Trust for a flourishing future

SUMITOMO MITSUI TRUST GROUP

TCFD REPORT

2023/2024

Message from the President

We still witness frequent abnormal weather and natural disasters in every corner of the globe this year, and the impacts of climate change are becoming more serious. India, Bangladesh, and Thailand were hit by the heat wave which is considered the worst in the Asian history. Extreme heat in Japan is a fresh memory and every day in August was recorded as a tropical day in the heart of Tokyo. It is said to have been a record-breaking hot summer in the world. Experiences last year taught us responses to climate change issues and carbon neutrality were urgent.

The progress assessment and future strengthening of measures toward the 1.5°C target of each country was discussed in COP28. Although there were conflicts of complicated interests and intentions of various parties such as countries and businesses, lots of agreements which advance responses to climate change were reached. "Together for Action" was the slogan of the Japan Pavilion in COP28. Further efforts of the government and private sectors together in each country are required for transition to a decarbonized society.

We will celebrate our 100th year in business in 2024.

"Trust for a flourishing future"

We have formulated a brand slogan for our 100th anniversary (see the right page). It represents preciousness of "being believed and entrusted" by clients and the society, and a strong will to respond to "wishes for the future."

The slogan concludes with a sentence "Because when you flourish, so too will the world." Not only the working generations but the future generations entrust the earth to us. We will contribute to solving social challenges and climate change issues on the globe and fulfill our responsibility to the future generations who are our precious stakeholders.

Our group contributes to carbon neutrality through wide-range and flexible functions including investments and loans, asset management and asset administration.

In the field of investment and loans, we will make contributions through positive impact finance, and impact equity investments in which we invest our own money to attract investors' funds.

We invested in a forestry fund and launched a comprehensive domestic infrastructure fund in 2023. The forestry fund creates carbon credits through appropriate management and administration of forests, aiming to realize carbon neutrality of the whole society. Through the infrastructure fund, we will provide risk money to solve social issues including renewable energy and decarbonization.

Investment opportunities with returns are indispensable for persistently responding to enormous needs for funds to create a green society. Our group will grow by providing investment opportunities that secure both contribution to a decarbonized society and returns to investors.

As for asset management, two subsidiary asset managers have joined the Net Zero Asset Managers initiative (NZAMI) and devote themselves to reducing GHG emissions through distinctive engagement of each company.

Sumitomo Mitsui Trust Asset Management is playing a leading role in an international initiative and promoting collaborative engagement including offering opinions to not only investee companies but also governments and authorities. For example, it is exchanging opinions with the government of Brazil on the preservation of the Amazonian Forest.

Nikko Asset Management is one of a few signatories of the UK Stewardship Code in Asia. It is globally striving to advance climate change responses, with the ESG general body started in its Singapore office in 2022 playing a key role.

We formulated a carbon neutral transition plan in October toward steady implementation and progress of carbon neutrality. We aim at not only realizing net zero GHG emissions in our group, but also contributing to decarbonization of our clients to achieve carbon neutrality, while visualizing the issues of clients and the whole society, through various surveys including our group's governance survey.

Implementation has unveiled new challenges. Difficult problems listed below cannot be addressed by our group alone: deforestation/environmental contamination revealed during transition toward decarbonization, human rights issues such as health hazards, and a rise in construction costs of renewable energy power plants caused by inflation. We will co-create greater value and contribute to solving such issues through cooperation with the government and municipalities as well as partnership with advanced top players sharing the common aspiration with us.

Sumitomo Mitsui TRUST Group will face climate change issues and, with the power of trusts, let the future lots of stakeholders entrust to us bloom affluently.

Thank you for your continuous cooperation.

Director & President
Sumitomo Mitsui Trust Holdings

Toru Takakura

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Brand slogan

Trust for a flourishing future

Entrusting your vision to someone
begins with belief in the world.
We work to ensure that your future flourishes,
by exploring your story, breaking fresh ground,
cultivating assets, and nourishing our society.
Always with honesty, adapting with agility.
Going beyond anticipation to conviction.
Fulfilling the duty we earn through trust,
for the next 100 years and more.
Because when you flourish, so too will the world.

Introduction

Prior to becoming a signatory to the Principles for Responsible Investment (PRI) in 2006, SuMi TRUST Group had already been pursuing initiatives for climate change and other ESG issues through ESG investing as part of our overall investment business, including Nikko Asset Management's Eco Fund (1999) and SuMi TRUST Bank's first SRI fund for pensions (2003). SuMi TRUST Bank also actively engages in project finance initiatives targeting renewable energy and addresses climate change issues from the perspective of investments and loans, including clarifying its coal-fired power generation policy in March 2018 as one of the first Japanese banks.

In 2023, in line with the framework of the Net-Zero Banking Alliance (NZBA), which SuMi TRUST Holdings joined in 2021, we set new 2030 intermediate reduction targets of greenhouse gas (GHG) emissions in its investment and loan portfolios in the oil & gas, real estate, and shipping sectors, and formulated a transition plan to make steady progress towards carbon neutrality. Sumitomo Mitsui Trust Asset Management and Nikko Asset Management set intermediate GHG emissions reduction targets in their asset management portfolios in 2022 and are pursuing reduction activities through engagement.

Regarding its own GHG emissions (Scope 1, 2), our Group is steadily reducing them, for example by converting energy used in SuMi TRUST Bank's offices in Japan to 100% renewable in 2022, and is also working to expand the scope and disclosure of its measured emissions.

Moreover, SuMi TRUST Bank increased its cumulative target in sustainable finance by FY2030 from ¥10 trillion to ¥15 trillion (including ¥2.5 trillion of impact equity) in 2023, and provided finance to help clients decarbonize their businesses and to realize a decarbonized society.

Initiatives Related to Climate Change

	Details
1999	Launch of Nikko Eco Fund
2003	Full-scale entry into ESG investing (development of SRI funds)
2004	Start of initiatives on environmental finance
2006	Signatory to the Principles for Responsible Investment (PRI)
2016	Signatory to the Equator Principles
2018	Express approval for the TCFD recommendations and announce the policy on coal-fired power generation
2019	Signatory to the Principles for Responsible Banking (PRB)
2020	Review of the policy concerning environmental and social considerations for loans, and signatory to the Poseidon Principles
2021	SuMi TRUST Group Carbon Neutral Commitment Join the Net-Zero Banking Alliance (NZBA) (SuMi TRUST Holdings) Join the Net Zero Asset Managers initiative (NZAMI) (Sumitomo Mitsui Trust Asset Management, Nikko Asset Management)
2022	Disclosure of 2030 intermediate reduction targets in line with the NZBA (power generation sector) and NZAMI frameworks Add corporate finance (new/expansion) to our target of reducing a loan balance to zero for coal-fired power generation by 2040
2023	Disclosure of 2030 intermediate reduction targets in line with the NZBA framework (oil & gas, real estate, and shipping sectors) Disclosure of transition plan toward carbon neutrality

Main Updates in 2023

	Details	Pages
Chapter 1: Governance	• Established the Sustainability Committee and the Corporate Communications Committee as advisory bodies to the Executive Committee (reorganization)	P5
Chapter 2: Strategy	• Formulated a transition plan to achieve carbon neutrality Carbon neutrality approach and overview Engagement strategy and number of engagements Sector strategies for power generation and oil & gas	P10
	• Expanded examples of decarbonization-related efforts (including green loans, transition loans, and investments in comprehensive infrastructure funds and forestry funds)	P20
	• Expanded climate change scenario analysis Added overseas corporations to analysis of transition risks Analyzed physical risks of solar power generation project financing in Japan	P34
Chapter 3: Risk Management	• Established climate change-related risk appetite indicators and integrated them into the risk appetite framework	P56
	• Revised sector policies based on social demands in response to social and environmental issues	P58
	• Updated the climate change transition risk sector heat map	P61
Chapter 4: Metrics and Targets	• Obtained third-party certification for part of OWN GROUP's GHG emissions (Scope 1, 2)	P66
	• Measured GHG emissions at SuMi TRUST Bank's offices in Japan (Scope 3 upstream)	P68
	• Set intermediate reduction targets in the oil & gas, real estate, and shipping sectors	P69
	• Measured most recent results for SuMi TRUST Bank (power generation and oil & gas sectors) and SuMi TRUST AM/Nikko AM (asset management portfolios)	P71
	• Increased cumulative targets in sustainable finance (from ¥10 trillion to ¥15 trillion)	P75

Response to the TCFD Recommendations

	Details
Governance	• The Executive Committee decided on important responses based on deliberation by the Sustainability Committee and the Corporate Communications Committee. • Reported climate change responses and response policies to the Board of Directors as well as the Risk Committee, an advisory body to the Board of Directors • Added the Climate Change Risk Management Policy to the Risk Management Rules at the Board of Directors to clarify the roles and responsibilities of the Board of Directors, Executive Committee, and directors and officers as well as the three-lines-of-defense system and the risk management policies, etc. based on climate change considerations specific to each risk category • Climate change and other ESG items were applied to performance evaluations in terms of the stock compensation of the executive compensation
Strategy	• Identified transition and physical risks as climate change related risks. Conducted a scenario analysis based on portfolio characteristics to understand climate change related risks • Identified the demand for funds stemming from changes in social and industrial structures for carbon neutrality as opportunities and promoted transition support and impact evaluations • Created a plan for transition to carbon neutrality and promoted initiatives aimed at achieving net zero GHG emissions in OWN GROUP and its investment and loan and asset management portfolios. Developed sector strategies for the power generation and oil & gas sectors
Risk Management	• Positioned climate change risks as top-priority risks and integrated them into our Group-wide risk appetite framework (RAF). As risk appetite indicators related to climate change, set intermediate reduction targets for GHG emissions at SuMi TRUST Bank's offices in Japan and the Group's investment and loan portfolios and asset management portfolios and managed the progress toward achieving them. Disclosed the monitoring process • Identified climate change as a "risk driver" with cross-sectional influence on each risk category and stipulated risk management policies specific to climate change in each risk category • Clarified approaches based on existing risk in sector policies • Created and periodically reviewed a sector-specific climate change transition risk heat map to identify sectors important for our strategy

Response to the TCFD Recommendations (Continued)

Negative numbers are represented using parentheses.

Metrics	Target	Result
GHG emissions in OWN GROUP		
Scope 1	2030: net zero	5,411t-CO_2e (FY2022)
Scope 2		4,586t-CO_2e (FY2022)
GHG emissions in our investment and loan portfolios	2050: net zero	—
Power generation sector (emission intensity)	FY2030 138 to 173g-CO_2e/kWh	243g-CO_2e/kWh (FY2021)
Oil & Gas sector (emission reduction rate)	FY2030 (13)% to (31)% (compared to March 2021)	(3.6)% (FY2021)
Real estate sector (emission intensity)	FY2030 34 to 41kg-CO_2e/m^2	64kg-CO_2e/m^2 (FY2021)
Shipping sector (Portfolio Climate Alignment)	FY2030 Not more than 0%	(0.4)% (FY2021)
GHG emissions in our asset management portfolios		
Sumitomo Mitsui Trust Asset Management	2030: halves the emission intensity compared to 2019 for 50% of all assets under management*1 2050: net zero	(8.7)% (compared to June 2021) (as of June 2023)
Nikko Asset Management	2030: halves the emission intensity compared to 2019 for 43% of all assets under management*2 2050: net zero	(22.8)% (compared to the end of December 2019) (as of December 2022)
Cumulative addressing amount of sustainable financing	Cumulative amount from FY2021 to FY2030: ¥15 trillion	Approx. ¥2 trillion (as of the end of FY2022)
Loan balance for coal-fired power generation	FY2040: zero	Approx. ¥154 billion (as of the end of FY2022)
Exposure of carbon-related assets	—	¥16.3 trillion (as of the end of FY2022)

*1 Equal to approximately ¥43 trillion, or 50% of assets under management of ¥85 trillion as of the end of June 2021

*2 Equal to approximately ¥13 trillion, or 43% of assets under management of ¥31 trillion as of the end of December 2021

Governance

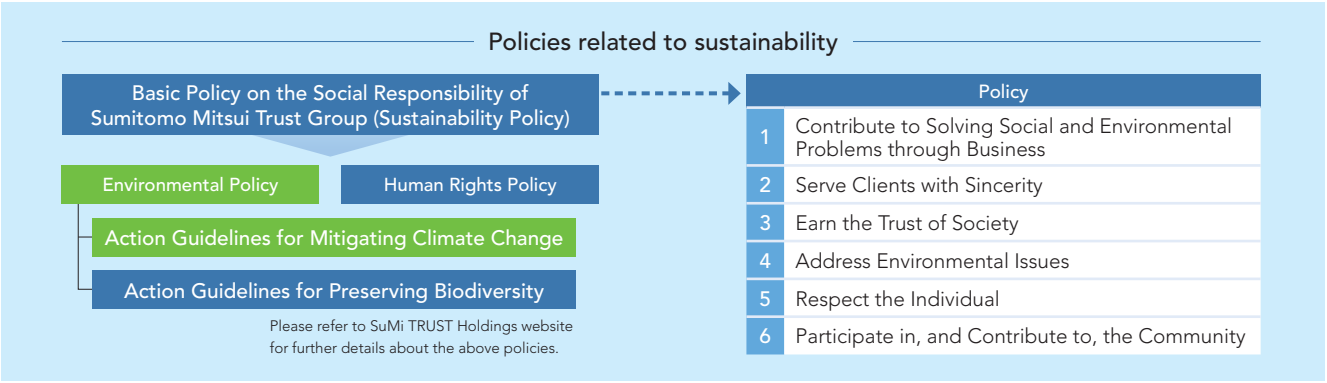
Climate Change Policy

SuMi TRUST Group has defined our "Purpose" as "creating new value with the power of trusts and let prosperous future for our clients and society bloom." We have also placed at the core of management the notion of "balanced creation of both social value and economic value."

Recognizing that we have a social responsibility to actively contribute to the creation of a sustainable society, in addition to practicing sound management based on a high degree of self-discipline with the background of fiduciary spirit, we will give due consideration to the impact of our business activities on society and provide unique value through our core business to help solve social and environmental issues faced by our clients and other stakeholders.

1. Policies Related to Sustainability

The Board of Directors of SuMi TRUST Holdings has established and published the "Basic Policy on the Social Responsibility of Sumitomo Mitsui Trust Group (Sustainability Policy)" along with Group priorities and specific action guidelines related to the policy.



We have developed the following Environmental Policy as part of the Sustainability Policy, and we have established Action Guidelines for Mitigating Climate Change and Action Guidelines for Preserving Biodiversity under our Environmental Policy, and we are making all directors, officers, and employees aware of this.

Sumitomo Mitsui Trust Holdings Environmental Policy

1. Provision of Products and Services
We will strive to reduce environmental risks and enhance environmental value for the society as a whole by providing financial products and services that contribute to the preservation of the global environment and the realization of a sustainable society.

2. Environmental Burden Reduction
We will strive to preserve the environment and realize a sustainable society through efforts toward energy conservation, resource conservation, and resource recycling based on the recognition of the burden imposed on the environment by the consumption of resources and the discharge of wastes involved in our business activities.

3. Pollution Prevention
We will strive to ensure continuous verification and improvement of our environmental activities and make efforts to prevent pollution.

4. Regulatory Compliance
We will comply with the laws, regulations, rules, and agreements concerning the preservation of the environment.

5. Monitoring
We will strive to ensure the continuous improvement of our environmental activities by setting and periodically reviewing and revising environmental objectives and targets.

6. Education & Training
We strive to ensure group-wide awareness of compliance with the Environmental Policy and to provide appropriate environmental education.

7. Information Disclosure
We will strive to promote activities to preserve the environment through communications with external organizations by publicly disclosing the Environmental Policy.

Action Guidelines for Mitigating Climate Change

1. Implementation of Measures and Support to Help Mitigate Climate Change
In addition to actively taking measures to reduce greenhouse gas emissions in our own business operations, we are making efforts, as a corporate citizen, to support activities that mitigate and adapt to climate change.

2. Provision of Products and Services
We are working on developing and providing products and services that help mitigate climate change. Our financial functions are being leveraged to promote energy conservation and encourage the use of renewable energy.

3. Collaboration with Stakeholders
We engage in dialogue and cooperation with our stakeholders as we work to mitigate climate change.

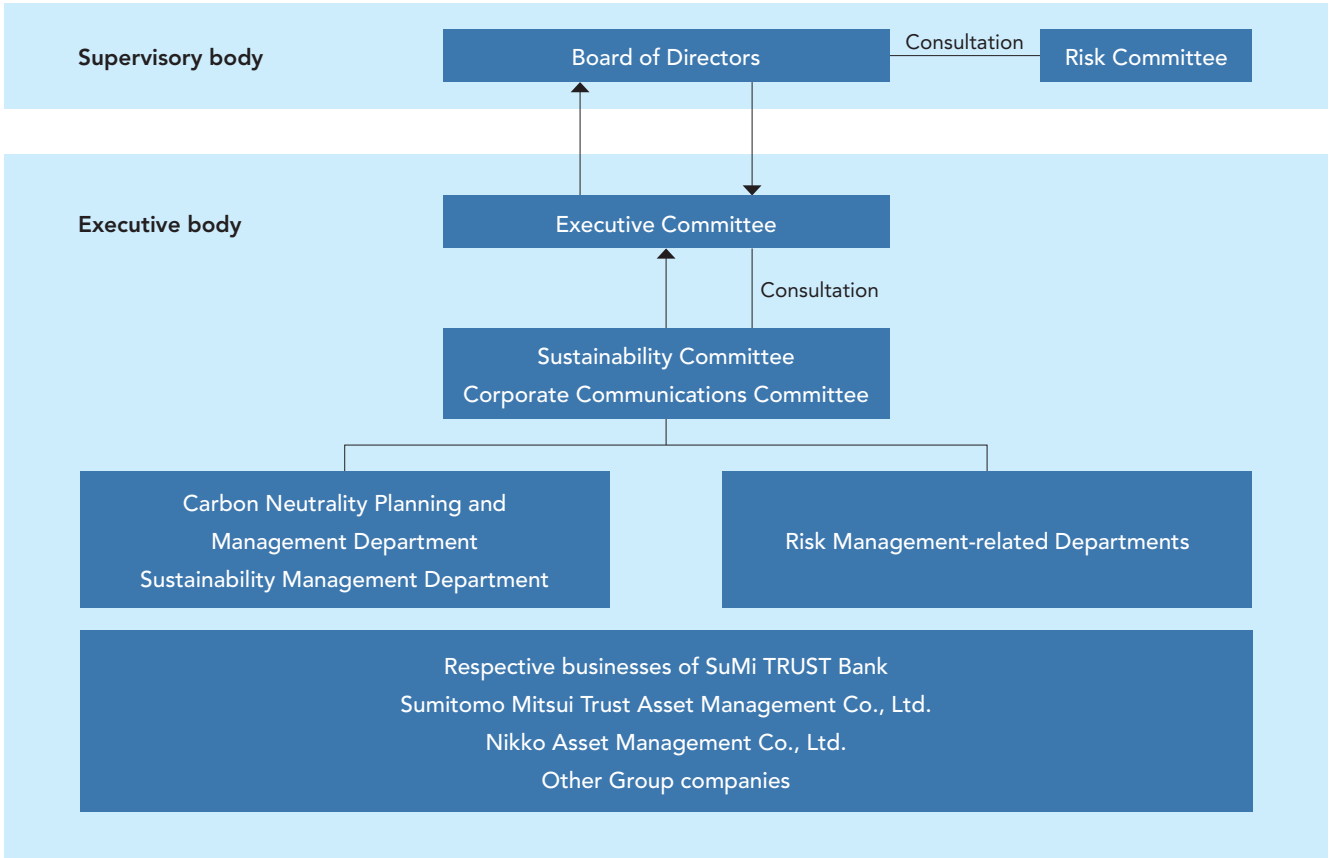
4. Education and Training
We will ensure that these guidelines are fully implemented at Group companies, and will actively conduct education and training to mitigate climate change.

5. Information Disclosure
We will actively disclose information related to our efforts to mitigate climate change.

Governance Related to Climate Change

SuMi TRUST Holdings recognizes climate change as a factor of risk and opportunity that significantly impacts on financial markets and has established a governance system of supervision and execution centering on the Board of Directors. The Board of Directors, which is a supervisory body, has established the Risk Committee as its advisory body and checks the execution status of the Company's climate change countermeasures and conducts flexible and in-depth discussions on climate change for appropriate supervision. The Executive Committee, which is an executive body, has established the Sustainability Committee and the Corporate Communications Committee as advisory bodies to discuss policies and disclosures on climate change issues. Also, the Carbon Neutrality Planning and Management Department, which oversees Company-wide efforts to respond to climate change, collaborates with individual businesses and Group companies to implement Group and business initiatives in a cross-sectional manner.

Climate Change-Related Promotion Framework



1. Supervision

Board of Directors (chairperson: external director)
The Board of Directors establishes the Basic Policy on Social Responsibility (Sustainability Policy) and the Environmental Policy to be implemented by each Group company and dispatches information on the Group's climate change and sustainability course both within and outside of the Group. In addition, based on these policies, the Board of Directors receives reports from the execution side on the situation of initiatives related to climate change issues and utilizes the Risk Committee and other advisory bodies to the Board of Directors to supervise the situation. In FY2023, as of the time of publication of this report, the Board of Directors had three discussions based on climate change reports.

Risk Committee (chairperson: external expert)
As an advisory body to the Board of Directors, the Risk Committee carries out risk management related to climate change and reports to the Board of Directors on the Group's policies and strategies for addressing climate change. The Risk Committee also checks the status of the Group's response to climate change and conducts flexible and in-depth discussions on it with outside experts.

2. Execution

Executive Committee (chairperson: director and president)
The Executive Committee formulates various policies related to our response to climate change, develops business execution systems, and promotes our climate change response. During each term, the committee also confirms the status of our response, provides instructions to review measures, and takes other steps to ensure an appropriate response. In FY2023, the Executive Committee reported on the progress made in promoting climate change action, set GHG-emission intermediate reduction targets for investment and loan portfolios in our real estate and shipping sectors in line with the NZBA framework, and discussed the establishment and revision of regulations for managing climate change risks.

Sustainability Committee (chairperson: officer in charge of the Sustainability Management Department)
As an advisory body to the Executive Committee, the Sustainability Committee deliberates on matters related to the Group's sustainability initiatives, the Group's personnel affairs, and the operation of the personnel system. In terms of addressing climate change, the committee discusses the Group's climate change targets and its plans to transition to carbon neutrality. The Committee deliberates climate change as a risk that impacts financial value and non-financial value, from the perspective of risk management, and regularly receives reports on and monitors the status of the Group's response to climate change which was compiled by the Carbon Neutrality Planning and Management Department. In addition, the Committee discusses matters to be decided at and or reported to the Executive Committee in advance.

Corporate Communications Committee
(chairperson: officer in charge of the Planning and Coordination Department)
As an advisory body to the Executive Committee, the Corporate Communications Committee deliberates on internal and external communications and centered on the Group's corporate publicity and advertisement and corporate branding. It also discusses other important matters including the appropriateness of the system development and operation of information disclosure and the necessity of disclosure of management-related and possibly management-related information and the appropriateness of the disclosed contents. In terms of addressing climate change, the committee deliberates on matters related to the development of the Group's information disclosure system, the necessity of disclosure, and the appropriateness of the disclosed contents.

Executive Compensation

In principle, compensation is paid with a combination of monthly compensation (comprising fixed compensation and individual performance compensation), bonuses for directors and executive officers (performance-linked bonuses), and stock based remuneration (share delivery trust).

With respect to executive bonuses (performance-linked bonuses) and stock-based remuneration (share delivery trust), the Company has introduced a system whereby each item listed in the table below is set as an indicator (KPI) and reflected in the compensation amount. In fiscal 2022, we changed the rating system for stock-based compensation to better reflect ESG-related contributions. Specifically, the ratio of "Short-term Performance: Medium-term Performance: ESG Overall Rating = 1:1:1" is reflected in the performance evaluation of stock compensation. ESG assessment categories have been reviewed in light of materiality and now is comprised of the following five categories: climate change, fiduciary duties (FD) & client satisfaction (CS), employee engagement, DE&I (empowerment of women), and assessments obtained from ESG assessment organizations. The results are evaluated from both quantitative and qualitative perspectives and reflected in executive compensation.

Indicators (KPIs) for performance-linked compensation

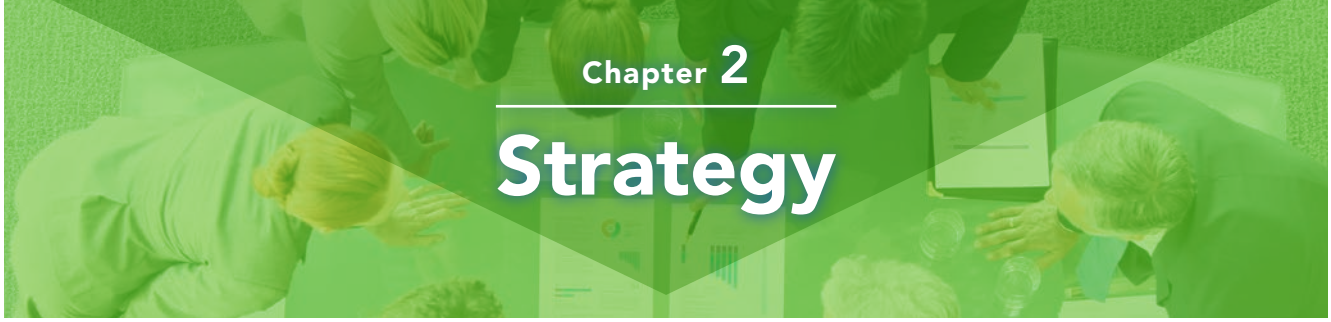
Type of performance-linked compensation	Indicators (KPIs) for performance-linked compensation	Short-term/ medium-term	Target*1	Actual*1	Evaluation weight	Calculation method
• Directors' bonus						
Performance-linked bonus	(1) Consolidated net business profit	Linked to short-term earnings	310 bn yen	324.6 bn yen	66.7%	Calculated based on a weighted average with a 2:1 weighting on the achievement rates for (1) and (2), respectively
	(2) Net income attributable to owners of the parent		190 bn yen	191.0 bn yen	33.3%	
• Stock compensation*2						
Share delivery trust	(1) Consolidated net business profit	Linked to short-term earnings	310 bn yen	324.6 bn yen	33.3%	Achievement rate to target
	(2) Consolidated net profit attributable to owners of the parent		190 bn yen	191.0 bn yen		
	(3) Consolidated shareholder's equity and ROE	Linked to medium-term financial metrics	Approx. 7%	6.93%	33.3%	Evaluation score calculated based on qualitative assessment of the achievement and progress of each indicator of the Medium-Term Management plan
	(4) Consolidated CET1 ratio (common equity tier 1 capital ratio)*3		Lower 10% range	9.5%		
	(5) Consolidated overhead ratio (OHR)		Lower 60% range	60.1%		
	(6) ESG overall assessment (categories: climate change, FD & CS, employee engagement, DE&I (empowerment of women, etc.), and ESG assessment organizations' assessment*4)	Linked to ESG	—	—	33.3%	Evaluation score calculated based on overall assessment comprising both quantitative and qualitative evaluation of activities in each assessment category

*1 (1) and (2) are fiscal 2022 actual results versus fiscal 2022 forecasts. (3) through (5) are fiscal 2022 results versus fiscal 2022 targets established under the Medium-Term Management Plan.

*2 Compensation with the use of a trust scheme. Points are awarded every fiscal year based on the achievement rates for the KPIs above and delivered in the form of shares upon retirement. Malus (reduction/cancellation before delivery of shares) and clawback (recovery after delivery of shares) provisions apply.

*3 Based on finalized Basel III base

*4 "ESG assessment organizations' assessment" are MSCI, FTSE, and Sustainalytics



Chapter 2

Strategy

Our Approach to Climate Change

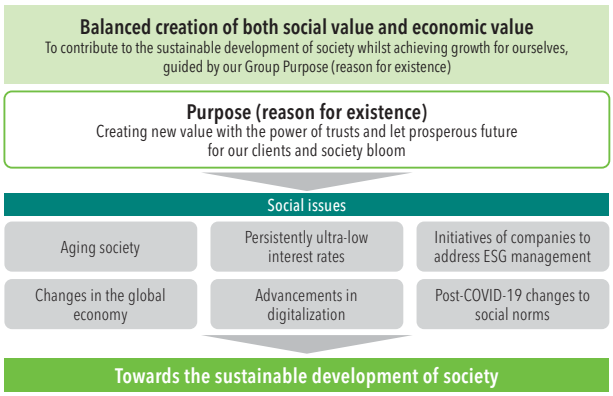
Climate change, which is becoming ever more extreme by the day and causing significant damage in many places, is one of the most serious environmental issues that threaten the sustainability of the global economy and society, and its impact is starting to materialize as a financial risk for traditional financial businesses such as loan and insurance services for companies and real estate. The Group regards climate change as a priority social issue. To resolve climate change issues, it is important to steadily advance the transition to a carbon-neutral society while also dealing with complicated interests associated with existing legal systems, life styles and corporate activities.

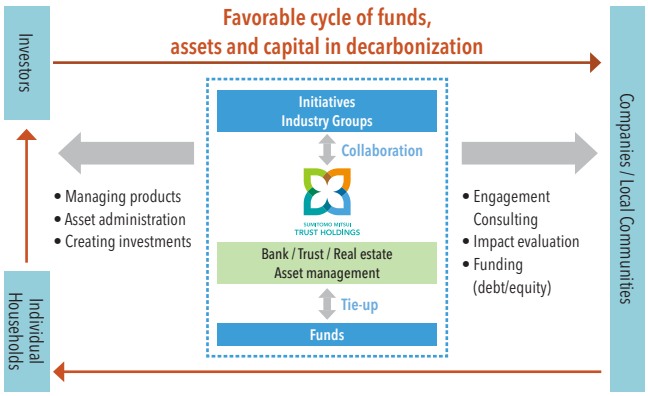
1. Risks and opportunities

Under the Group's shared Action Guidelines for Mitigating Climate Change, we strive to maintain an appropriate awareness of risks and opportunities stemming from climate change, and we endeavor to minimize our negative impact while maximizing our positive effects.

With regard to risks related to climate change, we conduct risk management and monitoring of investments and loans through continuous process reviews and climate change scenario analysis from the viewpoint of improving our response to climate change.

With regard to opportunities related to climate change, aggressive investment in decarbonization technology is expected, with Japan's Ministry of Economy, Trade and Industry estimating cumulative public and private investment in Japan of ¥150 trillion by FY2030. The Group will contribute to achieving a carbon-free society by leveraging our unique functions as a trust bank group to promote the virtuous circulation of funds between households, companies and investors.





2. Road Map toward Carbon Neutrality in 2050

FY	2020	2021	2022	2023	…	2030	2040
① Policy toward carbon neutrality by 2050		Carbon Neutral Commitment		Transition plan			
② Net zero GHGEs Emissions in inv. & loan portfolio (NZBA)		Joined*1					
Power generation(intensity, g-CO_2e/kWh)	249	243				138~173	
Oil & Gas(reduction ratio, Mt-CO_2e)	3.6	(3.6)%				(13)%~(31)%	
Real estate (intensity, kg-CO_2e/m^2)		64				34~41	
Shipping (Portfolio Climate Alignment)	(0.8)%	(0.4)%				≤ 0%	
Other highly carbon intensive sectors*2				"Iron & steel" "Automotive" by Sep. 2024			
③ Net zero GHGEs in Asset Management portfolio (NZAMI)		Joined*1					
SuMi Trust Asset Management					≫	Halve intensity of 50% of AUM*3 from 2019	
Nikko Asset Management					≫	Halve intensity of 43% of AUM*4 from 2019	
④ Total amount of cumulative sustainable financing		0.83 trillion yen	Approx. 2 trillion yen		≫	15 trillion yen	
⑤ Loan balance for coal-burning power plants							
For projects		142.7 billion yen	Approx. 140.0 billion yen		≫	Halve from Mar. 2020	Zero
For corporations (new / expansion)		20.1 billion yen	Approx. 14.0 billion yen		≫		Zero
⑥ Net Zero GHGEs from OWN GROUP (Scope1, 2)		23,763t-CO_2e			≫	Net Zero	
SuMi TRUST Bank Group*5 (branch offices in Japan)		22,228t-CO_2e	Partial introduction of RE in branch offices		FY2025: 7,224t-CO_2e*6		

*1 Sumitomo Mitsui Trust Holdings, Inc. is a member of NZBA
*2 Highly carbon-intensive sectors are defined by the NZBA as the following priority sectors: power generation, oil & gas, real estate, transport, iron & steel, coal, cement, aluminum, and agriculture
*3 Equal to ¥43 trillion, or 50% of the total of ¥85 trillion in assets under management as of the end of June 2021. The assets under management that have been excluded from the target are assets for which there is no established method for calculating GHG emissions at present, such as sovereign bonds. We will consider adding assets when they become amenable to calculation in the future
*4 Equal to approximately ¥13 trillion, or 43% of the total of ¥31 trillion in assets under management as of the end of December 2021
*5 Consolidated basis with SuMi TRUST Bank at the top
*6 Joined GX League in FY2023 and set an intermediate reduction target. Emissions from company-owned sales vehicles are excluded from the FY2025 target

Transition Plan toward Carbon Neutrality

In October 2023, the Group formulated a transition plan toward carbon neutrality for steadily advancing its Carbon Neutral Commitment announced in October 2021.

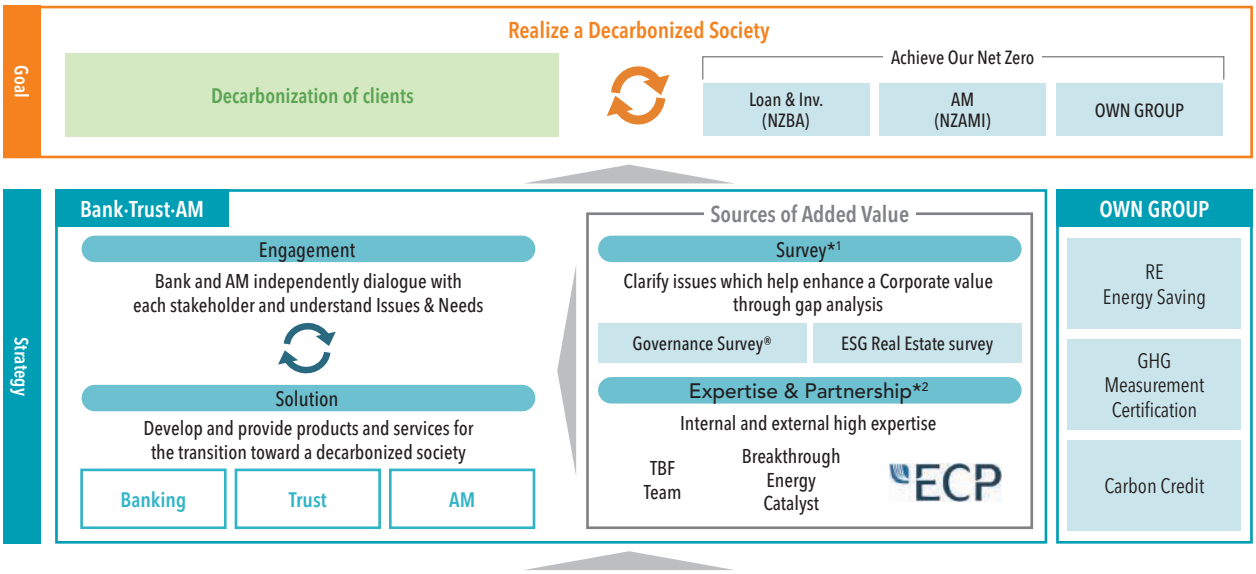
After establishing governance and infrastructure, and setting indicators and targets, we will take full advantage of value-added functions such as surveys, expertise, and partnerships, and through dialogue with each stakeholder, we will identify management issues and needs, and provide a wide range of solutions to resolve these issues. By advancing these initiatives, we aim to achieve net zero GHG emissions for OWN GROUP, contribute to the decarbonization of our clients, and realize a carbon neutral society.

Please also refer to the "Progress of Our Approach to Carbon Neutrality" disclosed on October 31, 2023.

Carbon Neutral Commitment (Oct. 2021)

1. Contribute to achieving carbon neutrality in society by leveraging the trust banking group's wide-ranging and flexible functions
2. Target net-zero GHG emissions in investment and loan portfolios by 2050
   To achieve net-zero emissions by 2050, a milestone target for 2030 will be formulated in FY2022 in line with the framework of the NZBA
3. Achieve net-zero greenhouse gas emissions in SuMi TRUST Group by 2030

Transition Plan toward Carbon Neutrality (Oct. 2023)



*1 SuMi TRUST Bank carried out fact-finding surveys on various corporate efforts. "Governance Survey®" is the largest fact-finding survey in Japan on corporate governance of domestic listed companies. (every year since 2017) "ESG Real Estate Survey" is a fact-finding survey on real estate owners' ESG efforts at investment and management (since 2022)

*2 Technology Based Finance (TBF) team (->p. 22), Breakthrough Energy Catalyst (->p. 23), Energy Capital Partners (ECP) (->p. 23)

1. Overview of transition plan toward carbon neutrality

With the GFANZ and NZBA frameworks as a guide, we are formulating transition plans for four segments: banking, management, trust, and OWN GROUP.

Overview of transition plan toward carbon neutrality

Segment		Bank (NZBA)		AM (NZAMI)
Entity*1		SuMi TRUST Bank		SuMi TRUST AM Nikko AM
Timing		Now-2050		Now-2050
Strategy	Engagement	Formulate & implement stakeholder-specific engagement strategies		• Stewardship activity
	Initiatives	**Decarbonization Business** • Sustainable finance • "Tech × Policy × Fin." by TBF • Utilize Impact equity • Sectoral strategy	**Process sophistication** • Processes • Scenario analysis	• Engagement • Monitor and exercise voting rights • Providing ESG products
Indicators & targets		**GHG targets** • 2030 Intermediate targets by Sector • 2050 Net Zero **Monetary target** • 2030 Sustainable finance target • 2040 zero balance of loans for coal fired thermal power plants (new / expanded)		**GHG targets** • 2030 Intermediate targets • 2050 Net Zero
Governance Foundation		• Reinforcement of governance system and executive compensation • Establishment of risk appetite indicators • Human resource development and awareness-raising activities		

Segment	Trust
Entity*1	SuMi TRUST Bank
Timing	Now-2050
Strategy	**Investor business** • Enhancement of ESG investment business **Real estate business** • Decarbonization support for the real estate sector

Segment	OWN GROUP
Entity*1	SuMi TRUST HD
Timing	Now-2030
Strategy	• RE and energy saving • Improve the measurement • Utilization of carbon credits
Targets	**GHG targets** • 2025 Intermediate target*2 • 2030 Net Zero

*1 Consolidated basis with the company as the top

*2 Submitted the intermediate targets of branch offices in Japan of SuMi TRUST Group for FY2025 to the GX League

2. SuMi TRUST Bank Strategy

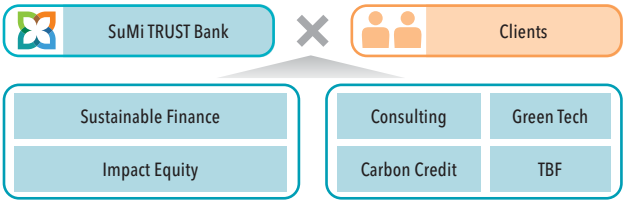
(1) Engagement policy

Our Engagement Strategy for Clients

We will contribute to reducing GHG emissions of clients by identifying issues for decarbonization through continuous engagement (dialogue) with them and developing and supplying solutions.

We will engage with 50 companies by the end of FY2023 and 150 companies by FY2025, mainly clients in high-emission sectors such as power generation, oil & gas, real estate, shipping, iron & steel, and automotive & components.

Engagement (50 companies, 2022-2023)



Achievements on our Engagements

Engaged Companies	Approx. 40/50 companies*1 (FY2022 to Sep. 2023)
Consulting*2	Approx. 50 cases*3 (FY2021 to Sep. 2023)

*1 The number of companies that have already been engaged with by the end of FY2023, out of 50 target companies

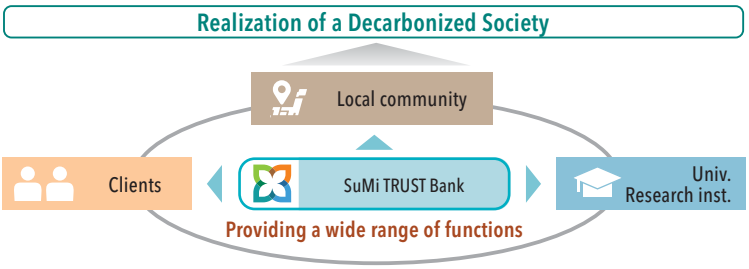
*2 Consulting related to decarbonization: TCFD disclosure, CDP responses, support for GHG measurement, ESG training, etc.

*3 Number of contracts with business partners through SuMi TRUST Bank. Including multiple contracts of the same firm. Total from FY2021, when the service was first provided

Relationship with Local Communities

In addition to decarbonization through our clients, by offering the Group's wide array of functions to local communities, we will accelerate decarbonization in both the corporate and community sectors.

We will support the social implementation of innovative technologies through the provision of the Group's functions and joint research with universities and other research institutions.



Examples of initiatives in local communities (->p. 29)
Building local ecosystems
Decarbonization of industrial clusters

Relationship with initiatives

Joins collaborative engagement and rule-making through participation and discussions in initiatives

JCLP	Japan Climate Leaders' Partnership (JCLP) is a partnership of companies aiming to achieve a sustainable and decarbonized society, launched in 2009, which collaborates on decarbonization businesses and makes proposals on policies to the government. A member of SuMi TRUST Bank serves as a coleader and actively leads the organization
HLEG	High-Level Expert Group on the Net-Zero Emissions Commitments of non-state entities. The members were called by the secretary general of the UN, and an officer of SuMi TRUST Bank has been elected as an only member from Japan. Presented a recommendation about definition and concept of net zero declaration at COP27
GX League	A private-public initiative in Japan aiming to realize a decarbonized society. At the management promotion WG, SuMi TRUST Bank actively engaged in the adjustment of contribution to reduction as a leading company
GFANZ	A global coalition of financial institutions committed to the decarbonization of the actual economy. SuMi TRUST HD, SuMi Trust AM and Nikko AM have joined it. Participate in the Japan Chapter Core Working Group, a branch office in Japan

Other Stakeholders

Takes serious view of dialogues with stakeholders and joins domestic and global initiatives in order to settle difficult social issues

Continuously exchanges opinions to share and solve issues with environmental NGOs, etc. Carried out inspections on fuel procurement for biomass power generation, triggered by dialogues with NGOs in FY2023 (in North America and Southeast Asia)

(2) Promoting decarbonization business

SuMi TRUST Bank will promote the following measures to realize a carbon neutral society.

Expansion of sustainable finance

We will respond to the funding needs of our clients by expanding sustainable finance.

Long-term target for cumulative amount (including investor funds)

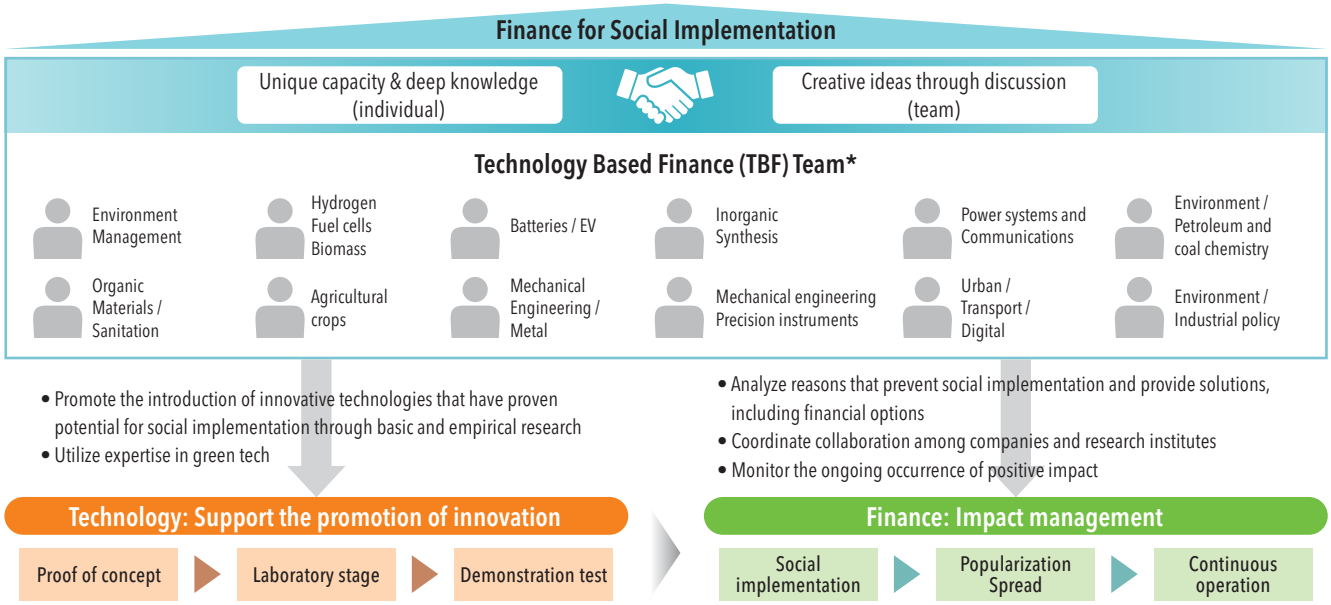
Approx. ¥2 trillion (End of FY2022) → **¥15 trillion*** (By FY2030)

* The targets of sustainable finance are financing operations that contribute to resolving environmental and social issues. This includes loans, syndicated loans, fixed income investment services, fund investments, financial advisory services, trustee services, impact equity investments, etc.

"Technology × Policy × Finance" by TBF Team

Innovative technologies, massive investments, and national policy initiatives are key to tackling climate change. In 2021—to better understand the latest technologies, deepen our dialogues with clients, and actively work on finance based on the scientific perspective—we established the Technology Based Finance (TBF) Team at our Sustainability Management Department.

With a mission to "contribute to the realization of a sustainable society by integrating technology, finance, and policy, and by solving social issues together with like-minded partners," the TBF Team is made up of members with experience in technology in the four themes of (1) decarbonization, (2) resource recycling, (3) biodiversity, and (4) health and longevity.



* As of December 2023

We aim to solve social issues by combining the TBF team's deep knowledge of technology with a policy perspective and the wide array of functions of a trust bank.

Leverage impact equity

SuMi TRUST Bank provides funds for solving social issues through impact equity as well as solutions using the technologies of the investee companies.

In the area of climate change, we are focusing on investing in domestic and global green tech funds, companies, and projects that are driving innovative green tech-related businesses, as well as acquiring cutting-edge trends and knowledge in this field, with a view to business matching and other activities that will contribute to the realization of our clients' decarbonization strategies. (See examples of leveraging impact equity on P. 23)

Sectoral strategy

For sectors with 2030 intermediate reduction targets, we will formulate a sectoral strategy based on the NZBA and advance our efforts to decarbonize that sector.

(For the power generation sector and the oil & gas sector, see P. 26-28; for the real estate and shipping sectors, where targets were set in October 2023, strategies are scheduled to be formulated by October 2024)

(3) Sophistication of process

SuMi TRUST Bank is continuously reviewing the process to advance the responses to climate change.

Commenced operation of climate change response process

Based on the climate change transition risk sector heatmap, we identify key sectors to set GHG emission reduction targets. After setting the intermediate targets, we set and manage various standards related to policies for specific sectors, credit examination, and risk evaluation and mitigation measures.

GHGEs control system

- Sets GHGEs reduction targets
- Controls portfolios to achieve targets
- Measures GHGEs

Risk evaluation, Risk mitigation measures

- Evaluates each company's transition risk in the target sectors
- Risk mitigation measures responding to the transition risk rank (engagement)

Credit examination

- Various checks from the view point of climate change risks at the examination phase of credit

Policies for specific sectors

- Regular review

Expansion of scope of climate change scenario analysis

We are gradually expanding scenario analyses of the transition risk and physical risk to grasp impacts on credit risk.

In FY2023, we analyzed the transition risk of overseas companies and the physical risk of project finance for solar power projects in Japan (->p. 34).

3. Strategies of the asset management companies

(1) Initiatives at Sumitomo Mitsui Trust Asset Management Co., Ltd.

Sumitomo Mitsui Trust AM has identified climate change as one of the ESG materiality items and supports the transition to a carbon neutral society through engagement, initiative activities, and the exercise of voting rights based on the risks and opportunities related to climate change for investee companies.

Engagement

Individual	With investee companies	• To promote effective activities, SuMi Trust AM focuses on approx. 100 companies*1 that have major impacts on GHGs reductions globally
	Monitoring engagement results	• For approx. 40 Japanese companies among them, manages the progress in four stages, and monitors how they implement measures and how they solve issues
	Dialogue with government agencies	[Example] Exchanges opinions with Japanese ministries and agencies on issues Japanese companies are facing and global trends regarding climate-related information disclosure and transition
Collaborative	Leadership in initiatives	• Leads discussions and activities at initiatives. [Example] NZAMI: Takes a position in the Advisory Group Climate Action 100+: Promotes collaborative engagement focusing on Asian companies as a lead manager
	Active participation in sustainability-related initiatives	• Selected companies with a large influence in agricultural supply chains at FSDA*2 and began collaborative engagement
	Policy advocacy	• Recommends governments to strengthen their responses to environmental issues and to establish a framework [Example] Exchanged opinions with President Lula's new administration in Brazil on conservation of the forests of the Amazon region through IPDD*3

*1 Approx. 40 Japanese companies and approx. 60 foreign companies. Estimate that they cover approx. 40% of the total GHGs of all stocks held

*2 Financial Sector Defense Action Initiative (FSDA) was established to prevent deforestation in the grain production supply chain and promotes collaborative engagement

*3 The Investors Policy Dialogue on Defense (IPDD) is an initiative aimed at promoting policy engagement in forest conservation for the country and government officials

Exercising voting rights

We tightened the standards for dealing with climate change in the revised proxy voting guidelines in January 2022.

We oppose proposals for the election of directors in principle, if their policy corresponds to any of the following without a reasonable explanation.

- ☑ Insufficient disclosure of information under the Task Force on Climate-related Financial Disclosures (TCFD) or other similar frameworks
- ☑ No mid- and long-term target setting in accordance with the Paris Agreement, or no disclosure of concrete measures to realize the targets
- ☑ No progress seen in reducing GHG emissions

Outside evaluations

The stewardship activities of SuMi Trust AM were introduced as a case study for the second time since 2022 in the Investor Climate Action Plans (ICAP), an evaluation framework for management companies formulated in the Investor Agenda*4.

*4 A coherent and inclusive common leadership agenda on the climate crisis, focusing on accelerating investor action towards an economy with net zero carbon emissions

(2) Initiatives at Nikko Asset Management Co., Ltd.

As one of the few Asian firms to sign the UK Stewardship Code, Nikko AM is strengthening its ESG initiatives in investment, both in terms of organizational structure and personnel. We will promote the provision of products utilizing our global network and support the transition to a carbon neutral society.

Engagement

Individual	With investee companies	• A total of 70 names were selected to prioritized companies to dialogue with, including the top 60 names* in the emission ratio to total balance of Japanese stocks of Nikko AM and the top 10 names with high importance of Scope3
	Monitoring Engagement	• Enhanced ESG integration functions by the Global Sustainable Investment Team, which was newly established in Aug. 2022 in Singapore as the core base • Evaluates corporate initiatives in accordance with the framework recommended by NZAMI • Manages the milestones of engagement progress and uses it for exercising voting rights and formulating engagement policies
Collaborative	Promotion of collaborative engagement	• Promotes collaborative engagement with investee companies through investor associations and initiatives such as Climate Action 100+ and the Asia Investor Group on Climate Change (AIGCC) • Continuously planning to expand efforts to improve understanding of climate change issues, address them and disclose information of companies for dialogue

* Covers approximately 72% of the total GHG emissions of all stocks held in Japan (as of December 2019)

Exercising voting rights

Revised the guidelines for the exercise of voting rights in April 2023 and set voting rights guidelines on climate change to facilitate engagement with investee companies.

Our policy is to encourage response to climate change by exercising voting rights when the companies we have selected for dialogue do not make progress.

Product offerings

We are promoting a product composition that takes advantage of our global network while taking into account ESG factors.

Through our product offerings, we support companies' efforts to reduce GHG emissions and realize a carbon neutral society.

4. SuMi TRUST Group's governance/strengthening foundation

We have established a governance structure for supervision and execution centered on the Board of Directors, and monitor it using a risk appetite framework (->p. 56).

We are working to educate our employees by strengthening human resource development programs aimed at improving employees' environmental awareness and knowledge about decarbonization, and implementing employee-participation sustainability activities at sales offices nationwide.

Human resources development

Understanding of climate change is required in a variety of fields, including banking, trust, and asset management. By proactively providing opportunities for employees to learn, we aim to raise awareness and knowledge about climate change.

GX online learning Aidemy	Offer GX online videos provided by Aidemy to our group employees, as a learning tool (since Sep 2023)
Training	Promote the improvement of employees' knowledge through workshops, etc. on climate change at SuMi TRUST Bank Workshops: approx. 30 times , News release : approx. 20 times (in the 1st half of FY2023)

"With You" activities (sustainability activities)

SuMi TRUST Bank implements "With You" sustainability activities in which nationwide branch offices engage with local communities.

From August to September 2023, the "With You Eco Festival" was held with employee participation.

The festival took on familiar themes such as the visualization of plastic waste reduction and participation in Mission Uchimizu (water sprinkling) in cooperation with local communities around the branch.

5. Strategies in the trust business

By leveraging the wider-ranging functions unique to a trust bank, SuMi TRUST Bank will not only achieve our net zero target but also continuously contribute to the realization of a carbon neutral society through providing solutions to clients.

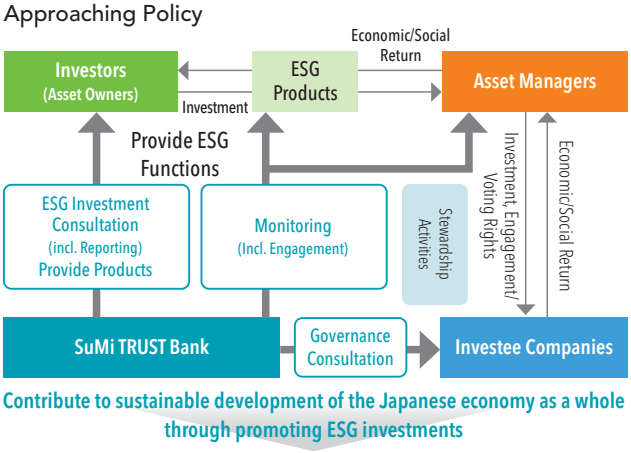
Investment Business - Strengthen ESG investment business

We will contribute to the sustainable development of the Japanese economy through our ESG investment business, which provides ESG functions such as consulting, monitoring, and products to investor clients, asset managers and investee companies.

Real Estate Business - Decarbonization support for the real estate sector

By providing our various functions and services to clients, from the starting point of visualizing the client's position through surveys, we will contribute to decarbonization of not only entrusted property but also the real estate sector as a whole through our business (->p. 31).

Approaching Policy



6. Initiatives in OWN GROUP

We aim to achieve net zero GHG emissions from OWN GROUP (Scope 1, 2) by 2030.

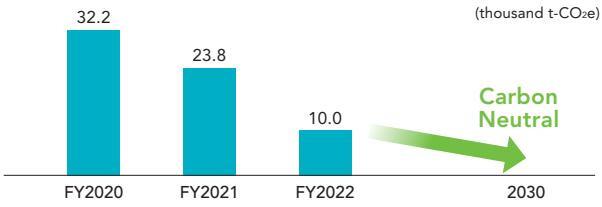
We are committed to expanding our measurement scope for GHG emissions, promoting the shift to renewable energy and energy saving, as well as expanding adoption of recycled materials and low emission products through dialogue with suppliers.

Target for 2030 and current progress

We set a target to achieve net zero by 2030, and are steadily reducing GHG emissions.

*1 Internal use of commercial vehicles was not included in the results until FY2021. It is included in the measurement starting from FY2022

OWN GROUP's GHGEs (Scope 1, 2): Record*1 and Target



Joined GX league

SuMi TRUST Bank, whose emissions account for more than 90% of OWN GROUP's Scope 1, 2 emissions, joined the GX League and set intermediate targets for FY2025*2.

*2 We set a target of 7,224t-CO_2e ((83)% from FY2013) for Scope 1, 2 in total for SuMi TRUST Bank branch offices in Japan, but GHG emissions from internal commercial vehicles are excluded from the target

Future policy

Expanding our measurement scope	We are expanding the scope of Scope 3 measurement to include Group companies and actively adopting recycled materials and low emission products.
Third party certification	To ensure the reliability of our environmental data, we are considering expanding the scope of third-party certification of our GHG emissions.
Carbon credits	We will make efforts to reduce emissions to the maximum extent possible through our own efforts, and we will also consider the use of high-quality carbon credits for areas where reduction is difficult.

Awareness of Climate Change Opportunities

As social and industrial structures start to radically transform to achieve a decarbonized society, a huge amount of funds has become necessary for green technological development and capital investment. According to trial calculations by the Japanese government, Japan alone will require ¥150 trillion in funds by 2030. In the United States, under the enacted Inflation Reduction Act, the U.S. government plans to extend approximately US$ 369 billion (approximately ¥52 trillion) in ten years, which will be used to provide tax credits and subsidies for renewable energy, electric vehicle (EV), and other climate change-related industries. The European Union (EU) has also followed suit by announcing the Green Deal Industrial Plan, forming part of a worldwide trend in which countries are introducing policies to promote Green Transformation (GX) investments.

Meeting such substantial funding needs requires blended finance that mobilizes contributions from the public and private sectors. The company will aim to fulfill its role as a financial institution without missing such opportunities, and achieve balanced creation of both social value and economic value.

Public and private investment amounts in Japan based on "For the Realization of Green Transformation in Japan" prepared by the Ministry of Economy, Trade and Industry

(in round numbers)

¥150 trillion*1
(Cumulative total through FY2030)

Energy supply side
¥50 trillion –

- Renewable energy ¥20 trillion –
- Next-generation network (Grid and balancing capacity) ¥11 trillion –
- Next-generation innovative reactor ¥1 trillion –
- Hydrogen and ammonia ¥7 trillion –
- Recycled carbon fuel ¥3 trillion –
- CCS ¥4 trillion –

etc.

Energy demand side
¥100 trillion*2 –

- Housing and buildings ¥14 trillion –
- Automotive and storage batteries ¥34 trillion –
- Iron & steel, chemistry, cement, paper pulp ¥8 trillion
- Zero-emission ships ¥3 trillion –
- Digital investment ¥12 trillion

etc.

*1 Of the ¥150 trillion, GX Economy Transition Bonds account for ¥20 trillion
*2 Some duplication exist
Source: Prepared by SuMi TRUST Bank based on materials disclosed by the Cabinet Secretariat

(1) Opportunity awareness by sector

Power Generation sector	Energy source	• Expansion of renewable energy (solar/wind power generation, etc.) • Realization of non-fossil fuel backup power sources for green hydrogen, ammonia, etc. • Enhanced advantage of nuclear power generation • Reinforcement of the power grid system
	Product service and market	• Expansion of electrification and increased demand for electricity in society as a whole due to the decarbonization tide (spread and expansion of EVs and storage batteries, etc.) • Virtual power plant projects, demand response, etc. that contribute to the effective use of distributed resources
Oil & Gas sector	Resource efficiency	• Increased demand for eco-friendly products and expansion of chemistry recycling businesses due to transition to a resource recycling society
	Energy source	• Increased demand for renewable energy (wind power) and low carbon energy • Supplying zero emission energy such as green hydrogen, ammonia, synthetic fuel and biofuel, and building its supply chains
	Product service and market	• Expansion of businesses for e-mobility-related services driven by client behavioral changes, and for new services, such as car-sharing • Expansion of CO_2 emissions reduction businesses fueled by progress in CCUS technologies • Increased demand for good carbon credit
Real Estate sector	Resource efficiency	• Increased demand for eco-friendly products due to transition to a resource recycling society (low carbon cement, wood construction, recycled building materials, etc.)
	Energy source	• Increased demand for renewable energy (energy creation, electricity wheeled for self-use, CPPA, etc.) • Increased demand for energy conservation, energy creation, and energy storage system
	Product service and market	• Expansion of businesses for EV-related services driven by client behavioral changes, and for new services, such as car-sharing • Expanded development and introduction of systems for visualization and management of GHG emissions during building construction, operation, and demolition • More sophisticated certification systems and evaluation indicators for environment-friendly real estate
Shipping sector	Resource efficiency	• Increased demand for eco-friendly products due to transition to a resource recycling society (low carbon steel, recycled materials, etc.)
	Energy source	• Supplying zero emission energy such as green hydrogen, ammonia, synthetic fuel and biofuel, and building its supply chains • Commercialization and expansion of electric carriers
	Product service and market	• Increased demand for zero-emission transport service driven by client behavioral changes • Increased demand for good carbon credit

(2) Strategies to acquire opportunities

SuMi TRUST Bank will properly seize these fund mobilization opportunities and provide wide-ranging solutions that fully leverage the unique capabilities of the trust group, thereby supporting clients' transition to decarbonization both financially and non-financially.

1. Engagement promotion (->p. 12)	• Collaborative decarbonization engagement strategy for clients • Relationship with local communities • Engagements with initiatives and other stakeholders
2. Decarbonization business promotion (->p. 13)	• Expand sustainable finance • Solve social issues by integrating the TBF Team's "Technology × Policy × Finance" insights • Utilize impact equity • Sectoral strategy

SuMi TRUST Bank's Initiatives for Carbon Neutrality

1. Expansion of sustainable finance

SuMi TRUST Bank is expanding sustainable finance with the aim of stimulating financial support for the resolution of social issues. We target a cumulative total of ¥15 trillion by FY2030 for it. By providing sustainability solutions, we will continue to support the business activities of clients that contribute to the achievement of the SDGs, and to help enhance our clients' medium- to long-term corporate value.

(1) Green Loan Sumitomo Metal Mining Co., Ltd. (Sep. 2023)

SuMi TRUST Bank concluded a syndicated green loan agreement with Sumitomo Metal Mining Co., Ltd. (SMM). This agreement is in line with the Green Loan Principles released by the Loan Market Association (LMA)* and others and the Green Loan and Sustainability-Linked Loan Guidelines released by the Ministry of the Environment.

SMM has also set a long-term vision of tackling management issues that contribute to society's sustainable development, achieving continuous growth in its business and improving its corporate value, and becoming the "world leader in the non-ferrous metals industry." In its "2021 Medium-term Business Plan" from fiscal 2022 to 2024, SMM vows to continue to work toward achieving its long-term vision, as well as continue to take on the challenge of appropriately responding to changes in the social environment, such as accelerating trend of carbon neutrality, and digital transformation, under the theme of "renewed challenge for change."

SMM will allocate the funds procured under this agreement to facility expansion and a new plant construction for increasing the production of cathode material for automotive secondary batteries. The lithium-ion batteries using nickel-based cathode materials produced and sold by SMM have high energy density and enhanceable capacity, and are seeing their increasing demand for use in electric vehicles for long-distance travel. Through facility expansion and the construction of a new plant, SMM will increase the supply of high-performance battery materials that contribute to decarbonization and tackle climate change, including GHG reduction and stable supply of low carbon footprint products.

Date of agreement	September 27, 2023
Arranger	Sumitomo Mitsui Banking Corporation, SuMi TRUST Bank
Co-arranger	Iyo Bank
Agent	Sumitomo Mitsui Banking Corporation
Loaner	26 financial institutions
Set up amount	¥25 billion
Use of funds	Facility expansion and construction of a new plant for increasing the production of cathode material for automotive secondary batteries

A plant under construction in the Besshi area (Niihama City, Ehime Prefecture)

Lithium Nickel-Cobalt-Aluminum Oxide (NCA) used mainly in battery material (cathode material) for electric vehicles

Provided by Sumitomo Metal Mining Co., Ltd.

* Loan Market Association (LMA): Its objective is to improve liquidity, efficiency, and transparency in the syndicated loan markets in Europe, the Middle East, and Africa. Its membership covers more than 700 organizations from over 60 countries

(2) Green Loan INPEX CORPORATION (Mar. 2023)

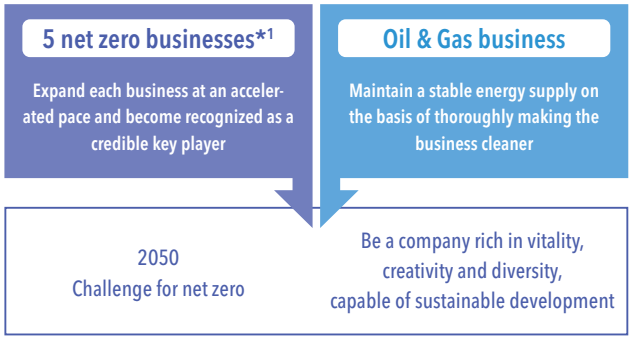
SuMi TRUST Bank concluded a Green Loan Agreement with INPEX CORPORATION (INPEX) in line with the Green Loan Principles released by LMA and others.

INPEX will allocate the funds procured under this agreement to new investments and refinancing for projects meeting the eligibility criteria* of the Green Finance Framework released by INPEX in March 2023.

INPEX proactively engages in energy structure reforms toward the realization of a net zero carbon society by 2050, while responding to the growing energy demands of Japan and the world and fulfilling its responsibility for the development and stable supply of energy over the long term. By doing so, INPEX will contribute to a brighter future for society and sustainably increase its corporate value. As a pioneer in Energy Transformation (EX), INPEX will provide a stable supply of diverse and clean energy sources from oil and natural gas to hydrogen and renewable energy, as its "basic policy towards a Net Zero Carbon Society by 2050." Its vision is to transform "net zero carbon" from an ideal to reality by around 2030.

* Renewable energy related business (business related to the development, construction, operation, and improvement of renewable energy such as wind, geothermal, and solar power)

Basic policy towards a net zero carbon society by 2050



*1 (1) Hydrogen/ammonia, (2) Reducing CO_2 emissions from oil & gas operations (CCUS*2), (3) Renewable energy, (4) Carbon recycling/new business, (5) Forest conservation
*2 Carbon dioxide Capture, Utilization and Storage

(3) Transition Loan Osaka Gas Co., Ltd. (Jan. 2023)

SuMi TRUST Bank concluded a transition loan agreement with Osaka Gas Co., Ltd. (Osaka Gas). This agreement is in line with the "Daigas Group Green/Transition Finance Framework" formulated by Osaka Gas and the "Climate Transition Finance Handbook" released by the International Capital Market Association.

Osaka Gas will allocate the funds procured under this agreement to a high-efficiency gas-fired power generation project (Himeji Natural Gas Power Plant). This power plant is equipped with a high-efficiency gas turbine with an inlet temperature of 1,650°C class using liquefied natural gas (LNG) and a heat recovery steam generator, aiming to achieve a CO_2 emission factor of 0.307 kg-CO_2/kW.

The Daigas Group is not only continuing its sustained efforts to achieve more widespread use of natural gas. It is also decarbonizing its city gas materials by introducing methanation with renewable energy and hydrogen, and decarbonizing power source by introducing renewable energy, with the aim to achieve carbon neutral by 2050. The transition loan agreement is part of the transition to achieve this goal.

Loan execution date	January 16, 2023
Execution amount	¥10 billion
Use of funds	Himeji Natural Gas Power Plant

(4) Positive Impact Finance (PIF) initiatives

PIF is a lending product that encourages impact creation in environmental and social fields by not only evaluating the client's environmental and social initiatives in SuMi TRUST Bank's positive impact evaluation, but also conducting ongoing engagement (dialogue) with the client for the duration of the contract period.

SuMi TRUST Bank has actively provided PIF ever since executing its first groundbreaking PIF in March 2019.

Through PIF, we will continue to support initiatives that have impact on the environmental and social fields of clients.

For details on individual PIF initiatives, see SuMi TRUST Bank's website. (Japanese only)
https://www.smth.jp/sustainability/Initiatives_achievements/pif/portfoliolist

2. Initiatives of our Technology-based Finance (TBF) Team

The TBF Team aims to solve social issues by combining its deep knowledge of technology with a political perspective and a trust bank's wide array of functions.

To date, the team has participated in demonstration projects of ministries and agencies, engaged in impact businesses and more.

Among the demonstration projects was one for the Infrastructure Public-Private Partnership (PPP) Model Project (unsolicited proposal) commissioned by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT). The team proposed a preventive maintenance finance scheme for reducing local governments' lifecycle costs by infrastructure maintenance, and the proposal was adopted as an MLIT commissioned project for FY2023.

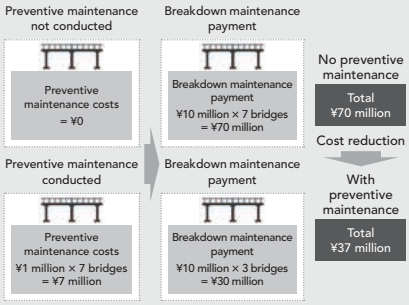
In one of the impact businesses, the team and Hashimoto City, Wakayama Prefecture created an impact report for Panasonic Corporation's demonstration experiment to develop a waste disposal system for a super-aging society. Hashimoto City and Panasonic concluded a partnership agreement in 2021 on enhancing municipal services, focused on resolving waste disposal issues in the community, and are carrying out a demonstration experiment for developing a new waste disposal system. SuMi TRUST Bank has supported the impact evaluation for this demonstration experiment.

Through these activities, including launching new businesses, we will continue to support the social implementation of innovative technologies and contribute to achieving a decarbonized society.

Participation in demonstration projects

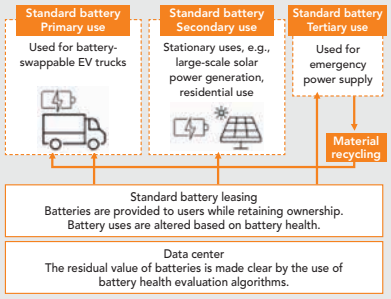
MLIT — **Infrastructure PPP Model Project (unsolicited proposal)**

A preventive maintenance finance scheme for reducing local governments' lifecycle costs by infrastructure maintenance was adopted as an MLIT commissioned project.



MOE — **Battery cascade utilization scheme**

The health of battery packs for energy storage is analyzed using algorithms. By creating a system for secondary uses of battery packs based on their degradation levels, the initial investment and cost of energy storage is reduced.



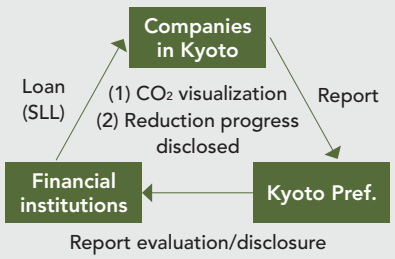
MOE — **Large-scale renewable energy and hydrogen supply chain in Tomakomai City**

Participated in the "FY2023 Project to Construct and Demonstrate a Model for Reducing the Cost of Hydrogen Supply Using Existing Infrastructure" implemented by SPARX Green Energy & Technology Co., Ltd.

Regional ecosystem initiatives

Kyoto Pref. — **Kyoto Zero Carbon Framework**

Established a sustainable finance framework applying the emissions reduction planning program, etc. of Kyoto Prefecture.



Hashimoto City — **Impact evaluation support "Hashimoto City Impact Report"**

Created the "Hashimoto City Impact Report" for Panasonic's demonstration experiment to develop a waste disposal system for a super-aging society.

Odawara City — **Support for impact evaluation of local energy production for local consumption of energy**

To visualize the impact of the local energy production for local consumption of energy in Odawara City, concluded a partnership agreement with Odawara City, the Bank of Yokohama, and Hamagin Research Institute, Ltd. and supported the impact evaluation.

3. Leverage impact equity

SuMi TRUST Bank will leverage impact equity to provide financing to companies, projects, and funds aspiring to solve social issues, including climate change. In addition, we will develop solutions using the technologies, etc. of the investee companies and provide them to clients.

(1) Participation in Breakthrough Energy Catalyst (Released in Nov. 2022)

SuMi TRUST Bank participates in Breakthrough Energy Catalyst ("Catalyst"), a program founded by Bill Gates to promote the social implementation of innovative carbon neutral technology. We aim to acquire advanced knowledge in green tech possessed by Catalyst and create business matching and other opportunities that contribute to decarbonization of clients.

Access to innovative technologies

Participation of global advanced companies (2 Japanese companies)

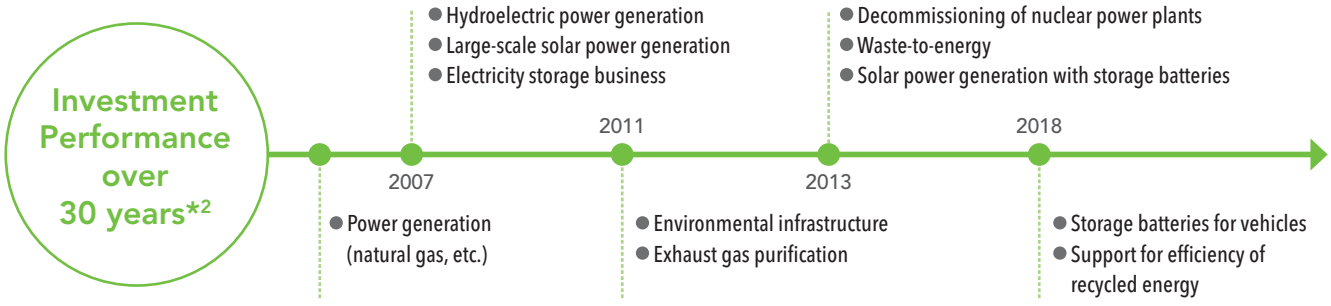
- SuMi TRUST Bank
- Mitsubishi Corporation
- American Airlines
- ArcelorMittal
- Bank of America
- BlackRock Foundation
- Boston Consulting Group
- Citigroup
- General Motors
- HSBC
- Microsoft
- Shell, etc.

(2) Collaboration with Energy Capital Partners (ECP) (Released in Jan. 2023)

SuMi TRUST Bank entered into a business alliance with Energy Capital Partners (ECP), one of the leading U.S. private equity (PE) managers specializing in the electric energy and environmental infrastructure sectors, and made investments in the firm to establish a joint fund for decarbonization. We will leverage ECP's expertise and network to help clients solve management issues related to decarbonization and transition.

One of the largest power generation capacity in the US*1

Broad range of knowledge and investment



*1 Figures are based on the combined total of investee companies. Largest in the U.S. PE market
*2 Including investment performance by its senior partners prior to the establishment of ECP (2005)

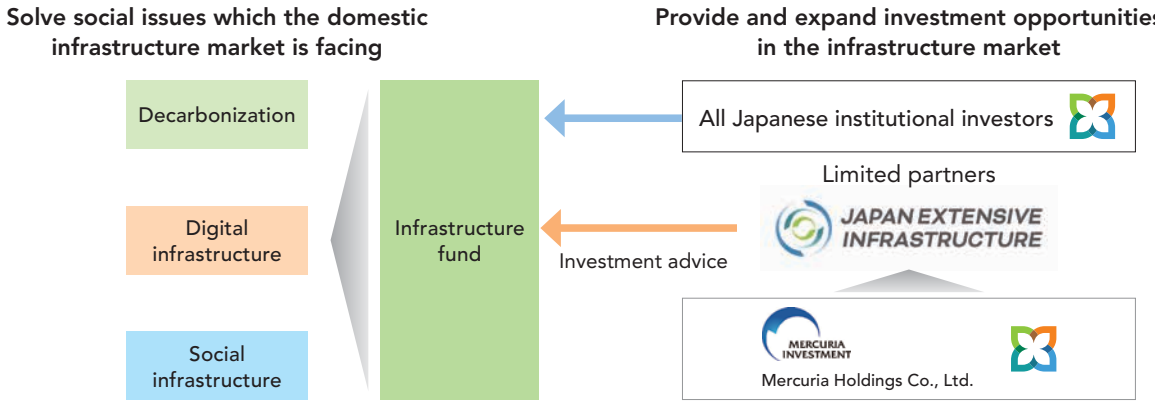
(3) Circulation of funds in the domestic infrastructure sector by a comprehensive infrastructure fund (Released in Sep. 2023)

SuMi TRUST Bank made a limited partnership investment in Japan Infrastructure I, Limited Partnership, a comprehensive infrastructure fund receiving investment advice from Japan Extensive Infrastructure, Limited (JEXI).

JEXI is an investment advisory company with stakes held by SuMi TRUST Bank and Mercuria Holdings Co., Ltd.

The infrastructure that supports Japanese industries and society will require a large amount of funds in the coming years to address challenges, such as decarbonization, development of digital infrastructure, and maintaining and reinforcing the social infrastructure. On the other hand, the investment market is immature, with limited opportunities for investors to invest in a wide range of infrastructure projects in line with their investment needs.

Under these circumstances, we aim to contribute to the resolution of social issues, the Japanese infrastructure market is facing, through the creation and provision of investment opportunities by leveraging SuMi TRUST Bank's diverse functions and capital, and acting as a joint between demand for funds and investment needs.



(4) Investment in a forestry fund formed by Sumitomo Forestry Group (Released in Jul. 2023)

SuMi TRUST Bank, along with nine other Japanese companies, invested in a forestry fund formed by Sumitomo Forestry Group.

The fund takes advantage of the expertise, know-how, and network of Sumitomo Forestry Group. With capital from participating companies, the fund will acquire and manage approximately 130,000 ha of forestland mainly in North America by 2027, in addition to selling timber and generating and selling carbon credits in the U.S. By its very mechanism, the fund will significantly increase the area of properly managed forest and contribute to delivering global climate change countermeasures and biodiversity.

SuMi TRUST Bank has invested in forestry funds like this one and developed a forestry trust. We will continue to contribute to the SDGs through a unique approach as a trust bank group.

Name of fund	Eastwood Climate Smart Forestry Fund I
Assets under management	Approximately ¥60 billion or approximately US$ 415 million (calculated at the exchange rate of US$ 1 = ¥144.46 as of July 3, 2023)
Assets in which fund will be invested	Primarily, forest properties in North America
Period over which fund will be invested	15 years
Fund manager	Eastwood Forests and SFC Asset Management (both members of Sumitomo Forestry Group)
When fund was set up	June 2023

(5) Investment in a renewable energy fund in North America (Released in Jul. 2023)

SuMi TRUST Bank entered into a contract to invest in a fund for renewable energy generation assets in the U.S. and Canada, which was established through a subsidiary by ITOCHU Corporation (ITOCHU).

The fund was jointly conceived by SuMi TRUST Bank and ITOCHU, which has a leading track record in the North American area. The fund will make investments of around US$ 2 billion in total in renewable energy-related assets, etc. in their latter phase of development, mid-construction, and operational stages, while simultaneously utilizing the businesses and assets that the ITOCHU Group administers in North America as one of the means.

By leveraging the wide-ranging functions of the trust bank, SuMi TRUST Bank will provide to investors investment opportunities that contribute to solving social issues.

Name	Overland Capital Partners, L.P. (Limited partnership in Delaware, U.S.)
First close	June 23, 2023
Investment target	Renewable energy-related assets, etc. in the U.S. and Canada
Fund offering period	To be one year from first close
General partner	Overland Capital Partners (GP), LLC (Invested and founded by Tyr Energy, Inc.)
First close investors	Tyr Energy, Inc. (consolidated subsidiary of ITOCHU) SuMi TRUST Bank*1 Fuyo General Lease Co., Ltd. Tokyu Land Corporation*2 *1 Investing through a limited partnership in the Cayman Islands *2 Investing via its U.S. local subsidiary, Tokyu Land US Corporation

(6) Investment in renewable energy-related fund, Copenhagen Infrastructure V (Released in Jul. 2023)

SuMi TRUST Bank invested as a limited partner in a renewable energy fund managed by Copenhagen Infrastructure Partners (CIP), a Danish fund manager with one of the world's largest assets under management in the field of renewable energy.

The fund will invest in renewable energy-related businesses in OECD countries, including floating and fixed-bottom wind power, solar power, and other categories (storage batteries and power transmission lines), aiming total assets under management of 12 billion euros. CIP is planning and promoting floating offshore wind power projects in Scotland, Italy, South Korea, the U.S., and other areas of the world. In April 2022, SuMi TRUST Bank invested in Copenhagen Infrastructure Energy Transition Fund I for decarbonization technologies, such as green ammonia. The latest investment is the company's second investment in CIP managed funds.

In order to realize a sustainable society, SuMi TRUST Bank will broadly strengthen and promote collaboration with global financial institutions such as CIP. We will also contribute to resolving issues in the ESG/SDGs field by utilizing our diverse expertise, including project finance structuring know-how that we have gained from our international business experience.

Name	Copenhagen Infrastructure V SCSp
First close	June 30, 2023
Country of incorporation	Luxembourg
General partner (GP)	Copenhagen Infrastructure V GP S.à r.l.
Target fund size	12 billion euros (hard cap 16 billion euros)
Investment target	Renewable energy-related projects in OECD countries
Date of our investment	June 30, 2023

4. Sectoral strategy

SuMi TRUST Bank has formulated the following sectoral strategies for sectors that have set GHG intermediate reduction targets. (For the real estate and shipping sectors for which targets were set in October 2023, strategies are to be formulated by October 2024.)

(1) Power generation sector

About the power generation sector

Impact	Current Situation
• Its GHGEs account for approx. 40% in the global and Japan*, and it has a significant impact on other sectors. • Approx. 11% of financed emission comes from the sector in SuMi TRUST Bank	• In Japan, highly depends on coal and gas-fired thermal power, affected by stopped nuclear power plants. Japan has neither sufficient energy grids nor enough places fit for RE facilities • In the world, the introduction of RE is promoted mainly in the West. On the other hand, emerging countries depend on thermal power generation because of stability and costs

* (Source) IEA World Energy Outlook 2022

Future trend/Worldview on decarbonization

Future trend	IEA NZE Scenario
• In Japan, importance is attached to the coexistence of the acceleration of decarbonization and the stable supply of electricity. Planning the "transition of thermal power plants utilizing hydrogen and ammonia" and "strengthening power grid and increasing the capacity of storage batteries" in addition to accelerating the introduction of RE • In the world, the introduction of RE will be accelerated in emerging countries. Transition to wind and solar power as a main power source will be gradually promoted rather than the introduction of new thermal power plants	• Net zero GHGEs from the power generation sector is essential in advanced countries by 2035 and globally by 2040, to achieve the Paris Agreement's 1.5°C target

Sector's position and our stance

Attitude for Clients	Risk & Opportunity
• Aims at "collaborative decarbonization engagement" through dialogues with clients • Supports clients' efforts in the power generation sector toward decarbonization and stable supply of electricity, in collaboration with the Japanese government on the GX and energy policies	• Based on clients' risks and opportunities, creates their business opportunities, while properly managing the risks

Conceivable risk for clients and SuMi TRUST Bank's risk management

Conceivable risk for clients		
Transition Risk	Policy	Competitiveness of thermal power by carbon pricing Costs of measures against carbon emission regulations
	Technology	Other energy sources caused by RE and energy saving Investments toward decarbonization technologies
	Market	change Demand caused by EVs and storage batteries, etc.
	Reputation	Social receptiveness of nuclear power generation Reputational risk for clients due to carbon emissions and aggravated factors
Physical Risk	Acute	• Impacts on power generation, transmission and distribution facilities associated with intensified abnormal weather
	Chronic	• Deteriorated working ratio of hydroelectric power plants associated with changed precipitation and snowfall

SuMi TRUST Bank's risk management	
Intermediate Target	• Sets intermediate targets • Sets risk appetite indicators
Sectoral Policy, etc.	• The sectoral policy for coal-burning thermal power plants "No finance for new and expansion projects, but finance for transition toward decarbonization" • Loan balance for coal-burning power plants (new/expansion) (Zero by FY2040)

In addition, carry out risk management in line with the processes responding to climate change (->p. 14)

Conceivable opportunity for clients and SuMi TRUST Bank's business opportunity and record

Conceivable opportunity for clients	
Energy Source	Advantage of nuclear power generation Emerging new businesses related to RE and hydrogen/ammonia
Product Service/Market	Electrification and demand for electricity throughout the society by the decarbonization tide (spread & expansion of EVs and storage batteries etc.)

SuMi TRUST Bank's business opportunity and record	
Finance	**Sustainable finances**
TBF Team	**Support of social implementation of decarbonization technology utilizing expertise** • Odawara city: Impact evaluation and support • Tomakomai city: Hydrogen supply chain
Equity	**Supply of risk money/development of RE business** • Formed domestic general type infrastructure fund • Collaborated with Energy Capital Partners in the US • Invested in Japan Renewable Energy Corp., a company for renewable energy, with ENEOS Corp. (Feb. 2022) • Invested in North American renewable energy fund **Social implementation of Innovative Green Tech/matching with clients** • Joined Breakthrough Energy Catalyst in the US

(2) Oil & Gas sector

About the oil & gas sector

Impact	Current Situation
• Its GHGEs account for as much as approx. 50%* (30% for oil and 20% for gas) of the world by energy source. • Approx. 20% of financed emission comes from the sector in SuMi TRUST Bank	• Currently oil & gas are essential energy sources for daily life • The importance of stable supply of energy is globally recognized again, facing the energy crisis caused by the Russian invasion of Ukraine

* (Source) IEA World Energy Outlook 2022

Future trend/Worldview on decarbonization

Future trend	IEA NZE Scenario
• The demand for oil & gas is expected to decrease for a long term, caused by the progress of decarbonization • Clients in the oil & gas sector are tackling to introduce new technologies (CCS, CCUS, etc.) and shift to low carbon/decarbonized fuel (biogas, green hydrogen, synthetic fuel, etc.), and participate in RE and mobility businesses	• The rapid expansion of new energy and the technological innovation is required in the oil & gas sector to achieve the Paris Agreement's 1.5°C target • It is said that the reduction of GHGEs by approx. 30% by 2030, and approx. 90% by 2050 from the 2020 level is required

Sector's position and our stance

Attitude for Clients	Risk & Opportunity
• Aims at "collaborative engagement" through dialogues with clients • Actively supports the orderly transition of our clients in the oil & gas sector, as recognizes the importance of coexistence of accelerating the reduction of GHGEs and securing the stable supply of energy	• Based on clients' risks and opportunities, creates their business opportunities, while properly managing the risks

Conceivable risk for clients and SuMi TRUST Bank's risk management

Conceivable risk for clients		
Transition Risk	Policy	↑ Production costs by carbon pricing etc. ↑ Costs for emission trading and energy-saving facilities caused by tightened regulations
	Technology/Market	↓ Demand for petroleum products caused by using non-fossil fuel trend (EVs, alternative fuel) ↑ RE prices due to the shift to low-carbon power source
	Reputation	↓ Corporate value from delayed decarbonization ↑ Acceleration of divestment for oil businesses
Physical Risk	Acute	↑ Costs for shutdown or malfunction caused by typhoons and abnormal weather (wind and flood damage)
	Chronic	↑ CAPEX for preventive measures against disasters such as rise in mean temperature, change in precipitation patterns and rise in sea levels

SuMi TRUST Bank's risk management	
Intermediate Target	• Sets intermediate targets • Sets risk appetite indicators
Sectoral Policy	• The sectoral policy for oil & gas drilling businesses "Makes financing decision, considering the impact on the environment and the conflicts with indigenous people and local communities. Especially deliberately examines oil sand mining, shale oil / gas businesses, drilling in the Arctic Circle and pipeline construction, focusing on impacts on the environment and the society"

In addition, carry out risk management in line with the processes responding to climate change (->p. 14)

Conceivable opportunity for clients and SuMi TRUST Bank's business opportunity and record

Conceivable opportunity for clients	
Resource Efficiency	↑ Demand for eco-friendly products and chemistry recycling businesses due to transition to a resource recycling society
Energy Source	↑ Demand for RE (wind power) and low carbon energy ↑ Supply zero emission energy and build supply chains of hydrogen, ammonia, synthetic fuel and biofuel, etc.
Product Service/Market	↑ Businesses for EV related services and new services such as car-sharing, caused by behavior change of clients ↑ CO_2 emissions reduction businesses caused by progress in CCUS technologies

SuMi TRUST Bank's business opportunity and record	
Finance	Sustainable finances
TBF Team	Tackling the next-generation energy by TBF • Developed a business model for low-cost hydrogen production • Invested in Tsubame BHB (ammonia) • Tomakomai city: hydrogen supply chain
Equity	Tackling renewable energy • Invested in Japan Renewable Energy Corporation • Formed domestic general type infrastructure fund • Collaborated with Energy Capital Partners Social implementation of Innovative Green Tech/matching with clients • Joined Breakthrough Energy Catalyst in the US Providing carbon credit (under consideration) • Funded a forestry fund formed by Sumitomo Forestry

5. Local community initiatives

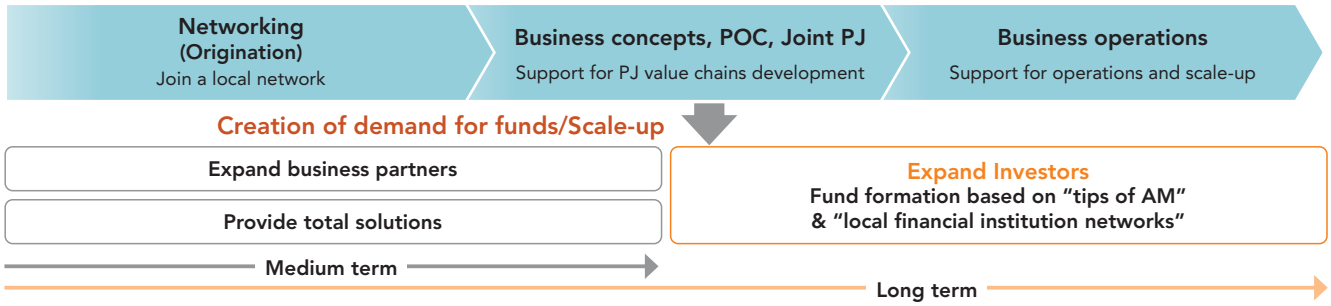
SuMi TRUST Bank will support the decarbonization of local communities by offering the trust group's wide-ranging functions.

(1) Building a regional ecosystem

We will contribute to the establishment of sustainable local communities, including decarbonization of regions, by leveraging the trust group's wide-ranging functions, human resources, and connections with economic agents and providing funds, including investors' money, in cooperation with community stakeholders.

Image of business process

●Engagement and support from the upstream side with a view to building a business value chain

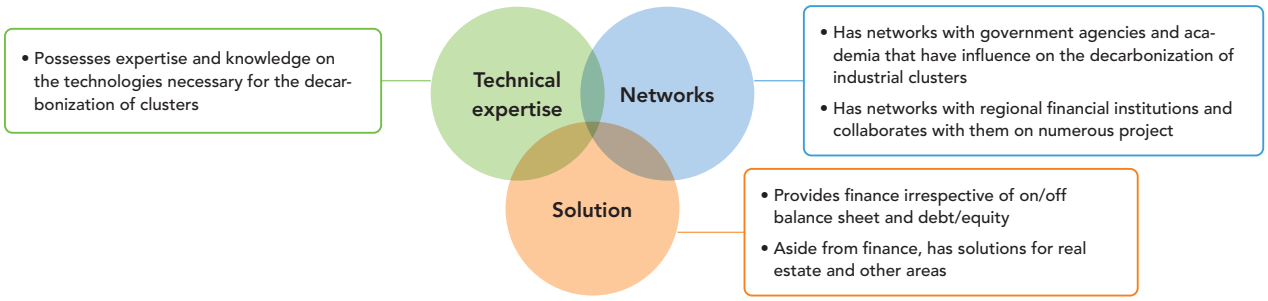


Examples

Local governments	Odawara City, Kanagawa Pref. (Nov. 2021)	To visualize the impact of the local energy production for local consumption of energy in Odawara City on the regional economy, society, and the environment, supports the development of a logic model to derive integrated impacts of individual companies' efforts
	Kyoto Pref. (Nov. 2022)	Entrusted with the "Operations of the Consortium to Promote Decarbonization of Regional Financial Institutions," supports the establishment of the "Kyoto Zero Carbon Framework" system and promotes the decarbonization of SMEs in cooperation with regional financial institutions
	Tomakomai City, Hokkaido (Jul. 2023)	Participates in a demonstration project in Tomakomai. Planning to build a system to stably manufacture and supply renewable energy oriented hydrogen from the waste power plant owned by Tomakomai City and electricity generated by a photovoltaic power plant on the site
Universities	Kanazawa University (Nov. 2021)	Participates in the "Co-creation Platform for Circular Economical System Supported by Completely Recyclable Plant-derived Polysaccharide Plastics" led by Kanazawa University, and exploring contribution through impact finance
	University of Tokyo (Sep. 2022)	Participates in "Co-JUNKAN" platform, which aims "Beyond Zero Carbon." Commences joint research on the sharing, distribution, recycling structure, etc. of fund providers
	Hiroshima University (Feb. 2023)	Participates in the Smart City Co-Creation Consortium of Hiroshima University. Supports solving regional issues through industry-government-university collaboration, and providing funds and social implementation for development

(2) Decarbonization of industrial clusters

In Japan, many GHG emitting industries are located in ports and coastal areas and import most of their iron ore, coal, crude oil, LNG, and other energy sources via ports. The government has been developing measures for decarbonizing ports and coastal areas, including production of hydrogen and ammonia and development of programs for their use in the power generation sector. Decarbonizing industrial complexes and harbors, which are industrial clusters, requires comprehensive capabilities to collaborate with a diverse range of stakeholders. SuMi Trust Bank will support decarbonization of regions by providing solutions through its technical expertise and networks.



6. Investor business initiatives

(1) Provision of sustainable balanced asset management

SuMi TRUST Bank offers balanced asset management for corporate funds that integrates sustainability and ESG considerations and includes private assets (illiquid assets) as investment targets. While balanced asset management involves grouping together multiple products from the traditional four asset (may include alternatives) categories, this asset management comprises only products that meet the Bank's ESG investment criteria. The strategy is to pursue social returns contributing to the resolution of ESG issues, alongside economic returns focusing on downside protection and profit pursuit.

Coupled with the expansion of the ESG investment market, this fund is promoted by not only the corporate pension side but also parent companies. The balance has exceeded ¥150 billion as of the end of October, one and a half years after the fund's establishment. It is being adopted by broad-ranging corporate pension funds.

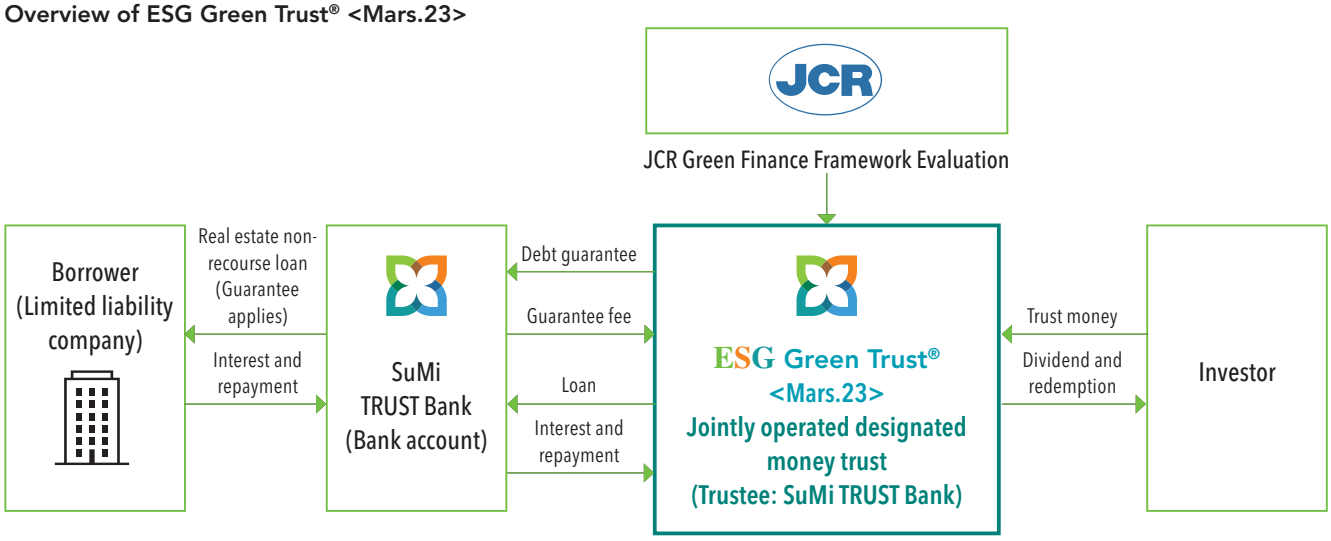
(2) Jointly operated designated money trust with Green Finance Framework Evaluation "ESG Green Trust® <Mars.23>"

SuMi TRUST Bank formed a jointly operated designated money trust with Green Finance Framework Evaluation (product name: "ESG Green Trust® <Mars.23>"), which is backed by real estate non-recourse loans held by the Bank.

The framework adhered to by the ESG Green Trust® <Mars.23> underwent the JCR Green Finance Framework Evaluation (evaluation of green finance policy), the green finance evaluation method of the Japan Credit Rating Agency, Ltd. (JCR). The evaluation found that the framework meets the relevant criteria of the Green Bond Principles and Green Bond Guidelines, and awarded the highest comprehensive rating of "Green 1 (F)."

Through the ESG Green Trust® <Mars.23>, SuMi TRUST Bank will establish new connections between broad-ranging investor clients, who are inclined toward sustainability investment, and business clients, who are engaged in the development, acquisition, and operation of green buildings, and contribute to a positive cycle of funds, assets, and capital for resolving social issues.

Overview of ESG Green Trust® <Mars.23>



7. Initiatives based on real estate

Approximately 40% of the CO_2 emissions in Japan are said to be attributed to the construction and operation of buildings. Additionally, as humans spend a significant amount of time indoors, the environmental conditions of buildings influence human health and well-being. Real estate, therefore, has an impact in many environmental and social aspects.

The Group will leverage its characteristics as a trust group with diverse roles related to real estate, including provider of solutions for increasing real estate value, trustee, investor, and lender, to contribute to achieving carbon neutrality with real estate as the starting point.

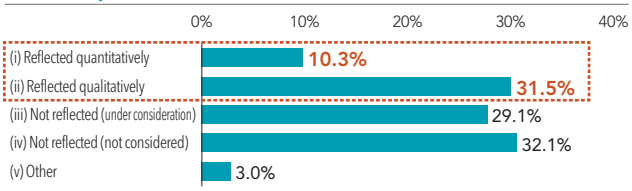
(1) 2023 ESG Real Estate Survey Survey

SuMi TRUST Bank and Sumitomo Mitsui Trust Research Institute conduct a survey on ESG initiatives in real estate investment and management. The surveyed include real estate management companies, real estate companies, and construction companies.

Through this survey, we will help participating companies and other clients carry out even more initiatives.

Question example from the 2023 ESG Real Estate Survey

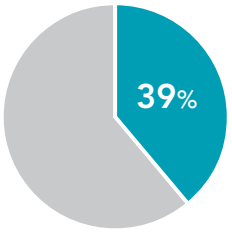
Q. How is ESG information reflected in your decision-making criteria for real estate investment? (multiple answers allowed)



(2) Support for CASBEE certification application Solution

SuMi TRUST Bank has participated in environmental certifications since their development phase, including CASBEE for Real Estate, which evaluates the overall environmental performance of buildings, and CASBEE-Wellness Office, which specializes in the health and comfort of office users.

In addition to supporting the visualization of the environmental performance of real estate through certification acquisition consulting, we also help identify challenges and make recommendations for improving environmental performance.

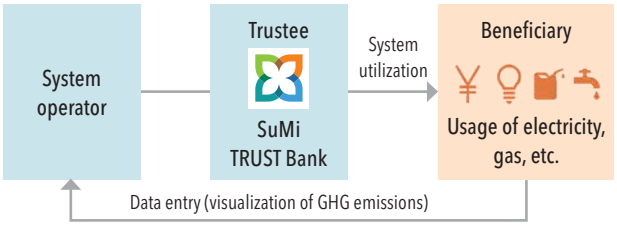


CASBEE for Real Estate
Consulting by
SuMi TRUST Bank
592 cases (total 1,489 cases)
* As of Sep. 30, 2023

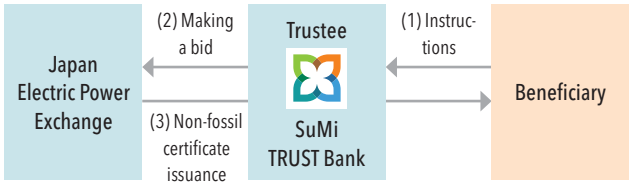
(3) Carbon neutrality support services for real estate under management Trustee

SuMi TRUST Bank provides beneficiary services, such as GHG emission calculation support and a non-fossil certificate purchasing service for real estate in trust, and supports clients' efforts to achieve carbon neutrality.

GHG emission calculation support



Non-fossil certificate trustee purchasing service



(4) GRESB real estate investor member Investor

In May 2023, SuMi TRUST Bank joined GRESB as a real estate investor member, in its role as a gatekeeper entrusted with real estate investment management by clients.

GRESB is an organization that conducts an annual benchmark assessment for measuring the ESG initiatives of real estate firms and funds. We will promote ESG investments in real estate by leveraging the data and assessments GRESB possesses to make investment selections and carry out engagement.

GRESB REAL ESTATE

(5) Loan for timber office building in London Lender

SuMi TRUST Bank executed a loan for "Paradise," which is a six-story timber office building now under construction in London by the UK real estate developer Bywater Properties and the Sumitomo Forestry Group.

Due to the use of timber and other materials, embodied carbon emissions in the construction lifecycle of this property are significantly less than those of conventional reinforced concrete structures. According to design phase calculations, the carbon emission reduction exceeds the 2030 goals set by the Greater London Authority (GLA). Additionally, the timbers used for this property are sourced from sustainable forests and have removed 1,884 tons of carbon by the time they are grown.

This construction project received the 2021 World Architecture Festival Awards in the Climate, Energy and Carbon Category and the 2020 New London Awards in the Working Category.

SuMi TRUST Bank will continue to contribute to the decarbonization of the real estate industry through loans for sustainable structures.

Exterior

Interior (before occupancy)

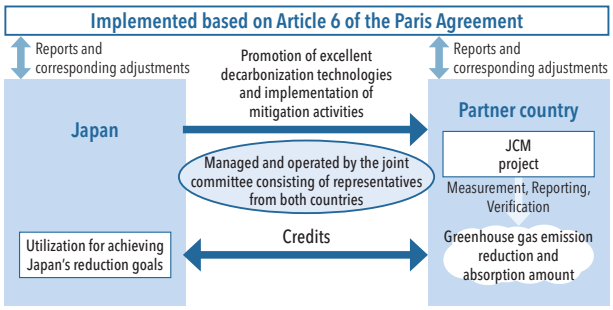
8. Initiatives by subsidiaries

Acceptance of JCM Eco Lease project in Vietnam

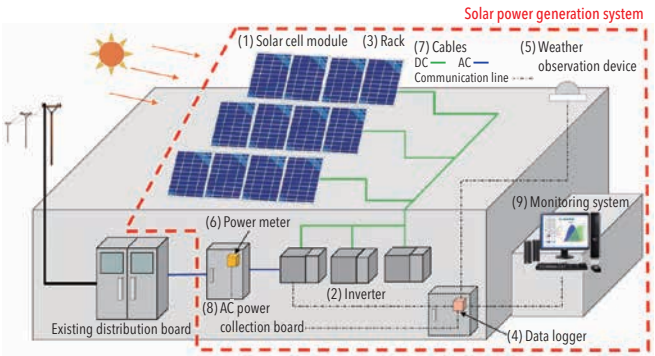
Sumitomo Mitsui Trust Panasonic Finance, together with BIDV-SuMi TRUST Leasing Company, Ltd (BSL), a joint leasing venture of SuMi TRUST Bank and the Bank for Investment and Development of Vietnam, applied for the Joint Crediting Mechanism (JCM) Eco Lease Scheme of the Financing Programme for JCM Model Projects in FY2022. The application was submitted for a rooftop solar power generation system at an aluminum wheel factory in Vietnam, and our proposal was accepted in Vietnam for the first time.

This scheme is designed to reduce GHG emissions in developing countries, etc. by utilizing superb decarbonization technologies, and it is carried out by a Japanese leasing company, as the representative operator of the international consortium. The reduction amount is measured, reported, and verified (MRV).

This scheme is being implemented through the cooperation of the Vietnamese and Japanese governments. Through this scheme, Sumitomo Mitsui Trust Panasonic Finance will continue to help achieve a carbon-free society both at home and abroad.



Source: Ministry of the Environment, "JCM Model Project/Co-Innovation Project Call for Proposals Briefing"



Initiatives to Reduce OWN GROUP's Emissions

In SuMi TRUST Group Carbon Neutral Commitment announced in October 2021, we set a target of achieving net zero GHG emissions (Scope 1, 2) by 2030.

In addition to reducing energy consumption, we will accelerate the shift to renewable energy, mainly for electricity, and aim to achieve net-zero GHG emissions for the entire Group, including major offices in Japan, as well as overseas offices and domestic and overseas Group companies, as early as possible. To ensure the reliability of environmental data, SuMi TRUST Bank (branch offices in Japan)—the core of the Group—acquired third-party certification for a portion of its GHG emissions starting this fiscal year (->p. 66).

Expanding the introduction of renewable energy

To reduce GHG emissions from electricity consumption at our Group's office buildings and branches, we aim to achieve net-zero electricity consumption by combining electricity procurement from renewable energy sources through corporate PPAs*1 with offsets from electricity procurement using non-fossil certificate*2. In addition to shifting to 100% renewable energy at each office, we began procuring solar power at the Shiba Building and Fuchu Building in Tokyo as well as at two branches (the Kyoto Branch and Himeji Branch) in the Kansai area in FY2021, making use of an off-site corporate PPA system. We will continue to work on switching to renewable electricity and procuring certificates based on the situation in each country and company, and further clarify measures to achieve net-zero emissions.

100% renewable energy offices

Company name	Applicable offices
SuMi TRUST Bank	Domestic offices, London office (Europe, Middle East and Africa Division)
Sumitomo Mitsui Trust Panasonic Finance	Domestic offices
Nikko Asset Management	UK subsidiary (NAM Europe)

Scope 3 (upstream) GHG emissions measurement

In April 2019, we formulated SuMi TRUST Group Zero Plastic Waste Declaration to help reduce plastic use, which can adversely affect climate change and the ecosystem, as part of our efforts to address environmental issues.

This is the first time we measured a portion of Scope 3 (upstream) emissions in FY2022. By accurately tracking GHG emissions in our supply chain, we will actively promote the use of recycled materials and low emission products when purchasing materials going forward.

Joined the GX League

The GX League began full-fledged activities in FY2023 as a place where industry, government, academia, and finance come together to take on the challenge of GX, and to engage in discussion and implementation of transforming the entire economic and social system and creating new markets. SuMi TRUST Bank, whose emissions account for more than 90% of OWN GROUP's Scope 1, 2 emissions, joined the GX League in June 2023 and set intermediate reduction target*3 for FY2025.

Reducing company cars and shifting to low-emission cars

In recent years, online sales activities have rapidly become more common, and the use case and usage frequency of company cars as a mode of transportation has changed. Accordingly, SuMi TRUST Bank started optimizing its fleet and reduced its vehicle count by approximately 20% year on year in FY2022.

Regarding company cars that will continue to be used as well, the Bank is considering the lease contract periods of existing cars as well as trends in social infrastructure development, including charging equipment, to gradually shift to low-emission cars, thereby promoting the reduction of GHG emissions through lower gasoline use.

Carbon credits

In March 2023, we purchased 500 tons of J-Credits issued by Nishiawakura village in Okayama prefecture. This is equivalent to about three years of CO_2 emissions by SuMi TRUST Bank in Okayama Prefecture. We plan to use the purchased J-credits to offset OWN GROUP's future CO_2 emissions. We will make efforts to reduce emissions to the maximum extent possible through our own efforts, and we will also consider the use of high-quality carbon credits for areas where reduction is difficult.

*1 Corporate PPA: An agreement by a consumer to purchase renewable-energy power from a power producer (a power purchase agreement). Offsite corporate PPAs use a model that involves the establishment of power generation facilities at a location distant from the demand location to supply power to the final consumer through a power retailer.

*2 A certificate showing that environmental value has been achieved by generating electricity from sources that do not emit CO_2. SuMi TRUST Bank obtains non-fossil certificates based on the tracking of power-source information for power generation facilities, which brings environmental value.

*3 Set a target of 7,224t-CO_2e ((83)% compared to FY2013) for Scope 1, 2 in total for the branch offices in Japan of SuMi TRUST Bank. Note that emissions from company cars are excluded from the calculation of the FY2025 target.

Awareness of Climate Change Risks

Scenario analysis

Regarding direct climate change-related risks associated with its operations, SuMi TRUST Group is aware of disaster risks to head and branch offices, such as damaged buildings, flood by tsunamis and fires as well as resulting risks including impacts on business continuity and restoration costs. To prepare for these situations, we have devised measures such as various drills to ensure business continuity and formulated the Business Continuity Plan (BCP).

In addition to examining the direct impact of transition and physical risks on operations and how to respond to them, we conduct scenario analyses to understand the future impacts on our portfolio. SuMi TRUST Bank considers such initiatives to be tools for confirming the sustainability of our business model and strategy, confirming effects on our management plan, and dialogue and engagement on climate change with borrowers and investees, and we have expanded the scope of our analysis based on the characteristics of our portfolio.

SuMi TRUST Bank's initiatives of scenario analysis to date

Risk type	Sector	Fiscal year	Main analysis results
Transition risks	Power generation sector	2020	If power generation companies do not invest in renewable energy, their credit ratings will be downgraded by two to three notches on average.
Physical risks	Housing loans	2020	¥7 billion increase in credit-related costs compared to 2019
Transition risks	Shipping sector	2021	There is a huge difference in financial impacts depending on the assumed scenarios in terms of the carbon price, increase in costs due to the shift to alternative fuel, etc. We exchanged opinions with clients.
Physical risks	Real estate sector (non-recourse loans)	2022	Limited effect on credit rating. Issues include the need to refine the estimated amount of damage in the city center as well as potential risks that include damage to underground infrastructure and the prolonged effects of such damage.
Transition risks	Domestic corporations	2022	Compared to the Current Policies (3.0°C scenario), in Net Zero 2050 (1.4°C scenario) credit-related costs increase by ¥9.2 billion on a cumulative basis through 2050, while in Below 2.0 (1.6°C scenario) decrease by ¥1.2 billion.
Physical risks	Real estate sector (J-REIT)	2022	The impact of generated credit-related costs would be about ¥20 million even if all properties simultaneously suffered a 500-year disaster.

In this transition risk analysis, we included overseas corporations and analyzed the impact on credit-related costs after conducting simulations of changes in credit ratings up to the year 2050 for each climate change scenario specified by the Central Banks and Supervisors Network for Greening the Financial System (NGFS). As for as analysis method, like in the previous year, in addition to a sector-level top-down analysis covering all sectors, we conducted a credit rating simulation analysis by combining an individual company-level financial simulation (bottom-up approach) for sectors identified as having high transition risks in the transition risk heat map.

As a result of estimation, compared to the Current Policies (3.0°C scenario), the Net Zero 2050 (1.4°C scenario) results in a ¥90.3 billion increase in credit-related costs on a cumulative basis through 2050, and the Below 2.0 (1.6°C scenario) results in a ¥52 billion increase in credit-related costs.

In the physical risk analysis, we analyzed the damage to equipment and materials resulting from landslides and snowfall (acute risk) for solar power generation projects, which are among the domestic renewable energy-related project finance transactions that have been growing in recent years.

The results show that the impact on credit costs resulting from landslides on solar power projects is limited to about ¥400 million cumulatively through the year 2100 under the 4°C scenario. In addition, by quantifying the risk of damage from landslides and snowfall for each project, we are able to evaluate insurance coverage adequacy, as well as to understand regional diversification and regional differences in the impact of climate change, which will be used to enhance credit and risk management operations going forward.

Scenario analysis overview

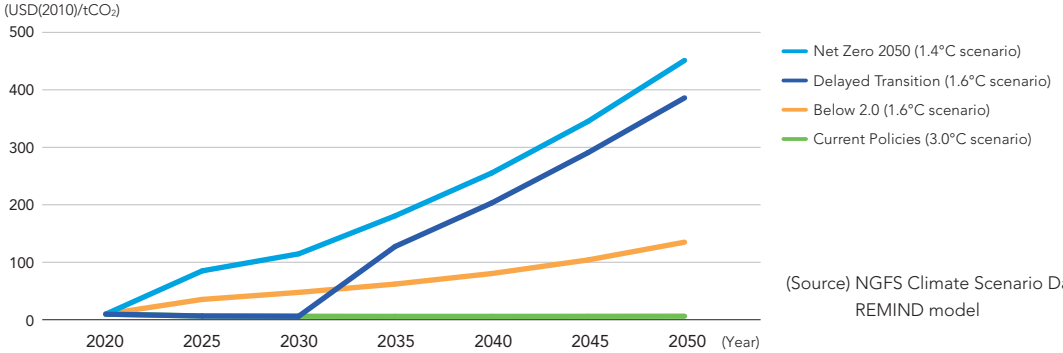
Risk type	Transition risks	Physical risks
Risk details	Policy and regulatory changes Supply and demand changes	(Acute risk) Flood (landslide), snow damage (Chronic risk) Changes in solar radiation and snowfall
Scenarios	NGFS Scenarios • Current Policies • Below 2.0 • Net Zero 2050 • Delayed Transition	IPCC*1 RCP*2 2.6 (2°C scenario) RCP 8.5 (4°C scenario)
Analysis targets	All sectors Domestic and overseas corporations	Domestic solar power generation projects
Analysis period	Up through 2050	Up through 2100
Analysis indicators	Impact on total credit-related costs	Risk exposure of individual projects, and impact on credit-related costs across entire portfolio
Analysis results	Cumulative impact compared to Current Policies Below 2.0: +¥52.0 billion Net Zero 2050: +¥90.3 billion Delayed Transition: +¥79.7 billion	Cumulative credit costs resulting from landslides and snow damage up through 2100: Approximately ¥400 million Confirmed sufficiency of measures such as geographic diversification of high-risk projects and insurance coverage

	Scenario		Assumptions, etc.
NGFS Scenarios	Orderly	Net Zero 2050	A scenario that limits global warming to 1.5°C through stringent regulations and advanced innovation, reaching net zero CO_2 emissions by around 2050
		Below 2.0°C	A scenario that gradually increases the stringency of regulations, giving a 67% chance of limiting global warming to below 2°C
	Disorderly	Delayed Transition	A scenario that assumes that GHG emissions do not decrease until 2030, which means strong policies would then be needed to limit global warming to below 2°C
	Hot House World	Current Policies	A scenario that assumes that only currently implemented policies are maintained, leading to high physical risks
IPCC scenarios	RCP2.6 scenario		A stringent scenario aimed at limiting the future global temperature rise to below 2°C. Under this scenario, the global temperature is predicted to rise by 0.3 to 1.7°C by 2100 (compared to before industrialization).
	RCP8.5 scenario		A scenario with the maximum GHG emissions for the year 2100. Under this scenario, the global temperature is predicted to rise by 2.6 to 4.8°C by 2100 (compared to before industrialization).

*1 The Intergovernmental Panel on Climate Change (IPCC): Established by the United Nations Environment Programme (UNEP) and World Meteorological Organization (WMO), this organization comprehensively evaluates and analyzes anthropogenic climate change, its effects, and policies to adapt to and mitigate it from a scientific, technical, and socioeconomic perspective and then recommends measures based on the results.

*2 Representative Concentration Pathways. The numbers, such as 2.6 and 8.5, indicate the global warming effect (called radiative forcing).

Projected carbon price (carbon tax) assumptions for each NGFS scenario



(Source) NGFS Climate Scenario Database, REMIND model

(1) Transition risk

Process

Changes in policies, regulations, and the industrial structure caused by the transition to a decarbonized society are assumed to change the carbon price and supply and demand, thereby affecting the business of borrowers. For our recent scenario analysis, we assumed that our exposure as of the end of September 2023 will remain unchanged up through 2050, and we simulated the effects on the credit ratings of borrowers in each climate change scenario.

For this simulation, we used a method of estimating changes in ratings for the entire exposure based on calculations using financial data and emissions forecast data for a sample of borrowers, and did not include individual factors such as expected future changes in business models or investment plans for decarbonization and the impact of such plans.

Transition risk analysis process

Climate change scenarios	Current Policy/Below 2.0/Net Zero 2050/Delayed Transition		
Main applied factors	Increased carbon tax burden	Increased emission reduction costs	Changes in supply and demand and market shares

Impact on corporate finance	Income	Costs	Debt
	Credit rating fluctuations		

Financial impact on SuMi TRUST Bank	Credit-rating transition ratio by sector
	Increased total credit costs

Analysis results

Compared to the Current Policies (3.0°C scenario), our results indicated a cumulative increase in total credit costs by 2050 of ¥90.3 billion in the Net Zero 2050 (1.4°C scenario). Similarly, our results indicated a cumulative increase of ¥52.0 billion in the Below 2.0°C (1.6°C scenario) and an increase of ¥79.7 billion in the Delayed Transition (1.6°C scenario)—which assumes delays in promoting decarbonization initiatives and a rapid rise in the carbon tax—yielding major differences between the different scenarios.

By sector, the carbon tax levels varied widely between the NGFS scenarios, confirming the tendency for credit costs to be calculated higher in sectors with higher GHG emissions (e.g., power generation, oil & gas, shipping, and materials) due to the heavy burden in these sectors.

As for overseas borrowers, we saw a relatively strong impact in the air transport sector, which has significant exposure.

Based on the above, while there are differences in impact by sector and region, overall, the financial impact projected in the current simulation results is minimal.

(2) Physical risk

In asset finance, which includes project finance, cash flows are directly affected by damage to the financed assets caused by natural disasters. In this analysis, we took the approach of estimating credit costs by focusing on changes in creditworthiness caused by a certain period of downtime resulting from disaster damage.

Process

In this analysis, based on the location data of solar power generation projects financed by SuMi TRUST Bank, we analyzed the time-series changes in future disaster risk for each project using a long-term forecast model of landslides and snowfall, and simulated credit costs using credit ratings. For project finance, the probability of damage during the transaction period is calculated based on a simplified modeling method that reflects the duration of the project and the repayment schedule.

For the analysis, we collaborated with Weathernews Inc. For landslide disasters, we calculate estimates up to the year 2100, using the landslide model of the National Aeronautics and Space Administration (NASA) and precipitation data from the National Institute for Environmental Studies (NIES2020). For snowfall, we applied the Meteorological Research Institute Atmospheric General Circulation Model (MRI-AGCM3.2/NHRCM) and analyzed the physical risk up to the year 2100 using the snowfall depth and snow water equivalent in all layers of the snow under the 2°C and 4°C scenarios in the Database for Policy Decision Making for Future Climate Change (d4PDF), an ensemble climate projection database that helps address global warming.

Physical risk analysis process

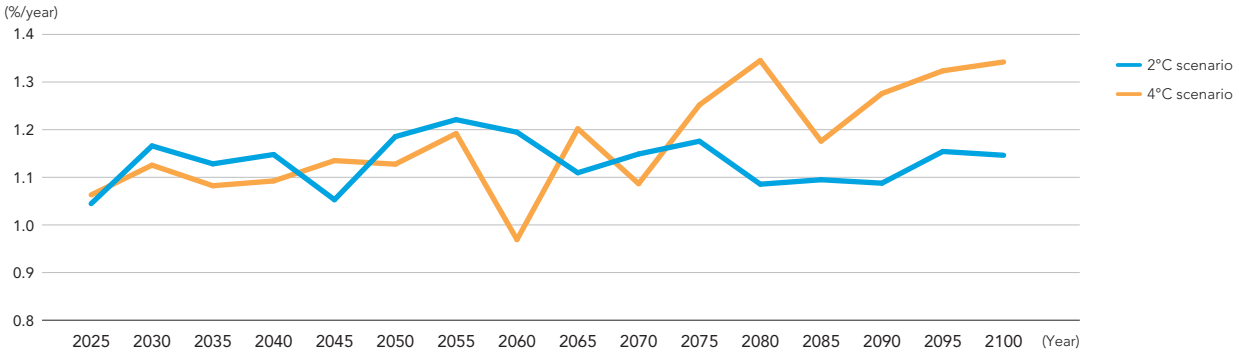
Climate change scenarios	IPCC RCP2.6/RCP8.5
Estimation of disaster damage probability	Frequency of occurrence Estimates cumulative probability of damage during the transaction period according to precipitation and topography based on the location information of the project in collaboration with Weathernews Inc.
Analysis of effects on borrower creditworthiness	Estimates total credit costs attributable to disaster damage
Application to finance operations	Verifies insurance coverage and regional concentration based on cumulative probability of damage for each property.

Analysis results

The risk from landslides is estimated to peak around 2050 under the 2°C scenario and around 2080 under the 4°C scenario, as changes in precipitation patterns due to climate change lead to increasingly severe flood damage.

Although there are regional variations in the risk of equipment damage due to snowfall, there is a general decrease in snowfall due to global warming when viewed over time. However, when viewed on an individual project basis, some projects showed snow weight in excess of the load-bearing capacity.

Probability of landslide damage (5-year average) for SuMi TRUST Bank's solar power generation project finance projects over time



In estimating credit costs, since there is not enough data accumulated on the assumed loss ratio in the event of a disaster, we estimated the credit costs that would be generated through a decline in credit ratings due to a decrease in efficiency, such as suspended operations for a certain period of time, in the event of a disaster.

For landslides, we estimated the change in the probability of damage resulting from climate change and analyzed the cumulative probability of occurrence by considering the risk of damage in each year as an independently occurring event. We estimated that credit costs would be only about ¥400 million cumulatively up to 2100 under the 4°C scenario.

Regarding snowfall, we identified projects located in areas with heavy snowfall, and made estimation by assuming that damage to equipment would occur and affect cash flow if snowfall exceeded a certain level. As a result, we confirmed that only two projects were at risk of snowfall that would exceed the load capacity of equipment (the cumulative credit cost would only be about ¥190 million).

In addition, since solar power project financing is affected by changes in solar radiation and power generation efficiency caused by snowfall, we conducted a time-series analysis for each climate change scenario to determine what changes are expected in terms of annual solar radiation and fluctuations in the number of operational days due to climate change.

As a result, we confirmed that solar radiation tends to increase over time for all climate scenarios, although there is some variation by region. However, we also learned that (1) even if the amount of solar radiation increases, it is necessary to take into account the impact of lower power generation efficiency due to higher temperatures, and (2) the risk of a downward swing in cash flow is magnified for some projects owing to larger fluctuations in annual solar radiation.

Application to financial practices

Based on the results of this analysis, we identified projects with high risk of landslides and snowfall, and confirmed that insurance coverage (including compensation for lost time) and structural provisions were adequate for each individual project. Furthermore, we recognized the need to fully consider measures to mitigate these physical risks in areas adjacent to projects where the risk of damage to equipment due to landslides and snowfall was determined to be high in this analysis when undertaking future projects.

(3) Future issues

We will work on the following issues.

Transition risk

We will continue to engage with clients based on the results of the scenario analysis to appropriately identify risks and support the transition to a decarbonized society, and will continue to advance scenarios and analysis methods as a risk management approach.

To date, SuMi TRUST Bank has been engaged in a long-term time horizon analysis with a fixed balance sheet for the purpose of understanding sectoral climate change risk and using this information to formulate strategies centered on engagement. Going forward, since the importance of short-term scenario analysis has also been pointed out, we will also explore short-term scenario analysis methods for three- to five-year periods based on scenarios with higher probability.

Physical risk

One of the characteristics of SuMi TRUST Bank's portfolio is its relatively large exposure to corporate finance for large corporations and asset finance such as real estate finance and project finance. Going forward, in addition to considering the expansion of physical risk analysis to overseas projects, we will work to refine our credit cost estimation methodology by collaborating with external data and research organizations.

Furthermore, we will also focus on the relationship between the physical risk and transition risk associated with climate change, and will closely monitor the progress of macro-model scenario development and physical risk analysis models to determine a consistent scenario analysis approach between the two risks.

With regard to direct climate change-related risks in operations, we will look into conducting not only qualitative but also quantitative scenario analysis going forward.

<Column> Physical Risk Analysis of Corporate Exposure

Physical risks are classified into acute risks (e.g., floods, storm surges, landslides, wildfires) and chronic risks (e.g., heat waves, droughts, water stress).

Of these, impacts on the macro economy through reduced labor productivity and land productivity caused by climate change are reflected in scenario/macro models mainly as chronic risks in NGFS, etc.

On the other hand, the analysis for understanding the financial impact of acute risks requires an understanding of the probability of damage from various hazards, the loss ratio, and their change resulting from climate change, based on the location information of the business assets of individual companies.

One of the characteristics of SuMi TRUST Bank's portfolio is its high ratio of corporate finance for large corporation and asset finance.

In the past, we have taken an analytical approach based on location information of assets for asset finance such as mortgage, real estate finance, and project finance, but corporations have restrictions on information disclosure, and the reflection of acute risks in scenarios of NGFS, etc. and in macro models is still under development.

In light of such difficulty of simulating these financial impacts (location information, positioning in the supply chain, and impact on corporate finances), SuMi TRUST Bank decided that it was necessary to use external data and models to understand the impact level of each hazard for corporate clients whose business assets' location information is disclosed, and started with a relative comparison analysis of impact based on external data, first, for sectors and hazard as a starting point.

Specifically, we created a sector heat map using S&P Global's physical risk score, which is estimated based on the location of business assets of individual company. The score reflects the sensitivity of each company to the risk level of each hazard, expressed as a relative score from 1 to 100.

Since the development of scenarios and models is constantly evolving, we will continue our efforts to sophisticate our analysis while paying attention to future trends in the expansion of corporate disclosure on holdings.

In addition, based on the results of each company's asset-based analysis, we will promote dialogue with clients regarding their response to risks, and will support their physical risk countermeasures while helping them enhance their climate change risk management.

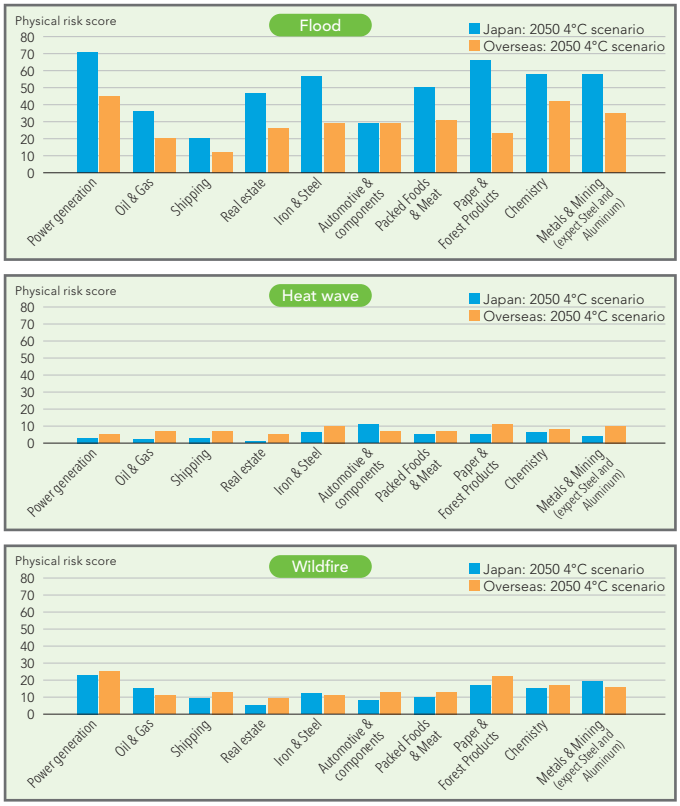
Physical risk heat map by sector

	Physical risk category	
	Acute	Chronic
Paper & Forest Products	H	H
Power generation	H	H
Iron & Steel	H	H
Packed Foods & Meat	H	M
Chemistry	H	H
Agriculture	H	M
Metals & Mining (expect Steel and Aluminum)	H	H
Trucking Services	H	M
Real estate	H	L
Coal	M	H
Oil & Gas	M	M
Capital goods	M	L
Construction materials (expect Cement)	M	H
Beverage	M	H
Service (Capital Goods)	M	L
Railways	M	M
Cement	M	H
Automotive & components	L	M
Shipping	L	L
Passenger Airplane	L	L
Air cargo	L	M
Finance	L	L

H: High risk, M: Medium risk, L: Low risk

Source: Created by SuMi TRUST Bank based on S&P Global Sustainable1 and S&P Global Physical Risk Exposure Scores and Financial Impact dataset [December, 2023]

Domestic and overseas physical risks comparison (floods, heat waves, wildfires) by sector



Initiatives of Sumitomo Mitsui Trust Asset Management

1. Climate change actions

As a member of SuMi TRUST Group, Sumitomo Mitsui Trust Asset Management (SMTAM) formulated a basic policy that promotes sustainability-related measures covering climate change issues for "Realizing opportunities today to ensure sustainable prosperity for tomorrow," as enshrined in SMTAM's vision based on the Group's sustainability basic philosophy and sustainability policy. Under this basic policy, the company makes continuous efforts to improve its relevant structures and systems. Additionally, SMTAM's approach and processes regarding engagement, exercise of voting rights, and consideration of climate change issues in ESG investments are spelled out in its investment management business rules and related rules.

Based on the TCFD Recommendations, SMTAM grasps climate change risks and opportunities, such as the following, and leverages them in investment decisions and business management. For details, please refer to SMTAM's STEWARDSHIP REPORT 2023/2024.

Climate change risks

SMTAM believes that climate change risks must be addressed appropriately in order to fulfill fiduciary responsibilities. SMTAM identifies climate change risks as not merely risks of additional new risk category, but as risk drivers that can increase or decrease the risks of existing risk categories stemming from climate change-related changes. Furthermore, the company perceives that climate change risks affect its business management through three pathways, namely, impairment of the value of assets under management (AUM), cancellation of AUM or loss of new fiduciary opportunities, and decline of business continuity, which ultimately leads to deteriorating its finances and diminishing its survivability.

Such risk impacts on business management are categorized as "middle" if they affect finances, such as periodic profit and loss, and as "high" if they have the potential to undermine survivability. While the time horizons for risk manifestation vary depending on each risk factor, it is assumed that risk factors related to transition risks will manifest in around the next 10 years (short- to medium-term) and those related to physical risks in around the next 10 to 30 years (medium- to long-term).

SMTAM's climate change risks

Risk category	Specific risk factor		Impact*2	Time horizon*3
Market risk	Value impairment of investee companies due to inadequate response to transition risks	Transition	High	Short- to medium-term
	Value impairment of investee companies through the impairment of business assets due to inadequate response to physical risks	Physical	High	Medium- to long-term
	Decline in profitability due to the diversification, increasing complexity, and rising costs of climate-related data and indices	Transition	Middle	Short- to medium-term
Reputational risk (Strategy risk)	Defection of existing clients due to inability to appropriately address climate-related risks*1	Transition	High	Short- to medium-term
	Missed opportunities to acquire potential clients due to inability to appropriately address climate-related risks	Transition	Middle	Short- to medium-term
	Difficulty recruiting and higher employee turnover due to inadequate response to climate change	Transition	High	Short- to medium-term
Operational risk	Compliance risk arising from inability to adapt to regulations (greenwash)	Transition	High	Short- to medium-term
	Shortage of personnel and resources due to more sophisticated climate actions	Transition	Middle	Short- to medium-term
	Decreased business continuity of partners and vendors	Transition/ physical	Middle	Medium- to long-term
	Server and circuit impairment, decreased employee safety	Physical	High	Medium- to long-term
Credit risk	Financial market drawdown due to increasing credit risk of companies and markets arising from climate change issues	Transition/ physical	High	Medium- to long-term
	Lower survivability due to decline in creditworthiness of SMTAM arising from climate change issues (Defection of existing clients and missed opportunities to acquire potential clients)	Transition	High	Short- to medium-term

*1 Shortage in SMTAM's product lineup, obsolescence of investment decisions and strategies, inappropriate response to regulations for information disclosure, etc.
*2 High: Impact anticipated to affect the survivability of SMTAM; Middle: Impact anticipated to affect the finances of SMTAM.
*3 Short- to medium-term: Around the next 10 years; Medium- to long-term: The next 10 to 30 years.

Climate change opportunities

SMTAM identifies six opportunities for transforming climate change risks into business growth: engagement, exercise of voting rights, sophistication of investment decisions and strategies, enhancement of product lineup, strengthening of information disclosure, and upgrading of the company's response to climate change.

SMTAM recognizes two "opportunities" in the broadest sense of the word as essential to acquiring such opportunities. One is the strengthening of the company's structure for climate action, and the other is the strengthening of engagement with the value chain.

Specific actions for strengthening the structure for climate action include developing schemes that can appropriately fulfill standards and regulations on climate-related disclosures, such as TCFD and SFDR, as well as enhancing human capital through recruiting and training to improve business execution capabilities.

For strengthening engagement with the value chain, specific actions include commencing dialogues with data and index vendors handling ESG data on maintaining and improving the quality of climate-related data.

Opportunity	Strategy	Example
Engagement	• Engagement with investee companies	• Focus on companies with high GHG emissions • Scaling-out of successful cases • More frequent adoption as an agenda
Engagement	• Engagement with government offices, industry bodies, NGOs, academia, etc.	• Indirect promotion of (investee) companies' behavioral changes • Increase in SMTAM's value through acquisition and utilization of up-to-date information
Exercise of voting rights	• Strengthening of criteria on climate change issues in the guidelines for the exercise of voting rights	• Reflection of global trends and insights
Elevation of investment decisions and strategies	• Factoring in climate change according to the style of individual funds • Consideration of climate change factors in investment decisions of individual securities	• ESG monitoring (fund governance) • Expansion of target assets
Enhancement of product lineup	• Support for addressing climate change issues through provision of investment opportunities	• Development of indices contributing to climate change issues • Development of investment products contributing to climate change issues
Strengthening of information disclosure	• Heightening client awareness regarding climate change issues and outreach to potential investors	• External communication and identification of investors
The following are "opportunities" in the broadest sense of the word as essential to establish a growth foundation and gain opportunities for growth.		
Strengthening of the company's structure for climate action	• Appropriate measures for climate-related regulations • Training of personnel and enhancement of resources for climate-related measures (improving retention, maintaining creditworthiness)	• Compliance with disclosure regulations such as SFDR • Investment in employees (human capital)
Engagement	• Engagement with the value chain	• Dialogue for maintaining and improving the survivability and quality of data and index vendors, and for more advanced responses to climate change issues

SMTAM's strategy in light of climate risks and opportunities

Strategy	Target	Initiatives
Engagement with investee companies	Investee companies	• Promotion of top-down engagement with high GHG companies • Scaling-out of successful cases with investee companies • Active utilization as an agenda in bottom-up engagement
Engagement with government offices and other stakeholders	Government offices, industry bodies, NGOs, academia, etc.	• Dialogue with the Ministry of Economy, Trade and Industry for introducing the carbon pricing system • Dialogue with the Ministry of the Environment to promote decarbonization (explain requests from companies and understanding of the issues) • Exchange of views with the Central Research Institute of Power generation Industry • Provision of feedback on GFANZ's Consultation Report, "Financing the Managed Phaseout of Coal-Fired Power Plants in Asia Pacific"
Strengthening of criteria on climate change issues in the guidelines for the exercise of voting rights	Investee companies	• Introduction of specific criteria for climate change issues, already supported in shareholder proposals
Factoring in climate change according to the style of individual funds and considering climate change factors in investment decisions of individual securities	SMTAM or clients	• Reporting of the results of quarterly ESG monitoring of each fund at internal committees • Consideration of climate change factors not only in stock investments but also in corporate bond and J-REIT investments
Support for addressing climate change issues through provision of investment opportunities	Clients	• Establishment of the S&P/JPX Carbon Efficient Index-linked strategy (domestic stocks) • Establishment of the Bloomberg MSCI Global-Aggregate Sustainability A+ Strategy (global bonds)
Heightening client awareness regarding climate change issues and outreach to potential investors	Clients (including potential clients)	• Publishing of web columns • Promotion of financial visiting lectures • Provision of content for the Nikkei MOOK "Introduction to Decarbonization Investment" • Dialogues with asset owners as a member of the NZAMI Advisory Group
The following are "opportunities" in the broadest sense of the word as essential to establish a growth foundation and gain opportunities for growth.		
Appropriate measures for climate-related regulations	SMTAM	• Information disclosure on climate-related risk in accordance with SFDR disclosure regulations • TCFD information disclosure
Training of climate-related personnel and enhancement of resources	SMTAM	• Employee attendance of PRI Academy's courses • Internal e-learning • Internal study sessions on TCFD disclosure
Engagement with the value chain	Data vendors Index vendors, etc.	• Dialogues with Bloomberg on expanding ESG data • Dialogues with ISS to clarify the guidelines for the exercise of voting rights related to climate change and the recommendations for the exercise • Dialogues with MSCI about changes in the ESG score calculation process • Dialogues with S&P to enhance climate change information disclosures in the Carbon Efficient Index

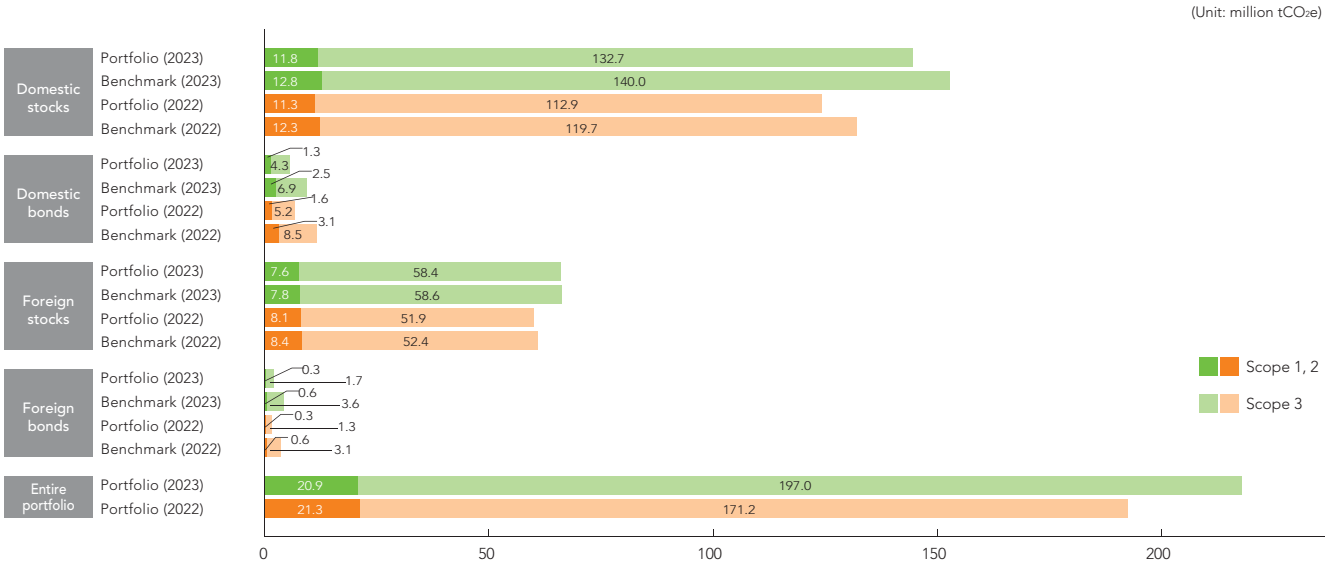
2. Climate-related portfolio analysis by Sumitomo Mitsui Trust Asset Management

SMTAM evaluates risks of portfolios*4 related to climate change by asset class, and then integrates the asset classes and evaluates its owned assets. SMTAM uses three assessment methods based on information disclosed by companies in the portfolios as well as actual data: (1) fixed-point analysis, (2) transition path analysis based on future climate change scenarios, and (3) analysis of the portfolio's resilience to climate change. An overview of the results of analyzing the domestic and foreign stocks and bonds managed by SMTAM is provided below. Note that an external organization's*5 data and analysis methods were used for this analysis (reference date: June 30, 2023).

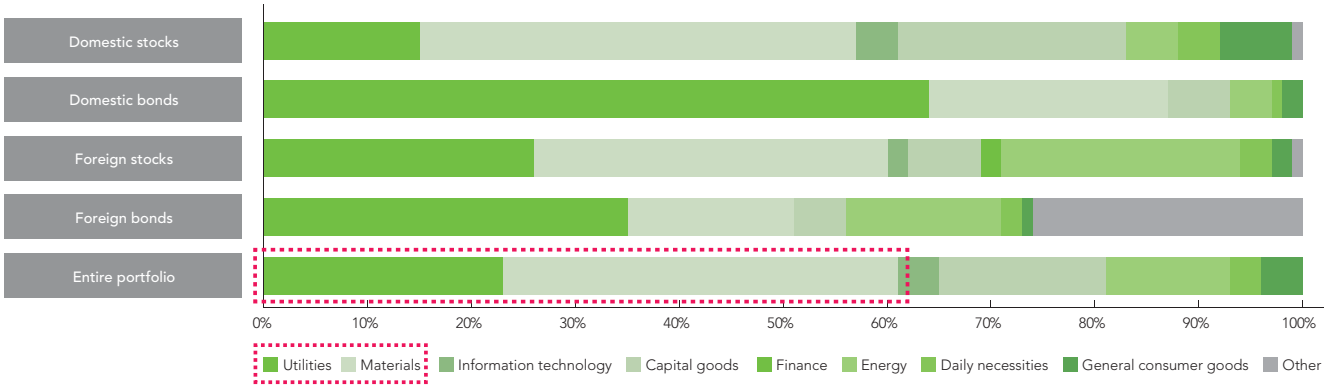
(1) Fixed-point analysis (GHG emissions, etc.)

The status of GHG emissions and other conditions at a fixed point in time is ascertained based on investee companies' disclosure data and other information. For example, the GHG emissions by asset class (domestic and foreign stocks and bonds) reveal that the Scope 1, 2 total for each asset was below the benchmark. Compared to the previous year,*6 while emissions increased for domestic stocks, the decreases for domestic bonds and foreign stocks exceeded that increase. As a result, emissions for the entire portfolio decreased from 21.3 million tCO_2e in the previous year to 20.9 million tCO_2e. On the other hand, while Scope 3 emissions were below the benchmark for all asset classes, there were year-on-year increases for three asset classes excluding domestic bonds. As a result, emissions increased significantly for the entire portfolio, rising from 171.2 million tCO_2e in the previous year to 197.0 million tCO_2e. In the case of domestic stocks, which experienced the largest increase, the reasons may include discontinuous rises due to changes in the measurement scope, with some companies observing a sharp rise in Scope 3 emissions after expanding the measurement scope from the previous year. As for emissions by industry, the utilities and materials sectors accounted for a large portion of the total in each asset class, which was consistent with the previous year's trend.

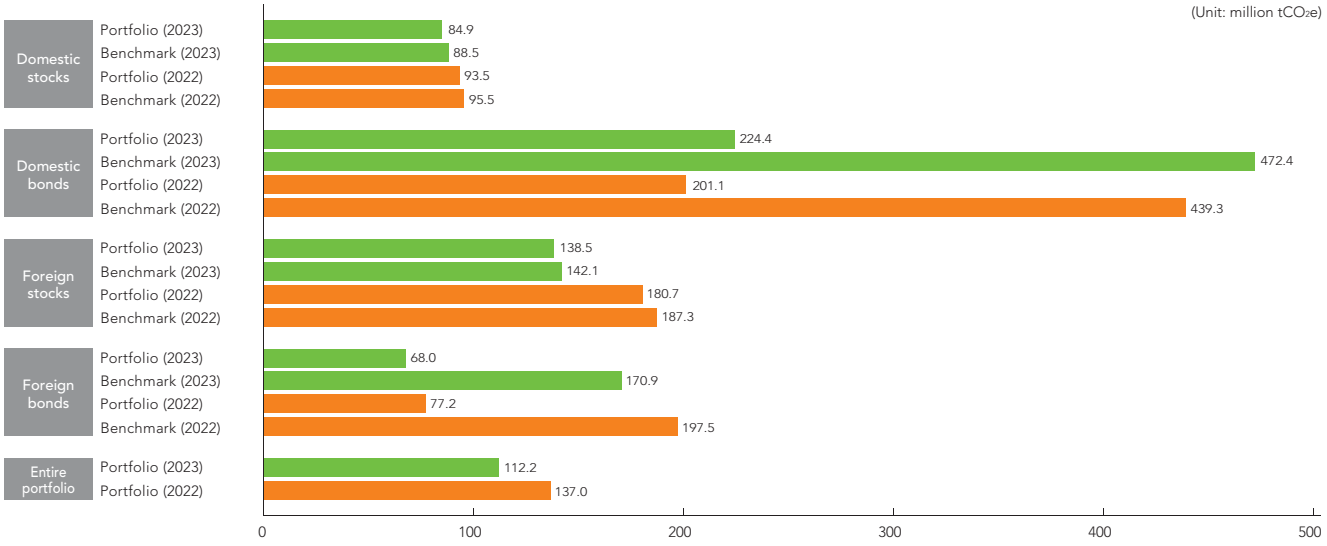
GHG emissions in each asset class*7 *9 *10



Composition of GHG emissions by sector in each asset class*8 *10



Weighted average carbon intensity (WACI) in each asset class (emissions per unit of sales)*8 *9 *10



(2) Transition path analysis and resilience analysis

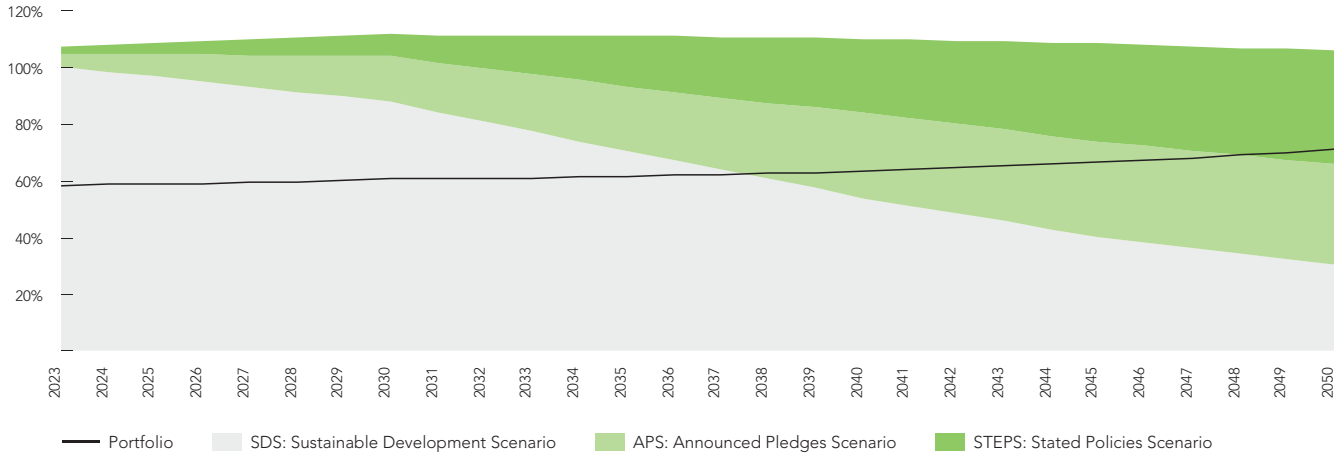
A methodology called transition path analysis is used to assess how the portfolio's climate change risks will change for future climate change scenarios. Specifically, the estimates of the portfolio's future GHG emissions are compared with the carbon budgets for the climate change scenarios, and the portfolio's alignment with the scenarios is assessed. Three scenarios of the International Energy Agency (IEA) were used: the Sustainable Development Scenario (SDS), the Announced Pledges Scenario (APS), and the Stated Policies Scenario (STEPS).

First, the transition path analysis found that SMTAM's portfolio emissions are likely to reach the upper limit permitted under the SDS scenario in 2038 for the passive investment strategy and 2042 for the active investment strategy. Improvements from the previous year*6 were also observed. For example, the upper limit is expected to be reached around two years later for the passive investment strategy (2036 in the previous year) and around six years later for the active investment strategy (2036 in the previous year). In relative terms, emissions are projected to exceed the permissible level for the active investment strategy later than for the passive strategy. The reason may be the low ownership of assets in the energy sector, which is expected to significantly exceed its carbon budget.

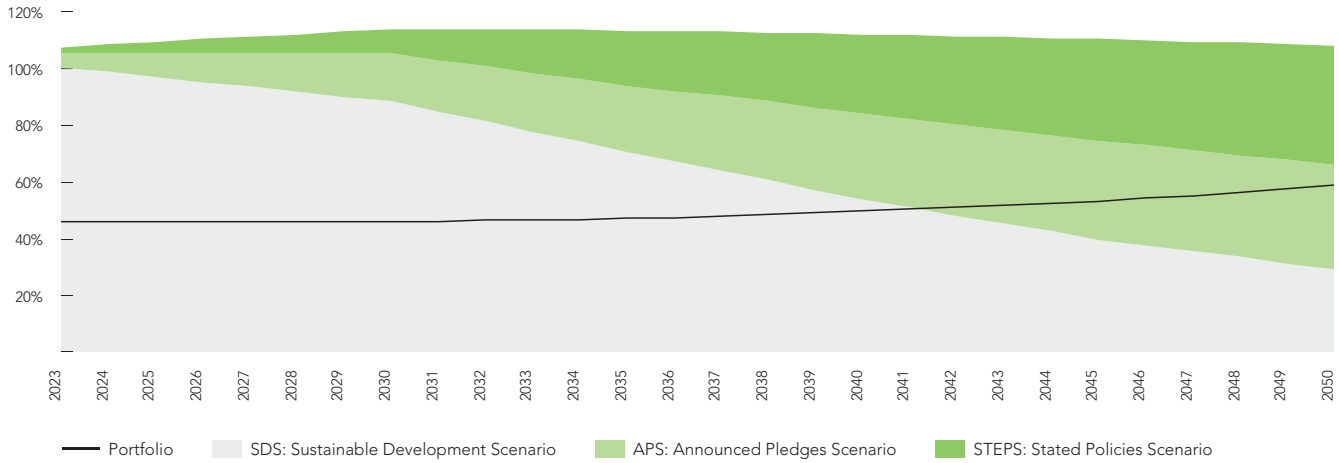
Comparison of projected pathways of GHG emissions for the portfolio and carbon budgets for each climate change scenario

Projected transition pathways for each investment strategy*10 *11

• Passive investment strategy



• Active investment strategy



Scenarios used in the analysis

SDS
Sustainable Development Scenario

Sustainable Development Scenario

A normative scenario aligned with the goal of the Paris Agreement to stay well below +2 degrees Celsius and limit global warming to +1.5 degrees Celsius.

APS
Announced Pledges Scenario

Announced Pledges Scenario

An exploratory scenario that assumes that various countries fulfill the ambitious targets they have declared (NDC) (+2.1 degrees Celsius at the end of this century).

STEPS
Stated Policies Scenario

Stated Policies Scenario

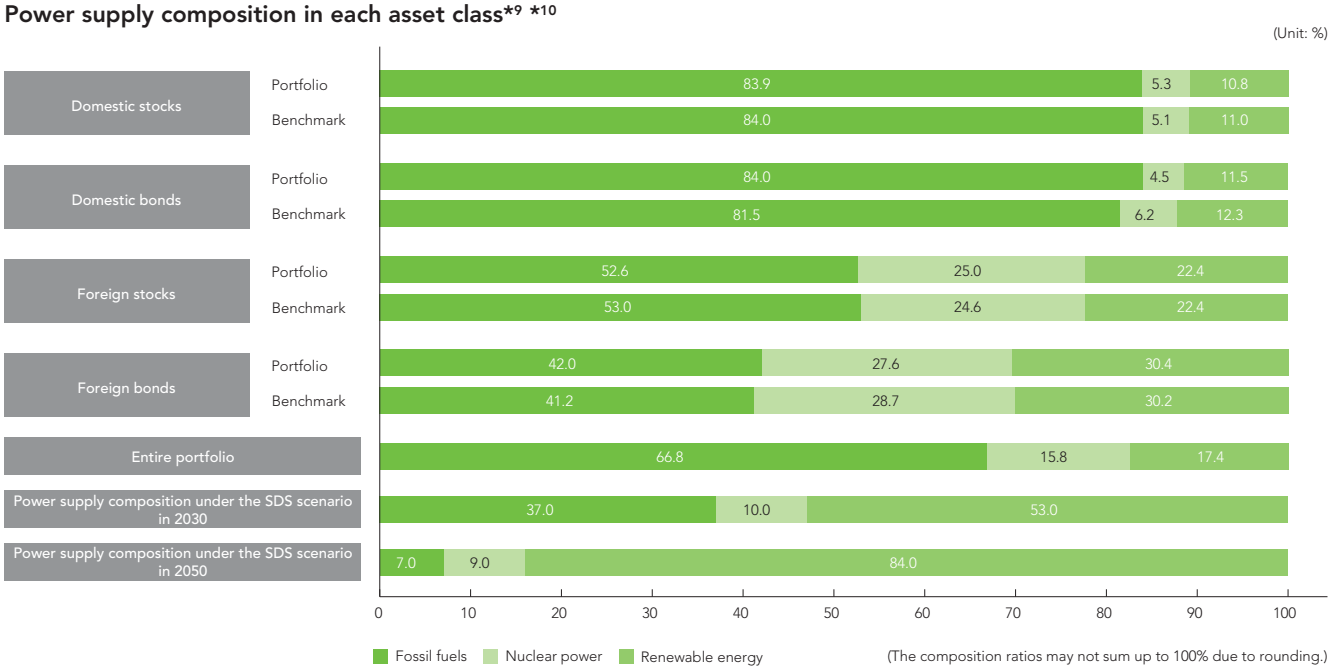
An exploratory scenario for achieving the goals stated by the government (+2.6 degrees Celsius at the end of this century).

Source: World Energy Outlook 2022

(3) Analysis of the portfolio's resilience to climate change

One of the indicators for assessing the portfolio's transition risk is the power supply composition ratio based on the amount of power generated by the portfolio. Here, the power supply composition ratio of each asset class is compared with the benchmark. In addition, the ratios for the entire portfolio under the SDS scenario in 2030 and 2050 were estimated. The values are presented in the figure, "Power supply composition in each asset class." It shows that the power supply composition ratio for each asset class is comparable to the benchmark. It was also revealed that, at this time, approximately two-thirds of the entire portfolio relies on fossil fuels, and to align with the SDS scenario, the composition ratio of fossil fuels must be reduced to approximately one-third by 2030 and 7% by 2050.

Power supply composition in each asset class*9 *10



Composition of transition VaR by sector in each asset class*10

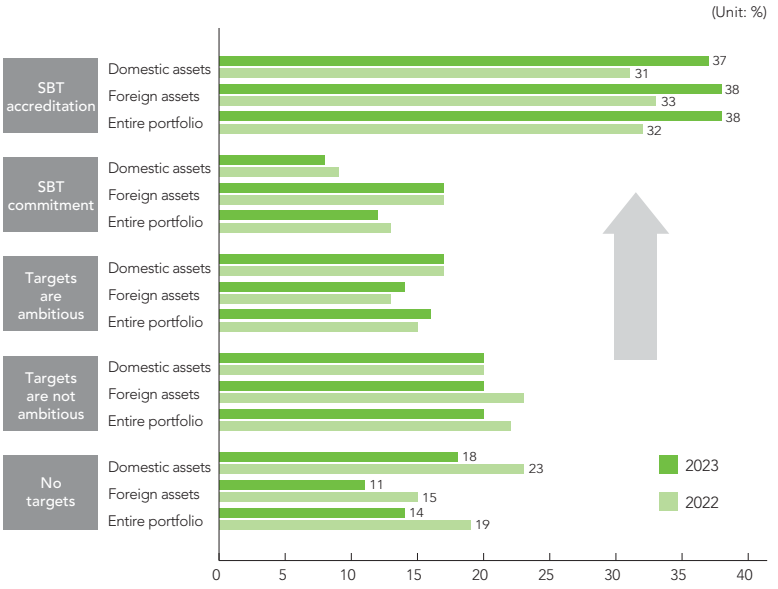
Composition of physical VaR by sector in each asset class*10

In summary, the analysis results reveal that to effectively reduce GHG emissions from SMTAM's portfolio, it is crucial to target domestic and foreign stocks in terms of asset class and, from a sectoral perspective, not only the utilities and materials sectors but also, from the standpoint of mitigating transition risks, the capital goods sector. SMTAM will further step up its climate change initiatives through engagement and exercise of voting rights with a focus on investee companies in these priority asset classes and sectors.

(4) Survey of climate-related targets

SMTAM has consistently found that a certain number of investee companies in its portfolio are not actively addressing climate change issues. SMTAM therefore considers it important to increase the number of investee companies that have set ambitious targets and are committed to the SBT or have obtained SBT accreditation,*12 and is actively approaching investee companies to do so. The percentage of companies with SBT accreditation in each asset class compared with the previous year's*6 shows that the percentage for domestic assets increased from 31% to 37% and for foreign assets from 33% to 38%. At the same time, the percentage of companies with no targets decreased from 23% to 18% for domestic assets and from 15% to 11% for foreign assets, suggesting suitable overall results. SMTAM will continue working to keep this trend going.

Findings from survey of climate-related targets in each asset class*10



*4 On the basis of excluding domestic and foreign bonds, etc. from investment assets
*5 ISS (Institutional Shareholder Services)
*6 The values for the previous year (as of June 30, 2022) have been recalculated using updated carbon emissions and other data. Therefore, the values do not match those in last year's Stewardship Report.
*7 Based on Scope 1, 2, and 3
*8 Based on Scope 1, 2
*9 The benchmarks are as follows:
Domestic stocks: TOPIX; Domestic bonds: NOMURA-BPI Overall (corporate bonds only); Foreign stocks: MSCI-ACWI (ex-Japan); Foreign bonds: Bloomberg Global-Aggregate (excluding Japan) (corporate bonds only)
*10 Calculated on the basis of assets owned by SMTAM against the adjusted corporate value for each asset
*11 All industries except fossil fuel producing industries: Scope 1, 2; Fossil fuel producing industries: Scope 3; Power generation: Scope 1
*12 SBT (Science Based Targets). SBT refers to GHG emission reduction targets set by companies for the next 5 to 15 years, according to the standards specified by the Paris Agreement. The numbers must be consistent with the indicators required by the latest weather science. SBT is implemented as one of the WMB (We Mean Business) initiatives, and is established and operated by WMB organizations such as the World Resources Institute (WRI) and CDP. SBT accreditation refers to having targets accredited by the organization mentioned above. Even after accreditation, the amount of emissions and the progress made on the measures must be disclosed every year, and the adequacy of the targets must be checked periodically. In addition, SBT commitment means committing to setting SBT targets within two years.

3. Engagement initiatives of Sumitomo Mitsui Trust Asset Management

CASE 1
Non-manufacturing company A

- Cross-shareholdings
- Climate change actions

Analyst's perspective
The company is reducing its cross-shareholdings, but the pace is slow and the efforts are inadequate. There are market expectations for accelerated reduction. In addition, while the company has presented a policy on climate change action, there is significant exposure and no intermediate targets have been set for the entire group. The analyst assumed that this approach contributes to the company's underperformance in corporate value.

SMTAM's opinion
Cross-shareholdings should ideally be zero. It may be necessary to set a final goal and present a reduction plan for achieving that goal. Also, from the perspective of improving capital efficiency, it may be necessary to redirect finished shareholdings toward business investments. Despite a slowdown in the reduction pace compared to the previous year, the market expects an accelerated reduction. It is reasonable to measure cross-shareholding risk at market value. Reduction targets should also be set at market value.

Some GHG reduction goals are limited to intensity-based targets, and it is unclear to what extent they will contribute to overall reduction. It may be necessary to set intermediate targets for 2030 that are understandable for outsiders.

Company's response
Although we acknowledge the points raised, we cannot simply say we will aim for zero cross-shareholdings. The intension of the companies with which we have cross holdings need to be taken into account. Honestly, we would like to reduce cross-shareholdings if possible. However, we have to be cautious considering that some of the companies have banned us from entry or stopped doing business with us in the past.

We are making efforts with business partners in high-emission sectors first, believing that it is important to set targets in line with actual business operations. Setting goals through a top-down approach will not produce meaningful targets. We will set meaningful targets and indicators in the course of advancing our initiatives.

Company's actions
In its May 2023 financial results presentation, the company announced it was raising its cross-shareholding reduction targets. It also presented a plan for lowering the ratio of it to net assets to under 20% based on market value, as well as a policy for subsequent reductions.

The company announced gradually address reductions by industry, aiming to cover approximately 70% of its emissions by the end of FY2023.

SMTAM's assessment and future policy
- SMTAM will monitor the progress of the raised reduction targets. Furthermore, for reductions beyond the company's medium-term management plan, SMTAM will encourage the company to set zero balance as the ultimate goal.
- Regarding climate change actions, SMTAM will follow the progress of the reduction targets set by the company, and encourage to set total emissions and overall reduction targets as the 2030 intermediate targets.

CASE 2
A.P. Moller-Maersk
(Denmark/Shipping)

- Climate change issues
- Information disclosure

Engagement staff's perspective
In 2018, the company became one of the first major European shipping companies to set the goal of reaching carbon neutrality by 2050. Subsequently, in January 2022, the company raised its target to achieving net-zero emissions by 2040. It is proactively setting targets in response to climate change issues.
However, the disclosure of progress on specific efforts, including quantitative targets, remained insufficient. Therefore, Engagement staff believed that as a leading company in the global shipping industry, the company need to promote further initiatives.

SMTAM's opinion
To increase the certainty of achieving its ambitious targets, the company may need to establish more tangible measures and actively disclose information on outreach to the supply chain.
The company intends to change 25% of its fuel to green fuel by 2030 to achieve its targets. However, minimal progress has been made, and we hope the company discloses information on measures for increasing the certainty of achieving its targets.

Company's response
We took measures to enhance the credibility of our plans. To expand the use of green fuels, which is key to reducing GHG that are emitted during shipping, we concluded supply contracts with eight energy companies. Furthermore, we presented stage management for price pass-throughs for each supplier. However, concrete investment plans for the expansion of green fuels are still under consideration. As there are various types of green fuels, we need to make investment decisions taking into account the future technology and supply-demand trends.

Company's actions
To enhance the feasibility of its ambitious commitments, information was disclosed on the stage management of the status of the company's responses to price pass-throughs with each supplier, as well as projects with energy companies for securing green fuels.

SMTAM's assessment and future policy
- Since 2019, SMTAM has been actively emailing and holding online and in-person dialogues with the company, which is one of the 100 companies we are focusing on for climate change actions.
- The company is anticipated to promote more specific efforts going forward, and will enter a phase in which its progress will be thoroughly checked.
- SMTAM will continue holding dialogues and ensure that the company continues its active initiatives as an industry-leading company.

Initiatives of Nikko Asset Management

1. Nikko Asset Management's climate-related portfolio analysis

(1) Scenario Analysis

In accordance with the Recommendations by the TCFD, Nikko Asset Management (Nikko AM) has assessed its portfolios for both transition and physical risk under multiple climate scenarios using industry-recognised third-party models to ensure transparency and interpretability.

Analysis Method/Scope

We leverage the MSCI's Climate Value-at-Risk (CVaR) module as the analysis method, basing it on owned assets as of 31 December 2022.

Further, our analysis is conducted on our public listed equity and corporate bonds exposure. Analyses on our in-scope portfolios cover 67.5% of Nikko AM's total AUM (as of 31 Dec 2022), which are managed by our Japan Equity, Japan Fixed Income, Japan Investment Technology, Asia ex-Japan Equity, Asia Fixed Income, Global Equity and Global Fixed Income investment teams. Our in-scope Japanese-domiciled holdings are aggregated as "NAM JP" and our in-scope companies domiciled out of Japan are aggregated as "NAM ex-JP." The analysis takes into consideration both active and passive portfolios managed by Nikko AM.

Transition Risk

MSCI's transition risk methodology assesses companies' CvaR under various Network for Greening the Financial System (NGFS) climate scenarios.

We have assessed our portfolios under the following scenarios:

1.5°C and 2°C
- Orderly – Climate policies introduced early with gradual intensification. Transition risk is relatively subdued.
- Disorderly – Delayed or divergent climate policies. Higher transition risk from more stringent and stricter measures that are delayed and/or divergent across countries and sectors, leading to higher carbon pricing.

Nationally Determined Contributions (NDCs)
- Climate policies are implemented only in some jurisdictions, but globally insufficient to halt global warming. Implies temperature rise of 3°C by 2100, which leads to higher physical risk.

Transition risk represents the largest risk to our holdings, with the 1.5°C Disorderly scenario posing the most severe risk to our portfolios, given that it is the most disruptive scenario.

Under the 1.5°C Disorderly scenario, we see a potential CvaR of over 40% for our NAM JP assets, and over 20% for our NAM ex-JP assets, as seen in Figure 1. Under a more orderly scenario (1.5°C Orderly), the potential risk diminishes substantially, to 10% for NAM JP, and 5% for NAM ex-JP, as seen in Figure 2.

Further splitting the figures by sector reflects that the bulk of our risk is attributable to carbon intensive sectors, such as Energy, Materials and Utilities. As jurisdictions start to increase carbon prices in a bid to bring down carbon emissions, the cost to companies in these sectors is anticipated to increase should their emissions profile not come down. As a global asset manager with both active and passive strategies, Nikko AM is highly likely to maintain some exposure to these sectors, however it will continue to monitor the risk, as well as continue applying mitigation techniques as described further in the report.

Figure 1. Transition Risk – NAM JP

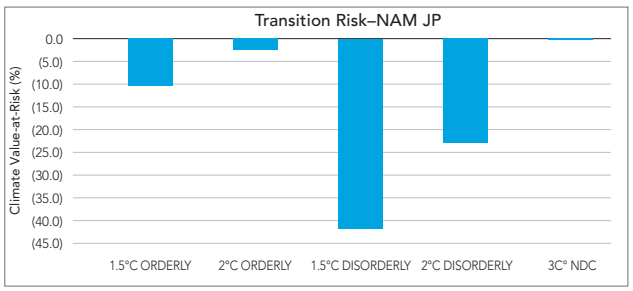
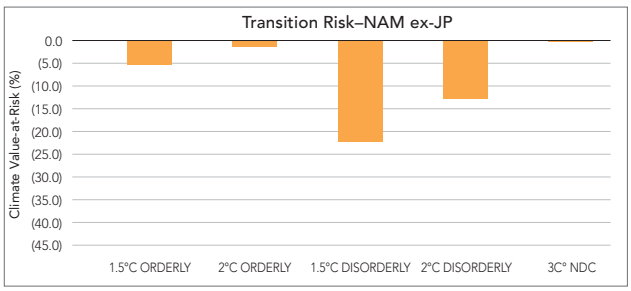


Figure 2. Transition Risk – NAM ex-JP



Physical Risk

The potential CvaR from physical risk on Nikko AM funds is significantly lower as compared to transition risk in both the average and aggressive scenarios. Unlike transition risk, where climate-value-at-risk is largely a function of the sector our companies are in, the geographic location of our companies' assets is key for physical risk.

We assessed our portfolios under the following scenarios:

- Average scenario: The expected value of the cost distribution
- Aggressive scenario: The 95th percentile of the cost distribution; explores the severe downside risk within the distribution tail – i.e. "worst case scenario."

Under the aggressive scenario, our NAM JP assets see a potential climate-value-at-risk of about 18% (Figure 3) and about 8% for our NAM ex-JP assets (Figure 4).

Meanwhile, under the average scenario, the potential climate-value-at-risk is significantly lower, at about 10% for NAM JP (Figure 3) and about 4% for NAM ex-JP (Figure 4). Given that NAM JP is fully invested in Japanese assets, physical risk is concentrated in Japan, which has high physical risk due to its location, whereas the physical risk of NAM ex-JP assets is more diversified globally.

Further analysis on the data reflects that climate-value-at-risk is more pronounced in geographical locations with high acute risk (i.e. event-driven). These events tend to occur suddenly, disallowing ample time for risk adaptation or mitigation efforts. Additionally, the severity of these events cannot be predicted, which can result in the insufficiency of implemented risk mitigation or adaptation efforts. As such, geographical locations with the highest acute risks may result in the greatest asset damage and operational disruption.

Figure 3. Physical Risk – NAM JP

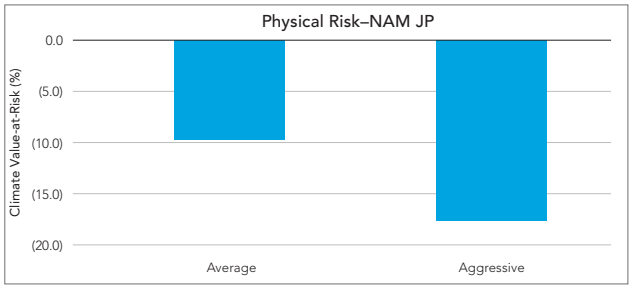
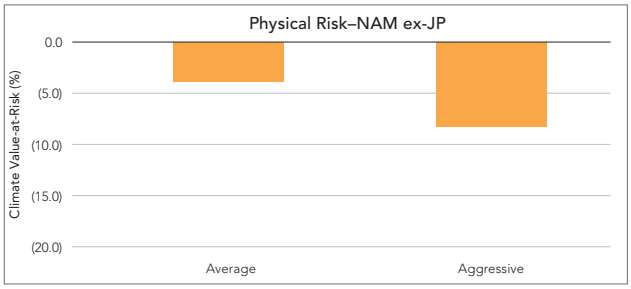


Figure 4. Physical Risk – NAM ex-JP



(2) Metrics & Targets

In working towards our goal of aligning our portfolios to net zero by 2050, Nikko AM utilises a range of metrics to track and monitor its progress, but also to reduce climate-related risks and capture opportunities. As part of being a signatory to the NZAMI, Nikko AM disclosed its reduction targets*1 in 2022, and for 43% of total Group assets (or US$115.68 bn), announced to aim to reduce carbon footprint in 2030 by 50% compared to our 2019 baseline (84.7 tCO_2e/$m invested).

Scope of the Metrics and Targets

The below metrics capture our carbon emissions for CY2021 and CY2022, years ending 31 December 2021 and 31 December 2022, respectively, for listed equity and fixed income holding companies including Nikko AM's in-scope portfolios.

*1 Nikko AM NZAMi Disclosures:
https://www.netzeroassetmanagers.org/signatories/nikko-asset-management-co-ltd/

Reported Metrics

The following metrics are reported as of 31 December 2022, for Nikko AM's in-scope portfolios. We have included, in the table, aggregated carbon metrics as of 31 December 2021.

	Asset Class	AUM*2 ($100 mil)	Absolute Emissions (Million tCO_2e)	Carbon Footprint (tCO_2e/$m invested)	WACI (tCO_2e/$m revenue)	Coverage*3 (%AUM)
NAM JP	Equity	100.3	6.1	61.1	84.1	99.9%
	Fixed Income	1.3	0.3	243.7	369.7	89.7%
NAM ex-JP	Equity	10.8	0.6	53.4	148.8	99.6%
	Fixed Income	6.5	0.2	63.1	135.6	43.1% *4
Total (as of 31 Dec 2022)*5		118.9	7.2	62.4	94.4	—
Total (as of 31 Dec 2021)*6		146.0	7.8	54.9	92.4	—

In 2022, absolute emissions have reduced to 7.2 $MtCO_2e$, from 7.8 $MtCO_2e$ in 2021. However, both our carbon footprint and WACI have increased slightly. Movements in carbon metrics are not always attributable to a single factor such as company emissions. They have to do with a wide array of factors, including portfolio positioning, changes in revenue, EVIC (which can also change due to market movements) and data coverage, among others. Therefore, it is important to evaluate various data metrics to get a full picture of the progress made in the reduction of GHG emissions.

As expected, coverage for equities is substantially higher than that for fixed income for both NAM JP and NAM ex-JP, and more apparent for NAM ex-JP. Nikko AM's NAM ex-JP assets are largely invested in Asia excluding Japan, where data disclosure is still relatively low in the region.

We have seen progress made in terms of ESG data disclosures over the years, with ESG-related regulations mandating disclosure of key ESG metrics, such as GHG emissions. As investors, we will continue to engage with our investee companies to enhance disclosures of key ESG metrics, including GHG emissions.

*2 AUM that is in scope and has data availability
*3 Based on carbon data availability. The output is represented as a ratio of AUM that is in scope
*4 Lower coverage is caused by a wide range of issues, including third-party classification methods
*5 Carbon metrics for 31 December 2022 were measured in June 2023. Nikko AM is using MSCI data points that were produced in 2021
*6 Carbon metrics for 31 December 2021 were measured in June 2023. Nikko AM is using MSCI data points that were produced in 2020

2. Engagement initiatives of Nikko Asset Management

In 2022, across all regions, 37% of Nikko AM's ESG-related engagements focused on the environmental pillar, on topics such as climate change.

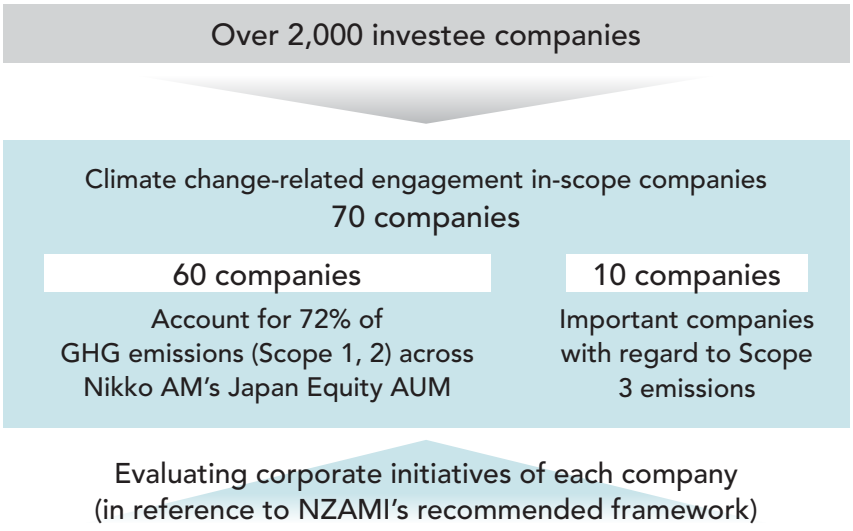
Our engagement methods vary, depending on the situation. These methods include:

- one-to-one company dialogues, including on-site visits,
- management calls and roadshows,
- written communications, and
- collaborative engagements.

For its NZAMI commitment, Nikko AM takes on an active ownership approach. Its Japan Sustainable Investment Department, part of the Global Sustainable Investment Team, have narrowed down companies in the climate focused engagement list, from over 2,000 companies to 70. Of these companies, 60 companies chosen account for 72% of the overall GHG emissions (Scope 1, 2) across Japan Equity, which makes up the largest portion of Nikko AM's AUM balance. The remaining 10 were chosen as they are important companies with regard to their Scope 3 emissions. As part of the engagement plan, the team evaluates investee companies' corporate initiatives against NZAMI's recommended framework.

Beyond Japan, we have also been incorporating climate-related considerations. From a top-down angle, several investment strategies have committed to portfolio-level GHG emissions reduction targets. For instance, Nikko AM's Global Equity strategy has a commitment to maintain its portfolio's GHG emissions at 20% below their benchmark.

Japan Sustainable Investment Department's engagement policy



Example of collaborative engagement (AIGCC) **Perusahaan Listrik Negara**

Perusahaan Listrik Negara (PLN) is the only company with vertically integrated electricity utility in Indonesia. In addition, the state-owned company is the dominant power generation, transmission and distribution provider in the country, accounting for more than 70% of electricity power production. PLN is also the sole buyer for Indonesia's independent power producers.

In 2022, Nikko AM's Asia Fixed Income team participated in the Asian Utilities Engagement Program (AUEP), one of the working groups of the Asia Investor Group on Climate Change* (AIGCC), as well as participating in collaborative engagement together with PLN.

AUEP aims to increase the effectiveness of climate-related engagement through collaborative engagement with systemically important electricity suppliers in Asia having a shared awareness of issues.

<Awareness of issues>

With a total installed capacity of around 45.9 GW, close to 90% of PLN's production is powered by thermal sources, exposing PLN to high risk in the transition to zero carbon. Not surprisingly, the company scores poorly among Asia/Pacific utilities for both absolute and relative carbon emissions. In addition, PLN's governance continues to lag global peers. The Indonesian government appoints half of the directors of the board, severely limiting its independence.

<Engagement objectives>

In light of these environmental and governance issues, the AUEP is aiming to engage with the board and senior management at PLN to secure several commitments, which are as follows:

1. To strengthen the governance framework to ensure the board's accountability and oversight for climate change risks and opportunities. Specifically, to clarify the role and responsibility of the Sustainability Committee in the implementation of PLN's decarbonisation strategies.
2. To formulate action plans to reduce greenhouse gas emissions in line with the Paris Agreement agreed upon at the UN's 2015 Climate Change Conference. This covers decarbonisation strategies, requiring a timetable to phase out coal-based GHG emissions in less-developed economies at the latest by 2040, with similar commitments for natural gas.
3. To provide enhanced corporate disclosure in line with the final recommendations of the Task Force on Climate Related Financial Disclosures (TCFD).
4. To outline the physical risks the company faces by climate change and what strategies it is adopting to mitigate these risks.
5. To engage with public policy makers and other stakeholders to support cost-effective policy measures to mitigate climate-related risks and facilitate low carbon investments in line with achieving net zero emissions by 2050 or sooner.

<Status of engagement>

In September 2022, Nikko AM participated in its first collaborative engagement call together with other members of the AIGCC who are engaging with PLN as part of the AUEP. The call was held with PLN's climate change team. The team presented five possible routes that the company's decarbonisation pathways might follow. Based on the accelerated scenario, it outlined in more detail the company's roadmap to net zero by 2060, which would see its emissions peak in 2030, in line with Indonesia's national target. As part of these plans, the company has committed itself to building no new coal-, oil-, or unabated gas-based power plants after 2030, making hydropower the dominant energy source in its renewables mix.

From PLN's perspective, four key issues need to be addressed for the company to accelerate its net zero emissions target. These are:

- ensuring electricity pricing that supports the achievement of targets;
- maintaining favourable finance channels;
- deploying new technologies, such as carbon capture, utilisation and storage, and hydrogen power, on a large scale in Indonesia;
- increasing support from public policy, such as incentives for electric vehicle adoption.

Over 2023, Nikko AM continued to collaboratively engage with PLN through the AIGCC and continued to actively monitor its compliance with decarbonisation strategies over the short-, medium-, and long-term, and notably the timetable to phase out coal-based GHG emissions in line with 1.5°C temperature scenarios.

* About the Asia Investor Group on Climate Change (AIGCC)
An industry association that raises awareness and encourages action on climate change-related risks and opportunities among asset owners and asset managers in Asia. Active in 11 Asian markets, the AIGCC is comprised of over 70 members, whose global AUM is US$33 trillion.

Example of collaborative engagement (CA100+) **UltraTech Cement**

In 2022, Nikko AM's Asia Ex-Japan Equity team participated in collaborative engagement with UltraTech Cement (UltraTech), India's biggest cement company, as part of its Climate Action 100+* (CA100+) activities.

<Awareness of issues>
UltraTech operates in a hard-to-abate sector in India whose electricity supplies are dominated by coal-fired power. As a result, its carbon intensity is one of the highest, both in Asia and amongst its peers. Over the years, there had been little material improvement in the company's carbon intensity, and it had yet to announce a strategy to move towards a lower carbon future.

In 2021, the company's high emissions had caused Nikko AM to sell the shares held in its Asia Ex-Japan Equity strategy portfolios, where emission intensity benchmarks are relatively tight. However, it continued to hold them in multiple Indian equity strategy portfolios, where benchmark emission intensities are relatively high and where UltraTech stock is part of the index. Having already engaged directly with the company itself with little noticeable effect, Nikko AM participated in collaborative engagement through CA100+.

<Engagement objective>
In Nikko AM's previous direct engagements with UltraTech, its focus had been on getting the company to improve its current carbon emissions. The focus of this collaborative engagement was more on the strategy based on the Disclosure Framework Indicators established by CA100+.

<Status of engagement>
As a result of this engagement, our priority targets for UltraTech in 2022 and 2023 are as follows:

- to reduce GHG emissions on a clearly defined path to 2025;
- to lay out a decarbonisation strategy that explains how it intends to meet its medium- and long-term greenhouse gas reduction targets;
- to make a commitment to aligning its capital expenditure plans with its long-term GHG emissions reduction targets, and to phasing out planned capital expenditure in unabated carbon-intensive assets and products;
- to introduce an executive remuneration scheme that includes climate change performance elements;
- to acknowledge that it has responsibility for helping achieve a just transition to a net zero economy; and
- to make a commitment to implementing the Recommendations of the TCFD.

We were encouraged by the latest CA100+ investor group meeting, noting that UltraTech had been receptive to what participants had said, and had since incorporated some recommendations in its latest sustainability report, including:

- adopting TCFD disclosures and conducting physical and transition risk analyses;
- having the legitimacy of its carbon emission reduction targets verified by the UN-backed Science Based Targets (SBT) initiative, with the aim of reducing greenhouse gas emissions by 27% by 2032 – in line with the global target to restrain climate warming to 2°C; and
- committing itself to achieving net zero carbon emissions by 2050.

Nikko AM will continue to engage with UltraTech, both directly and collaboratively as part of CA100+, and monitor the company's progress in implementing its transition strategy in accordance with its intermediate and long-term targets.

* About Climate Action 100+
CA100+ is an investor-led initiative seeking to collaboratively engage with the world's largest greenhouse gas emitters to reduce their emissions. The initiative comprises over 700 investors with assets of US$68 trillion, and is engaging with 170 companies, 75% of which are committed to achieving net-zero.

Example of individual engagement

Company A in the Japanese transport sector

Company A is a Japanese prime-listed logistics company engaged in transport and other businesses. Nikko AM has been individually engaging with the company since 2022, believing that the company must further improve its climate change-related information disclosure and initiatives, as addressing climate change in the logistics industry is an urgent issue.

<Status of engagement>

At initial engagement with Company A in 2022, it was neither disclosing its CO_2 emissions, nor had it formulated a specific CO_2 reduction plan. Therefore, Nikko AM encouraged the company to identify its CO_2 emissions for each scope, formulate medium- and long-term reduction targets, and disclose KPIs.

During dialogue in 2023, Nikko AM encouraged initiatives to resolve the above issues and held discussions based on comparative analyses between Company A and companies that were positively implementing information disclosure and initiatives. At that time, Nikko AM expressed its expectations for the formulation and publication of a reduction roadmap and the enhancement of its disclosure in line with TCFD Recommendations, given that specific initiatives were insufficient.

Following this, Company A gave an ESG briefing where it announced its initiatives to achieve carbon neutrality. These included disclosing CO_2 emissions by scope and intermediate reduction targets for 2030, as well as implementing measures such as the introduction of EVs and environmentally friendly trucks and the purchase of green power by 2050.

While Nikko AM has seen some progress in the company's efforts to address climate change and is looking positively at the change in attitude of Company A's management, it will continue to monitor the progress of more specific initiatives, as they are only just getting underway.

Risk Management

Climate Change Risks in Enterprise Risk Management

1. Positioning of climate change risks

For enterprise risk management, we regularly identify the risks faced by our subsidiaries and other Group companies so they can be managed in light of their size and characteristics. Of these, the risks that are particularly important are labeled as "significant risks" and each significant risk is managed after being classified according to its drivers and categories. When managing significant risks, we evaluate the importance of each risk from the perspective of business management and decide whether they fall under the category of "top risks" or "emerging risks." The former are risks that have the potential to have a significant impact within the space of one year and warrant the attention of management, while the latter are risks that are unlikely to have a significant impact within one year, but have the potential to do so over the medium to long term (more than one year).

In 2021, we moved "climate change risks" into the top risks category (previously in emerging risks). In addition, we have established the following risk appetite indicators and integrated them into our Group-wide risk appetite framework.

Climate change risk appetite indicators

SuMi TRUST Group (SuMi TRUST Bank)	GHG emissions at domestic offices (Scope 1, 2)
Investment and loan portfolios (SuMi TRUST Bank)	Progress on 2030 intermediate reduction targets (for power generation and oil & gas sectors)
Asset management portfolios (SMTAM and Nikko AM)	Progress on 2030 intermediate reduction targets

To monitor these risk appetite indicators, in principle, each business in the Group regularly conducts self-assessments, which are then checked by the Corporate Planning Department. The Risk Management Department periodically reports the results of factor analyses to mainly the Board of Directors and the Executive Committee.

If any of the indicators deviate significantly from the level specified, a self-assessment on the first line of defense and an independent evaluation on the second line are carried out to analyze the factors behind the deviation. Then, if required, a review of the measures is then implemented.

Three lines of defense for managing climate change risks

Third line of defense	Departments that conduct internal audits	• Evaluating the effectiveness of the risk management framework
Second line of defense	Enterprise Risk Management Department	• Performing integrated monitoring of climate change risks by fulfilling a check and balance function and appropriately sharing information with the control departments related to each risk category
	Control departments related to each risk category	• Supporting and keeping check on the first line of defense regarding the risk management of each risk category for climate change risks
First line of defense	Carbon Neutrality Planning and Management Department	• Devising the Group's net-zero strategy • Unifying the first line of defense activities related to climate change
	Group company businesses and front offices	• Identifying, evaluating, and controlling climate change risks • Promoting engagement for the climate change actions of clients

2. Climate Change Risk Management Policy

Pursuant to a resolution of the Board of Director, we have formulated the Action Guidelines for Mitigating Climate Change as a basic policy on addressing climate change issues. We have also established the Management Policy of Sustainability-related Risks within the framework of our Risk Management Rules for the purpose of managing climate change risks. It clearly articulates our basic approach to sustainability-related risks, including climate change risks, the roles and responsibilities of the Board of Directors, the Executive Committee, and directors and executive officers, the three lines of defense system, and our basic policy on risk management in consideration of climate change according to each risk category.

Identifying and evaluating climate change-related risks

Climate change-related risks

As a high-priority issue in the environmental field, climate change risks are defined as the negative impacts on the Group, its clients, the markets, financial infrastructure, and society as a result of physical damage to, for example, social infrastructure and nature, from medium- to long-term climate change and abnormal weather (physical risks), as well as the rapid transition to a low-carbon society owing mainly to changes in climate change policies, changes in financial market preferences and social norms regarding climate change, and technological innovation (transition risks).

Managing climate change as a risk driver and the effects on each risk category

Based on the assumption that climate change is a risk driver that has an impact across all risk categories, we are actualizing climate change risk management with a climate change-specific risk management policy for each risk category.

		Climate change-specific risk management policy	Risk horizon*
Credit risk		Borrower monitoring in relation to climate change (monitoring the GHG emissions, stranded assets, storm and flood damage risks, and other risks of borrowers)	Short, medium, and long term
Market risk		Monitoring the risk of price fluctuations in securities issued by investees based on their climate change action (monitoring the correlation between GHG emissions and stock price, and comparative analysis in the sector)	Short/medium term
Operational risk	Administrative risk (outsourcing)	Continuity of outsourced work due to storm and flood damage at the contractor	Short/medium term
	Event risk (storm and flood damages)	Addressing the negative impacts of greater storm and flood damage caused by climate change on real estate owned by the Group	Short, medium, and long term
	Compliance risk	Compliance with climate change-related regulations	Short/medium term
	Conduct risk	Addressing the negative impacts mainly on clients, markets, financial infrastructure, and society because our measures to address climate change have not met the expectations and trust of our stakeholders	Short/medium term
Enterprise risk management		Addressing the negative impacts on the Group and our stakeholders owing to our failure of the execution (or achievement) of our 2050 net-zero GHG emissions commitment	Short, medium, and long term

* Short term: One year or less; Medium term: More than one year but less than ten years; Long term: Ten years or more

Credit Risk Management Concerning Climate Change

1. Managing environmental and social (ES) risks in SuMi TRUST Bank's credit business

In view of the need to prohibit, limit, or adopt a cautious approach to credit that may have a negative impact on society, SuMi TRUST Bank has established the sectoral policies and periodically reviews them at the Executive Committee, etc. Also, the sectoral policies are taken into full account at the process of deciding on investments and loans.

(1) Cross-sector

(a) We will not provide financing to the following businesses because they are restricted under international law or because they are thought to be a significant risk to or have a negative impact on biodiversity, human rights, or other aspects of the environment and society.
- Businesses that negatively impact wetlands designated under the Ramsar Convention
- Businesses that negatively impact UNESCO World Heritage Sites
- Businesses that contravene the Washington Convention
- Businesses that use child labor, forced labor, or engage in human trafficking

(b) Mainly by confirming whether environmental and social considerations have been taken into account, we will adopt a cautious approach to the following businesses because of the strong possibility that they pose a risk to or negatively impact biodiversity, human rights, or other aspects of the environment and society.
- Businesses that negatively impact indigenous communities
- Businesses that negatively impact high conservation value areas
- Businesses involved in the expropriation of land leading to the forced removal of residents
- Businesses that instigate or contribute to violations of human rights in conflict regions, or businesses directly associated with human rights violations

(c) As part of our commitment to respecting human rights, if unsavory information suggests the possibility of negative impacts on human rights at our business partners or in their supply chains, we will engage in dialogue with these partners in an effort to prevent and mitigate the negative impacts.

(2) Specific sectors

(a) Weapons

<Risk awareness>

In Japan, the handling of cluster munitions—weapons recognized to be of significant humanitarian concern—is governed by the Act on the Prohibition of the Manufacture and the Regulation of the Possession of Cluster Munitions. This law prohibits the manufacturing and, in principle, the possession of these weapons.

Also, as with cluster munitions, on humanitarian grounds, we are strongly requested to avoid supplying funds for the manufacturing of nuclear weapons, chemical weapons, biological weapons, or other weapons of mass destruction, or for the manufacturing of inhumane weapons such as anti-personnel landmines.

<Policy>

Given our public mission and social responsibilities as a banking business, we will not provide financing to companies, in Japan or overseas, engaged in the manufacturing of cluster munitions.

Similarly, we will not provide financing in which the funds are to be used for manufacturing nuclear weapons, chemical weapons, biological weapons, or other weapons of mass destruction, or for manufacturing inhumane weapons such as anti-personnel landmines.

(b) Coal-fired power generation

<Risk awareness>

Coal-fired power generation produces higher greenhouse gas emissions than other power generation methods, which means it has a heavier impact on the environment and carries the risk of negatively impacting climate change and air pollution.

<Policy>

We will not finance the construction or expansion of coal-fired power plants. However, we will support initiatives aimed at transitioning to a decarbonized society.

We will not provide financing to companies whose main business is coal-fired power generation if they do not already have existing loan transactions with SuMi TRUST Bank.

(c) Coal mining

<Risk awareness>

Unless managed appropriately, the extraction of coal from the ground carries the risk of negatively impacting the environment and society, mainly owing to the impact that hazardous waste from coal mines has on the ecosystem, occurrence of casualties as a result of cave-ins, and violations of human rights. Coal mining can also contribute to higher GHG emissions, which in turn is driving climate change.

<Policy>

We will not finance the new or expansion of coal extraction projects (thermal coal) or the new or expansion of coal mining businesses that use the mountaintop removal method. Nor will we finance the new or expansion of infrastructure projects tied to these businesses.

We will not provide financing to companies whose

main business is thermal coal mining, or to companies whose main business is infrastructure projects tied to mining operations if they do not already have existing loan transactions with SuMi TRUST Bank.

(d) Oil & gas

<Risk awareness>

Oil & gas mining projects carry the risk of negatively impacting ecosystems, biodiversity, the living conditions of residents, and the natural environment.

- Oil sands extraction projects
  Oil sands extraction consumes large amounts of water and energy and carries the risk of having a considerable impact on the environment owing to the generation of GHGs, as well as negatively impacting biodiversity and the social environment of indigenous peoples.
- Shale oil & gas projects
  The extraction of shale gas carries the risk of water contamination and earthquakes, as well as negative impacts on water resources because of the large amounts of water used in the extraction process.
- Mining projects in the Arctic Circle
  The Arctic Circle (66° 33′ N) is a region that requires a considerable amount of consideration for the protection of rare species and the livelihoods of indigenous communities. Mining activities carry the risk of negatively impacting biodiversity and the social environment of indigenous peoples.
- Pipeline projects
  Pipeline projects carry the risk of negatively impacting the natural environment and the social environment of indigenous peoples mainly as a result of oil leaks and deforestation not only during the construction phase, but even after the pipeline is completed.

<Policy>

We will carefully decide on engaging with such projects after fully considering the impacts on the environment and the existence of any problems involving indigenous peoples and local communities.

In particular, we will adopt a cautious approach to oil sands extraction, shale oil & gas projects, mining in the Arctic Circle, and pipeline laying, after appropriately evaluating the project's environmental and social considerations in light of the risks it poses to the environment and society.

(e) Hydroelectric power generation

<Risk awareness>

Large-scale hydroelectric power projects carry the risk of negatively impacting ecosystems, biodiversity, the living conditions of residents, and the natural environment.

<Policy>

We will carefully decide on engaging with such projects after fully considering the impacts on the environment and the existence of any problems involving indigenous peoples and local communities.

In particular, we will adopt a cautious approach to large-scale hydroelectric power generation projects (with an output of at least 25MW) that involve the construction of dams, mainly by confirming whether environmental and social considerations have been taken into account.

(f) Forestry

<Risk awareness>

Rapid deforestation in many parts of the world carries the risk of causing numerous problems, including the loss of biodiversity, less stable ecosystems, impaired watershed protection functions, and degraded carbon fixation.

<Policy>

We will carefully decide on engaging with timber manufacturers and manufacturers using timber as a raw material after checking their international forest certification status and taking into full account the existence of any problems involving indigenous peoples and local communities.

In particular, we will adopt a cautious approach to logging projects in countries other than high-income OECD member countries, mainly by requesting the acquisition of an internationally recognized certification, such as the Forest Stewardship Council (FSC) or the Programme for the Endorsement of Forest Certification Schemes (PEFC), and by taking into full account the existence of any problems involving indigenous peoples and local communities. In cases where certification has not been obtained, we will require the submission of plans to do so. In addition, we will request the formulation of a policy that respects the free, prior, and informed consent (FPIC) of local residents. During the transaction period, if a business counterparty does not suitably address environmental and social issues, we will request corrective actions for improvement. If the improvement measures are insufficient, we will not provide any new financing to the business counterparty. We will also request to see enhanced supply chain management and improved traceability so that similar initiatives are implemented throughout the business counterparty's supply chain.

(g) Palm oil

<Risk awareness>

While demand for palm oil has surged thanks mainly to its ease of use as a cooking oil and a growing preference for health food products, reckless plantation development carries the risk of tropical rainforest destruction and biodiversity loss.

<Policy>

We will carefully decide on engaging with palm oil producers and manufacturers using palm oil as a raw material after checking their international or local sustainable

palm oil certification status and taking into full account the existence of any problems involving indigenous peoples and local communities.

In particular, we will adopt a cautious approach to palm oil plantation development projects, mainly by requesting the acquisition of RSPO (Roundtable on Sustainable Palm Oil) certification or a local certification, and by taking into full account the existence of any problems involving indigenous peoples and local communities. In cases where certification has not been obtained, we will require the submission of plans to do so. Also, we will request the formulation of policies that respect the FPIC of local residents and uphold no deforestation, no peat, and no exploitation (NDPE) commitments. During the transaction period, if a business counterparty does not suitably address environmental and social issues, we will request corrective actions for improvement. If the improvement measures are insufficient, we will not provide any new financing to the business counterparty. We will also request to see enhanced supply chain management and improved traceability so that similar initiatives are implemented throughout the business counterparty's supply chain.

(h) Large-scale plantations

<Risk awareness>

The development of large-scale plantations carries the risk of deforestation, violations of human rights, and negatively impacting ecosystems, biodiversity, the living conditions of residents, and the natural environment.

<Policy>

We will carefully decide on engaging with such projects after fully considering the impacts on the environment and the existence of any problems involving indigenous peoples and local communities.

In particular, we will adopt a cautious approach to developments in forests and peatlands, mainly by requesting the formulation of policies that respect the FPIC of local residents and uphold NDPE commitments. We will also request to see enhanced supply chain management and improved traceability so that similar initiatives are implemented throughout the business counterparty's supply chain.

2. Managing climate change transition risks of borrowers

SuMi TRUST Bank has developed a transition risk management framework for its investment and loan portfolios for the purpose of keeping the GHG emissions of the portfolios in each high-carbon sector in line with the goals of the Paris Agreement.

The framework contains the departments related to the first and second lines of defense in the aforementioned three lines of defense system, team roles and responsibilities, how policies for specific sectors should be applied, the business processes for managing the transition risks of borrowers on the first line of defense, including evaluations of borrower transition risk categories in consideration of our climate change transition risk sector heat map, discussions aimed at risk reduction through engagement, and monitoring, and lastly, how the check and balance function on the second line of defense should be employed. These risk management processes are implemented in an integrated manner alongside the management of progress on GHG emission reduction targets in each sector and reputational risk management.

Policy for addressing climate change transition risks

With efforts aimed at reducing GHG emissions continuing to gain momentum worldwide, we aim to achieve net-zero GHG emissions in our investment and loan portfolios by 2050 as part of SuMi TRUST Group Carbon Neutral Commitment announced in October 2021. We will work hand-in-hand with our clients on cutting GHG emissions and emphasize a process of continual dialogue to address the impacts of, and countermeasures to, the medium- to long-term climate change transition risks of clients.

Approach to managing climate change transition risks

In working towards achieving net-zero GHG emissions in our investment and loan portfolios, we will use our climate change transition risk sector heat map to identify sectors that are important in terms of our strategy for setting GHG emission reduction targets. For the identified sectors, we will set GHG emission reduction targets and establish various benchmarks and sector policies for monitoring and managing our progress.

Climate change transition risk management process

In the sectors for which GHG emission reduction targets have been set, we make decisions on investments and loans after conducting due diligence on transition risks for both new and existing borrowers.

In particular, if the balance of a loan exceeds a certain amount, we take risk materiality into consideration when categorizing climate change transition risks. These climate change transition risk categories are regularly reviewed, and if necessary, we consider the adoption of additional risk reduction measures according to each category.

Sector-specific climate change transition risk heat map

We have formulated a climate change transition risk sector heat map for the purpose of identifying the sectors that are important in terms of managing climate change transition risks. For this heat map, we considered GHG emissions, GHG emission intensity, and other factors to categorize the transition risk level of each sector according to four rankings: very high, high, middle, and low. We also categorized the exposure of each sector as large, medium, or small.

The sectors are based on the definitions of carbon-related assets (18 sectors in total) in the supplemental guidance for the TCFD Recommendations, and we also took into account the high carbon-intensity sectors*1 for which targets should be set according to the NZBA, to come up with a total of 21 sectors*2.

We take this heat map into consideration as part of the process of identifying the sectors that are strategically important in terms of setting GHG emission reduction targets. We then establish our GHG emission reduction targets for those sectors, along with management benchmarks and sector-specific policies.

In addition, we will continue to review our sector evaluations in line with climate change policies and technologies, market and other environmental changes, and advancements in quantifications methods.

Note that due to the change in sector classification criteria to a consolidated basis for apex companies, the exposure rank of Transport (Automotive, Components) sector has changed from medium to large.

Going forward, we are considering the development of a framework to assess a transition risk rank for each client in an effort to enhance our analyses aimed at understanding actual conditions.

Climate change transition risk sector heat map

		Exposure rank		
		Small	Medium	Large
Sector heat map risk rank	Very High	Coal	Iron & Steel	Power generation Oil & Gas
	High	Cement	Chemistry Passenger Airplane	Automotive & components Shipping
	Middle	Metals & Mining (expect Steel and Aluminum) Aluminum		Capital goods
	Low	Air cargo Agriculture Construction materials (expect Cement)	Paper & Forest Products Packed Foods & Meat Beverage Trucking Services	Railways Real estate

*1 High carbon-intensity sectors are the following nine sectors in the NZBA guidelines for which setting targets is considered a priority: agriculture, aluminum, cement, coal, commercial and residential real estate, iron & steel, oil & gas, power generation, and transport.

*2 We added three sectors by extracting "iron & steel" and "aluminum" from "metal & mining" and by extracting "cement" from "building materials" in the supplemental guidance for the TCFD Recommendations.

3. Risk management in project finance

SuMi TRUST Bank is cognizant of the fact that financing large-scale development projects may indirectly have a negative impact on the natural environment and local communities. Based on this awareness and in order to introduce a risk management framework, in February 2016 we signed on to the Equator Principles, a set of international private sector guidelines for environmental and social considerations in mainly project finance.

SuMi TRUST Bank currently applies EP4—the fourth revision of the Equator Principles adopted in November 2019—to projects for which it acquired a client mandate after October 1, 2020. With EP4, SuMi TRUST Bank will continue to contribute to the achievement of a sustainable environment and society by making sure that projects take environmental and social considerations into account based on the Equator Principles.

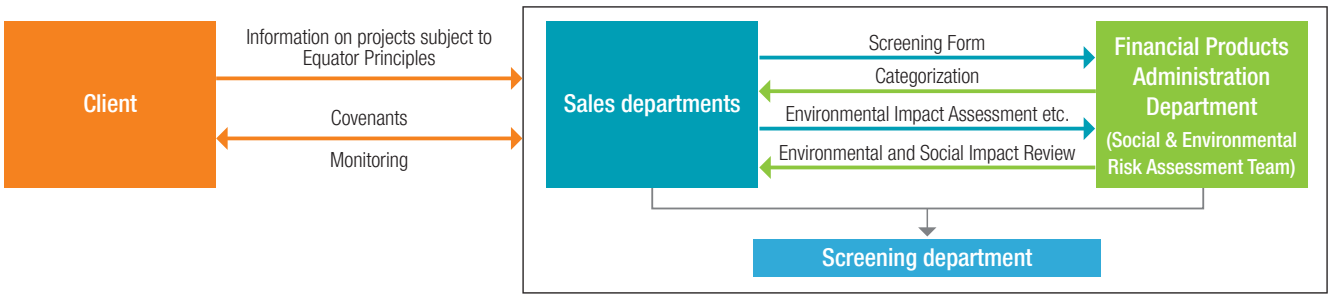
Application of the Equator Principles

ESG/sustainable management is a high-priority sustainability issue (materiality) for the Group, and as a key topic related to this issue of materiality, we take into account how borrowers and investees impact society and the environment. SuMi TRUST Bank incorporates risk management procedures based on the Equator Principles into its project finance decision-making process to ensure that due consideration is given to each project's impact on the natural environment and the local community. In FY2022 (April 1, 2022 to March 31, 2023) there were 25 projects to which we applied the Equator Principles.

The fourth revision (EP4) calls for greater efforts to strengthen commitments to indigenous peoples in developed countries, expand some transactions applicable for refinancing, and address climate change risks. For projects with annual GHG emissions in excess of 100,000t-CO_2, the requirement of a transition risk analysis under TCFD alongside the consideration of alternative proposals, as well as a physical risk analysis for projects expected to generate significant impacts, were added to the items of due diligence.

SuMi TRUST Bank has in place internal operational rules that set out the procedures for evaluating environmental and social impacts based on the framework of the Equator Principles. The Financial Products Administration Department (Social & Environmental Risk Assessment Team) undertakes the assessment of environmental and social impacts for each project.

Systems and Processes for Evaluating Environmental and Social Considerations



Application process:
In accordance with internal operational rules that set out the procedures for evaluating social and environmental considerations, the Equator Principles overseeing department carries out assessments of environmental and social impacts for each project.

Implementing environmental and social impact reviews:
A comprehensive risk assessment is made after reviewing whether the actions on environmental and social considerations taken by the project developer meet the standards called for by the Equator Principles, depending on the industry and the country in which the project is located.

Monitoring compliance:
Compliance with important items is reflected in loan agreements and the compliance thereof is regularly confirmed with the use of project compliance status reports.

Company training programs:
Regular training sessions are provided for employees in departments and sections engaged in sales, assessments, and screening in an effort to foster a thorough understanding of internal operations and raise awareness about environmental and social considerations.

Application of the Equator Principles

Project Finance Cases

	FY2022			
	A	B	C	Total
	3	11	1	15
Sector	**A**	**B**	**C**	**Total**
Mining	0	0	0	0
Infrastructure	1	2	0	3
Oil & Gas	0	0	0	0
Power generation	2	9	1	12
Others	0	0	0	0
Region	**A**	**B**	**C**	**Total**
Americas	2	2	0	4
Europe/Middle East/Africa	1	1	0	2
Asia/Oceania	0	8	1	9
Designated Countries and Non-Designated Countries	A	B	C	Total
Designated Country	2	11	1	14
Non-Designated Country	1	0	0	1
Independent Review	A	B	C	Total
Yes	3	10	0	13
No	0	1	1	2

Project-Related Corporate Loans

	FY2022			
	A	B	C	Total
	7	2	1	10
Sector	**A**	**B**	**C**	**Total**
Mining	1	0	0	1
Infrastructure	1	1	0	2
Oil & Gas	0	0	0	0
Power generation	3	1	0	4
Others	2	0	1	3
Region	**A**	**B**	**C**	**Total**
Americas	3	1	0	4
Europe/Middle East/Africa	2	0	0	2
Asia/Oceania	2	1	1	4
Designated Countries and Non-Designated Countries	A	B	C	Total
Designated Country	1	2	1	4
Non-Designated Country	6	0	0	6
Independent Review	A	B	C	Total
Yes	7	2	0	9
No	0	0	1	1

A: Projects for which there is at least one item that is considered to have a significant impact

B: Projects for which there are no items that are considered to have a significant impact and at least one item that is considered to have a limited impact

C: Projects for which the impact of all items is minor/none

4. Ship finance initiatives

SuMi TRUST Bank has given top priority to meet the varied needs of clients in the shipping industry and steadily provided ship finance for more than 50 years. The shipping market is heavily influenced by mainly global economic fundamentals and supply and demand for vessels, but efforts aimed at decarbonization in the shipping industry have become pressing issues and will most likely alter the future direction of the sector and significantly affect shipping market trends up ahead. The Poseidon Principles has been established by the financial industry for the purpose of supporting decarbonization efforts in the shipping industry. In March 2020, SuMi TRUST Bank has become the first financial institution in Asia to sign on to the principles. As a signatory financial institution to the Poseidon Principles, SuMi TRUST Bank will quantitatively assess global shipping GHG emission reduction efforts in its own ship finance portfolio in line with the GHG emission reduction targets of the International Maritime Organization (IMO)*1 and publish the results as an annual portfolio climate alignment*2 report. As outlined below, the trajectories of the Poseidon Principles were updated in September 2023 in line with the July 2023 revised targets of the IMO and have been applied from the report as of the end of December 2022. As a temporary measure during the transition phase, signatory financial institutions will also report the results as of the end of December 2022 based on the previous trajectories.

*1 The IMO is a United Nations' specialized agency responsible for promoting international cooperation on marine affairs including shipping safety and preventing marine pollution by ships

*2 Portfolio Climate Alignment is based on the trajectory that should be met as a minimum, as defined by the Poseidon Principles

Overview of the Poseidon Principles

As an initiative spearheaded by private financial institutions to align with the GHG reduction strategy* adopted by the IMO, which comprehensively decide GHG reduction targets and the measures for global shipping, to achieve those targets, the Poseidon Principles were established in June 2019 by 11 major global financial institutions that provide ship finance. There are four principles—Principle 1: Assessment of climate alignment; Principle 2: Accountability; Principle 3: Enforcement; and Principle 4: Transparency.

* GHG reduction strategy: This strategy was adopted by the IMO in April 2018 with a vision to reduce GHG emissions from international shipping to zero as soon as possible in this century. Revised targets for the strategy were announced at MEPC 80 in July 2023. Included in the revised concrete reduction targets are (1) targets based on a well-to-wake calculation of life cycle emissions, including those from fuel manufacturing and distribution stages, instead of just the previously used tank-to-wake calculation, (2) the target of net-zero total GHG emissions annually by around 2050, and (3) the adoption of check-points to reduce total annual GHG emissions by 30% (at least 20%) by 2030 compared to 2008, and by 80% (at least 70%) by 2040.

IMO's GHG reduction strategy Revised July 2023

Portfolio climate alignment

In the Poseidon Principles, trajectory values of annual GHG emissions efficiency (GHG emissions per unit of transport) are prescribed for each ship type and size class based on the GHG emissions reduction targets of the IMO's stated aim (adopted in July 2023) of reducing total annual GHG emissions from international shipping to net zero by around 2050. SuMi TRUST Bank compares the annual GHG emission efficiency (actual value) of each ship which SuMi TRUST Bank extends a loan for and is subject to calculation under the Poseidon Principles with the trajectory value in order to calculate the degree of divergence, which is referred to as the vessel climate alignment. We then calculate portfolio climate alignment as required under the Poseidon Principles as a sum of the weighted average of the vessel climate alignment using the balance of loans outstanding for each ship in the Bank's ship finance portfolio. The portfolio climate alignment represents the degree of contribution the Bank is making towards the GHG emissions reduction target in its own ship finance portfolio. A negative or zero alignment score means the portfolio is aligned with the decarbonization trajectory of the Poseidon Principles, whereas a positive score means the portfolio is misaligned.

Trends in portfolio climate alignment (as of end-December each year)

GHG reduction target level (vs. 2008)		2020	2021	2022
Before July 2023 revisions	50% reduction by 2050	(0.8)%	(0.4)%	(4.5)%
After July 2023 revisions	Target: 30% reduction by 2030	—	—	+21.2%
	Minimum*: 20% reduction by 2030	—	—	+16.9%

* GHG emissions reduction target level that should be met as a minimum, as defined by the Poseidon Principles

Chapter 4

Metrics and Targets

List of Key Metrics, Targets and Results

SuMi TRUST Group sets specific metrics and targets to manage according to our strategies related to climate change and the basic policy on risk management in order to monitor the Group's actions to tackle climate change.

The table below shows the key metrics, targets, and results as of the publication of this report.

Metrics	Targets	Results
GHG emissions in OWN GROUP		
Scope 1	FY2030: Net zero	5,411t-CO_2e (FY2022)
Scope 2		4,586t-CO_2e (FY2022)
GHG emissions in investment and loan portfolios	2050: Net zero	
Power generation sector (emission intensity)	FY2030: 138 to 173g-CO_2e/kWh	243g-CO_2e/kWh (FY2021)
Oil & Gas sector (emission reduction rate)	FY2030: (13)% – (31)% (compared to March 2021)	(3.6)% (FY2021)
Real estate sector (emission intensity)	FY2030: 34 to 41kg-CO_2e/m^2	64kg-CO_2e/m^2 (FY2021)
Shipping sector (Portfolio Climate Alignment)	FY2030: 0% or less	(0.4)% (FY2021)
GHG emissions in asset management portfolio		
Sumitomo Mitsui Trust Asset Management	2030: Cut emission intensity in half compared to 2019 for 50% of all assets under management*1 2050: Net zero	(8.7)% (compared to June 2021) (as of June 2023)
Nikko Asset Management	2030: Cut emission intensity in half compared to 2019 for 43% of all assets under management*2 2050: Net zero	(22.8)% (compared to the end of December 2019) (as of December 2022)
Cumulative amount of sustainable financing	Cumulative amount from FY2021 to FY2030: ¥15 trillion	Approx. ¥2 trillion (end of FY2022)
Loan balance for coal-fired power generation	FY2040: Zero	Approx. ¥154.0 billion (end of FY2022)
Exposure of carbon-related assets	—	¥16.3 trillion (end of FY2022)

*1 Approximately ¥43 trillion, or 50% of the total of ¥85 trillion in assets under management as of the end of June 2021

*2 Approximately ¥13 trillion, or 43% of the total of ¥31 trillion in assets under management as of the end of December 2021

GHG Emissions in OWN GROUP

<SuMi TRUST Group Carbon Neutral Commitment>
(reduction in OWN GROUP's GHG emissions)

Achieve net-zero greenhouse gas (GHG) emissions in SuMi TRUST Group by 2030.

1. Changes in OWN GROUP's GHG emissions

We are striving to reduce the environmental burden of both the power, gas, and other energy we use for our business activities, and the GHG emissions caused by our business activities. To achieve net-zero emissions, it is important to comprehensively and accurately understand and analyze our input/output situation as much as possible and to conduct ongoing reviews.

In FY2022, OWN GROUP's annual emissions amounted to 9,997t-CO_2e, a reduction of approximately 57% from the previous fiscal year. This is largely attributable to reductions at SuMi TRUST Bank, which will be discussed later.

For this time TCFD disclosure, we measured and totaled OWN GROUP's GHG emissions (Scope 1, 2) as well as a portion of Scope 3 emissions at branch offices in Japan of SuMi TRUST Bank. In addition, we measured and totaled emissions in accordance with the GHG Protocol and obtained third-party certification for the first time for a portion of GHG emissions (Scope1, 2) for SuMi TRUST Bank (non-consolidated). Going forward, we will strive to improve the accuracy of our analysis by using better qualitative and quantitative data and by improving our measurement methods.

Changes in OWN GROUP's GHG emissions

Measurement items		Unit	FY2018	FY2019	FY2020	FY2021	FY2022
GHG emissions		t-CO_2e	35,703	33,675	32,191	23,763	9,997
	Scope 1 (direct emissions)	t-CO_2e	4,376	4,432	4,307	4,225	5,411
	Scope 2 (indirect emissions)	t-CO_2e	31,238	29,243	27,884	19,538	4,586

Calculation period: Generally April 2018 to March 2023
Calculation scope: Domestic and foreign offices of Sumitomo Mitsui Trust Holdings, Inc. and the Group's consolidated subsidiaries (excluding equity method affiliates)
Calculation method: The calculations for SuMi TRUST Bank's domestic offices were done in compliance with the Act on Rationalizing Energy Use. Regarding power, in Scope 2, the adjusted emission factor of each domestic and foreign business operator was generally used to calculate the emissions, and we considered the GHG reduction effects by the corporate PPAs (long-term agreements to purchase renewable energy) introduced at SuMi TRUST Bank's domestic offices as well as non-fossil certificate procurement. Note that GHG emissions from gasoline use are included in Scope 1 (direct emissions) from FY2022.

2. SuMi TRUST Bank's GHG emissions (branch offices in Japan)

For SuMi TRUST Bank, which accounts for approximately 90% of OWN GROUP's total Scope 1, 2 emissions, we use a common system to calculate energy consumption and GHG emissions at all domestic offices, in compliance with the Act on Rationalizing Energy Use ("the Energy Conservation Act") implemented in Japan.

The Bank's annual emissions (based on the adjusted emission factor) in FY2022—considering the procurement of renewable energy—amounted to 7,352t-CO_2e, approximately 65% reduction compared to 21,151t-CO_2e in the previous fiscal year. This was largely attributable to the fact that all electricity used at all branch offices in Japan now comes from renewable energy sources through offsets by corporate PPAs and non-fossil certificate.

In addition, we are promoting energy-saving measures centered on those tailored to seasonal characteristics, and will continue to make proactive efforts to reduce total energy consumption (branch offices in Japan).

Changes in SuMi TRUST Bank's GHG emissions (branch offices in Japan)

GHG emissions				FY2018	FY2019	FY2020	FY2021	FY2022		
								Total	SuMi TRUST Bank (non-consolidated)	Group companies
Scope 1 (direct emissions)	City gas		t-CO_2e	4,280	4,336	4,243	4,203	3,529	3,214	315
	LP gas			0	0	0	0	0	0	0
	Kerosene			0	0	0	0	0	0	0
	Heavy oil (JIS Class A)			82	85	54	8	60	57	3
	Light oil			0	0	0	0	0	0	0
	Gasoline			—	—	—	—	1,418	1,418	—
	Chlorofluorocarbons			—	—	—	—	27	27	—
	Total			4,362	4,421	4,297	4,211	5,034	4,716	318
Scope 2 (indirect emissions)	Emissions based on basic emission factor	Electricity	t-CO_2e	26,716	24,527	23,294	21,721	20,751	19,211	1,540
		Warm water		303	323	354	388	310	301	10
		Cold water		1,701	1,621	1,629	1,548	1,544	1,493	51
		Steam		0	0	0	0	0	0	0
		Others		423	436	455	482	463	453	10
		Total		29,142	26,906	25,732	24,139	23,069	21,458	1,611
	Emissions based on adjusted emission factor			28,502	26,419	25,198	16,940	2,318	2,247	71
Scope 1, 2 total	Emissions based on basic emission factor		t-CO_2e	33,505	31,327	30,030	28,350	28,103	26,174	1,929
	Emissions based on adjusted emission factor		t-CO_2e	32,864	30,840	29,495	21,151	7,352	6,963	389
Emission intensity (GHG emissions per floor space)	Emissions based on basic emission factor		t-CO_2e/ 1,000 m^2	91	86	82	78	77	78	62
	Emissions based on adjusted emission factor		t-CO_2e/ 1,000 m^2	89	84	81	58	20	21	13

Calculation scope: Domestic SuMi TRUST Bank facilities covered by the Energy Conservation Act

Calculation method: In accordance with the GHG Protocol, SuMi TRUST Bank's (non-consolidated) GHG emissions are measured and totaled, using the emissions of Group companies occupying SuMi TRUST Bank's domestic facilities by classifying based on the floor space used

Changes in the amount of energy used by SuMi TRUST Bank (branch offices in Japan)

Energy use			FY2018	FY2019	FY2020	FY2021	FY2022
Total floor space		1,000 m^2	370	365	366	363	365
Scope 1 (direct emissions)	City gas	1,000 m^3	1,869	1,893	1,890	1,954	1,640
	LP gas	t	0	0	0	0	0
	Kerosene	kl	0	0	0	0	0
	Heavy oil (JIS Class A)	kl	30	31	20	2	22
	Light oil	kl	0	0	0	0	0
	Gasoline	kl	—	—	—	—	611
Scope 2 (indirect emissions)	Electricity	1,000 kWh	56,003	54,753	53,940	52,370	51,859
	Warm water	GJ	5,622	5,934	6,443	7,070	5,731
	Cold water	GJ	32,509	31,235	31,816	30,401	32,284
	Steam	GJ	2,611	2,758	2,947	3,211	3,148
	Others	GJ	4,809	4,889	5,033	5,242	4,975
Total energy use		MWh	191,375	188,100	186,174	181,678	177,258

Calculation scope: Domestic SuMi TRUST Bank facilities covered by the Energy Conservation Act. Some facilities are also occupied by Group companies including Sumitomo Mitsui Trust Asset Management

Calculation method: Calculated in compliance with the calculation method in the Energy Conservation Act

Scope 3 measurement and totals (FY2022)

We measured and totaled GHG emissions for six categories of Scope 3 in order to understand GHG emissions across SuMi TRUST Bank's supply chain. Going forward, we will work to enhance our information disclosures by covering more categories and expanding the scope of our calculations to include Group companies.

	Category	Calculation item	Calculation method	GHG emissions ($t\text{-}CO_2e$)
1	Purchased products and services	20 items including products and services	Average consumption method (amount)	86,026
2	Capital goods	Capital investment (building equipment, software, etc.)	Average consumption method (amount)	180,641
3	Fuel and energy activities not included in Scope 1, 2	Electricity usage, city gas, etc.	Average data method	4,701
5	Waste generated from business*1	Amount of waste generated (kg)	Waste type-specific method (waste volume)	252
6	Business trips*2	Transportation, domestic and overseas accommodation fees	Consumption-based method (amount)	3,671
	Travel expenses for assignments*3	Domestic and overseas assignments, training and study abroad programs	Consumption-based method (amount)	2,792
7	Employee commute*4	Commuting expenses	Amount base	3,352

Calculation scope: Covers SuMi TRUST Bank's business activities in Japan.

Calculation method: Based on the Ministry of the Environment's "Emission Intensity Database for Calculating Greenhouse Gas Emissions, etc. of Organizations in Their Supply Chain."

*1 Emissions were calculated by multiplying the amount of waste generated by SuMi TRUST Bank's seven offices by an emission factor from the Ministry of the Environment's emissions intensity database. Total emissions were calculated by dividing the emissions by the number of employees at the seven offices and multiplying by the number of SuMi TRUST Bank employees.

*2 Calculated from domestic and overseas business travel expenses of domestic offices. For transportation expenses, emissions are calculated by classifying business trip transportation expenses by mode of transportation used and multiplying by the emission factor from the Ministry of the Environment's emission intensity database. For accommodation expenses, emissions are calculated by using the number of days stayed based on the accommodation expenses and multiplying by the emission factor from the Ministry of the Environment's emission intensity database.

*3 Using emission factors from the Ministry of the Environment's emission intensity database, calculate the average emission factor from the emission factors of transportation and accommodation used for each of the following travel expense categories: (1) domestic assignment, (2) overseas assignment, and (3) training/study abroad programs, and multiplying the travel expense for each assignment category by the corresponding average emission factor.

*4 All transportation used for commuting is assumed to be by rail, and emissions are calculated by multiplying commuting expenses by the emission factor from the Ministry of the Environment's emission intensity database.

GHG Emissions in Investment and Loan Portfolios

<SuMi TRUST Group Carbon Neutral Commitment>

Achieve net-zero GHG emissions in investment and loan portfolios by 2050.

<2030 intermediate reduction targets>

Power generation sector	138 - 173g-CO_2e/kWh	Emission intensity
Oil & Gas sector	(13)% to (31)% compared to FY2021	Absolute emissions
Real estate sector	34 - 41kg-CO_2e/m^2	Emission intensity
Shipping sector	0% or less	Portfolio Climate Alignment

1. Selecting sectors for setting intermediate reduction targets

SuMi TRUST Group has selected the iron & steel and automotive & components sectors to set intermediate reduction targets based on the NZBA framework, in addition to the power generation, oil & gas, real estate, and shipping sectors, which we had already set targets for. In terms of GHG emissions (financed emissions) of SuMi TRUST Bank's investment and loan portfolio, these sectors account for about 94% of the nine NZBA sectors.

Flow of setting Target

Nine NZBA-specified sectors needing targets

- Power generation
- Real estate
- Iron & Steel
- Cement
- Agriculture
- Oil & Gas
- Transport
- Coal
- Aluminum

Evaluate sectors by "degree of transition risk" × "size of exposure"

Sector heat map risk rank	Exposure rank: Small	Medium	Large
Very High	Coal	**Iron & Steel**	**Power generation, Oil & Gas**
High	Cement	Chemistry, Passenger Airplane	**Automotive & components, Shipping**
Middle	Metals & Mining (expect Steel and Aluminum), Aluminum		Capital goods
Low	Air cargo, Agriculture, Construction materials (expect Cement)	Paper & Forest Products, Packed Foods & Meat, Beverage, Trucking Services	Railways, **Real estate**

Select target sectors based on the climate change transition risk sector heat map* (->p. 61)

Targets set

- Power generation (Oct. 2022)
- Real estate (Oct. 2023)
- Oil & Gas (Feb. 2023)
- Shipping (Oct. 2023)

Targets to be set

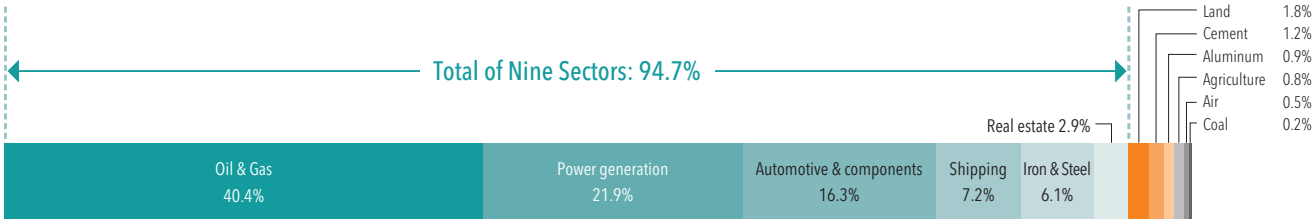
- Iron & Steel
- Automotive & components

Ongoing discussions

- Transport (Air, Land)
- Cement
- Coal
- Aluminum
- Agriculture

* Set in FY2022 to identify important sectors for transition risk management associated with climate change

Percentage of financed emissions in nine NZBA sectors in SuMi TRUST Bank by sector (total of Scope 1-3, as of March 31, 2023)



2. Setting 2030 intermediate reduction targets

The NZBA calls for members to set GHG emission reduction targets by sector using science-based scenarios, such as those provided by the International Energy Agency (IEA), and we plan to set targets in accordance with these scenarios. Based on this policy, we set 2030 intermediate reduction targets for the power generation sector in 2022, followed by the oil & gas, real estate, and shipping sectors in 2023.

Power generation sector (set in October 2022)

- Since GHG emissions are relatively high and it is one of the key industries to promoting decarbonization, we used an emissions intensity (GHG emissions per unit of electricity generated) as the measuring indicator.
- We set intermediate reduction targets within the range set by the Paris Agreement to stay well below +2 degrees Celsius and limit global warming to +1.5 degrees Celsius.

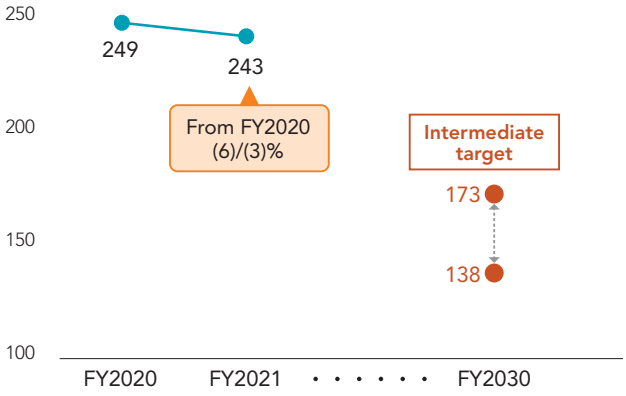
Intermediate Target for 2030

Benchmark year	● FY2020 (March 31, 2021)
Target investments and loans	● Loan, acceptance and guarantee, corporate bonds, and strategic shareholdings (including unused pledged lending)
Target value chain / scope	● Scope1 of power generating businesses which accounts for the majority of emissions
Measuring indicator	● Emission intensity (g-CO_2e/kWh)
Calculation method	$\sum \left(\text{Emission intensity of a client} \times \frac{\text{Balance of investments and loans to a client}}{\text{Balance of investments and loans to the sector}} \right)$
Target value (benchmark scenario)	● 2030 138 – 173g-CO_2e/kWh (IEA NZE*1) (IEA SDS*2)

*1 A scenario which limits the rise in global mean temperature to 1.5°C with 50% or more probability, published by the IEA (International Energy Agency)

*2 A scenario which limits the rise in global mean temperature to less than 2 (or 1.8)°C with 66% or more probability, published by the IEA

Results in FY2021 (g-CO_2e/kWh)



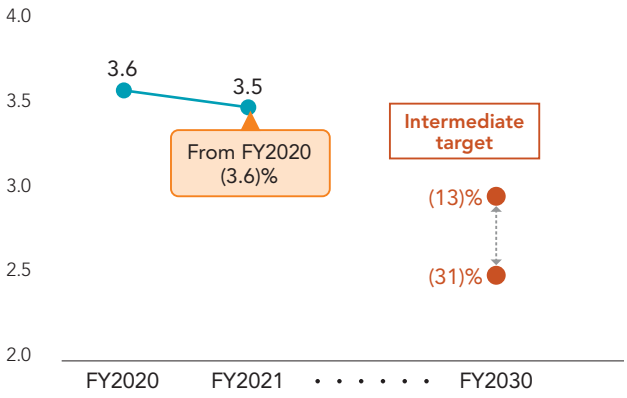
Oil & Gas sector (set in February 2023)

- Since reducing fossil fuel-derived GHG emissions is essential to achieving carbon neutrality, we decided to use absolute emissions as the measuring indicator.
- We set intermediate reduction targets within the range set by the Paris Agreement to stay well below +2 degrees Celsius and limit global warming to +1.5 degrees Celsius.

Intermediate Target for 2030

Benchmark year	● FY2020 (March 31, 2021)
Target investments and loans	● Lending, acceptance and guarantee, corporate bonds, and strategic shareholdings (including unused pledged lending) ● This calculation covers approximately 80% of the applicable investments and loans.
Target value chain / scope	● Scope 1, 2, 3 of upstream production businesses
Measuring indicator	● Absolute emissions (Mt-CO_2e)
Calculation method	$\sum$ (Emissions From a client × Balance of investments and loans to a client / Funds raised by a client)
Target value (benchmark scenario)	● 2030 (13) – (31)% from FY2020 (IEA SDS) (IEA NZE)

Results in FY2021 (Mt-CO_2e)



Concept for Setting Target for 2030

Well below 2°C level "2°C target"	● Referenced the CO_2 (including CO_2 equivalent of methane produced in the production process) reduction rate (13)% of the IEA SDS scenario as of 2030, with 2020 as the benchmark year.	1.5°C target	● After achieving the IEA SDS scenario level on the left, support client transitions through engagement, aiming for a reduction rate (31)% consistent with the IEA NZE scenario.

Changes to the method of calculating financed emissions when absolute emission is used as the measuring indicator

For the purpose of evaluating and disclosing client GHG emission reduction activities and changes in investment and loan portfolios as the main factors, regardless of changes in the client's share price valuation, we revised the calculation for funds raised by a client as part of the attribution factor to reflect the net asset value of the client's financial statements when calculating financed emissions. As a result, the oil & gas sector's financed emissions results for the benchmark year changed from 5.8Mt-CO_2e to 3.6Mt-CO_2e.

Note that the PCAF Standard, which defines methods for measuring financed emissions and other factors, generally uses the market capitalization. The reduction in financed emissions in 2021 resulting from this change in calculation method was (3.6)%, but when using the conventional calculation that incorporates the market capitalization, we achieved an approximately 20% reduction from the 5.8Mt-CO_2e of the benchmark year.

Client GHG emissions × **Attribution factor**

$$\frac{\text{Balance of investments and loans to a client}}{\text{Funds raised by a client (interest-bearing debt + net assets)}}$$

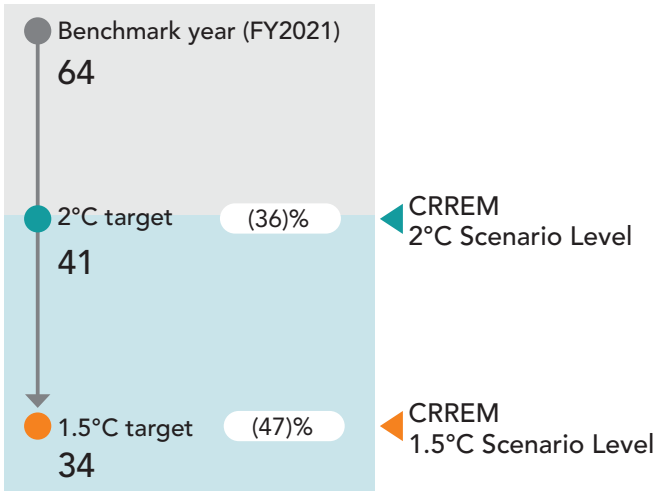
Market capitalization
➡ Changed from market capitalization to **net assets shown on financial statements**

Real estate sector (set in October 2023)

- For emissions from property use, we set an emission intensity (kg-CO_2e/m^2) target, which indicates the emission efficiency (Scope 1, 2, and 3-13) of owned properties, including leased properties.
- Targets commercial real estate. For residential real estate (housing loans), we will continue to ensure the availability and quality of GHG emissions data and look into adding a target.

Intermediate Target for 2030

kg-CO_2e/m^2 (%: rate compared to the benchmark year)



Concept for Setting Target for 2030

Well below 2°C level "2°C target"	● Refer to 2°C scenario (41kg-CO_2e/m^2) of CRREM*1 as of 2030 from FY2021 as a baseline*2
1.5°C target	● Achieve 2°C scenario, and furthermore support clients in transition through engagements and aim to achieve the level (34kg-CO_2e/m^2) which fit the CREEM 1.5°C scenario

Major Premise of Calculating Emission Intensity

Target Value Chain	● Use own real property for commercial use including rental
Target scope	● Scope1, 2, 3 category13 (assets for lease)
Target investments and loans	● Loan, acceptance and guarantee, corporate bonds and strategic shareholdings (including unused pledged lending) ● Cover ratio: approx. 80%
Calculation Method	$\sum \left(\text{Emission intensity of a client} \times \frac{\text{Balance of investments and loans to a client}}{\text{Balance of investments and loans to the sector}} \right)$

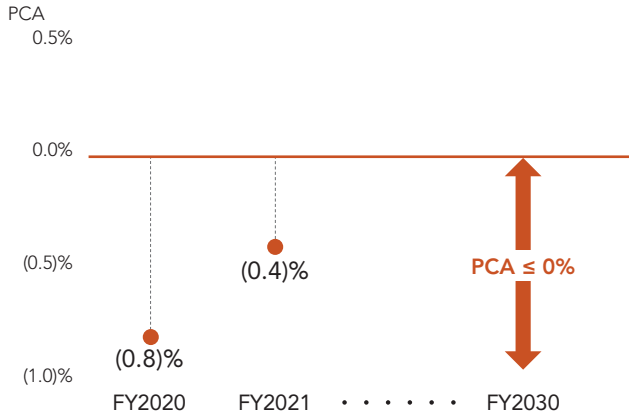
*1 Carbon Risk Real Estate Monitor (CRREM) is a project set to support evaluation and management of climate change related risks in the real estate sector, which provides a pathway which aligns with 1.5 and 2°C targets of the Paris agreement

*2 The latest version of CRREM scenarios (v2) published in January 2023 does not include a 2°C scenario. Accordingly, we estimated the 2°C scenario in v2 by calculating the deviation between the 1.5°C and 2°C scenarios based on v1, and multiplying it by the 1.5°C scenario in v2.

Shipping sector (set in October 2023)

- We set emissions intensity (g-CO_2/ton-mile), which indicates the emission efficiency of fuel consumption (Scope 1), as the indicator for emissions from ship operations in the marine transportation business, following the guidance of the Poseidon Principles, which we are a signatory of.
- The target reference scenario will be updated to reflect the revision of the Poseidon Principles.

Intermediate Target for 2030



*1 The IMO adopted "Net-Zero by around 2050" in July, 2023*2. In September of the same year, the Poseidon Principles adopted the IMO's revised targets, but the reference scenario has not yet been published. When it is published, we will update the reference scenario for the reduction targets

*2 At the 80th Marine Environment Protection Committee meeting held in London in early July 2023, the IMO GHG Reduction Strategy adopted in 2018 was revised and the GHG emissions reduction target from international marine transportation was further enhanced to Zero GHG emissions by around 2050

*3 Tank-to-Wake (TtW): CO_2 emission from a ship during operation

Concept for Setting Target for 2030

Evaluate Alignment with Poseidon Principles	● The principles refer to the scenario*1 which aims to reduce the total amount of GHGEs by 50% by 2050 from 2008, and we aim to achieve the emission efficiency to fit it ● We changed the reference scenario, according to the change of the reference scenario of the principles to achieve net-zero by around 2050

Major Premise of Calculating Emission Intensity

Target value chain		● Shipping services in the shipping industry
Target scope		● Scope1, fuel consumption by ships during voyage (TtW*3)
Target investments and loans		● Loans secured with completed 5,000 t or heavier ships for overseas voyage under the IMO management ● Cover ratio (collection ratio of emission data): approx. 85%
Calculation method	PCA (Portfolio Climate Alignment)	$\sum \left(\text{Each ship's VCA (\%)} \times \frac{\text{Balance of loans to each ship}}{\text{Total balance of loans to target ships}} \right)$
	VCA*4 (Vessel Climate Alignment)	$\frac{\text{Each year's result of } CO_2 \text{ emission efficiency per ship} - \text{Each year's baseline of } CO_2 \text{ emission efficiency per ship}}{\text{Each year's baseline of } CO_2 \text{ emission efficiency per ship}}$

*4 The baseline of annual CO_2 emission efficiency (CO_2 emission per unit transport) by ship class and by ship size is set based on the IMO's reference scenario. VCA shows the deviation ratio (%) of the results of annual CO_2 emission efficiency of each target ship to which we extend loans from the baseline

3. GHG Emissions in Investment and Loan Portfolios

Based on the PCAF Standard*1*2 recommended in the TCFD recommendations, the measurement of financed emissions as of March 31, 2023 was conducted according to the policy in the table below. Note that Scope 1 for sovereign bonds has been added from this time onward in accordance with the revision of the PCAF Standard.

Condition item	Condition details
Exposure	Loans, acceptances and guarantees, corporate bonds, and strategic shareholdings
Assets	Investments in and loans to domestic corporations, investments in and loans to overseas corporations, project finance, ship finance, real estate non-recourse loans, housing loans, and sovereign bonds
Sectors	Classified into 21 carbon-related asset sectors based on sectors for which the NZBA requires disclosure of emissions as well as items for which disclosure is recommended in the TCFD Recommendations, non-carbon-related assets, housing loans, and sovereign bonds*3
Reference dates	Investment and loan balance: As of the end of March 2023 Borrower and investee sales and financial data: In principle, the latest financial period of each of SuMi TRUST Bank's borrowers and investees up to the end of March 2023

*1 PCAF: The Partnership for Carbon Accounting Financials is an international initiative established in 2015, primarily comprised of European financial institutions. The organization develops GHG emissions measurement methodologies for all asset classes, including investments and loans, and provides support for data preparation

*2 PCAF Standard: The Global GHG Accounting and Reporting Standard for the Financial Industry is a standard for measuring emissions of 15 categories in Scope 3 by asset class, published by PCAF in 2020. The 2nd Edition was announced in 2022

*3 Classification is based on GICS codes (Global Industry Classification Standards). For borrowers and investees whose GICS codes cannot be identified by external vendors, SuMi TRUST Bank identified the classification using the Japan Standard Industrial Classification maintained in-house as a reference

(1) Measurement results

As a result of the measurement, the total value of financed emissions was 180.6 million t-CO_2e, and the coverage rate in monetary terms*1 was 94%.

Financed Emission (FE) Results

Sectors	FE*2 Scope1, 2 (million t-CO_2e)	FE Scope 3 (million t-CO_2e)	FE measurement balance (trillions of yen)	Data quality score*2 Scope1, 2	Data quality score Scope 3
Power generation	12.7	6.7	2.2	2.6	2.7
Oil & Gas	8.8	27.0	0.8	2.3	2.4
Coal	0.1	0.1	0.1	4.0	4.0
Air cargo	0.1	0.1	0.1	2.5	2.8
Passenger Airplane	0.2	0.1	0.1	2.0	2.0
Shipping	4.5	1.9	1.3	1.6	1.5
Railways	0.4	0.7	0.9	2.3	2.6
Trucking Services	0.3	0.2	0.1	3.6	4.0
Automotive & components	0.4	14.1	1.1	1.5	1.6
Metals & Mining (expect Steel and Aluminum)	1.2	0.7	0.1	2.9	3.4
Aluminum	0.1	0.6	0.1	1.4	1.4
Iron & Steel	3.4	1.9	0.3	1.7	2.3
Construction materials (expect Cement)	0.1	0.1	0.1	4.0	4.0
Chemistry	2.0	3.3	0.6	1.9	1.9
Cement	0.9	0.1	0.1	1.6	1.7
Capital goods	1.6	60.0	2.7	1.9	2.2
Real estate	0.2	0.9	3.4	2.8	2.5
Beverage	0.1	0.4	0.1	2.3	2.3
Agriculture	0.5	0.2	0.1	4.0	4.0
Packed Foods & Meat	1.4	2.3	0.2	2.5	2.7
Paper & Forest Products	0.5	0.5	0.1	2.0	2.5
Housing loans	1.4	—	10.3	4.0	—
Sovereign bonds	5.4	—	3.3	1.1	—
Non-carbon related	2.1	10.3	6.0	2.4	2.6
Total	48.3	132.3	33.6	—	—

*1 Coverage rate: calculated by using the total investments and loans related to all covered assets as the denominator and the total investments and loans related to all measured financed emissions with a PCAF data quality score of 4 or higher as the numerator

*2 For details on how financed emissions were measured as well as PCAF data quality scores, see the Appendix

(2) Measurement-related assumptions and points to note

- We are aware that the current situation regarding the disclosure status of borrowers and investees varies widely, with disclosures unavailable for some companies, others providing only partial disclosures and others still in the process of developing more sophisticated measurement methods. Accordingly, emission values may change substantially in the future as disclosures become more sophisticated.
- In cases where we cannot obtain disclosures from borrowers and investees, we make estimates based on emission factors provided by the PCAF, IEA, etc., in accordance with the PCAF Standard. Note that the emission factors provided by PCAF were updated in March 2023, and the estimates are based on the updated emission factors beginning with the current measurement. As such, the emissions tend to be higher than before the update.
- The emission factor used is subject to change in order to achieve the most appropriate method of measurement in light of the business characteristics. In such cases, we will clearly state the changes and publish our measurement results.
- In this measurement, the number of borrowers and investees with disclosure data available for collection increased thanks to the progress in the sophistication of GHG emissions disclosure by the borrowers and investees, as well as the expanded scope of data utilized by external vendors at SuMi TRUST Bank. In particular, with regard to Scope 3, the estimates were limited to only the upstream portion utilizing emission factors from the PCAF database in last year's measurement for many borrowers and investees, but as we were able to obtain upstream and downstream disclosure data from more borrowers and investees, Scope 3 emissions increased (50.5 million t-CO_2e in the last fiscal year, 132.3 million t-CO_2e in this fiscal year). Since emissions are recorded in duplicate for Scope 3, emissions may change significantly in the future as Scope 3 disclosures continue to evolve.
- Starting from this measurement, we have changed the method of determining sectors based on a consolidated parent company basis as a general rule.
- Currently, comparisons with previous years need to be made with caution, as the results of financed emissions measurements can vary significantly owing to developments in the information disclosed by borrowers and investees, changes in the emission factors used for estimation, changes in measurement methods, and other factors.

GHG Emissions in Asset Management Portfolios

Sumitomo Mitsui Trust Asset Management and Nikko Asset Management participate in the NZAMI, an international initiative of asset management companies aimed at the achievement of net-zero GHG emissions by investee companies by 2050.

To achieve this 2050 target, both companies set 2030 intermediate reduction targets in FY2022. We will continue to conduct engagement activities while striving to increase the sophistication of our operations to help achieve a decarbonized society.

	Emission intensity (t-CO_2e/million USD)	Reduction rate
Sumitomo Mitsui Trust Asset Management*1	112.2*3	(8.7)%
Nikko Asset Management*2	65.4*4	(22.8)%

*1 Emission intensity as of June 2023. Reduction rate compared to June 2021

*2 Emission intensity as of December 2022. Reduction rate compared to December 2019

*3 Calculated using the following formula

$$\sum_{n}^{i}\left[\frac{\text{Market value of investment } i}{\text{Market value of portfolio}} \times \frac{\text{GHG emissions of investees } i}{\text{Sales of investees } i}\right]$$

*4 Calculated using the following formula EVIC: Enterprise Value Including Cash

$$\frac{\sum_{n}^{i}\left[\frac{\text{Market value of investment } i}{\text{EVIC of investees } i} \times \text{GHG emissions of investees } i\right]}{\text{Market value of portfolio}}$$

Total Amount of Cumulative Sustainable Finance

Sustainability is an integral part of the Group's management and is increasingly emphasized in all aspects of our business. Accordingly, in each of our business areas, we are incorporating it into our strategy with an ESG and SDGs perspective as a growth strategy.

In FY2021, SuMi TRUST Bank set a long-term sustainable finance target of total ¥5 trillion (including ¥3 trillion in the environmental field) covering the ten-year period from FY2021 to FY2030. With the accelerating expansion of need for funds related to sustainable finance and environmental/climate change, we revised our target to total ¥10 trillion in FY2022, including ¥2.5 trillion from impact equity investments, and further expanded it to a cumulative total of ¥15 trillion in FY2023. As a result of active efforts related to project finance for renewable energy and Positive Impact Finance, etc., our result at the end of March 2023 was about ¥2 trillion (¥3 trillion as of September 2023). By actively supplying funds for the environmental and social fields, we will continue solving climate change and other environmental and social issues as we work with our clients to contribute to the achievement of a sustainable society.

	FY2030 target	Cumulative amount (FY2022)
Sustainable finance	¥15 trillion	Approx. ¥2 trillion
Positive Impact Finance		Approx. ¥354.5 billion
Impact equity investments		Approx. ¥28 billion

The scope of sustainable finance covers financing for businesses and clients that contribute to resolving environmental and social issues based on international standards such as the Green Bond Principles and the Social Bond Principles. This includes loans, syndicated loans, fixed income investment services, fund investments, financial advisory services, trustee services, impact equity investments, etc.

Category	Type	Examples of sustainable finance
Sustainable finance	Green finance	✔ Businesses that adapt to, or mitigate, climate change. For example, renewable energy, energy efficiency improvement, and green buildings
	Social finance	✔ Employment creation, poverty reduction, nurturing of startup firms, regional revitalization, basic infrastructure like public transport and water supply, and essential services such as hospitals and schools
	Positive Impact Finance (PIF)	✔ Loans with unspecified use of funds to comprehensively analyze and evaluate the impact of corporate activities on the environment, society, and the economy, and to provide ongoing support for such activities. Characterized by leveraging the degree of contribution to the achievement of sustainable development goals as an evaluation indicator, and supporting activities through monitoring and engagement based on disclosed information.
	Sustainability-linked loans (SLLs)	✔ Loans with unspecified use of funds that provide incentives to achieve sustainability performance targets (SPTs) by setting KPIs and SPTs that are aligned with sustainability goals as defined in the borrower's management strategy, and linking loan terms to the borrower's performance against the SPTs.
	Transition finance	✔ Businesses that help transition to a decarbonized society
	Impact equity investment	✔ Businesses that help solve environmental problems and social issues
	Other	✔ Other businesses that help solve environmental problems and social issues

Loan Balance for Coal-Fired Power Generation

In March 2018, SuMi TRUST Bank adopted a general policy of no longer providing project loans for new coal-fired power generation projects while also announcing the intention to reduce the project loan balance to 50% compared to the fiscal year ended in March 2020 by FY2030 and to reduce the balance to zero by FY2040.

Later, in October 2022, SuMi TRUST Bank also adopted a general policy of no longer providing corporate loans for coal-fired power generation if the funds are used for new equipment installation or expansion, and set a target to reduce the balance to zero for both project and corporate loans (if the funds are used for new equipment installation or expansion) by FY2040.

However, to make progress towards the realization of a decarbonized society, we will continue to support the funding needs of borrowers related to their transition to decarbonization.

Results and targets of balance of loans for coal-fired power generation (total credit basis)

Loan balance for coal-fired power generation	FY2019	FY2021	FY2022	FY2030 (target)	FY2040 (target)
Project finance	¥133.8 billion	¥142.7 billion	Approx. ¥140 billion	Half compared to FY2019	Zero
Corporate finance (new/expansion)	—	¥20.1 billion	Approx. ¥14 billion	—	Zero

Exposure of Carbon-Related Assets

SuMi TRUST Group monitors exposure to carbon-related assets* as a metric for understanding climate change risk based on the TCFD Recommendations.

Our exposure to carbon-related assets as of the end of March 2023 amounted to ¥16.3 trillion, which was 41.6% of our credit exposure in all sectors. In line with the NZBA framework, we have established intermediate reduction targets for the power generation, oil & gas, real estate, and shipping sectors, and plan to set targets for the iron & steel and automotive sectors by September 2024. In addition, we have also created specific transition plans for the power generation and oil & gas sectors. In addition to the above intermediate reduction targets and specific transition plans, we will incorporate our recently established sector-specific climate change transition risk heat map (->p. 61), etc. to promote actions aimed at achieving net-zero GHG emissions from our investment and loan portfolios while also continuing to monitor our exposure and appropriately manage our exposure concentration risk.

* Exposure to carbon-related assets: We define it as our credit exposure to sectors classified as carbon-related assets (although this excludes independent power producers of renewable-energy). The calculation scope includes loans, acceptances and guarantees, commitment lines, etc. of SuMi TRUST Bank and Sumitomo Mitsui Trust Bank (Thai) PCL

Carbon-related asset exposure as of the end of March 2023

Sectors	Exposure (trillions of yen)	Concentration ratio
Power generation	2.4	6.2%
Renewable energy	1.0	2.5%
Oil & Gas	1.3	3.3%
Coal	0.1	0.1%
Energy subtotal	**3.7**	**9.5%**
Air cargo	0.1	0.1%
Passenger Airplane	0.5	1.2%
Shipping	1.5	3.8%
Railways	1.0	2.4%
Trucking Services	0.2	0.4%
Automotive & components	1.3	3.3%
Transport subtotal	**4.4**	**11.2%**
Metals & Mining (expect Steel and Aluminum)	0.2	0.4%
Aluminum	0.1	0.2%
Chemistry	0.6	1.5%
Construction materials (expect Cement)	0.1	0.1%
Capital goods	3.2	8.1%
Real estate	4.3	10.9%
Iron & Steel	0.3	0.8%
Cement	0.1	0.1%
Materials and buildings subtotal	**8.7**	**22.1%**
Beverage	0.1	0.3%
Agriculture	0.1	0.1%
Packed Foods & Meat	0.2	0.5%
Paper & Forest Products	0.1	0.3%
Agriculture, food, and forest products subtotal	**0.5**	**1.2%**
Total for the above sectors	**17.2**	**44.1%**
Carbon-related asset exposure*1	**16.3**	**41.6%**
Total for all sectors*2	**39.1**	**100.0%**

*1 Total for the above sectors excluding amounts related to renewable energy

*2 Total amounts of loans, acceptances and guarantees, commitment lines, etc. of SuMi TRUST Bank and Sumitomo Mitsui Trust Bank (Thai) PCL

Postscript

Climate change is one of the most significant environmental problems that threaten the persistence of the global economy and society, and our group have faced it as a prioritized social issue to address.

We announced the Carbon Neutral Commitment in October 2021 and has promoted various efforts to fulfill it this fiscal year, as shown in this report.

The significance to tackle climate change and the necessity to accelerate such efforts was recognized again in COP28 in November 2023, while unprecedented natural disasters occurred, and prolonged energy shortage caused by the Ukrainian crisis is getting more serious.

Our Group will continue to engage in sincere discussions with stakeholders and contribute to the realization of a decarbonized society for the next 100 years by leveraging the "Power of Trust."

As for information disclosure in line with the TCFD recommendation, we recognize the level of the best practices is further elevating. We will receive feedback from stakeholders, accelerate our approach to climate change issues and sophisticate information disclosure.

Thank you for your continuous cooperation.

Future Action Plan

Governance	• Strengthen efforts in line with the TCFD and the transition plan, report to the board of directors, etc. and discuss
Strategy	• Strengthen and accelerate engagement and solution provision, by fully utilizing trust group's functions. Improve our group's HR training to realize it • Bolster climate change related risk and chance analyses tailored to each sector, and expand the targets • Further reduce GHGEs from OWN GROUP
Risk management	• Improve the climate change risk control method (transition risk control per firm, case study processes, etc.) • Sophisticate the GHGE measurement, and the plan/control of investment and loan portfolios • Continuously review sector policies based on environmental and social trends
Indicator/target	• Set intermediate GHGEs reduction targets for investment/loan portfolios (automotive and iron & steel, etc.) and monitor the progress in the investment/loan and operational portfolios • Expand the measurement range and disclosure of Scope3 of OWN GROUP's GHGEs

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Appendix. — GHG emissions from investment and loan portfolios

1. Basic policy on measuring financed emissions

Our policy on financed emissions is to continuously measure and periodically disclose them in such report and other documents. When measuring financed emissions, we will do so in accordance with GHG emission measuring standards widely adopted internationally, such as the PCAF Standard (2nd Edition) that was released in 2022 by the PCAF.

In the PCAF Standard, data quality scores have been established, so measurement methods with high data quality scores need to be employed in order to accurately ascertain the GHG emissions generated by the activities of borrowers and investees. For this reason, we will endeavor to improve the way we collect disclosed information concerning the GHG emissions of borrowers and investees and data related to their various business activities and carry out measurements with high data quality scores.

2. Approach to measuring financed emissions

(1) Considering basic measurement conditions

Our basic policy on measuring target assets, sectors, and the like is as follows.

Overview of our approach to measuring financed emissions

Condition item	Description
Exposure	Loans, acceptances and guarantees, corporate bonds, and strategic shareholdings
Assets	Investments in, and loans to, domestic and overseas corporations, project finance, ship finance, real estate non-recourse loans, housing loans, and sovereign loans
Sectors	Sectors for which the NZBA requires the emission disclosure, 21 carbon-related asset sectors based on the items for which disclosure is recommended in the TCFD Recommendations, as well as non-carbon-related assets, housing loans, and sovereign loans
Sector criteria	In principle, the sector is determined on a consolidated basis. However, if financial data of the parent company cannot be obtained, the sector is determined on a non-consolidated basis
Basic equation	Financed emissions = attribution factor × company emissions
Reference date	Investment and loan balance: end of March 2023
Emissions data sources	GHG emissions data of borrowers and investees is obtained from the information disclosed via external vendors (Bloomberg) and company websites, as well as from the disclosed GHG emissions data obtained directly by SuMi TRUST Bank In cases where the above data cannot be obtained, we multiple the power output, oil & gas production volume, real estate and residential floor space, or revenue (in other cases) by the corresponding per-unit emission factor in accordance with the PCAF Standard

Sector classifications

Target sectors						
Power generation	Railways	Shipping	Metals & Mining (expect Steel and Aluminum)	Real estate	Chemistry	Agriculture
Coal	Automotive & components	Air cargo	Iron & Steel	Construction materials (expect Cement)	Capital goods	Packed Foods & Meat
Oil & Gas	Trucking Services	Passenger Airplane	Aluminum	Cement	Beverage	Paper & Forest Products

(2) Method for measuring financed emissions based on the PCAF Standard

A. Data quality scores of borrower and investee GHG emissions

As data quality scores have been established in the PCAF Standard, it is recommended that data with the highest possible score be used when measuring financed emissions. In principle, we prioritize measurements that use GHG emissions data based on the disclosed information of borrowers and investees in line with this data quality score approach. In cases where GHG emissions data based on the disclosed information of borrowers and investees cannot be obtained, we follow the PCAF Standard to estimate emissions using the sector-specific emission factor provided by the PCAF.*1, 2

Please note that all the measurements of the selected assets have a data quality score of 4 or higher. Also, when calculating the data quality score for each sector, we use the weighted average derived from the investment and loan amount in each sector based on the methodology of the PCAF Standard.

*1 Estimation methods and scores used by SuMi TRUST Bank
Estimate based on power output (emission factor source: IEA) equivalent to score 3
Estimate based on oil & gas production volume (emission factor source: IEA) equivalent to score 3
Estimate based on real estate and floor space (emission factor source: CRREM) equivalent to score 4
Estimate based on sales figures (emission factor source: PCAF) equivalent to score 4

*2 Currently, only Scope 3 upstream emission factors have been provided by the PCAF for sector-specific emission factors. As no downstream emission factors have been provided, only Scope 3 upstream emissions are estimated, if estimated using the sector-specific emission factors provided by the PCAF. In the future, estimates that include Scope 3 downstream emissions may vary considerably.

Data quality score table

High ↑ Data quality ↓ Low

Data quality	Method to estimate emissions		Overview
Score 1	Reported by companies	1a	Verified emissions data of the company is available.
Score 2		1b	Unverified emissions data of the company is available.
	Business activity-based emissions	2a	Emissions are estimated using primary business activity data of the company's energy consumption and emission factors related to the energy used. Relevant process corresponding emission are also added.
Score 3		2b	Emissions are estimated using primary business activity data of the company's production and emission factors.
Score 4	Economic activity-based emissions	3a	Emissions are estimated using the company's sales figures and emission factors per sectoral sales figures.
Score 5		3b	Emissions are estimated using the company's investment and loan balance and emission factors per sectoral asset unit.
		3c	Emissions are estimated using the company's investment and loan balance, emission factors per sectoral sales figures, and the sectoral asset turnover ratios.

B. Equations

In measuring financed emissions, we use a methodology based on the PCAF Standard*3 referenced in the sector-specific guidance of the TCFD Recommendations. This PCAF Standard methodology has been recognized to be in line with the GHG Protocol, the global standard for measuring GHG emissions.

The specific steps to calculate emissions in investment and loan portfolios according to the PCAF Standard are as follows. Financed emissions are measured by multiplying the attribution factor—the financial interests, or the share of the investment and loan amounts to the total financing amounts of borrowers and investees—by the GHG emissions of borrowers and investees.

$$\textit{Financed emissions} = \Sigma\ \textit{Attribution factor of borrowers and investees} \times \textit{Emissions of borrowers and investees}$$

$$\textit{Attribution factor of borrowers and investees} = \frac{\textit{Amount of investments and loans to borrowers and investees}}{\textit{Total financing amounts of borrowers and investees}}$$

Financed emission equations (source: PCAF Standard)

*3 For ship finance estimates, we refer to project finance measurement methods because no detailed guidance exists in the PCAF Standard

(3) Collecting measurement-related data

We collect the following data in order to carry out measurements based on the PCAF Standard.

A. Collecting disclosed data on GHG emissions

We collect disclosed data on GHG emissions pertaining to borrowers and investees (companies or projects) from external vendor information and ESG-related data disclosed by companies. Score 1 is assigned to data if a third-party certification can be confirmed, but if not, score 2 is assigned. We make every effort to align the disclosed data on GHG emissions with the base date of exposure data, but if there is a discrepancy owing to the fact that more recent data or other appropriate data are used, such a discrepancy shall be permitted.

B. Collecting data for estimating GHG emissions

In cases where data cannot be obtained with aforementioned methods, we collect power output, production volume, sales figures, and other kinds of data from financial reports and other disclosed information obtained by SuMi TRUST Bank and then use the emission factors per sectoral sales figures provided by the PCAF or the IEA's emission factors per power output and other information to estimate emissions.

C. Collecting financial data

For the financing amount needed to calculate the attribution factor, we collect internal financial data or data from financial reports obtained by SuMi TRUST Bank. We make every effort to align the financial data with the base date of exposure data, but if there is a discrepancy owing to the fact that more recent data or other appropriate data are used, such a discrepancy shall be permitted.

3. Policy going forward

There are still a number of outstanding issues regarding measurements, including further improvement of data quality, and we recognize that we need to further enhance our approach. Specific examples of these issues are provided below. It should also be noted that we have started to establish internal controls this fiscal year with a view to obtaining third-party assurance in the future.

(1) Improving data quality

We collect disclosed data (equivalent to score 1, 2) on GHG emissions of borrowers and investees as much as possible, but for cases where borrowers and investees do not disclose such data, we estimate their GHG emissions (equivalent to score 4) by using the sectoral emission factors per sales figures provided by the PCAF, and other information. Including estimated GHG emissions in our measurements enables us to measure GHG emissions of borrowers and investees who do not disclose them, which offers the advantage in terms of comprehensiveness, but in order to more accurately understand the actual situation around GHG emissions and manage reduction targets, we need to measure GHG emissions with the use of higher quality data.

(2) Expanding assets for measurement

As calculation methods have not yet been established, aircraft finance, fund investments, and other areas have been excluded from our most recent measurements, but we need to continue to examine measurement methods and expand our coverage given the importance of the breadth of our exposure, for example.

(3) Establishing a measurement process

We need to examine and develop an internal framework, including databases and systems, in order to efficiently and accurately measure GHG emissions.

Trust for a flourishing future

SUMITOMO MITSUI TRUST GROUP