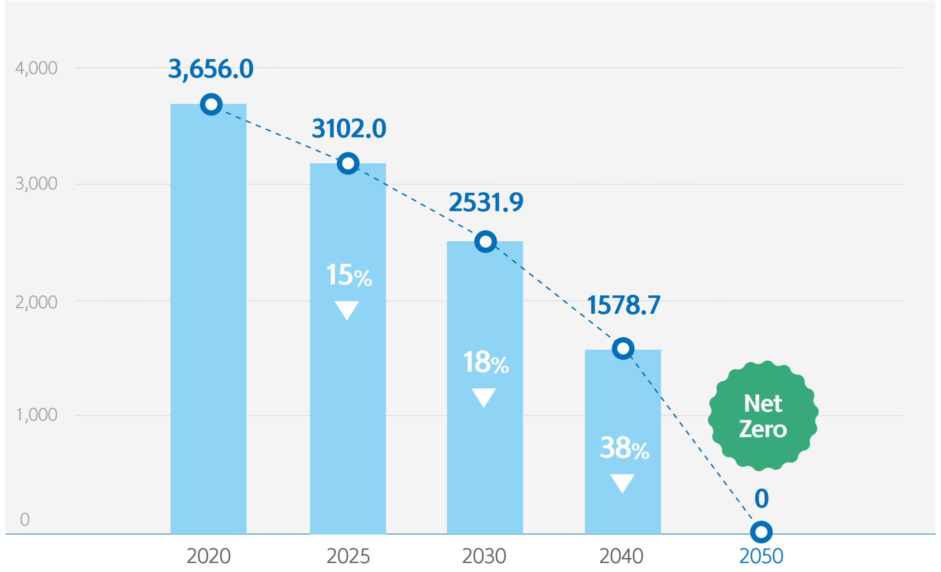


3. Description of Targets and Achievements Used by Organization to Manage Climate Change Risks and Opportunities

Financed Emissions - Scope 3

Shinhan Bank measured carbon emissions using the PCAF methodology and set reduction targets using the SBTi methodology to make the Group's reduction target objective. Shinhan Bank is striving to create a low-carbon asset growth strategy and provide financial support to high-carbon companies for transition. To reduce financed emissions, Shinhan Bank will focus its capacity on helping emitters reduce emissions, manage carbon-intensive companies strictly, encourage them to reduce emissions gradually, establish a climate risk management system and expand low-carbon portfolio. To that end, Shinhan Bank will increase financial support to companies that are transitioning to renewable and green infrastructure, strengthen the monitoring and response to the reduction plan of carbon-intensive companies and manage carbon reduction more strictly.

2050 Financed Emissions Reduction Target (Unit : 10,000 tCO_2e)



Measures to Reduce Financed Emissions

Strategic Direction	Implementation Measure	Details
Support for reduction	Strengthening financial support to companies that are transitioning to renewable and green infrastructure	Expanding green business areas through MOUs and investment in renewables and low-carbon businesses
Encouraging carbon-intensive companies to reduce emissions	Encouraging carbon-intensive companies to be more involved	Strengthening capacity by monitoring the target and current situation of carbon reduction and providing green transition financial education
Establishing a climate change risk management system and expanding low-carbon portfolio	Expanding low-carbon portfolio and marketing	Launching a product that offers incentives if exceeding the reduction target
	Stronger response to the Green New Deal and K-Taxonomy	Increasing the share of green finance in advance upon a K-Taxonomy loan/investment strategy
	Revising the loan/investment process considering climate risk	Gradually incorporating climate risk factors of carbon-intensive industries in screening and assessment

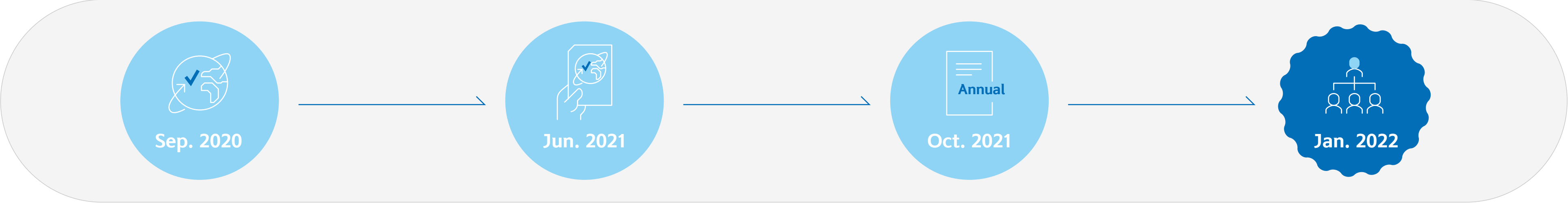
Equator Principles Report

1. Report on Equator Principles Implementation

Large-scale development or industrial projects may have significantly negative impact on the ecosystem, human rights and more across the environment and society. To identify and manage such environmental and social risks, Shinhan Bank adopted the Equator Principles, which form the basis of the risk management framework for managing large-scale projects. The Equator Principles are a set of voluntary guidelines adopted by financial institutions to avoid funding large-scale development projects if they cause environmental damage or violate the human rights of local residents or the vulnerable people. As of October 2022, 137 financial institutions in 38 countries have adopted the Equator Principles, and Shinhan Bank has complied with them since adopting them in September 2020.

Since adopting the Equator Principles, Shinhan Bank has reviewed financial support to large-scale projects. Shinhan Bank requested corrective or improvement measures based on the social and environmental impact through third-party monitoring and ensured that all of them now meet the Equator Principles standards. Shinhan Bank discloses the progresses and outcomes of implementing the Equator Principles on its website. The implementation of the Equator Principles is reported as per the guidance provided by the Equator Principles Association.

1) Shinhan Bank's Equator Principles Timeline



The first commercial bank to adopt the Equator Principles

Issued the Equator Principles Report

Issued the annual Equator Principles Report

Formed a team responsible for the Equator Principles (ESG Planning Office)

2) Grades of Environmental and Social (E&S) Risks

Grade	Description
Grade A	Projects that have significantly negative potential E&S risks and/or impact. If the risks and/or impact are various, unrecoverable or unprecedented.
Grade B	Projects that have limited negative potential E&S risks and/or impact. If the risks and/or impact are few, limited to project sites, mostly recoverable and easily manageable through climate solutions.
Grade C	Projects that have little to no negative potential E&S risks and/or impact.

1. Report on Equator Principles Implementation

3) Scope of Equator Principles

Shinhan Bank applies the Equator Principles to 5 financial transaction types related to large-scale development projects. If the customer does not comply with the Equator Principle Requirements or is deemed unable to comply with them, Shinhan Bank is limiting financial support.

Project Type	Application Scope
Project Finance Advisory Services	Where total Project capital costs are USD 10 million or more.
Project Finance (PF)	With total Project capital costs of USD 10 million or more.
Project-Related Corporate Loans (PRCL)	Where all of the following three criteria are met: · The majority of the loan is related to a Project over which the client has Effective Operational Control (either direct or indirect). · The total aggregate loan amount and the bank's individual commitment are each at least USD 50 million. · The loan tenor is at least two years.
Bridge Loans	with a tenor of less than two years that are intended to be refinanced by Project Finance or a Project-Related Corporate Loan that is anticipated to meet the relevant criteria described above.
Refinance and Acquisition Finance	Where all of the following three criteria are met: · The underlying Project was financed in accordance with the Equator Principles framework. · There has been no material change in the scale or scope of the Project. · Project Completion has not yet occurred at the time of the signing of the facility or loan agreement.

4) Roles and Responsibilities Regarding Equator Principles

Category	R&R
Organization responsible for the Equator Principles	· Review on the application of and compliance with the Equator Principles in the bank · Calling for and suggesting necessary corrective measures after identifying the root cause and details of project-related E&S risks · Disclosing and writing reports on information related to the Equator Principles · Updating guidelines of the bank to follow revisions of the Equator Principles and relevant standards
Front teams and branches	· Customer communication · Receiving and submitting project-related assessment documents (e.g., Environment & Social Impact Assessment, etc.) · Requiring the Equator Principles
Department that reviews the Equator Principles	· Identifying the Equator Principles applies to project-related deals in review · Checking the final review statement of the organization responsible for the Equator Principles and applying it to the review
Management	· Reviewing and approving deals subject to the Equator Principles separately if high E&S risks are identified

1. Report on Equator Principles Implementation

5) Equator Principles Reporting – Project Finance (PF)

In 2021, 5 projects were subject to the application of the Equator Principles. Shinhan Bank confirmed that all of them met the Equator Principles requirements. All 5 projects were project financing cases, and the details (e.g., sector, region, designation and independent review) of the transactions are shown below. There were no applicable projects in project finance advisory services (FA), project-related corporate loans (PRCL), bridge loans, and refinance and acquisition finance.

Shinhan Bank reviewed 4 projects as of June 2022, all of which are project financing transactions. One of the projects received grade B and the rest received grade C. The number of projects that have been reviewed in terms of the Equator Principles in 2022 will be disclosed on the Equator Principles Association website.

6) Training

Shinhan Bank provides continuous training on the Equator Principles to relevant teams. The training was given by an external expert who explained the purpose, screening process, and department R&R regarding the Principles. The department that handles the Equator Principles attends networking events with other institutions to advance the system for applying the Equator Principles. In addition, it discusses the current system and challenges of the Principles with financial institutions that have adopted the Principles in Korea and entities in the Asia-Pacific region via conferences and conference calls.

The department shared Q&A documents with relevant teams, which include the definition, scope and process related to the Equator Principles.

Equator Principles Reporting

	2021			Jan. 2022 – Jun. 2022		
	A	B	C	A	B	C
Sector						
Mining						
Infrastructure	1					
Oil and gas						
Power generation		4				
Others					1	3
Total	**1**	**4**			**1**	**3**
Region						
The Americas						1
Europe / Middle East / Africa		1				
Asia-Pacific	1	3			1	2
Total	**1**	**4**			**1**	**3**

	2021			Jan. 2022 – Jun. 2022		
	A	B	C	A	B	C
Designated Country or Non-designated Country						
Designated Country	1	4			1	3
Non-designated Country						
Total	**1**	**4**			**1**	**3**
Independent Review						
Yes	1					
No		4			1	3
Total	**1**	**4**			**1**	**3**

Appendix

1. Identification of Climate Change Risks and Opportunities

As a financial institution, Shinhan Bank affects other companies in various business activities in terms of climate action, and vise versa. The transition to a low-carbon economic structure to mitigate climate change is exposed to a wider range of risks across the business activities. Thus, Shinhan Bank seeks to address climate change more efficiently by categorizing climate-related risks and opportunities based on the risk categories in the TCFD recommendation and devising the Group's business strategy accordingly.

Climate-Related Risks

Category		Climate-Related Risk	Potential Financial Impact
Transition Risks	Policy and Legal Risks	Increased pricing of GHG emissions, enhanced emissions-reporting obligations, exposure to litigation related to the environment, etc.	· Increased operating costs (e.g., higher compliance costs, increased insurance premiums) · Write-offs, asset impairment, and early retirement of existing assets due to policy changes · Increased costs and/or reduced demand for products and services resulting from fines and judgments
	Technology Risks	Transition to eco-friendly low-carbon technology, increased investment in enhancing energy efficiency and reducing emissions, failed investment in new technology, etc.	· Write-offs and early retirement of existing assets · Reduced demand for products and services · Research and development (R&D) expenditures in new and alternative technologies · Capital investments in technology development · Costs to adopt/deploy new practices and processes
	Market Risks	Changing customer behavior, increased cost of raw materials, changing demand for products and services, uncertainty in market signals, etc.	· Reduced demand for goods and services due to shift in consumer preferences · Increased production costs due to changing input prices and output requirements (e.g., waste treatment) · Abrupt and unexpected shifts in energy costs · Change in revenue mix and sources, resulting in decreased revenues · Re-pricing of assets (e.g., fossil fuel reserves, land valuations, securities valuations)
	Reputation Risks	Shifts in consumer/investor preferences, negative stakeholder feedback, stigmatization of sector, etc.	· Reduced revenue from decreased demand for goods/services · Reduced revenue from decreased production capacity (e.g., delayed planning approvals, supply chain interruptions) · Reduced revenue from negative impacts on workforce management and planning (e.g., employee attraction and retention) · Reduction in capital availability
Physical Risks	Acute Physical Risks	Increased frequency and severity of extreme weather events such as cyclones, floods and wildfires	· Reduced revenue from decreased production capacity due to operation suspension, supply chain interruptions, workforce health, etc. · Increased operating costs and capital costs due to damage to facilities, early retirement of existing assets, etc. · Increased insurance premiums and potential for reduced availability of insurance on assets in "high-risk" locations
	Chronic Physical Risks	Changes in precipitation patterns and extreme variability in weather patterns, rising mean temperatures, rising sea levels, and other long-term changes	

1. Identification of Climate Change Risks and Opportunities

Climate-Related Opportunities

Category	Climate-Related Opportunity	Potential Financial Impact
Resource Efficiency	Use of more efficient energy and water resources, use of recycling, use of eco-friendly transport, and move to eco-friendly buildings	· Reduced operating costs (e.g., through efficiency gains and cost reductions) · Increased production capacity, resulting in increased revenues · Increased value of fixed assets (e.g., highly rated energy-efficient buildings) · Benefits to workforce management and planning (e.g., improved health and safety, employee satisfaction) resulting in lower costs
Energy Source	Use of low-carbon emissions sources of energy, use of supportive policy incentives, participation in carbon market, shift toward decentralized energy generation, and use of new technologies	· Reduced operational costs (e.g., through reduction of carbon emissions) · Reduced exposure to future fossil fuel price increases · Reduced exposure to GHG emissions and therefore less sensitivity to changes in cost of carbon · Returns on investment in low-carbon technology · Increased capital availability · Reputational benefits resulting in increased demand for goods/services
Products and Services	Development and/or expansion of low-carbon emissions goods and services, development of climate adaptation and insurance risk solutions, development of new services through R&D and innovation, ability to diversify business activities, and shift in consumer preferences	· Increased revenue through demand for low-carbon emissions products and services · Increased revenue through new solutions to adaptation needs (e.g., insurance risk transfer products and services) · Better competitive position to reflect shifting consumer preferences, resulting in increased revenues
Markets	Access to new markets, use of public-sector incentives, and access to new assets and locations needing insurance coverage	· Increased revenues through access to new and emerging markets (e.g., partnerships with governments or development banks) · Increased diversification of financial assets (e.g., green bonds and infrastructure)
Resilience	Participation in renewable energy programs and adoption of energy-efficiency measures, and resource substitutes/diversification	· Increased market valuation through resilience planning (e.g., infrastructure, land or buildings) · Increased reliability of supply chain and ability to operate under various conditions · Increased revenue through new products and services related to ensuring resiliency

2. Impact of Climate Change Risks and Opportunities on Organization's Business, Strategy and Financial Plan

Shinhan Bank assesses the short-, medium- and long-term impacts to identify climate-related risks and opportunities. Shinhan Bank defines risks that may occur within 1-2 years as short term, 3-5 years as medium term and 10+ years as long term based on when they occur and how long they impact the organization. Shinhan Bank identifies and manages the impacts for each time frame.

Time Frames of Climate Change Risks

Term	Time Frame	Potential Financial Impact
Short Term	1-2 years	· Following the global trend of decarbonization, risks from policy changes, such as carbon taxes and increased pricing of emissions, occur earlier every year. Policies may change in a short term and affect the revenues of companies in the scope, and the changes may bring operational or legal risks (e.g., mandatory environmental disclosure of listed companies). Thus, short term is defined as a 1-2-year time frame.
Medium Term	3-5 years	· On top of the financial impacts of companies in the portfolio, there may be reputation risks from the implementation of Zero Carbon Drive announced by Shinhan Financial Group. Financial support that is provided to carbon-intensive sectors without commitment to the transition to low-carbon economy or one that does not lead to the reduction of financed emissions may be interpreted as 'Greenwashing'[1] and negatively affect external assessment on the bank. This may impact financial products, including ESG-related ETF, and passive investment and be a direct cause of stock price decrease, and may even expand to legal risks involving shareholders and stakeholders. Therefore, medium term is defined as a 3-5-year time frame during which meaningful risk monitoring, portfolio analysis and reviews on an exposure adjustment plan can take place.
Long Term	10+ years	· In the long term, physical risks and transition risks have a negative correlation, depending on the level of climate action. Active climate action, such as GHG reduction, may increase transition risks but reduce physical risks. The opposite may increase physical risks. Thus, both types of risks need to be considered depending on the trajectory of climate action. The IPCC[2] Report also defines long term as a 10+-year time frame, which is close to the target year of the 2040 physical temperature management scenario.

1) Greenwashing: Overstating a company's environmental achievements
2) IPCC (Inter-governmental Panel on Climate Change): A UN inter-governmental panel composed of about 3,000 meteorologists, oceanologists, glaciologists, economists and experts in other areas who assess climate-related risks and put forward climate solutions

2. Impact of Climate Change Risks and Opportunities on Organization's Business, Strategy and Financial Plan

Impact of Climate-Related Risks on Shinhan Bank

Category	Climate-Related Risk	Potential Financial Impact	Term
Transition Risks	Policy/Legal	· In the short term, companies that export to the U.S or Europe may face higher carbon taxes and stricter regulations on carbon-intensive sectors, leading to an increase in export costs, and an increased operational cost for localization may have a negative financial impact on the companies. The Glasgow Climate Pact states that each country shall set and achieve an NDC target under 1.5℃ by 2030. The policies to reduce emissions may assign companies with an abrupt reduction target within the next 5 years, and deregulation in the short term may reverse rapidly in the medium term. Unprepared companies will be burdened with the increased pricing of emissions, which is directly related to the borrower's financial soundness, bringing risks to us. · The implementation of our decarbonization financing strategy may impact the contracts with our borrowers and customers or Shinhan Bank may be accused of greenwashing if Shinhan Bank fails to cut the support to carbon-intensive sectors. Such issues may lead to litigations and legal risks.	Short/ medium/ long
	Technology	· Companies will increase investment in low-carbon facilities and infrastructure. This will raise expenditures, but production outputs and consumption may not rise accordingly. Revenues may be impacted in the medium term. · In the long term, carbon-intensive companies may face technology R&D risks depending on whether they successfully transition to low-carbon technology. Companies that fail to transition may see a significant change in their profit.	Medium/ long
	Market	· In the capital market, it may be difficult for companies that do not take active climate action to receive investment. If Shinhan Bank fails to manage financed emissions as per the declaration of decarbonization finance or climate issues arise due to a constant increase in exposure to carbon-intensive sectors, customers may turn away from us and investors may defund us. This may have another financial impact, which is a decrease in the stock price.	Medium/ long
	Reputation	· The inability to manage financed emissions may start the issue of greenwashing in the media and customers, significantly affect our reputation as a bank that leads eco-friendly efforts or result in customer attrition. As the management of scope 1, 2 and 3 emissions, the climate risk management system and climate action of a financial company are linked to the indices of major credit rating agencies and ESG assessment agencies, the credit rating and ESG assessment result of the bank may fall.	Medium/ long
Physical Risks	Acute	· Acute risks affect not only the corporate customers, but also the individual customers of the bank. Heavy rain, monsoon, typhoon, earthquakes and other acute events may pose great risks to the real estate in possession. Operational risks from decreased mortgage value of real estate, damage to facilities and decreased production output and financial risks involving life or property insurance compensation may directly impact us. Employees faced with damage may be negatively affected, which may bring an operational risk.	Short/ medium
	Chronic	· Chronic risks, such as temperature rise and sea level rise, may decrease the revenues of companies in relevant sectors. For example, the agricultural and marine industries may be impacted tremendously as temperature is a crucial aspect of biodiversity and existence. In this case, the sunk cost or operational cost of borrowers in the grain industry, food and beverage industry and fisheries industry may increase, affecting the companies financially. · Chronic risks may also decrease revenues due to increased power consumption across the industry and supply/logistics chain interruptions.	Medium/ long

3. Assessment and Management of Climate Change Risks

Identification, Assessment and Management of Major Risks

Financial Risk	Description
Credit	· Shinhan Bank estimates the amount of financed emissions in the asset portfolio and assesses climate risks through scenario analysis. Shinhan Bank analyzed that carbon-intensive sectors, such as power generation, utility, energy and materials, will be exposed to the risk of increased carbon princes. This means that Shinhan Bank can increase investment in renewable energy projects and adjust its asset portfolio to low-carbon to allow carbon offsets.
Market	· Market risks include changing consumer behavior and changing demand for products and services. Shinhan Bank regularly examines and analyzes consumer trends and market trends in terms of stakeholder demands and climate change. Shinhan Bank expects that the government's Renewable Energy 2030 Plan will increase the demand for renewable energy projects, and Shinhan Bank is taking action in response to the prediction.
Reputation	· Consumers prefer making eco-friendly choices as they are becoming more aware on climate change. Whether a company engages in sustainable eco-friendly business activities affects consumers' decision-making. Shinhan Bank recognizes that the inability to fulfill social responsibilities regarding climate change and the environment may lower the brand value and form a negative public opinion, impacting its profit. Thus, Shinhan Bank adopted the Equator Principles, which are the basis of selecting 12 major environmental and social risks and managing reputation risks.

Non-financial Risk	Description
Regulation	· Reinforcement of regulations following the acceleration of climate change may increase costs of climate action and cause unexpected losses. For example, if Shinhan Bank's carbon credits reduced in the Emissions Trading System(ETS), it might incur an additional expense as Shinhan Bank would have to purchase more credits. Also, Shinhan Bank's customers' debt service capacity might decrease due to purchasing credits or investing in low-carbon facilities. Thus, Shinhan Bank developed a system to measure financed emissions and manage carbon emissions in a systematic manner.
Technology	· Low-carbon eco-friendly technologies are being developed to achieve climate and decarbonization targets. Against this backdrop, sales may decrease following a decrease in market share if Shinhan Bank does not offer financial products that encompass technology R&D and innovation. That is why Shinhan Bank regularly researches market trends, such as new technologies to mitigate climate change and customer demands and identify opportunities and risks. Shinhan Bank offers such products, including the Green Energy Factoring and the Renewable Energy Fund, and Shinhan Bank will expand financial products for new technologies and innovation.
Legal	· Legal risks refer to risks involving the current or future financial conditions and resilience occurring from the violation of laws or regulations or the non-compliance with procedures or ethics standards by a company or project Shinhan Bank invested in. As Shinhan Bank is aware that a litigation regarding a climate issue and legal punishment would damage the brand value and financial soundness of its customers, Shinhan Bank provides financial support conditionally by assessing the E&S risks in the company or project to be invested in when deciding on investment and making measures to reduce environmental impact mandatory if necessary.
Physical	· Extreme weather events caused by climate change may physically damage Shinhan Bank's assets. For example, a heavy rain may trigger a landslide, and branches close to a mountain may be damaged, closed temporarily and hamper the business. Another example is that global warming may cause a heatwave in the summer, which increases energy consumption and consequently increases operational costs and decreases labor productivity. Thus, Shinhan Bank identified weather-related vulnerabilities preemptively to prevent such damage.

Shinhan Bank