

NORINCHUKIN

Climate & Nature Report 2025

Dedicated to sustaining all life



TCFD/TNFD Report

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Message from the CEO



Dear Stakeholders,

Founded in 1923, The Norinchukin Bank (the Bank) has a long and rich history of supporting Japan's agriculture, fishery and forestry industries. Over the past 100 years, we have leveraged the power of finance to serve local communities, guided by the principles of our cooperative organization. In 2023, as we marked our centennial, we not only celebrated a century of partnership and growth with these industries and communities, but also reflected on our evolving mission for the next 100 years.

Our purpose, "Dedicated to sustaining all life - Work together with our stakeholders to foster the AFF industries and to create a prosperous future for food and lifestyles, and thereby contribute to a sustainable global environment," reflects our commitment to collaborating with our stakeholders to sustain life on this planet. In line with this purpose, we see our fundamental role as supporting the conservation and restoration of natural environments, promoting responsible production practices, and ensuring the stability of local livelihoods.

Recently, global challenges such as climate change, biodiversity loss, and the degradation of natural capital have intensified. These issues are now fundamentally shaking the very foundations of the agricultural, fisheries, and forestry industries.

Climate phenomena such as droughts, torrential rains, changes in marine environments, and forest degradation not only pose direct risks to food and resource production but also threaten the sustainability of economies and the livelihoods of communities. Safeguarding the future of industries that depend on nature is essential to building a more stable society—one that sustains both life and food security. This is what defines our purpose.

As we broaden our outlook around the world, we are witnessing a growing backlash against global sustainability efforts amid shifting geopolitical dynamics. As a global financial institution rooted in agriculture, fishery, and forestry, we remain steadfast in our commitment to addressing climate change and other sustainability challenges.

As a financial institution, we are fulfilling our responsibility to address climate- and nature-related issues by steadily advancing investment and financing activities that support efforts to reduce greenhouse gas (GHG) emissions, conserve and restore nature, conduct risk assessments, and promote engagement. This report compiles and discloses these initiatives in line with the TCFD (TaskForce on Climate-related Financial Disclosures) and TNFD (Task force on Nature-related Financial Disclosures) frameworks, enabling us to use this information to engage more effectively with our stakeholders.

We are committed to achieving net-zero emissions by 2050 and are expanding financing for emission reduction and transition projects, while engaging proactively with partners. We are also adopting the TNFD's LEAP approach to assess our impact on nature across the agriculture, fishery, and forestry sectors, identifying and acting on related risks and opportunities.

Our fundamental purpose, rooted in sustaining all life, guides these efforts.

Building on our century of experience, we pledge to meet our responsibilities for the next hundred years, envisioning a world where communities and nature flourish together in a vibrant, circulatory cycle. We aim to empower our clients through finance to forge this future in harmony with the nature.

President and Chief Executive Officer,
The Norinchukin Bank

KITABAYASHI Taro



Executive Summary

	Climate	Nature
Governance	- Environmental and social issues are addressed through discussions by the Sustainability Management Committee under the Board of Directors together with other management committees, with reporting to the Board of Directors and Supervisory Committee as and when necessary. - Selected Co-CSUOs (Chief Sustainability Officers) - Established the Sustainability Advisory Board as an advisory body to the Board of Directors - Established a framework to respect the rights of local communities and indigenous peoples based on our Human Rights Policy, etc.	
Strategy	- Define the Bank's Environmental Policy, as well as materialities and medium-term vision (Nochu Vision 2030) toward achieving our purpose, as our response to climate change and biodiversity - Recognize the business opportunities in the transition and technology development for decarbonization, demand for capital to sustain and restore natural capital and biodiversity, and transition support for investment and loan clients - Collaborate and partner with industry, government, and academia; participate in national and international initiatives - Set a target of 10 trillion yen in new sustainable finance by FY2030	
	Set GHG emission reduction targets for 2030 for our investment and loan portfolio based on our commitment to net zero by 2050 Set targets for our loan portfolio clients for the marine transport, automobiles, and real estate sectors in FY2024, followed by the power generation sector in FY2022 and for the oil and gas, coal, and steel sectors in FY2023 - Collate and systematize initiatives in our net zero transition plan - Expand and upgrade engagement with investment and loan clients - Strive to achieve net zero GHG emissions for all sites of The Norinchukin Bank Group by FY2030 - Collaborate with JForest members in establishing a forest carbon sink target of 9 million tCO₂ per year in fiscal 2030 - Conduct scenario analysis of the impact of climate change-related risks on credit portfolios, etc., based on sector-specific risk assessments ◇ Transition risk: Analysis of impact on credit costs in the electricity, oil and gas, coal, food and agriculture, beverage, chemicals and steel sectors ◇ Physical risk: Scenario analysis of the impact of flood damage on key locations of domestic and overseas borrowers, collateral properties pledged, and Norinchukin Bank Group locations (acute risk); impact analysis of climate change on the agriculture and fisheries industry (chronic risk)	Nature-related risks extend to the Bank in the form of physical risk and transition risk, since natural and ecological degradation are interrelated with climate change - Conduct dependency and impact analysis, and perform provisional scenario analysis across our overall investment and loan portfolio to identify nature-related risks and opportunities - Conduct analyses of dependencies and impacts on nature across our portfolio ◇ Assess physical and transition risk across our portfolio based on dependencies and impacts ◇ Conduct ESG risk analysis based on the value chain of investment and loan clients (target food-related sectors due to high dependency and impact on nature) ◇ Analysis of locations in portfolio - Work to identify risks and opportunities through nature-related dialogue - Provide nature-related solutions
Risk Management (Risk and Impact Management)	- The Board of Directors formulated the Risk Management Policy to ensure appropriate Bank-wide risk management. Under this framework, we manage and control environmental and social risks, including climate and nature-related risks. - The Bank identified "Addressing climate change, biodiversity, and other sustainability-related issues" as our top risks based on the Risk Appetite Framework. - Upgrade environmental and social risk management ◇ Response based on Policy on Environmental and Social Considerations in Financing and Investment Activities (investment and loan sector policies) (identifying high-risk sectors using ENCORE's by-sector analysis of dependency and impact, verifying coverage of investment and loan sector policies, etc.) ◇ ESG integration incorporated into credit assessments ◇ Ensure conformity with the Equator Principles when financing large-scale development projects	

	Classification	Metrics	Latest Results	Target	
Metrics and Targets	Reduce GHG Emissions by Investment and Loan Clients	Financed Emissions		Interim Target for FY2030 toward net zero by 2050	
		Lending	[Power] Base year: FY2019 213 gCO ₂ e/kWh	FY2022 208 gCO ₂ e/kWh	138–165 gCO ₂ e/kWh
			[Oil and Gas] Scope 1 & 2 Base year: FY2019 8.9 gCO ₂ e/MJ	FY2022 13.9 gCO ₂ e/MJ	3.1 gCO ₂ e/MJ
			[Oil and Gas] Scope3 Base year: FY2019 0.51 MtCO ₂ e	FY2022 0.29 MtCO ₂ e	0.37 MtCO ₂ e
			[Coal]	Response and engagement based on Policy on Environmental and Social Considerations in Financing and Investment Activities	
			[Steel] Base year: FY2019 2.02 tCO ₂ e/t	FY2022 2.03 tCO ₂ e/t	1.54–1.73 tCO ₂ e/t
			[Real Estate] Base year: FY2019 82.7 kgCO ₂ e/m ²	FY2022 48.8 kgCO ₂ e/m ²	34.1 kgCO ₂ e/m ²
			[Automobiles] Base year: FY2019 192.6 gCO ₂ e/vkm	FY2022 346.8 gCO ₂ e/vkm	111 gCO ₂ e/vkm
			[Marine Transport] (Base month: December 2023) Striving: 36.9%, Minimum: 30.5%		PCA≤0%
		Investments	[Stocks and Bonds] Emissions per unit of investment Base year: FY2019 0.83 tCO ₂ e/million yen	FY2022 0.75 tCO ₂ e/million yen	Vs. FY2019 -49%
		Establishing forest carbon sink with members	FY2023 6.71 million tCO ₂	9 million tCO ₂ /year as of FY2030	
		GHG emissions from the Norinchukin Bank Group locations	FY2024 14,545 tCO ₂	Net zero by FY2030	
	Promote sustainable business	New sustainable finance	FY2021–FY2024 ¥9.0 trillion	¥10 trillion by FY2030	
	Strengthen approach to risk management	Reduce outstanding investments and loans for coal-fired power generation	Investments outstanding as of FY2024 ¥36.7 billion	Zero by FY2040	
	Nature-related metrics	Biodiversity footprint in key investment regions (EINES)	Refer to “Nature-related Metrics and Targets.”	—	

Supplementary Information on Marine Transport Goals

The Poseidon Principles define two kinds of trajectories for PCAs: “Striving,” corresponding to emissions reductions of 30% by 2030 and 80% by 2040 relative to 2008, and “Minimum,” corresponding to emissions reductions of 20% by 2030 and 70% by 2040 relative to 2008. While the Principles aim to achieve net zero for both trajectories, our goal is to achieve less than 0% for both trajectories.

We placed icons for content related to  (TCFD recommendations) and  (TNFD recommendations) at the beginning of major sections or individual topics in the body of this report.

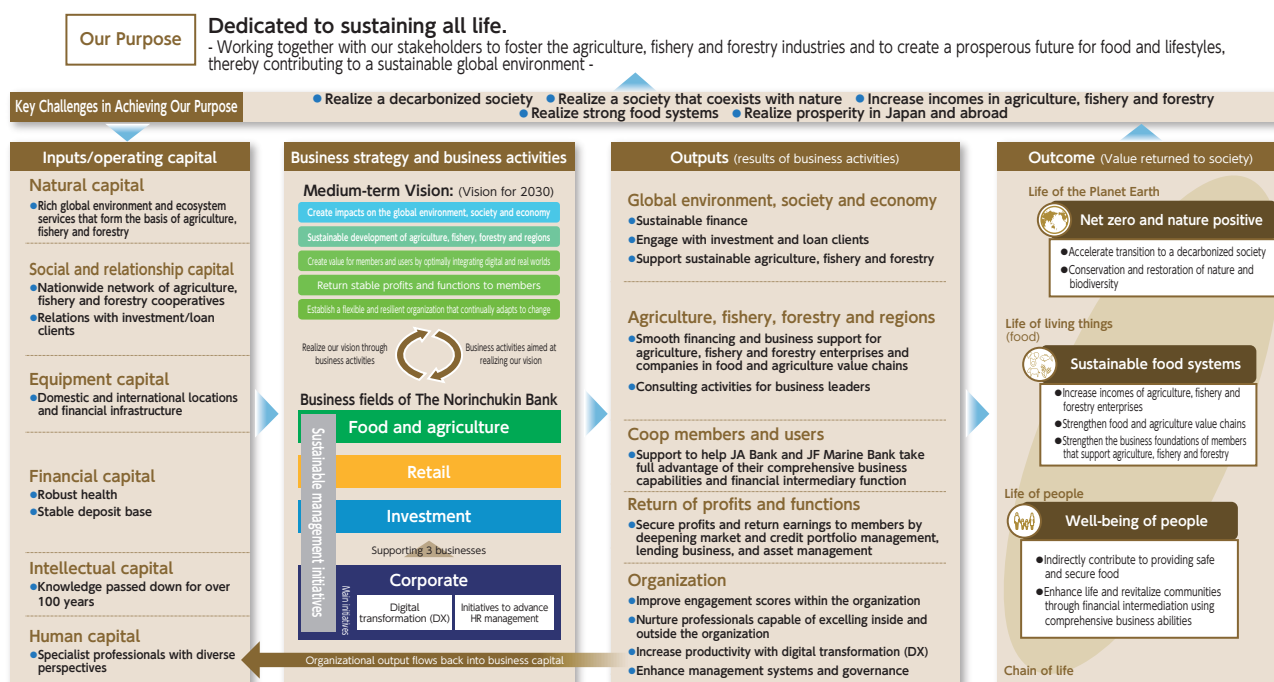
We recognize that responses to climate and nature issues are integral and inseparable, and that these issues have many commonalities. We provide this information as a reference from the perspective of communicating clearly to stakeholders the status of our disclosures based on TCFD and TNFD recommendations.

Climate

Nature

As a cooperative financial institution deeply rooted in the agriculture, fishery and forestry sectors, The Norinchukin Bank ("the Bank") is committed to addressing climate and nature-related risks and opportunities. This report explains how our bank assesses and manages climate- and nature-related risks. It also describes the measures we are taking to strengthen our various forms of capital investment, supporting our value creation efforts and linking them to medium- and long-term outcomes such as climate change mitigation, biodiversity conservation, the circular economy, and the sustainability of agriculture, fishery, and forestry industries. In addition, the report reviews our progress to date and the challenges that lie ahead in creating future value.

Value Creation Process



For a complete description of the value creation process, see Integrated Report on pages 33-34.

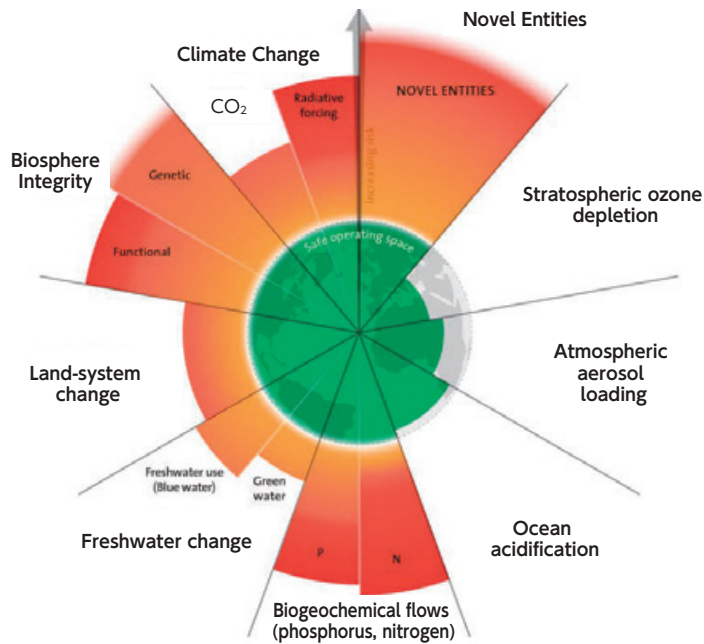


Motivation for Publishing the Report

The publication of this report was motivated by a sense of crisis regarding the accelerating rate of climate change and nature's destruction. These trends are fundamentally altering the operating environment for the agriculture, fishery, and forestry industries—sectors central to the Bank's business. The latest 2023 assessment of planetary boundaries indicates that six of the nine boundaries have been crossed, moving well beyond the safe operating space into the danger zone. These are novel entities including plastics, climate change, biosphere integrity, land-system change, freshwater change, and biogeochemical flows including phosphorus and nitrogen. In essence, the environmental impact of human activities is exceeding the Earth's limits. Scientists are ringing alarm bells not only about climate change but also concerning novel chemicals and the rapid loss of biodiversity (or biosphere integrity).

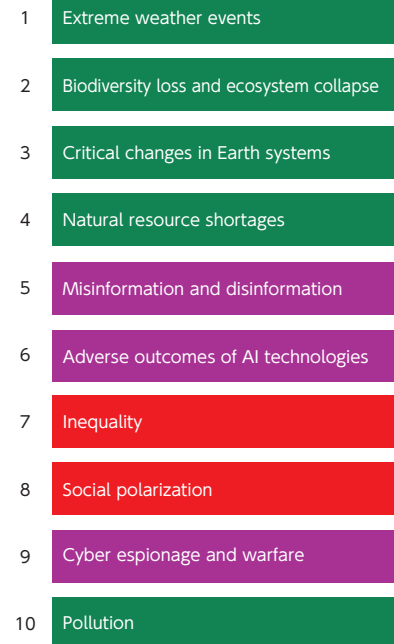
* Also called "Earth's boundaries," this relates to the idea that irreparable changes will be triggered if human activities exceed the safe range of nine boundaries related to global change.

Planetary boundaries (9 limits of Earth systems)



Source: Left, Stockholm Resilience Center; right, World Economic Forum

Global Top Risks Over the Next 10 Years



The impacts of the Earth's degradation on lives, health, and corporate activities are now driving a strong sense of urgency among global business leaders regarding nature loss. The World Economic Forum's Global Risks Report 2025 identifies climate change and biodiversity loss as leading risks, raising even greater concern for business resilience. In fact, four of the top ten global risks projected over the next decade are directly related to climate and nature.

In response to climate change, many companies and financial institutions have recently committed to achieving net zero by 2050, treating decarbonization as a fundamental business challenge. Similarly, regarding nature, we have reached a crucial juncture where businesses and financial institutions must confront the impact of their operations on the critical state of nature, addressing this as an urgent management priority. Crucially, we must now recognize climate and nature-related risks as inherent business risks, responding with transparency and a fundamental shift in mindset. These risks should not be viewed as external to our core business activities, but as management challenges that are an integral part of business strategy and risk management.

Global discussions and initiatives concerning climate change have significantly progressed since the adoption of the Paris Agreement at the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) in 2015. Similarly, the business response to nature has advanced due to growing awareness and discussions following the adoption of the Kunming-Montreal Global Biodiversity Framework (GBF) at the 15th Conference of the Parties (COP15) to the United Nations Convention on Biological Diversity in 2022. The GBF's 2030 Mission is to take urgent action to halt and reverse biodiversity loss thereby putting nature on a path to recovery—or, in other words, to become nature positive. The GBF also outlines 23 targets for 2030. Target 15, in particular, is directly relevant to operators and businesses. It encourages businesses to disclose their risks, dependencies, and impacts on biodiversity, and to establish policies to ensure such disclosure. This target is especially critical for large companies, multinational businesses, and financial institutions, which are asked to disclose data not only on their own operations but also related to their supply chains and portfolios.

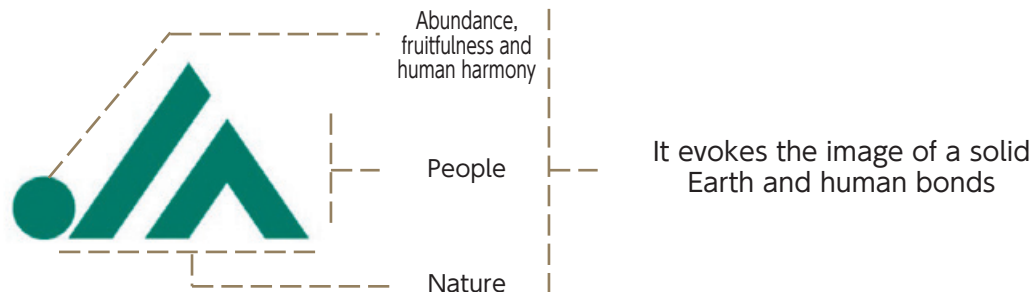
As a financial institution with the mission of contributing to the agriculture, fishery and forestry industries through the return of profits from investments and financing in global financial markets, the Bank recognizes its responsibility to help achieve the goals of the Paris Agreement and GBF across the breadth of its business activities. This commitment involves managing investment and loan portfolios that contribute to net zero and nature positive outcomes, developing a comprehensive risk management system, and ensuring transparent disclosure.

* *Global Risks Report 2025*, World Economic Forum

Together With the Agriculture, Fishery and Forestry Industries, Cooperative Organizations, and Nature

As a member of a cooperative organization built on agriculture, fishery and forestry, we are dedicated to safeguarding the long-term sustainability and resilience of natural capital, biodiversity, and local communities.

Meaning of JA mark



Source : Prepared by the Bank based on various sources

Japan's agriculture, fishery and forestry industries are currently facing numerous challenges, such as volatile product prices, and declining labor force. Furthermore, climate change and the degradation of nature pose serious risks to these industries. For example, crop production cycles have been disrupted by increasingly severe natural disasters and extreme weather. At the same time, environmental changes, including declining fish catches and changes in fish species, are destabilizing the management of agriculture, fishery and forestry enterprises.

In light of this situation, the Japanese government instituted the "Green Food System Strategy" to increase both the productivity and sustainability of the food industry as well as the agriculture, fishery and forestry industries through innovation. For the first time in 25 years, it also revised the Basic Act on Food, Agriculture and Rural Areas. This law is considered as a "constitution" for agricultural policy, with revisions focused on food security and harmony with the environment. Given prevailing environment changes and policy trends, we need to work strategically toward a transition to net zero and nature positive, by reducing both the impact of nature on agriculture, fishery and forestry, and the negative impacts of these industries on climate and nature.

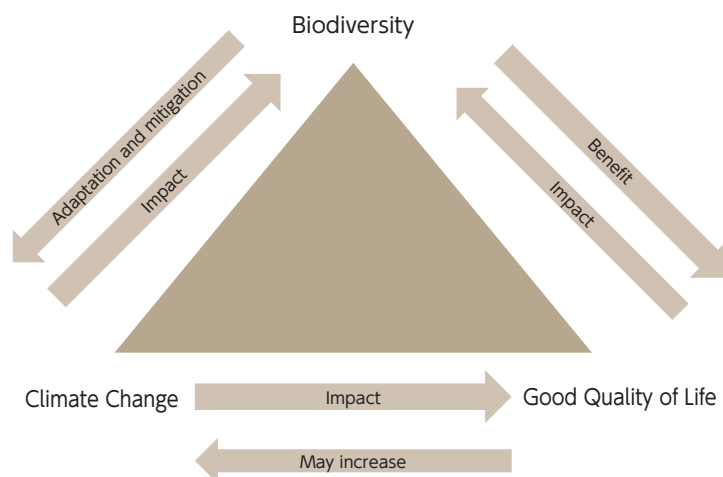
Our bank is a unique financial institution that operates in a world where nature plays a significant role across our entire value chain, from upstream funding sources to downstream clients. The Bank takes funds deposited by individual members and customers of JA Bank and JF Marine Bank and lends them to individual members and customers of The Norinchukin Bank, to agricultural, fishery and forestry enterprises, and to companies connected with these industries. We also conduct a variety of other investment and financial activities in Japan and abroad. Because of our distinct business model, we recognize the strong links between nature and our value chain, both upstream and downstream. We recognize that nature-related risk management and capturing opportunities are important issues that affect the sustainability of our business operations and organizational foundation.



Climate Change and Nature and Other Nexus Approaches

Addressing climate change today is an international commitment, not to mention a business imperative. In this context, we first address natural capital and biodiversity. Climate change risks are part and parcel of nature-related risks. Pollution, land use change, the use of water resources and other resources accelerate climate change. Climate change, in turn, furthers change in the use of land and other resources in an interrelationship.

Relationships between climate change, biodiversity and good quality of life



Source: IPBES-IPCC Co-sponsored Workshop Report on Biodiversity and Climate Change: Translation and Commentary by IGES, 2021, Y. Takahashi, M. Tsudaka, K. Tanabe, S. Hashimoto, N. Moriwake, K. Takeuchi, Y. Ohashi, K. Miwa, M. Yamanoshita, K. Takahashi, A. Watanabe, O. Saito, E. Nakamura, A. Matsuo, H. Mori, N. Ito, E. Kitamura, M. Aoki (translators/editors), Institute for Global Environmental Strategies (IGES), Hayama, 32p.

It is important to note that these interrelationships lead to trade-offs between climate and nature. For example, efforts to prolong periods of drying out rice paddies present one such trade-off. While prolonging these periods is an important agricultural method that reduces GHG emissions, this method may have adverse effects on the biodiversity of rice paddies, depending on the field environment.* Draining water from rice paddies may also impede the natural waterlogging abilities of the paddies. Thus, partial trade-offs may occur between the multiple functions of rice paddies.

The Bank recognizes that there are trade-offs between preserving natural capital/biodiversity and addressing climate change. We leverage our distinct skills and expertise to continue working toward resolving these issues, understand the importance of grasping negative impacts and examine the availability of technologies for eliminating the trade-offs.

* According to the Ministry of Agriculture, Forestry and Fisheries (MAFF), long-term efforts to drain paddies and reduce methane may have adverse effects on amphibians and insects. The Ministry is also investigating technologies to eliminate trade-offs.

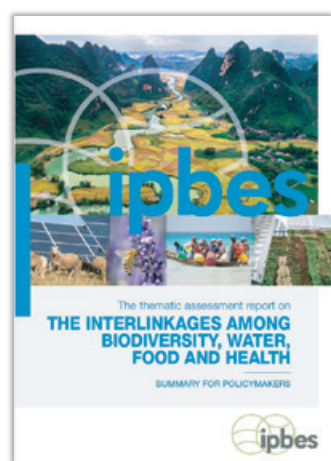
Source: (Japanese only) Ministry of Agriculture, Forestry and Fisheries, Summary of the Results of the FY2021 Environmentally Friendly Agriculture Effectiveness Survey Commissioned Project
https://www.maff.go.jp/j/seisan/kankyo/kakyou_chokubarai/attach/pdf/sansya_2_5-7.pdf

It is worthwhile to look into solutions presented by “The thematic assessment report on Interlinkages Among Biodiversity, Water, Food and Health, a Summary for Policymakers” (Nexus Assessment Report), which is published by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) in December 2024. This report analyzes the relationship between climate and nature, and their relationships with elements such as water, food, and health, from a nexus perspective, as well as presenting measures and options for solving problems simultaneously. The report shows the conservation and restoration of soil health, forests, and coastal ecosystems are considered promising options. These include, for example, initiatives that the Bank has applied and supported in various ways, such as spreading biochar over farmland, improving the management of privately owned forests, and creating blue carbon by restoring seaweed beds. We also recognize the need to promote such initiatives further.

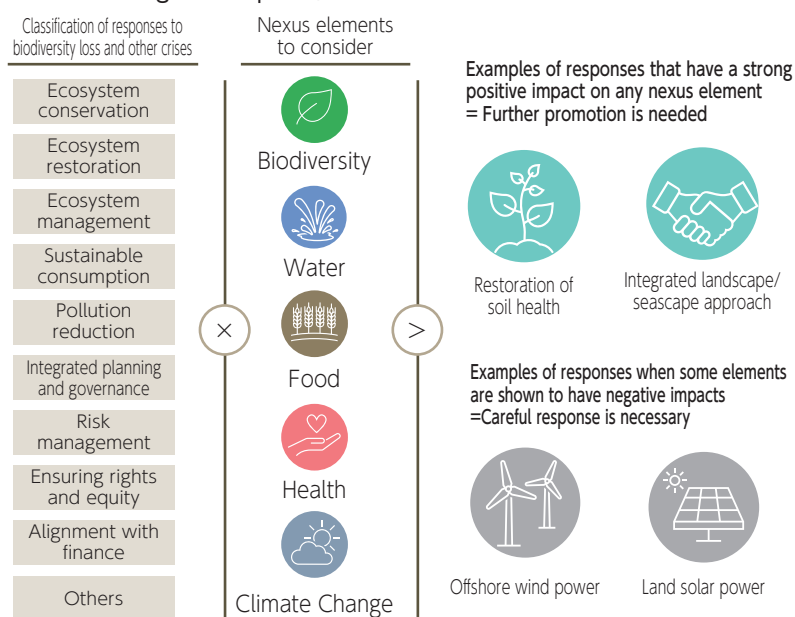
Aside from these approaches to specific ecosystems, this report and TNFD publications point out the importance of integrated landscape/seascape approaches. The same is true in the context of discussions about agriculture, fishery and forestry and the rural areas where these industries are developed. For example, in the 15 areas of Japan that have been designated Globally Important Agricultural Heritage Systems by the UN Food and Agriculture Organization (FAO), landscape/seascape is one of the defining elements. “Guidance on Visualizing Impact on Rural Areas,” a document released by the Ministry of Agriculture, Forestry, and Fisheries (MAFF) in March 2025 for the purpose of value creation in rural areas by a variety of stakeholders, including city residents and businesses, also contains important concepts for shaping a mature society that can serve as a bridge for problem-solving processes. The Bank too will place greater emphasis on these perspectives in regional projects it pursues with its members and local partners.

We reiterate the importance of promoting synergies and minimizing trade-offs to prevent climate change, natural environment changes, and degradation of nature. The report states, for example, that although offshore wind power helps to combat climate change, it also has negative impacts on biodiversity, water, food, and healthy, even if small. In such cases, it is necessary to consider a combination of options (approaches), e.g., cultivating seaweed using offshore facilities to restore the marine ecosystem as a way of mitigating negative impacts.

Responses and interrelationships (positive and negative impacts) of climate, nature, water, food, and health



Excerpt from Figure SPM.8. Response options have substantial but widely varying impacts on the five nexus elements of biodiversity, water, food, health and climate change (provisional translation by The Norinchukin Bank)



Comment from Academia

KOSHAKE Ryo, Professor, Graduate School of Agriculture and Life Sciences, The University of Tokyo



Following the launch of the Nexus Assessment report in December 2024, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is scheduled to publish "methodological assessment of the impact and dependencies of business on biodiversity and nature's contributions to people" (so-called, "business and biodiversity assessment") in February 2026. I had the honor to serve as a Coordinating Lead Author in the Assessment. Japanese companies accounted for 80 of the approximately 320 global companies that made early disclosure commitments (so-called "Early Adopters") to the Taskforce on Nature-related Financial Disclosures (TNFD). Given Japan's high level of dependence and influence on global trade, Japanese companies are drawing considerable attention.

Within this context, the "Metrics and Targets" section of this report (Climate & Nature Report 2025), systematically organizes contributions to the Kunming-Montreal Global Biodiversity Framework (GBF) using a logic model. This framework is a visualization of the causal relationships (albeit with some uncertainty) that detail how investments, loans, and non-financial support efforts lead to biodiversity conservation. It serves as an effective means for managing the progress of the initiatives of financial institutions and communicating this progress both domestically and internationally.

Global trade is currently in a period of upheaval. Given all the discussions about U.S. tariffs and with the EU Deforestation Regulation (EUDR) set to take effect, the Japanese and global agriculture, fishery and forestry industries will inevitably be impacted. To address this challenge, a multifaceted response is required. The report makes some mention of improving product traceability and potential leakage. Eventually, it will be necessary to verify the gap between changes in land use due to food and agriculture value chains and specific on-site responses capabilities such as ecosystem analysis.

This report also describes tools for visualizing impacts such as environmental load of each sector and product, biodiversity extinction risks. The points of contact between finance, natural capital, and biodiversity are likely to keep increasing. We hope that we can continue contributing to the building of sustainable natural capital management models by connecting with international discussions, such as those in Europe that mandate disclosure, and through the sharing of knowledge with other Japanese and international institutions.

Climate

Nature

The agriculture, fishery and forestry industries that form the foundation of The Norinchukin Bank are not only vulnerable to the negative impacts of climate change, but also have the potential to amplify climate change. For this reason, based on our recognition that addressing climate change is essential to the sustainability of the agriculture, fishery and forestry industries, we have been working to mitigate and adapt to climate change through our business activities. At the same time, we have strived to expand disclosure since endorsing the TCFD recommendations in 2019.

In addition to TCFD, a formal version of TNFD recommendations was released in September 2023 as a global response aimed at shifting to more nature-positive financing through disclosure of nature-related risks and opportunities by companies and financial institutions. Nature is the very foundation of agriculture, fishery and forestry. As a member of the TNFD Task Force since November 2022, the Bank has contributed to the development of recommendations. Additionally, in November 2023, we announced our early adoption of the TNFD recommendations, and in March 2024, we published our first climate and nature-related disclosures in the 2024 version of this report, based on both the TCFD and TNFD recommendations.

General Requirements for TNFD Recommendations

Nature

In addition to IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information, issued by the International Financial Reporting Standards Foundation (IFRS), and other regulations, the TNFD recommendations include six general requirements. These are “The application of materiality,” “The scope of disclosures,” “The location of nature-related issues,” “Integration with other sustainability-related disclosures,” “The time horizons considered,” “The engagement of indigenous peoples, local communities and affected stakeholders in the identification and assessment of the organization’s nature-related issues.” It is recommended that the disclosing entity define its approach to each of these general requirements to ensure integration with other disclosure standards and consistency of disclosed information. The Bank has organized its approach to each of these requirements as follows.

TNFD General Requirements and Bank’s Approach

General requirements of TNFD	Our approach
1 Application of materiality	- As a national financial institution grounded in agriculture, fishery, and forestry cooperatives, The Norinchukin Bank offers smooth financing to members of Japan Agricultural Cooperatives (JA), Japan Fisheries Cooperatives (JF), National Federation of Forest Owners' Co-operative Associations (JForest), and other organizations. In this way, we play an important social role in developing the agriculture, fishery and forestry industries and the national economy. - To fulfill this role, our basic mission is to provide members with stable profit returns by making diverse investments and loans, both in Japan and overseas, and managing funds efficiently, backed by member contributions and the stable financing of JA Bank and JF Marine Bank. This report analyzes and discloses the impacts that flow on to our investment and loan portfolio as financial risks and opportunities, based on the relationships between our investment and loan clients and their impacts and dependencies on nature (and climate) in their business activities. - Agriculture, fishery, forestry, and local communities form our foundation, creating life that connects to many future lives and forms the societies in which we live. We make investments and loans to wide ranges of domestic and overseas companies and other entities. These financing activities may lead to certain companies imposing negative environmental and social impacts and externalities, resulting in financial risks to our entire portfolio in the medium to long term. - Negative environmental and social impacts may also inflict harm to the sustainability of agriculture, fishery, forestry, and local communities that form our foundation. Moreover, said impacts may break the chain of life generated from these industries. This report focuses on the analyses of environmental and social impacts of our investment and loan activities based on the above factors. - In addition to the above, we recognize that interest in financial materiality and impact materiality varies among stakeholders. For this reason, in light of the importance of disclosing information to a wide range of stakeholders, this report employs the double materiality approach.
2 Scope of Disclosure	- The scope covers all business activities, upstream (members and agriculture, fishery and forestry enterprises) and downstream (investees and borrowers) in the value chain. - For our investees and borrowers (i.e., downstream) in particular, we analyze not only their direct business but also their value chain (e.g., raw materials procurement, indirect impacts of business). We also consider future risks and opportunities, as well as dependencies and impacts.
3 Location of Nature-related Issues	For all our investees and borrowers, we refer to available data (information on the locations of their headquarters, offices, production plants, etc.) as far as possible and comprehensively consider the locations of all their business operations.
4 Integration With Other Sustainability-Related Disclosures	In response to both TCFD and TNFD recommendations, we describe information about governance, strategy, risk (and impact) management, and metrics and targets.
5 Time Horizon Considered	- Short term: For several years from now - Medium term: For 10 years or so from now - Long term: Up to the year 2050 or later

6 Engagement with Indigenous Peoples, Local Communities, and Affected Stakeholders in the Identification and Assessment of the Organization's Nature-related Issues

- The Bank endorses and participates in initiatives such as the Equator Principles that take indigenous peoples, local communities, and other stakeholders into consideration when making investment and financing decisions. We conduct our investments and loans in accordance with these principles. (For more information, see Governance).
- Our Policy on Environmental and Social Considerations in Financing and Investment Activities prohibits or restricts investments and loans for locations adjacent to World Heritage sites and other protected areas. The policy also requires clients in certain sectors to obtain certification to demonstrate a certain level of environmental and social responsiveness in their production activities.
- Going forward, the Bank recognizes the need to develop our current engagement efforts with respect to indigenous peoples, local communities, and other stakeholders.
- We emphasize a landscape approach (an integrated approach incorporating geographical and ecological perspectives) and promote collaboration with diverse stakeholders such as local communities, businesses, government bodies, and NGOs, focusing on "priority locations" such as watersheds, forest belts, and agricultural zones as units in which natural resources are concentrated.

TNFD Disclosure Requirements

Given that TCFD and TNFD disclosures are similarly structured around four pillars (Governance, etc.), this report, as we have done so in the previous publications of Climate & Nature Report, combines climate and nature disclosures for Governance, Strategy, Risk (and Impact) Management, and Metrics and Targets to the greatest extent possible. Beyond the basic structure of both recommendations, we recognize the intrinsic connection between life and climate and nature that sustains it. We chose this integrated approach to inform a wide range of stakeholders about climate and nature-related risks and opportunities.

TNFD Disclosure Recommendations			
Governance	Strategy	Risk and Impact Management	Metrics and Targets
Disclose the organization's governance of nature-related dependencies, impacts, risks and opportunities.	Disclose the effects of nature-related dependencies, impacts, risks and opportunities on the organization's business model, strategy and financial planning where such information is material.	Describe the processes used by the organization to identify, assess, prioritize and monitor nature-related dependencies, impacts, risks and opportunities.	Disclose the metrics and targets used to assess and manage material nature-related dependencies, impacts, risks and opportunities.
A. Describe the board's oversight of nature-related dependencies, impacts, risks and opportunities.	A. Describe the nature-related dependencies, impacts, risks and opportunities the organization has identified over the short, medium and long term .	A(i) Describe the organization's processes for identifying, assessing and prioritizing nature-related dependencies, impacts, risks and opportunities in its direct operations.	A. Disclose the metrics used by the organization to assess and manage material nature-related risks and opportunities in line with its strategy and risk management process
B. Describe management's role in assessing and managing nature-related dependencies, impacts, risks and opportunities.	B. Describe the effect nature-related dependencies, impacts, risks and opportunities have had on the organization's business model, value chain, strategy and financial planning, as well as any transition plans or analysis in place.	A(ii) Describe the organization's processes for identifying, assessing and prioritizing nature-related dependencies, impacts, risks and opportunities in its upstream and downstream value chain(s).	B. Disclose the metrics used by the organization to assess and manage dependencies and impacts on nature.
C. Describe the organization's human rights policies and engagement activities, and oversight by the board and management, with respect to Indigenous Peoples, Local Communities, affected and other stakeholders, in the organization's assessment of, and response to, nature-related dependencies, impacts, risks and opportunities.	C. Describe the resilience of the organization's strategy to nature-related risks and opportunities, taking into consideration different scenarios.	B. Describe the organization's processes for managing nature-related dependencies, impacts, risks and opportunities.	C. Describe the targets and goals used by the organization to manage nature-related dependencies, impacts, risks and opportunities and its performance against these.
	D. Disclose the locations of assets and/or activities in the organization's direct operations and, where possible, upstream and downstream value chain(s) that meet the criteria for priority locations.	C. Describe how processes for identifying, assessing, prioritizing and monitoring nature-related risks are integrated into and inform the organization's overall risk management processes.	

Bolded text is from TNFD recommendations. All other items are common to TCFD recommendations on climate change.
Source: TNFDv1.0

Dependencies and Impacts on Nature

The Bank underscores the importance of dependencies and impacts, as well as the risks and opportunities, as recommended by the TNFD framework. By applying the recommendations, we correctly identify and understand these elements and are able to grasp the dependencies and impacts on land, oceans, atmosphere, and freshwater (e.g., pollutant emissions and environmental impacts arising from business activities). We also keep in mind the close connections and interactions of ecosystems and biomes with human communities.

As a financial institution, We need to identify profile of our portfolio in terms of the TNFD recommendation, i.e., our dependencies and impacts on nature via investments and loans to our clients and other entities, and recognize the risks and opportunities that arise from investments and loans. Approaches are recently gaining growing recognition to identify impacts and risks of a company, such as measuring GHG emissions or assessing physical risks to business premises due to However, the evaluation of nature capital and biodiversity is known quite challenging due to their complexity and requires an understanding of how the business depends and impacts on nature.

First of all, understanding dependencies requires identifying the indispensable elements in business processes that are rooted in nature. For example, food-related industries that produce drinking water are strongly dependent on water resources. In turn, it is necessary to understand that water resources are supported by groundwater and the ability of forests to conserve water. Understanding these relationships is essential to understanding dependencies. As deterioration of the natural resources that the company is dependent on progresses, companies face operational risks that may impede or disrupt conventional business activities. Lack of mitigation measures may lead to lower earnings and financial risks.

On the other hand, impacts refer to how a business affects natural capital and biodiversity. In addition to identifying impacts, it is important to understand how stakeholders are affected as a result of those changes in natural capital and biodiversity. For example, poor planning of natural rubber plantations leads to air and soil pollution, leading to the destruction of rainforests and habitats of rare species. Automobile manufacturers and trading companies that procure raw materials from such sources are also considered to have impacts on the climate and nature through their supply chains. Such impacts can lead to conflict with local communities and other stakeholders, resulting in reputational risks and other negative consequences.

We understand that the risks and opportunities arising from the dependencies and impacts of such a business can spill over to the Bank through our investment and financing activities. It is therefore important for us to identify such pathways and assess risks.



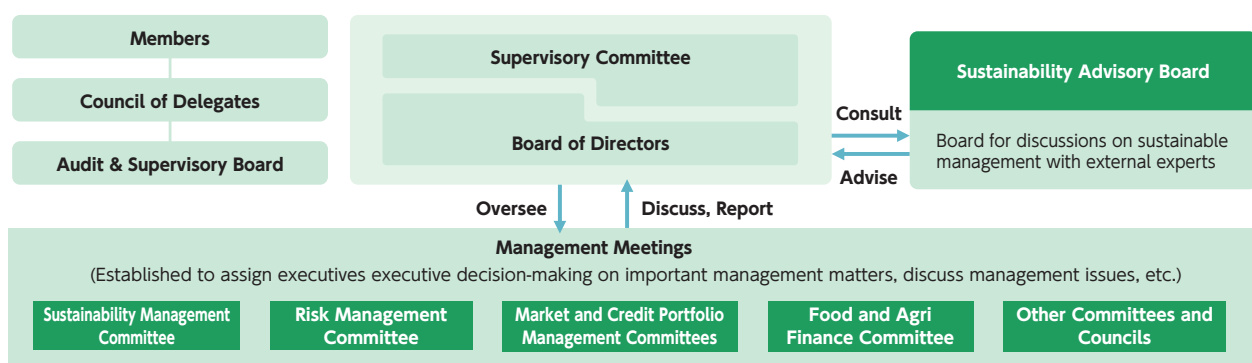
Climate

Nature

The Norinchukin Bank is a leading financial institution of a cooperative organization deeply rooted in agriculture, fishery and forestry industries. At the same time, as an institutional investor, we participate in financial and capital markets through large-scale fund management in Japan and overseas. Accordingly, our decision-making processes are based on sharing and collaboration while adhering to decisions by the Council of Delegates. We base decisions on the Supervisory Committee and Board of Directors accounts of internal and external situations of the cooperatives, as stipulated by The Norinchukin Bank Act.

The Bank has established various management meetings to which the Board of Directors delegates executive decision-making on important management matters. The committees also discuss management issues. The Sustainability Management Committee holds regular discussions on environmental and social issues, including climate and nature. Additionally, the Risk Management Committee makes decisions on matters regarding the Bank's overall risk management system and risk management, including environmental and social risks. Under the risk management framework, we also hold discussions at the management level on responses to environmental risks and opportunities. For example, the Market Portfolio Management Committee visualizes investment portfolio GHG emissions while discussing allocation policies.

Agendas are discussed and reported to the Board of Directors and the Supervisory Committee as necessary, establishing a system for committees to oversee responses to climate and nature-related issues.



Main Meeting Bodies Handling the Bank's Climate and Nature Issues

Meeting Body	Chairperson	Major FY2024 Agenda Items, Discussions, and Reports (Related to Climate and Nature)
Supervisory Committee	Chairperson of the Supervisory Committee	● Initiatives and business performance (including sustainable management matters)
Board of Directors	President and Chief Executive Officer	● Net zero transition plan (including advanced scenario analysis, sector-specific targets and progress, and sector policies) ● Initiatives and business performance (including sustainable management matters) ● Selection of top risks ● Sustainability Advisory Board meeting results and responses
Sustainability Committee	Chief Sustainability Officer	Total of five meetings in FY2024 (including those co-hosted with other councils) ● Portfolio GHG emission reduction targets (real estate, automobiles, marine transport sectors) ● Natural capital and biodiversity initiatives ● Initiatives to increase agricultural incomes ● Initiatives for human rights in agriculture ● Initiatives and business performance (sustainability initiatives) ● Sustainability Advisory Board meeting results and responses
Risk Management Committee	Chief Risk Officer	● Selection of top risks ● Revisions of Risk Management Policy ● Partial revisions of Policy on Environmental and Social Considerations in Financing and Investment Activities
Portfolio Management Committee, Food and Agri Finance Committee	Chief Financial Officer	● Partial revisions of Policy on Environmental and Social Considerations in Financing and Investment Activities ● Allocation policy development (GHG emission visualization in investment portfolios)

• The name of the Sustainability Committee was changed to Sustainability Management Committee from FY2025.

• The Portfolio Management Committee was split up into the Market Portfolio Management Committee and Credit Portfolio Management Committee from FY2025.

Climate and Nature-related Issue Promotion Structure

The Bank appoints two Chief Sustainability Officers (Co-CSuO) responsible for overseeing and implementing sustainable management. In addition to collaboration between departments, they promote sustainable management with an awareness of global trends (making use of intelligence from overseas offices in Europe, Asia, the Americas, Australia, and other regions). They also work to cultivate business opportunities and conduct risk management.

Furthermore, to strengthen organization-wide sustainable management, we appointed HQ/Unit Sustainability Officers (SuO) to HQs and units (i.e., Food & Agri Banking Business HQ, Retail Banking Business HQ, Global Investment and Banking HQ and Risk Management Unit). The SuO advances the initiatives in each headquarter or unit based on organizational policies and is responsible for strengthening cooperation among HDs and units.



Director Compensation

The Norinchukin Bank is a financial institution founded on agriculture, fishery and forestry cooperatives in accordance with The Norinchukin Bank Act. As such, the Bank aims to contribute to the development of the agriculture, fishery and forestry industries, as well as the national economy, by offering financing and other services to these cooperatives. Implementing sustainable management and addressing climate and nature issues throughout our business will lead to the sustainability of the agriculture, fishery and forestry industries, and ultimately to a sustainable and prosperous society. The Bank designed our directors' compensation system to achieve this goal.

In principle, remuneration for Bank directors and executive officers consists of compensation and retirement benefits. Director compensation consists of fixed and variable systems. Compensation for Supervisory Committee Members and Audit & Supervisory Board Members consists of fixed remuneration only to ensure effective leveraging of their responsibilities. The retirement benefits are common to all directors, Supervisory Committee Members, and Audit & Supervisory Board Members.

The procedure for determining compensation is as follows. Based on the results of discussions by the Director Compensation Deliberation Committee, the Supervisory Committee decides on proposals relating to total executive compensation and retirement benefits, with the final decision taken by the Council of Delegates after their deliberation.

The compensation of individual board members, Supervisory Committee members, and auditors shall be within the range determined by the Council of Delegates. The compensations of directors are decided by consultation of the Board of Directors, that of Supervisory Committee members by consultation of the Supervisory Committee, and that of auditors by consultation of the Audit & Supervisor Board. The specific amounts of retirement benefits are decided by consultation of the Board of Directors for directors, by consultation of the Supervisory Committee for Supervisory Committee members, and by consultation of the Audit & Supervisor Board for auditors, based on resolutions of the Council of Delegates.

Overview of Compensation Structure (Directors)

Compensation Type		Compensation Description	
Directors' Compensation	Fixed Compensation	Determined according to the titles position while considering the Bank's characteristics as a central, specialized financial institution for cooperatives and trends in cooperative organizations and other business sectors.	70%
	Variable Compensation	- Paid as sound incentives for sustainable growth and determined in accordance with whether achieving the goals set in our annual initiatives based on the Bank's medium-term vision. The goals are set to contribute to the realization of a sustainable environment, society, and economy; the sustainable development of agriculture, fishery and forestry, and the region; the creation of value for members and users; and the realization of a flexible and resilient organization. - A portion of variable compensation is awarded based on quantitative and qualitative evaluations of the degree to which individual executives successfully carry out the annual initiatives they set.	30%
Retirement Benefits		Benefits are calculated by multiplying years of service and the amount of compensation during said service by a fixed weighting in accordance with the rules on retirement benefit payments.	

Capacity Building and Arising Awareness

Climate change, natural capital and biodiversity, human rights, human capital, and other sustainability topics are diverse and rapidly changing. In response, the Bank held the Sustainability Roundtable (held 8 times in FY2024) as a forum to learn and exchange opinions on sustainability-related business opportunities and risk measures. Participants included guest lecturers, the Chief Sustainability Officers, and other relevant officers and employees. In addition, to discuss and promote measures and goals for realizing "Nochu Vision 2030," we held a "bottom up" workshop to examine future initiatives together with the Food & Agri Banking Business HQ and Global Investment & Banking HQ.

The Bank is working actively to raise awareness about climate change, biodiversity, and other sustainability issues within the company. We are doing this by providing environmental, human rights, and sustainability training to employees of all ranks, and distributing information about these subjects via an internal portal.

[FY2024 Sustainability Roundtable Topics]

Food security, the rice situation, Green Food System Strategy, trends in discussion at COP, etc., and circular economy

In FY2025, we are holding roundtable discussions led by the Chief Sustainability Officers with domestic branch employees, with the aim of promoting a deeper understanding of the significance and purpose of sustainability initiatives and encouraging co-creation with local stakeholders. We are also stepping up our capacity building efforts.

Sustainability Advisory Board

The Sustainability Advisory Board serves as an advisory body to the board of directors to reflect the opinions of outside experts and advance sustainable management in the Bank. In FY2024, the Board was held in July and January. The board members discussed transition strategies for food and agriculture value chains, the status of efforts to create and visualize impacts, and the future development of sustainable business.

The discussions of the Sustainability Advisory Board will lead to stronger sustainable management through intensified climate and nature efforts and participation in rulemaking.

Name	Affiliation and Position
Takafumi Sato	Supervisory Committee Member, The Norinchukin Bank (Former Vice-Chairman of the IFRS Foundation)
Yukari Takamura	Professor, Institute for Future Initiatives, The University of Tokyo
Keisuke Takegahara	Professor, National Graduate Institute for Policy Studies
Shinji Matsuoka	Chief Sustainability Officer & Managing Executive Officer, Meiji Holdings Co., Ltd.

As of April 1, 2025

Engagement with Affected Stakeholders

The Bank recognizes that to achieve sustainable environments and communities and establish agriculture, fishery and forestry industries for future generations, it engages with stakeholders and work with them in dialogue based on deep mutual understanding.

As a financial institution, we engage in dialogue with investees and borrowers on environmental and social issues, focusing on the risks and opportunities that arise through our business activities. In response to climate change, the Bank has set interim GHG emissions reduction targets for portfolio companies to meet by FY2030. We are also working to provide finance and solutions to help clients meet their targets.

In addition, as a national organization of financial institutions, we have formed the SDGs Liaison Conference within the JA Group, together with JA Zenchu, JA Zen-Noh, JA Zenkyoren, and other national bodies. Participants of this conference discuss and collaborate on global sustainability issues and initiatives to promote the sustainability of the agriculture, fishery and forestry industries and local communities. The Bank also shares information and holds dialogues with JA Shinnoren federations (prefecture-level federations), on the situation surrounding climate change and disclosures based on TCFD recommendations. In FY2024 we provided support for TCFD disclosures to four JA Shinnoren federations and exchanged views on sustainable management with four other JA Shinnoren federations. As a result, a total of 10 JA Shinnoren federations are now making TCFD disclosures. Similarly, we discuss and collaborate with the National Federation of Fisheries Co-operative Associations (JF Zengyoren) about fisheries, and with the National Federation of Forestry Owners' Co-operative Associations (JForest) about forestry.

Understanding Human Rights, Indigenous Peoples and Local Communities

The Norinchukin Bank recognizes that the perspective of a “just transition” is necessary for addressing the issues such as climate change, natural capital, and biodiversity. Indigenous and local peoples around the world, whose cultures have intertwined naturally with nature, still play a major role in protecting and ensuring the proper use of nature. It is for this reason that “Engagement with Indigenous Peoples, Local Communities, and Affected Stakeholders” is one of the six general requirements of the TNFD recommendations. Furthermore, the third recommended disclosure under “Governance” (one of the four pillars of the TNFD framework) requires communication with indigenous peoples and local inhabitants, as well as awareness and exercise of human rights.

Utilizing traditional knowledge, indigenous peoples take great care of biodiversity-rich areas through interactions that do not damage ecosystems. This information and knowledge are crucial to achieving nature positivity. In Japan too, local stakeholders, such as farmers who preserve terraced rice fields and fishermen who maintain and regenerate seaweed beds, are important. We recognize that the participation and opinions of local stakeholders should be fully taken into account when examining matters related to the risks and opportunities of a company or enterprise.

The TNFD recommendations put importance on respect for the rights of local communities and indigenous peoples in the governance of an organization, including its management. In light of this, The Norinchukin Bank has established an Environmental Policy and Human Rights Policy that represent our core principles related to the environment and society. Our Environmental Policy stipulates that we contribute to tackling climate change, biodiversity, and other environmental challenges through our business activities, as well as to reducing their environmental impact. It also calls for us to pursue initiatives based on TCFD and TNFD recommendations.

Environmental Policy: Key Points

- 1) Reflecting on our basic mission, we declare that we will contribute to the creation of a sustainable society through partnership and collaboration with fellow members
- 2) We declare our support and participation in international standards and initiatives to address environmental issues
- 3) We implement concrete initiatives based on the Environmental Policy through our core financing and lending business
- 4) We declare that, as a financial institution founded on the agriculture, fishery and forestry industries, climate change and biodiversity* are particularly important environmental issues, and that we will respond to these issues through our business activities
- 5) We declare that we shall strive to respond to environmental issues as an element tied closely to our ability to foster a sound corporate culture, the backbone of our operations

* Refers to supporting and adopting the TCFD and TNFD recommendations, pursuing initiatives based on the purpose of said recommendations

Human Rights Policy: Key Points

- 1) Reflecting on our basic mission, we declare that we will contribute to the creation of a sustainable society through partnership and collaboration with fellow members
- 2) We declare our support and respect for international standards and initiatives* to address human rights issues
- 3) We declare our respect for human rights across the entire value chain (directors, employees, customers, and suppliers) in accordance with the concepts of the UN Guiding Principles on Business and Human Rights (Ruggie Principles)
- 4) We declare that we shall strive to respond to human rights issues as an element tied closely to our ability to foster a sound corporate culture, the backbone of our operations

* Universal Declaration of Human Rights, International Covenant on Economic, Social and Cultural Rights, International Covenant on Civil and Political Rights, ILO Declaration on Fundamental Principles and Rights at Work, UN Guiding Principles on Business and Human Rights, UN Global Compact, OECD Guidelines for Multinational Enterprises

In accordance with the above policy, the Bank is committed to helping agriculture, fishery and forestry workers enjoy greater well-being. At the same time, we respect the rights and dignity of all people based on the principle of equality and work to help shape a fairer society in line with the mutual aid philosophy and spirit of cooperatives. To address international human rights issues, we support and respect the Universal Declaration of Human Rights, the International Covenant on Economic, Social and Cultural Rights (ICESCR), the International Covenant on Civil and Political Rights, the ILO Declaration on Fundamental Principles and Rights at Work, the UN Guiding Principles on Business and Human Rights, the Global Compact, the OECD Guidelines for Multinational Enterprises, and other international standards. Furthermore, the Bank began disclosing statements on human rights issues throughout our supply chain in 2016 in line with the requirements of the UK Modern Slavery Act 2015. The Global Compact, in particular, makes clear the responsibility of companies, stating “They must act with due diligence to avoid infringing the rights of others, which includes addressing any negative human rights impacts related to their business.”

We position the Human Rights Policy as our basic guideline for actions on human rights under our Code of Ethics, the highest level of regulation stipulating a code of conduct for all officers and employees. In the Human Rights Policy, we specify that the Bank will strive to conduct due diligence to prevent or mitigate adverse human rights impacts arising from the financial services we provide. Every three years, we identify any human rights issues arising from our business activities and value chain (including group companies) and evaluate their impacts by partnering with external experts and interviewing employees.

Based on our Human Rights Policy, we also set up a Basic Policy for Investments and Loans, as well as a Policy on Consideration of Environmental and Social Issues in Investments and Loans. Under these policies, the Bank strives to take appropriate action on priority issues, focusing on topics and sectors recognized to have significant potential to negatively impact human rights. More specifically, we are identifying cross-sectoral issues that require special attention when making investments and loans. Such issues include projects that may negatively impact indigenous and other local communities or lead to involuntary resettlement due to land expropriation. These sectors include coal-fired power generation, coal mining, palm oil, forestry, inhumane weapons, oil and gas, large-scale plantations, and large-scale hydroelectric power generation.

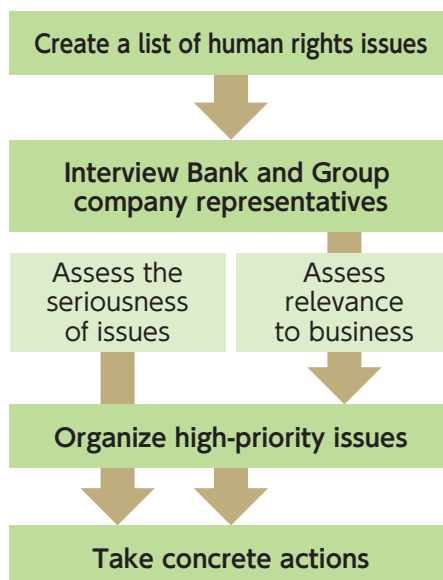
The Bank adopts the Equator Principles to consider local communities and indigenous peoples affected by investments and loans. Based on our Basic Policy for Investments and Loans, we also formulated the Equator Principles Basic Policy and the Administration Guidelines for the Equator Principles. As part of our investment and loan decision-making, we verify conformity with the Equator Principles and require our investment and loan clients to comply with these principles on the rights of local communities and indigenous peoples in large-scale development projects. The Bank recognizes our current limitations and the need to strengthen stakeholder engagement based on TNFD guidance on stakeholder engagement* for financial institutions. We strive to enhance stakeholder engagement going forward, identifying nature-related dependencies, impacts, risks, and opportunities in our investments and loans.

* The Bank references the TNFD Guidance on Engagement With Indigenous Peoples, Local Communities and Affected Stakeholders to improve stakeholder engagement going forward.

Identification and Assessment of Human Rights Issues and Impacts, and Mitigation of Negative Impacts

In our most recent human rights due diligence review in FY2022, we collaborated with outside experts to identify human rights issues in our business activities and value chains (including group companies) through employee interviews and other means. The highest priority human rights issues in terms of their significance to The Norinchukin Group and urgency were determined by assessing the severity of the issue to the human rights holder and listening to the opinions of outside experts. These priority issues related to modern slavery, human rights impacts of money laundering, privacy and information security, diversity and inclusion, workplace harassment, and forced and child labor in supply chains.

Overview of human rights impact assessment



To prevent and mitigate the negative impacts of important human rights issues, we are working to verify the effectiveness of existing initiatives and measures, and progressively developing additional measures in accordance with priority.

<Initiatives to promote respect for human rights of foreign workers (addressing the human rights issue of modern slavery)>

To address the human rights issue of modern slavery (forced or child labor), in FY2023 we conducted a survey together with Norinchukin Research Institute Co., Ltd. (NRI), analyzing publicly available information and conducting interviews with experts, industry bodies, and the Ministry of Agriculture, Forestry and Fisheries in order to collect and organize information to serve as a basis for discussions on concrete initiatives for sectors identified to be at high risk of adverse impacts on foreign workers (agriculture, construction and food manufacturing factors) in the supply chains of the Bank and its group companies. From this survey, we verified the following two points.

- ✓ In high-risk sectors, small and medium-sized enterprises and companies in labor-intensive industries tend to accept foreign workers who are in vulnerable circumstances, resulting in greater risk of forced labor or other human rights abuse.
- ✓ Raising awareness about such vulnerabilities and human rights has the potential to prevent forced labor.

As a financial institution grounded in the agriculture, fishery and forestry industries, in FY2024, we set out to take action in the agricultural sector based on the above survey results. Specifically we created a set of document, titled “Self-diagnosis Kit for Improving Workplace Environments for Foreign Workers in Agriculture,” aimed at agricultural corporations and farmers who employ or accept foreign workers. This kit aims to prevent human rights abuses by getting employers to check their level of understanding using a self-check list and consult an explanation guide. Referring to examples of good practice, they learn to keep in mind important points.

In exploring and developing this initiative, we worked both with NRI and outside experts, practitioners, and agricultural bodies. We held two Agriculture and Human Rights Study Group meetings to exchange opinions, with outside experts serving as reviewers. We also exchanged opinions with sending organizations, supervisory organizations, and other relevant bodies, and conducted trials with 14 client companies of the Bank. In total, we cooperated with 41 organizations (70 people) in preparing the initiative.

As we continue to engage in dialogue with stakeholders in the agricultural sector, we will promote use of the “Self-diagnosis Kit for Improving Workplace Environments for Foreign Workers in Agriculture.” We will also go on working toward sustainable agricultural development by helping to secure and retain more workers by improving work environments.

In our FY2025 Human Rights Impact Assessment we will assess the current state of human rights risks, impacts, and opportunities across the whole value chain of the Bank and its group (our own operations, those of investees and borrowers, companies in our supply chains and other business partners). When identifying significant human rights issues, we will also confirm the effectiveness of these initiatives and measures.



Our Purpose

“Dedicated to sustaining all life. Work together with our stakeholders, to foster the agriculture, fishery and forestry industries and to create a prosperous future for food and lifestyles, and thereby contribute to a sustainable global environment.” This is our purpose. Mitigating and adapting to climate change, as well as conserving and restoring natural capital and biodiversity, are essential in bringing about abundant food supplies and rich environments. These are issues that affect all life directly.

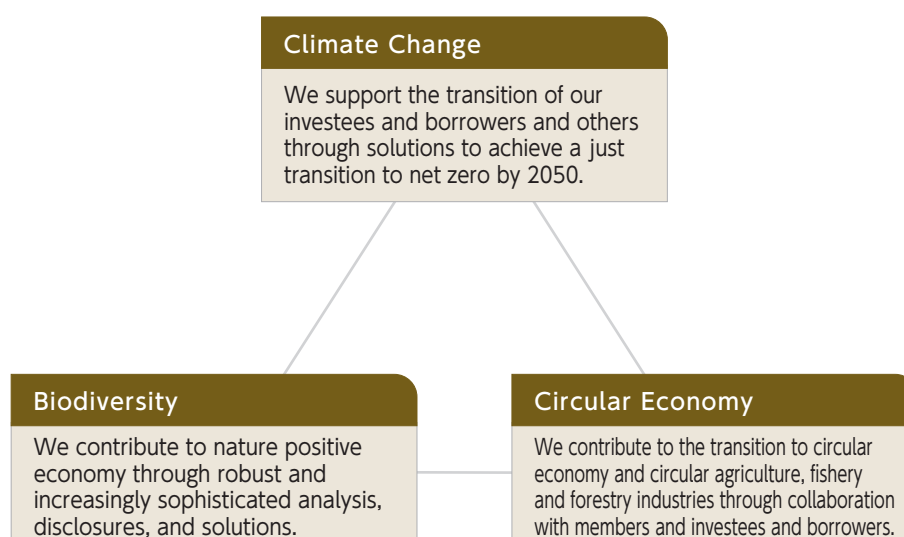
Materiality: Important Issues to Achieve Our Purpose

The Norinchukin Bank identified the following materialities related to achieving our Purpose: Realizing a carbon-neutral society, Realizing a society living in harmony with nature, Strengthening the “earning power” of agriculture, fishery, and forestry industries, Realizing a resilient food system, and Achieving well-being at both the local and international level.

These materialities represent the Bank’s desire to make positive impacts and reduce negative impacts on the sustainability of agriculture, forestry, fisheries, and food, and to help shape a sustainable environment and society, which are essential requirements for such sustainability.

Medium-Term Vision: Our Vision for 2030

In March 2024, the Bank announced a medium-term vision (Nochu Vision 2030) to serve as management guidelines to ensure that business operations contribute to achieving our Purpose. One of the goals we have set in “Vision for 2030” is to “Create impact for the global environment, society and economy: Harnessing the power of cooperatives and finance, we aspire to continue to create positive impact toward sustainable environment, society and economy.” Climate change, biodiversity, and circular economies represent three priority areas of focus. As a financial institution, we pursue efforts that contribute to parallel solutions to these environmental issues for the development of the agriculture, fishery and forestry industries and to make lives more sustainable.



The Bank recognizes the importance of a Just Transition in sectors that require structural change to achieve a decarbonized society, nature-positive economy, and circular economy, in order to ensure that employment equity and inclusion are not undermined.

Recognition of Opportunities Related to Climate and Nature

Climate change presents current and future risks. At the same time, it may give rise to business opportunities related to mitigating and adapting to these risks. For example, the transition to renewable electric power generation will lead to capital investment and financing, which in turn will lead to financing opportunities for the Bank. At COP28 in 2023, the goals of tripling renewable power generation capacity and doubling energy efficiency were agreed on. In Japan, the Basic Policy for the Realization of GX (green transformation) (approved by the Cabinet in February 2023) calls for the promotion of GX investment using “GX Transition Bonds.” The policy aims at realizing public-private investments of 150 trillion yen over the next 10 years.

Similarly, opportunities for financing and other businesses will also emerge from the issue of biodiversity. It is estimated that around US\$200 billion per year of financing for nature positive initiatives will be needed by 2030. According to Ministry of the Environment estimates based on a World Economic Forum (WEF) survey, the scale of business opportunities arising from Japan’s transition to a nature-positive economy by 2030 is estimated at approximately 52 trillion yen. In addition to energy and infrastructure, this figure includes opportunities (worth approx. 13 trillion yen) from the use of food, land, and sea.

The Bank will strive to appropriately identify demand for financing and solutions for decarbonization and ecosystem restoration, and transform them into business opportunities through dialogue and collaboration with its clients and members. As announced by the Climate Policy Initiative (CPI) and the UN Food and Agriculture Organization (FAO) at COP29 in 2024, an additional investment of 1.1 trillion dollar per year, corresponding to 40 times the current investment level, is needed to achieve food sustainability*. Given the organizational background of the Bank, we recognize that closing this investment gap offers an important area of opportunity that we will seek to seize, working in collaboration with investees and borrowers, and members. As a concrete approach, we will focus on effecting the transition of entire food and agriculture value chains to robust and sustainable chains, by collaborating with and supporting clients operating in the midstream and downstream parts of the value chain in materials, food processing and manufacturing, and retail. We will do this keeping in mind the need to resolve issues and ensure sustainability in the upstream parts of the value chain too.

* FAO at COP29: Calling for investment in agrifood systems to tackle the climate crisis

<https://www.fao.org/newsroom/detail/fao-at-cop29--calling-for-investment-in-agrifood-systems-to-tackle-the-climate-crisis/en>

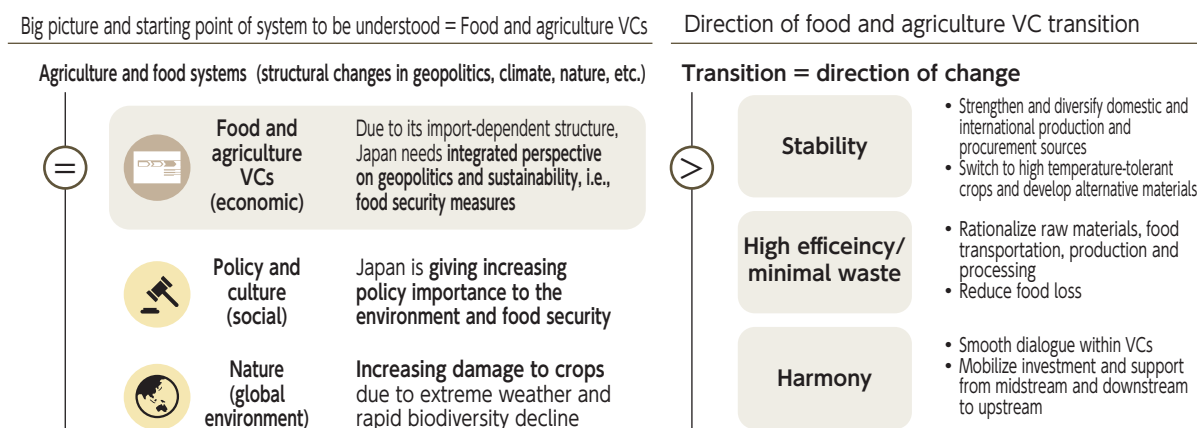
Concepts and Directions for Food and Agriculture Value Chains Transition

Structural Changes in Agriculture and Transition Directions in Food Value Chains

At COP28 in 2023, the Emirates Declaration on Sustainable Agriculture was adopted with the support of over 100 countries. It represents an international reaffirmation of the importance of agriculture and food systems in combating climate change.

In Japan, meanwhile, the issues of environmental harmony and food security were raised in laws and policies such as the MIDORI Strategy for Sustainable Food Systems, the Basic Act on Food, Agriculture and Rural Areas, which was revised for the first time in 25 years, and “Regional Revitalization 2.0.” The JA Group also has a policy of promoting “environmentally friendly agriculture” as a balanced form of agriculture that does not excessively burden the natural environment, producers, or consumers, and that is environment-friendly and sustainable. In light of these domestic and international trends and the time constraints imposed by global environmental limits, it is vital to determine which parts of these extremely diverse systems to address, as well as how and in what order to address them. It is also necessary to start taking action quickly.

Our agriculture and food system are broadly woven together from the elements of food and agriculture value chains (VCs) (economic), policy and culture (society), and global environment (climate, nature). As a financial institution representing cooperatives that form the core of our agriculture, fishery and forestry industries, the Bank views VCs and their transitions as our starting point based on the wide range of contacts throughout food and agriculture VCs, from upstream, to midstream, and downstream. On this basis, we explore how to resolve the multiple challenges of VCs, hypothetically identifying directions of transition in terms of “stability”, “high efficiency/minimal waste”, and “harmony”.



Source: Created by the Norinchukin Bank based on various sources

Forming Flows of Investment, Support and Environmental Value in VCs

In food and agriculture VCs, the transitions in upstream production sites are important in light of GHG emissions and reducing the burden on nature. However, considering the resources available to farmers, fishermen and foresters, it would be difficult for them to secure the necessary funds and knowledge through their own efforts. Given this current situation, it is necessary to collaborate with midstream and downstream companies (processors/manufacturers, retailers) to initiate the flow of investment and support needed for transition. A good way to start is to reduce Scope 3 GHG emissions, which companies will have to address more and more in the future, and to understand the points where companies interact with nature based on TNFD recommendations.

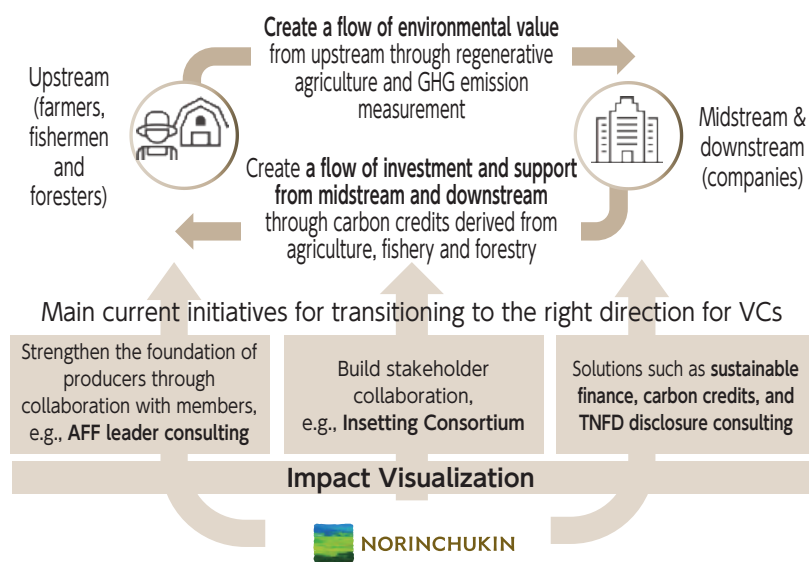
In other words, it is important to use this approach to foster opportunities among midstream and downstream companies, to encourage investment and support upstream in the context of solving complex issues of economics, geopolitics, and sustainability. At the same time, it is essential to build partnerships to ensure that environmental values such as reductions in GHG emissions achieved through environmentally harmonious agriculture flow back to midstream and downstream sectors.

One of the initial partnerships building efforts that the Bank has seriously applied is the creation and distribution of carbon credit derived from the agriculture, fishery and forestry industries. While supporting the shift to environmentally friendly management in agriculture, fishery and forestry industries in collaboration with members and partner companies, and creating carbon credits, we also aspired to offer a one-stop service for selling credits to companies that see their value. As we go along, we communicate the story behind the credits and their impact on climate and nature.



On the other hand, offsetting emissions with carbon credits does not necessarily work only within VCs. Outside VCs, they serve as a way to direct investments and support from midstream and downstream to upstream in the chain. In this case, however, the environmental value does not directly translate to a reduction of their burden or enhancement of their environmental efforts for midstream and downstream companies. Consequently, in order to create environmental value and increase the flow of investment and support from midstream and downstream to upstream within a VC, the Bank is focusing on the concept of “insetting.” Insetting is designed to generate environmental value by getting companies to invest in and support upstream operations within their VC. As a result, the entire VC enjoys higher environmental value and other benefits. In August 2024, together with supporting companies, the Bank established the Insetting Consortium, a collaborative framework for stakeholders aimed at expanding the use of insetting.

Using the Insetting Consortium and other means, and leading the formation of practices, we will offer consulting to support infrastructure upgrades and environmentally friendly management for upstream operations. To midstream and downstream operations, we will incorporate sustainable finance and TNFD disclosure support. As such, we will promote the transition of VCs by strengthening and expanding the flow of investment and support from midstream and downstream to upstream.



Column

Supplying Credits for EcoBalance 2024 Conference and Supporting Food Matching

EcoBalance is an international conference organized by the Institute of Life Cycle Assessment, Japan (ILCAJ). It has been held every two years since 1994 for profound discussion on development and implementation of environmental assessment methods. EcoBalance 2024 (16th meeting) was based on the concept of contributing to environmental conservation, particularly in the host region of Tohoku, and building momentum among participants. The conference explored offsetting the CO₂ emissions associated with the event with carbon credits and promoting related food ingredients.

The Norinchukin Bank supported the realization of this concept comprehensively from credit creation to distribution, by supplying carbon credits derived from agriculture and forestry in Tohoku and Nationally Certified Sustainably Managed Natural Sites, along with relevant food products.



Credit supply and ingredient matching in collaboration with members, producers, and partner businesses



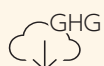
J-Credits derived from agriculture (biochar, midseason drainage of rice paddies) and forestry in the Tohoku region and vegetables and rice from such agriculture



J-Blue Credits from a blue carbon Project in a Nationally Certified Sustainably Management Sites (Kagoshima Prefecture) and amberjack (fish) farmed in adjacent waters



EcoBalance November 2024, Sendai City, Miyagi



Offsetting of credits from Tohoku

28 t-CO₂e of the 76.4 t-CO₂e of emissions associated with the conference were offset



Appeal with story and significance of offset

At a banquet, the relevant foods were served and an overview of the project was presented in English



Source: The Norinchukin Bank

Comment from Kazuyo Matsubae (Professor, Graduate School of Environmental Studies, Tohoku University), Chair of the EcoBalance 2024 Organizing Committee



In organizing EcoBalance 2024, we wanted to minimize the environmental impacts associated with the event. Our various initiatives such as carbon offsetting, using reusable cutlery, making use of unutilized local foods, and foods that generate carbon credits were greatly appreciated by Japanese and international conference participants. We hope to carry over this success to EcoBalance 2026 and other events in Sendai, to build a positive legacy. On behalf of the Organizing Committee, I would like to express my gratitude to The Norinchukin Bank and other supporting businesses for their cooperation. As an LCA researcher and university scholar, I hope to continue collaborating and contributing in my own small way to help such initiatives to expand in the coming years.

Future Direction

Transitions in food and agriculture VCs will focus on how to transform the agriculture, fishery and forestry industries. To this end, it will be necessary to examine ways to create and visualize environmental value upstream, and to communicate within the VC. In other words, we will pursue a harmonious transition of VCs by shifting to environmentally friendly management upstream and learning how to more precisely convey the environmental value generated upstream; encouraging these efforts in midstream and downstream; and, finally, appropriately communicating all this to consumers.

In addition, as evidenced by the fact that Japan's food self-sufficiency rate stands at a low 38%*, we can assume that imported agricultural products and raw materials are quite important in terms of reducing midstream and downstream Scope 3 emissions and understanding points of contact with nature. Overseas, large-scale investments and support for regenerative agriculture are gaining momentum through collaborations between businesses, financial institutions, startup ventures, and other players. From the viewpoint of contributing to Japan's food security, we recognize the need to consider overseas production sites together with our investees and borrowers.

We will continue to tackle the challenge of VC transitions as a cross-organizational strategy to create impacts leading to net zero, nature positive, and circular economy outcomes, and the realization of sustainable food, agriculture, fishery and forestry industries.

* Food self-sufficiency rate in FY2023 (Ministry of Agriculture, Forestry and Fisheries)
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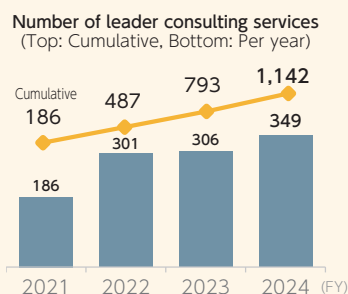
Column

Examples of Initiatives to Help Transition Food and Agriculture Value Chains

Addressing management challenges for farmers through leader consulting

In collaboration with JA Bank, we provide consulting services to address the management challenges of farmers. Since FY2021, we have provided over 1,000 consultations. With the aim of increasing added value (income of enterprises) our consulting goes beyond proposing solutions to checking and supporting implementation status.

As a recent example, the Bank provided a joint consulting service with the Tochigiken Kaitaku Agricultural Cooperative to Isoshin Farm Co., Ltd., a company in Otawara City, Tochigi that utilizes its strength in circular agriculture to engage in a diversified business of beef cattle raising, rice farming, and asparagus production. We are supporting the further development of circular agriculture by formulating a long-term vision including a business succession plan, increasing productivity and income through farming plans and practices, and helping to create farming manuals to facilitate the transfer of farming techniques to the next generation.



The cattle shed at Isoshin Farm



Source: The Norinchukin Bank

Support for planning and implementing JA's sustainable agriculture initiatives

The Bank supports JA's efforts to promote sustainable agriculture. In its medium-term management plan, "Mirairo Plan," JA Fukushima Mirai has set commitments to cut soaring fertilizer costs, practice environmentally friendly agriculture¹, and build a MIDORI Strategy for Sustainable Food Systems². As part of this effort, it has also set up a soil analysis center. By using soil analysis to review fertilizer use, the JA is trying to improve crop quality and reduce production costs, and implement environmentally friendly practices by reducing fertilizer use. The Bank is supporting the planning and implementation of these efforts.

1 Within the JA Group, this is defined as "balanced agriculture that does not excessively burden the natural environment, producers, or consumers, and that reduces environmental impacts and is sustainable."

2 In accordance with the MIDORI Strategy for Sustainable Food Systems formulated by the Ministry of Agriculture, Forestry and Fisheries to increase both the productivity and sustainability of food and agriculture, fishery and forestry with innovative ideas



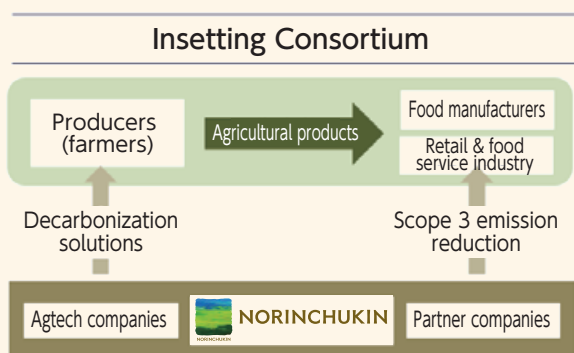
Source: JA Fukushima Mirai

Collaborating with startups and venture companies to promote food and agriculture value chains transition

The Insetting Consortium, established in August 2024 to promote transition of food and agriculture value chains, now includes not only food manufacturers and distribution companies, but also startups offering decarbonization solutions. The Bank recognizes that leveraging innovation is essential for transition. It is therefore actively collaborating with startups and ventures that lead innovation.

As a specific example, consortium member TOWING Co Ltd. has partnered with us to realize sustainable agriculture and expand the use of biochar. In April 2025, the Bank took the podium at Global Biochar Exchange 2025, a conference for sharing insights on insetting. In May 2025, AgVenture Lab, an association set up by eight national JA Group companies (including Norinchukin Bank) invested in the company to facilitate the further growth.

Overview of Insetting Consortium Initiatives



On stage at Global Biochar Exchange 2025



Photo: TOWING

Participating in Collaborations of Industry, Academia and Government as well as in Initiative Alliances

To recognize climate and nature-related risks and seize resulting opportunities, it is important to engage in discussions and conduct repeated trials in partnership with a wide range of stakeholders. Through participation in climate, nature, and circular economy initiatives, study groups, industry-academia-government collaborations (joint research), and financial institution partnerships, the Bank keeps track of Japanese and global trends relating to targets, measurements, and engagement, contributing to practice formation.

In April 2023, The Norinchukin Bank joined the Net-Zero Banking Alliance (NZBA). After completing goal setting based on guidelines formulated by NZBA, we withdrew from the alliance in March 2025. However, the Bank's commitment to net zero remains unchanged. We will continue to work persistently for this goal.

Major initiatives and alliances that the Bank takes part in

		Climate change	Natural capital & biodiversity	Circular economy & society
High-level commitments	Cross-domain			
	Domain-specific			
Measurement				
Engagement (dialogue)				
Disclosure				

Various study groups, research committees, etc. that the Bank is a member of

Overview	
TNFD Task force member	The Bank contributes to the development and communication of this global disclosure framework as a member of the TNFD Task Force. As a co-convenor of the TNFD Consultation Group Japan (TNFD Japan Council), the Bank promotes awareness and understanding of TNFD in Japan.
Ministry of the Environment Member of the Study Group on Nature Positive Economy	The Bank has participated as a member of this study group for comprehensive discussion and consideration of natural capital and biodiversity, and corporate management, since its inception, contributing to the formulation of a strategy for transition to a nature-positive economy and discussions on the roadmap to get there.
Ministry of Agriculture, Forestry and Fisheries Member of the Study Group on Social Impacts on Rural Areas	The Bank is an active member of this study group that aims to visualize the social impacts of various initiatives being implemented in rural Japan, thereby contributing to the formulation of guidance on visualizing impacts on rural areas.
Ministry of the Environment; Ministry of Agriculture, Forestry and Fisheries; Ministry of Land, Infrastructure, Transport and Tourism; Financial Services Agency; Ministry of Education, Culture, Sports, Science and Technology Practical Panel on Climate Change-related Data Utilization and Adaptation	To ensure that climate-related data can be accurately and effectively used for climate change-related adaptation, risk reduction, and opportunity creation, the Bank is participating in a panel that shares case studies and challenges of initiatives (including those related to efficient use of data) by stakeholders with discussion of possibilities for collaboration.
Cabinet Office "Moonshot Program for Agriculture, Forestry and Fisheries" (National Institute of Advanced Industrial Science and Technology)	The Bank has been appointed as an advisor to the Innovation Advisory Board of "Construction of circulating production platform by environmental control based on Soil Microbe Atlas," a project undertaken by a consortium led by Waseca University as part of the Cabinet Office's "Moonshot Program for Agriculture, Forestry and Fisheries" (National Institute of Advanced Industrial Science and Technology, AIST). We are providing advice on R&D.
Ministry of Agriculture, Forestry and Fisheries Member of the FY2025 Food Loss Reduction Survey Projects* Review Committee	The Bank has been appointed as a member of the study group tasked with establishing and implementing a system for appropriately evaluating the efforts of food-related businesses. We are involved in discussions about reducing food loss. * Survey for establishing a framework for visualizing efforts to reduce food waste generation, etc.

Column

Taking the stage at 8th High-level Panel on ESG Finance

The High-level Panel on ESG Finance is a forum for discussion that brings together leaders from the worlds of finance, investment, and industry to further mainstream ESG finance in Japan. The forum was held for the eighth time on March 13, 2025.

The 8th Panel featured discussions on implementing the Sixth Basic Environment Plan and the prospects of realizing a nature-positive economy and circular economy. The Norinchukin Bank's Representative Director and Executive Officer, Co-CSuO, and CFO (at the time), KITABAYASHI Taro, gave a presentation about the bank's efforts to contribute to a nature-positive economy.



Photo: Ministry of the Environment

Major Industry-Government-Academia Collaborations

Overview

National Agriculture and Food Research Organization Partnership Agreement for Sustainable Food and Agriculture	To realize sustainable food and agriculture, the Bank signed a partnership agreement aimed at seeking solutions to various sustainability challenges (GHG emission reduction, carbon credits, natural capital and biodiversity, circular economy, animal welfare, etc.)
The Nature Conservation Society of Japan Partnership agreement for promotion of nature positive initiatives in forests, villages, rivers and seas, as well as industries related to agriculture, fishery, forestry and food	To promote nature-positive initiatives in forests, villages, rivers, and seas, and in agriculture, fishery, forestry, and agriculture, the Bank entered into a partnership agreement focused on developing practices utilizing "State of Nature" indicators, developing finance solutions for nature positive outcomes, and building projects connected with nature-positive practices in agriculture, fishery, and forestry.
Waseda University Itsubo Lab	The Bank is conducting joint research on portfolio analysis using LIME3, a LCA analysis tool, covering the nine domains of climate change, air pollution, photochemical ozone, water, fossil fuels, mineral resources, forest resources, land use, and waste.
Tohoku University and other institutions Gastronomic Geopolitics	The Bank entered into a joint research agreement on gastronomic geopolitics (selected for the JST Program on Open Innovation Platforms for Industry-academia Co-creation (COI-NEXT)) aimed at realizing greener food supply chains and consumer activities that take climate and nature into account.
Cabinet Office Programs for bridging the gap between R&D and the ideal society (Society 5.0) (BRIDGE)	The Bank is participating in the research projects below to contribute to the development of practices related to nature positivity and to food and agriculture value chains. • "Development and demonstration project of Nature Footprint for promoting Nature-related Financial Disclosures by investors and financial institutions and international standardization" • Project to promote strategic considerations for rule-making and market creation for different sectors based on the nature-positive economic transition strategies • International standardization of GHG reduction and absorption technologies in the agriculture and food sector

Column

Initiatives for Programs for bridging the gap between R&D and the ideal society (Society 5.0) (BRIDGE)

The Bank was commissioned to work on projects under the Cabinet Office's BRIDGE programs (Programs for bridging the gap between R&D and the ideal society (Society 5.0) and generating economic and social value) in collaboration with external parties. It is working specifically on rule-making and practice formation.

We participated as a member of a consortium led by the contractor Ernst & Young ShinNihon LLC tackling "Policy Proposals for Rule-Making and Market Creation in the Fisheries (Aquaculture) Sector Based on the Nature Positive Economic Transition Strategy" by the Ministry of the Environment and the Environmental Restoration and Conservation Agency (ERCA). The Bank and the Group's think tank, Norinchukin Research Institute, are proposing financial schemes such as using environmental impact bonds to expand nature-positive aquaculture practices.

We are contributing to efforts to transfer and expand Japan's GHG emission reduction and absorption technologies and carbon credit methodologies to ASEAN countries in connection with the "International Standardization of GHG Reduction and Absorption Technologies in the Agriculture and Food Sector" initiative of the National Agriculture and Food Research Organization (NARO). We are doing this in collaboration with NARO and utilizing our investment and finance networks to arrange members and conduct research.

We are also helping to formulate guidance to expand the use of nature footprint metrics developed in Japan in connection with the "Development and Demonstration Project of Nature Footprint Based on the Promotion of Nature-Related Information Disclosure and International Standardization by Financial/Investment Institutions" initiative.

Partnerships with Major Financial Institutions and Corporations for Developing Climate and Nature-based Solutions

Overview

Finance Alliance for
Nature Positive Solutions
(FANPS)

This alliance was formed in 2023 jointly by The Norinchukin Bank, Sumitomo Mitsui Financial Group, MS&AD Insurance Group Holdings, and Development Bank of Japan for the purpose of promoting and supporting the nature-positive transition of companies. We are pushing initiatives such as providing tools that enable companies to easily diagnose compatibility with TNFD and cataloguing solutions that contribute to nature positive.

Technical partnership with
Yachiyo Engineering

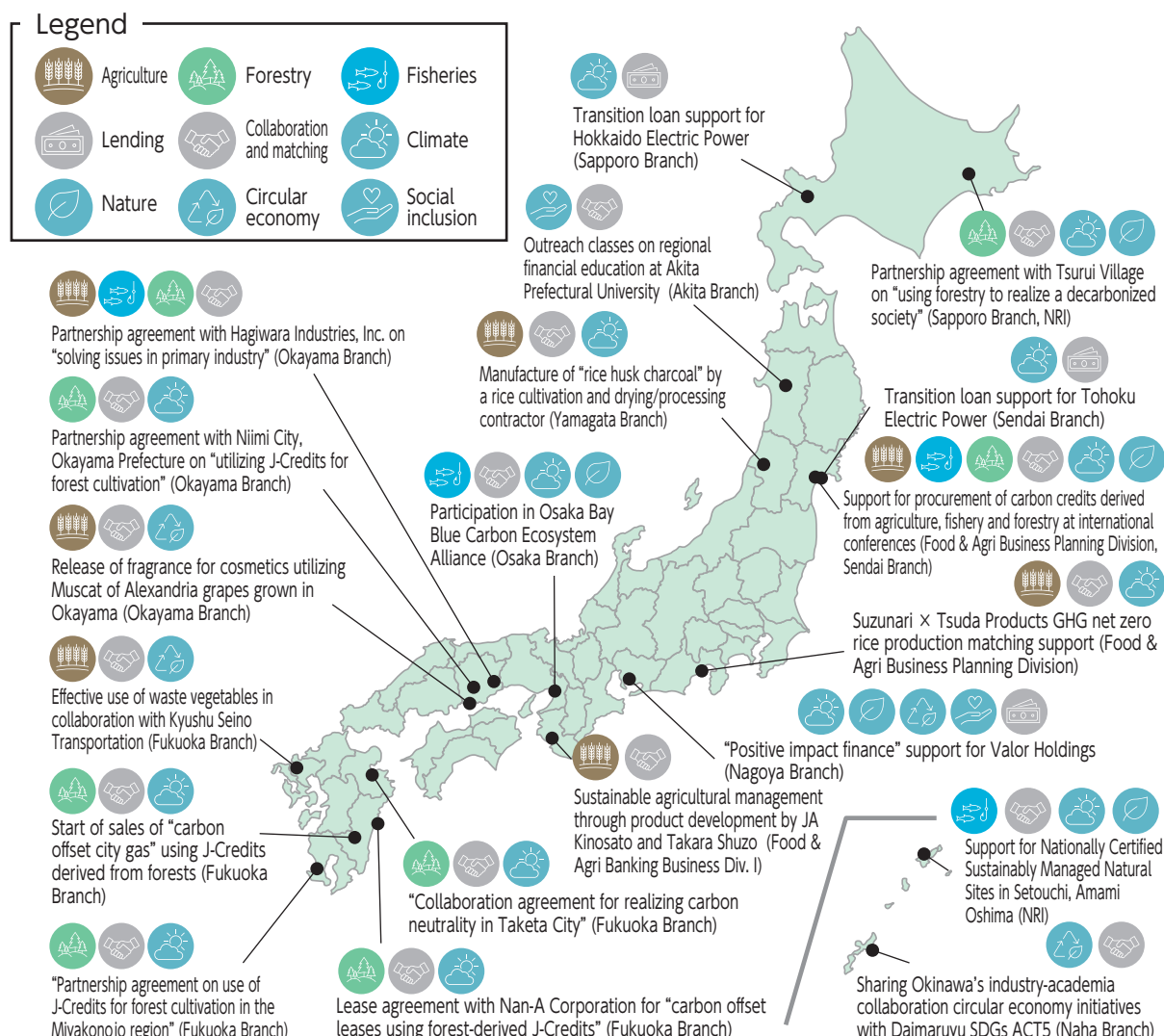
The Bank entered into a technical partnership agreement aimed at developing and deploying solutions for nature-related challenges, and we are jointly supplying consulting services and solutions for meeting the needs of the TNFD recommendations and blue economy.



Initiatives to Revitalize the Agriculture, Fishery, Forestry, and Local Communities

As an organization grounded in agriculture, fishery, forestry, and local communities, in addition to investment and finance, the Bank is working on projects aimed at revitalizing the agriculture, forestry, fisheries and local communities through collaboration with our members and the government.

Examples of major initiatives for revitalizing agriculture, fishery, forestry, and local communities in FY2024



The TNFD recommendations and the draft guidance on transition plans published by TNFD emphasize the landscape/seascape approach (an integrated approach incorporating geological and ecological perspectives) for dealing comprehensively with diverse human activities and the natural environment, and deriving methods for solving problems. In Japan, this approach is being promoted within the frameworks of "Nationally Certified Sustainably Managed Natural Sites" and "Regional circular and ecological sphere." In this context, we recognize that local agriculture, fishery and forestry cooperatives are expected to play a role not just as organizations of producers, but also as "hubs" of the landscape/seascape approach. In other words, at the heart of any effort to establish an ideal local natural environment in coexistence with culture and industry through dialogue and consensus-building, the presence of producers and cooperatives that have a deep understanding of agriculture, fishery and forestry—vital local industries that interface directly with nature—is absolutely essential. Cooperatives are capable of acting as intermediate support organizations in collaboration with academia, business, and government, to connect with outside expertise, finance, and technology. Through its own initiatives, and support for its members, the Bank will diligently fulfill the role expected of a cooperative and strengthen its business foundation.

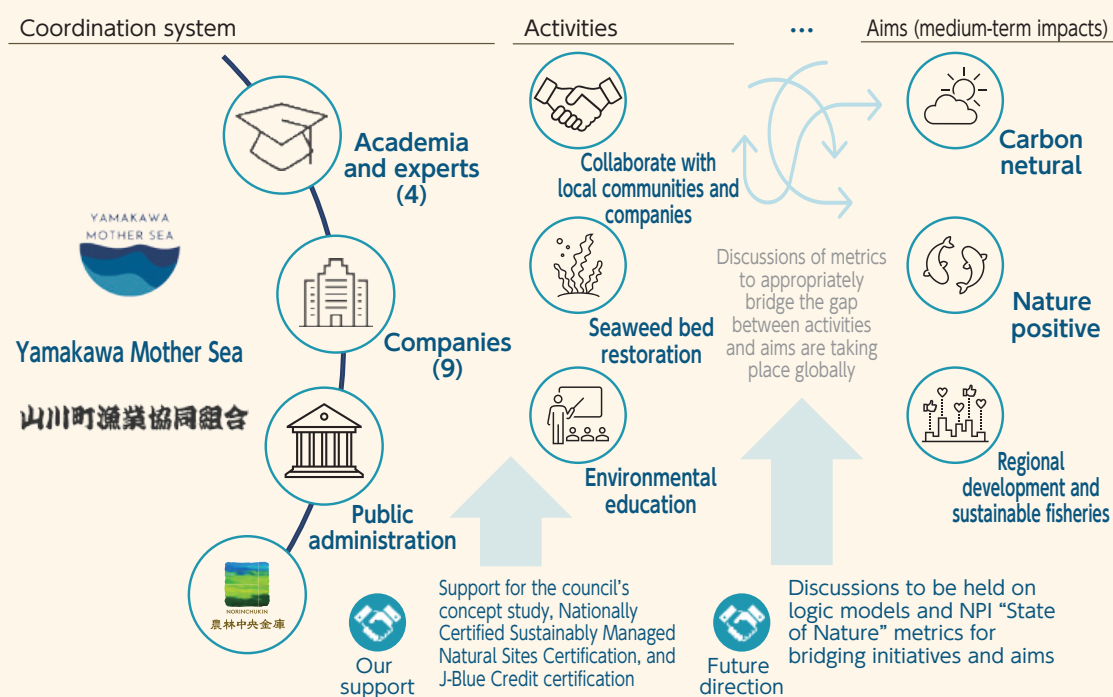
While various activities positioned as landscape/seascape approaches in a locality contribute to ultimate impacts such as net zero and nature positive, we also recognize that discussions about bridging the gap between activities and impacts are still taking place globally. To ensure that local practices lead to impacts more reliably, it is necessary to make use of clues from logic models that map the pathways to impacts and discussions about the State of Nature metrics of the Nature Positive Initiative (NPI). The Bank will work to concretize and systemize these inputs.

Column

Practical Example of Cooperative-centered Landscape Approach: “Yamakawa Mother Sea” by JF Yamagawa-cho

Yamagawa-Cho, Ibusuki City, Kagoshima Prefecture, JF Yamagawa-Cho and members (fishermen) are collaborating with academia, business, and government on a “blue carbon” initiatives titled “Yamakawa Mother Sea,” centered on regenerating seaweed beds and conserving the marine ecosystem. This initiative is viewed as a model case of landscape/seascape approach. It is taking place in an area where fishing is central to the economy, with a vision of striking a balance between the human practice of fishing and marine conservation. It also involves a variety of stakeholders. The Bank is participating in the project with the intention of expanding it nationwide, providing wide-ranging support including assistance with certification as a “Nationally Certified Sustainably Managed Natural Site.”

Overview of collaboration with the Yamakawa Mother Sea initiative and Our support



Comment from Tomokazu Kawabata, member of the Board of JF Yamagawa-Cho and advisor to the National Federation of Fisheries Co-operative Associations Young Group



I've worked as a fisherman for 20 years now. In this time, the seawater has become warmer, seaweed beds have disappeared, and the fish we catch and the size of our catches have changed. Concerned that the sea would be ruined if things continued like this, we put together a group to work on regenerating the seaweed beds. Recently, I've started to feel that when I take an initiative, the people around me tend to join in and help. And when I speak about what we have done in terms of blue carbon, I sense that people react with more interest and sympathy. We are determined to continue tackling the challenges of sustainable fisheries I would like to see The Norinchukin Bank expanding the kind of collaboration and support it has given us in Yamagawa to agriculture and forestry. I look forward to the Bank's efforts.

Requirements for landscape approach and compliance of Yamakawa Mother Sea Initiative

Requirements of landscape approach (SBTs for Nature Land Technical Guidance)

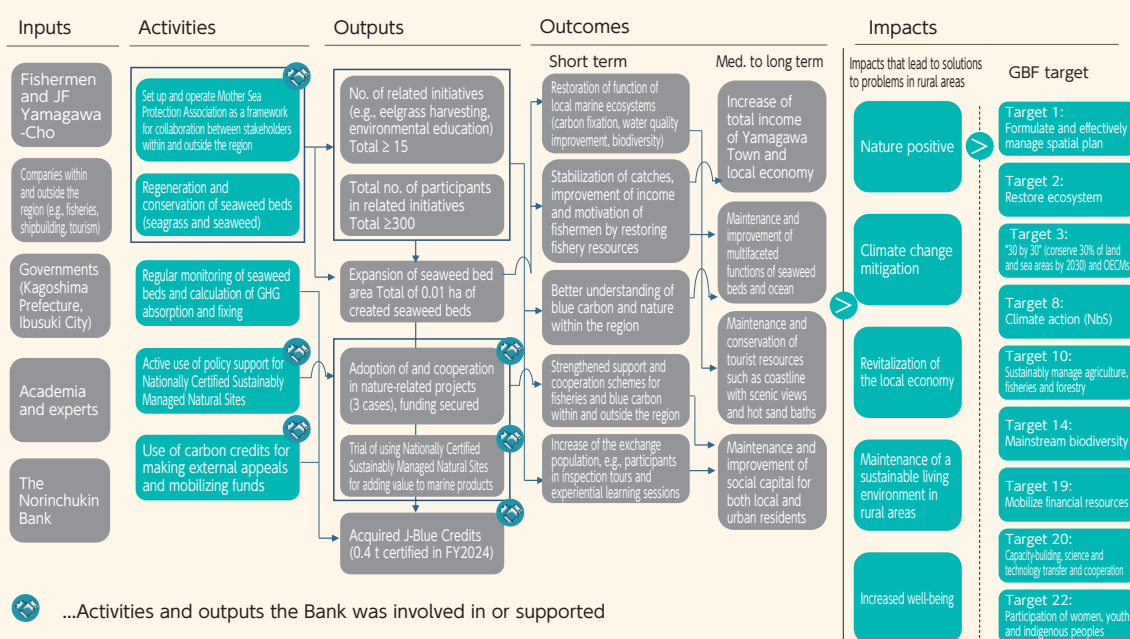
- 1 The boundary that the landscape initiative is aiming to exert influence over follows the boundary of either a jurisdiction, watershed, or another area considered to be of ecological or socioeconomic importance. When the area is not defined following ecological, jurisdictional, or water-basin boundaries, then the area must be at least 10,000 ha.
- 2 The visions and needs of relevant stakeholder groups must be included in the design, implementation, and monitoring of an initiative.
 - a. At least three stakeholder groups have participated in one or more phases of the landscape initiative.
 - b. A written collaboration agreement has been developed and signed by participating landscape stakeholders to formalize the partnership.
- 3 There are collective objectives and actions for nature and people.
 - a. At least three landscape objectives have been identified, including at least one environmental objective and one social objective. Each objective includes a specific, measurable milestone that the initiative aims to achieve by a specific date e.g., reduce deforestation by 20% in relation to the 2020 baseline by 2030.
 - b. A collective action plan that aims to contribute to meeting the defined landscape objectives has been developed and is publicly available.
- 4 There are transparent reporting and presentation/information systems sharing the actions/investments made in the initiative.
 - a. Regular reports are produced to describe the progress and setbacks in implementing the activities included in the action plan.
 - b. A baseline assessment of the ecological and social condition of the landscape has been conducted and is publicly available. This should include at least one indicator that is relevant to each landscape goal.
 - c. A time-series including at least two results (the baseline result and one more-recent result) is publicly available for all indicators included in the baseline assessment.
 - d. All results included in the baseline assessment of landscape performance, or subsequent assessments of landscape performance, have been validated by an entity with some degree of independence from those involved in conducting the assessment and the landscape initiative.

Compliance of Yamakawa Mother Sea

- Focus on the marine ecosystem centered on seaweed beds along the coast of the town of Yamagawa-Cho, Ibusuki City, Kagoshima Prefecture.
- Part of the activity area includes a zone designated as the southernmost eelgrass beds under the Ministry of the Environment's Monitoring Sites 1,000 program and Nationally Certified Sustainably Managed Natural Sites due to efforts to restore seaweed beds.
- Multiple stakeholders, such as fishermen, Japan Fisheries Cooperatives (JF), Kagoshima Prefecture, Ibusuki City, and local companies, participate in the initiative.
- Under the initiative's rules, the participation of stakeholders, aimed at achieving regional revitalization through carbon neutrality, nature positivity, and sustainable fisheries, with a focus on blue carbon, is voluntary and based on mutual consent.
- The designated goal is regional revitalization through carbon neutral, nature positive, and sustainable fisheries, but setting a quantitative milestone remains a future challenge.
- While utilizing Nationally Certified Sustainably Managed Natural Sites certification and the Ministry of the Environment's "Creating Satoumi" project, an action plan for the restoration and maintenance of seaweed beds has been partially made public.
- The initiative publishes activity reports on its official website.
- Biological surveys of seaweed beds and marine areas are conducted under the guidance of experts to determine and record the area of seaweed beds, growth of seaweed, and the habitat conditions of marine organisms.
- The carbon absorption of seaweed beds is certified as J-Blue Credits (0.4t) by a third party, the Japan Blue Economy (JBE) Association.
- As the council continues to set targets and disclose them, it recognizes the need to ensure consistency with SBTN metrics.

Note: SBTs for Nature Step 3 land guidance and WWF SBTs for Nature trial analysis are prepared from the perspective of the international 2030 Nature Positive agreement and the usefulness of landscape engagement.

Yamakawa Mother Sea Logic Model



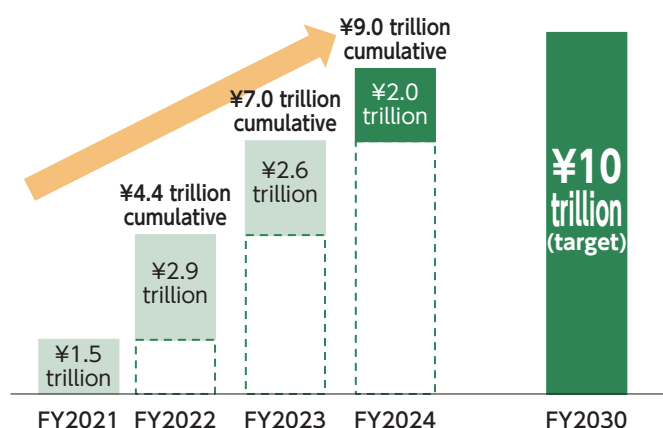
Sustainable Finance

The Norinchukin Bank has set itself a target of achieving 10 trillion yen in new sustainable finance by fiscal 2030 as a medium- to long-term goal to promote sustainability. Here, “sustainable finance” includes external management in trust of environmental and social related funds by Group companies Norinchukin Trust & Banking Co., Ltd. and Norinchukin Zenkyoren Asset Management (“NZAM”), and investments and financing by Norinchukin Australia Pty Limited and Norinchukin Bank Europe N.V.

Sustainable Finance at the Norinchukin Bank

- Investments and loans with environmental and social-related third-party certification
- Investments and loans integrating sustainability elements into investment strategy and decision-making
- Investments and loans for environmental and social projects
- Financing related to sustainability

New sustainable finance loans (FY2021–FY2030)



Detail of Cumulative Sustainable Finance (¥9.0 trillion)		
Investments and Loans	Market assets, etc. Domestic and overseas stock funds, Western IG bond funds, international institutional bonds, etc.	Approx. ¥5.3 trillion
	Project financing Financing for renewable energy, water treatment, schools, hospitals, other social projects, etc.	Approx. ¥2.0 trillion
	Corporate lending Green loans, sustainability-linked loans, transition loans, etc.	Approx. ¥1.3 trillion
Procurement	Green bonds and green deposits	Approx. ¥0.4 trillion

Key examples of sustainable finance

Sustainability-linked loans in collaboration with JA Bank members	JA Bank members formed a syndicate to provide a sustainability-linked loan to a supermarket operator aiming to contribute to a decarbonized society and reduce food waste.
Green loans for developers	We provide green loans to fund the construction of properties designed to acquire green certification in accordance with the Green Finance Framework formulated by the Bank.
Transition-linked loans for electric power companies	We provide transition-linked loans to electric power companies that are working to reduce GHG emissions based on long-term strategies to achieve decarbonization.

Building a System of Impact Measurement and Management (IMM)

In its medium-term vision, the Bank aims to create positive impacts through investment and finance. On top of this, we are setting up a system of Impact Measurement and Management (IMM) for the purpose of visualizing the environmental and social impacts of initiatives designed to contribute to local communities and the agriculture, fishery and forestry industries.

In FY2024, while continuing to make impact investments and loans, we conducted trials to assess the impact of several model cases. This was to clarify the positioning, effectiveness, and issues of initiatives implemented in collaboration with stakeholders aimed at revitalizing agriculture, fishery, forestry, and local communities. Based on the results, we are creating a set of IMM guidelines. We will use these guidelines to share knowledge within the organization and to advance and build on our efforts.

Creating Impacts by Financing Food and Agriculture Companies

Positive Impact Finance (PIF) is a method of financing that comprehensively analyzes and assesses the environmental, social, and economic impacts of business activities, defines indicators and targets, and engages in ongoing monitoring to meet the specified targets.

Valor Holdings Co., Ltd. (hereinafter "Valor") operates supermarkets, home centers, drug stores, sports clubs, and other ventures. In its "Sustainability Vision 2030," the company affirms its commitment to the sustainability of its business activities and appropriate management of their environmental and social related impacts. It is implementing a variety of sustainability initiatives to benefit the environment, local communities, and people.

For this financing, we conducted a broad assessment of the sustainability activities, such as connecting with local communities through business activities, supporting children (as future leaders), and conserving environmental resources for future generations. We also formulated key performance indicators (KPIs) to measure these impacts. This was the very first PIF project* for both the Bank and Valor. As a financial institution with strengths in agriculture, fishery and forestry, we are backing Valor to attain its KPIs and realize its vision of "shaping a sustainable society to pass on to the children of 100 years from now."

* Impact analyses and assessments and KPI formulation were conducted by the Bank.

Main impact KPIs

Expanding positive impacts

Increase the number of health promotion projects we take on by FY2030 by 30% compared to the FY2023 level

Install at least 300 food drive collection points by FY2026

Collaborate with at least 120 organizations engaged in child support activities by FY2026

Rehire a total of at least 700 retired employees in 7 years from FY2024

Acquire Nationally Certified Sustainably Managed Natural Sites certification for Omori no Komichi by FY2025

Reducing negative impacts

Reduce GHG emissions from supply chains in FY2030 by 40% (relative to FY2019)

Reduce GHG emissions from supply chains in 2050 to zero

Increase recovery of renewable resources by 30% by FY2030 (relative to FY2024)

Reduce food waste generation by FY2029 by 45% relative to FY2016

Reduce the rate of individuals engaged in roles with legal restriction by 5 percentage points by FY2030 (relative to FY2023)

Recognizing Climate-related Opportunities and Risks

Transition Plan

Climate

In March 2023, The Norinchukin Bank announced our Commitment to Achieving Net Zero by 2050, stating our response to increasingly severe climate change. The Bank organized and systematized a series of initiatives to achieve net zero emissions by 2050 under our net zero transition plan, below. In fiscal 2024, we revised this transition plan with reference to GFANZ and other frameworks, while also incorporating expanded GHG reduction targets, etc.

Net Zero Transition Plan

Foundation	Our Purpose		
	Environment and Human Rights Policies	Important Issues in Achieving Our Purpose	Commitment to Achieving Net Zero by 2050
	Our Vision for 2030: Create Impact for the Global Environment, Society and Economy Harnessing the power of cooperatives and finance, we aspire to continue to create positive impact toward sustainable environment, society, and economy.		
Implementation Strategy	Promote Sustainable Business		Strengthen Approach to Risk Management
	☐ Provide decarbonization solutions to investees and borrowers ☐ Work with members to support and create environmental value in the agriculture, fishery and forestry industries through initiatives to reduce the environmental impact of production activities and create carbon credits		☐ Address environmental and social risks based on an integrated risk management framework ☐ Expand scenario analysis
Engagement Strategy	Engage with Investees and Borrowers		Collaborate With Diverse Stakeholders
	☐ Pursue initiatives based on transition plans, responses among borrowers ☐ Conduct engagement according to asset class characteristics ☐ Improve effectiveness and gain insight through collaborative engagement		☐ Collaborate with members to solve local sustainability issues ☐ Collaborate with industry, government, and academia ☐ Participate in initiatives
Metrics and Targets	Metrics and Targets for Strategy Execution ☐ Reduce financed GHG emissions among investees and borrowers Interim target for FY2030 toward net zero by 2050 (vs. FY2019) [Finance] <Electricity> 138-165 gCO ₂ e/kWh <Oil and Gas> [Scope1&2] 3.1 gCO ₂ e/MJ [Scope 3] -27.3% <Coal> Qualitative policy <Steel> 1.54-1.73 tCO ₂ e/t <Real Estate> 34.1 gCO ₂ e/m ² <Automobiles> 111 gCO ₂ e/vkm <Marine Transport> PCA≤0% [Investment] 49% reduction based on economic intensity ☐ Increase the forest carbon sink together with JForest members: 9 million tCO ₂ /year as of FY2030 ☐ Reduce The Norinchukin Bank Group facility GHG emissions: Net zero by FY2030 ☐ New sustainable finance ¥10 trillion by FY2030 ☐ Reduce investment and loans for coal-fired electric power generation: Zero by FY2040		
Governance	Transition Plan Governance Stance ☐ Major policies and significant revisions of the transition plan are discussed by the Sustainable Management Committee and decided by the Board of Directors. Progress and plan revisions related to specific execution based on policies are reported and decided on by the Sustainable Management Committee, with the Board of Directors and the Supervisory Committee overseeing the details. (Key initiatives are reflected in executive compensation.) ☐ The chief sustainability officer oversees and directs sustainability; the CSuO collaborates with HQ/unit sustainability officers within the organization. ☐ Regular review of transition plan details and progress, reporting to external stakeholders. ☐ Capacity building (awareness-raising, education)		

Roadmap to Net Zero

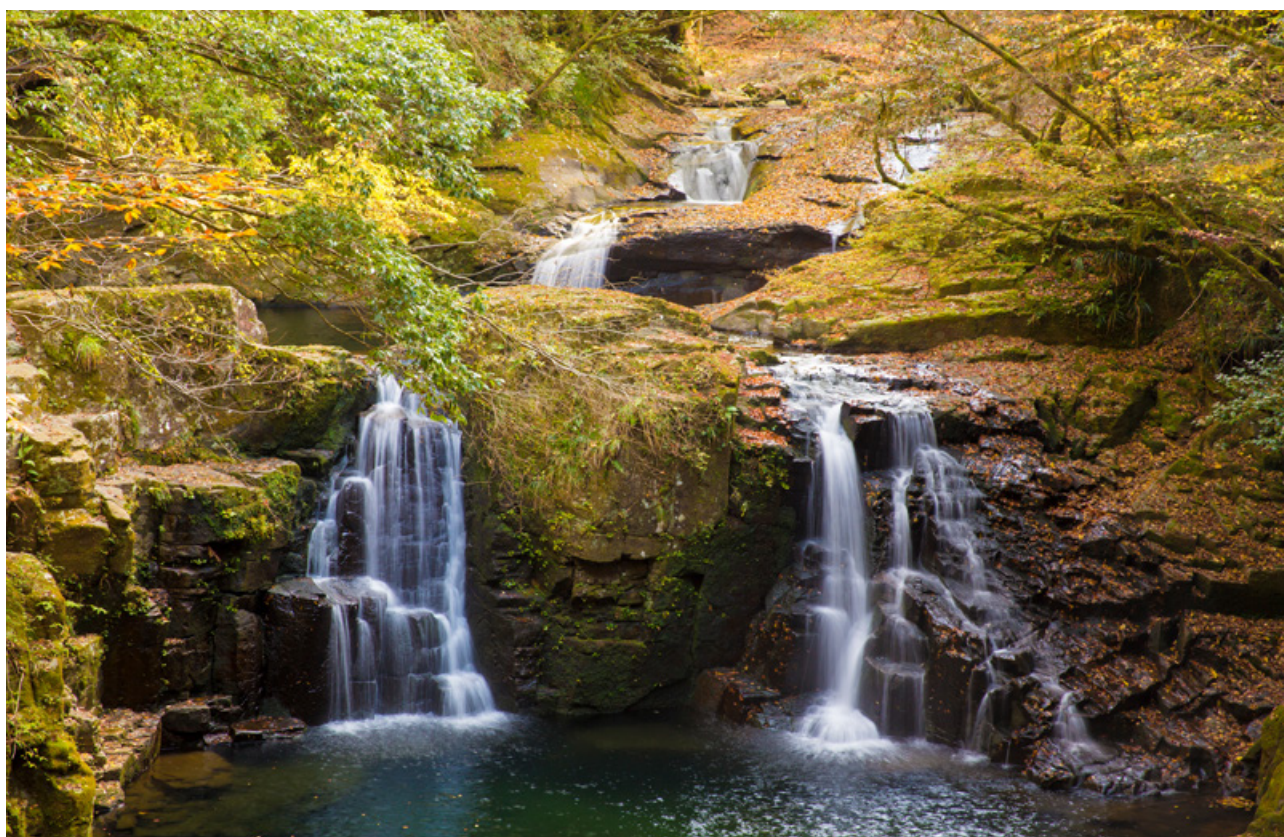
		FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2030	FY2040	FY2050	
Reduce investees and borrowers GHG emissions	Lending <Power>	213 gCO ₂ e/kWh	217 gCO ₂ e/kWh	209 gCO ₂ e/kWh	208 gCO ₂ e/kWh				138-165 gCO ₂ e/kWh		Net Zero	
	<Oil and gas> Scope 1&2	8.9 gCO ₂ e/MJ	10.7 gCO ₂ e/MJ	17.5 gCO ₂ e/MJ	13.9 gCO ₂ e/MJ				3.1 gCO ₂ e/MJ			
	Scope 3	0.51 Mt CO ₂ e	0.54 Mt CO ₂ e	0.20 Mt CO ₂ e	0.29 Mt CO ₂ e				Vs. FY2019 -27.3%			
	<Coal>	Response and engagement based on Policy on Environmental and Social Considerations in Financing and Investment Activities										
	<Steel>	2.02 tCO ₂ e/t	2.04 tCO ₂ e/t	1.95 tCO ₂ e/t	2.03 tCO ₂ e/t				1.54~1.73 tCO ₂ e/t			
New	<Real estate>	82.7 kgCO ₂ e/m ²	70.0 kgCO ₂ e/m ²	53.2 kgCO ₂ e/m ²	48.8 kgCO ₂ e/m ²				34.1 kgCO ₂ e/m ²			
New	<Automobiles>	192.6 gCO ₂ e/vkm	184.4 gCO ₂ e/vkm	159.3 gCO ₂ e/vkm	346.8 gCO ₂ e/vkm				111 gCO ₂ e/vkm			
New	<Marine transport>	(Base month: December 2023) Striving: 36.9%, Minimum: 30.5%							PCA≤0%			
	<Other sectors>							Setting of sequential targets				
	Investment <Stocks and Bonds>	0.83 tCO ₂ e/million yen	0.74 tCO ₂ e/million yen	0.62 tCO ₂ e/million yen	0.75 tCO ₂ e/million yen				Vs. FY2019 -49%			
Reduce GHG emissions at Bank Group facilities			21,330 tCO ₂	20,487 tCO ₂	17,052 tCO ₂	15,075 tCO ₂	14,545 tCO ₂		Net Zero			
Secure the amount of the forest carbon sink, together with JForest members			5.80 million tCO ₂	6.12 million tCO ₂	6.42 million tCO ₂	6.71 million tCO ₂			9 million tCO ₂			
Sustainable Finance							¥9.0 trillion (Cumulative total of FY2021-FY2024)		¥10 trillion			
Enhance approach to environmental and social risk management							Coal-fired power generation and coal mining (general coal) sector In principle, preclude new investments and loans on a company-by-company basis and by use of funds					
<Investment and loan balance for coal-fired power plants>							¥36.7 billion (based on use of funds)			Zero Balance		

Governance

Strategy (戦略)

Risk Management (Risk and Impact Management)

Metrics and Targets



GHG Emissions Reductions of Investment and Loan Clients

Climate

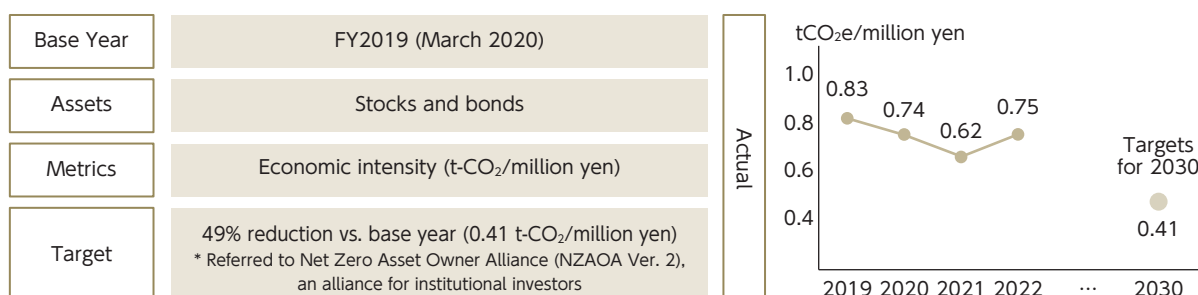
In addition to setting emission reduction by high-emitting sectors in its loan portfolio, the Bank has also set emission reduction targets across its investment portfolio, taking into consideration what proportion of total portfolio assets each investment accounts for.

To manage the progress of GHG emissions reductions by investees and borrowers more efficiently, we also implemented a business intelligence (BI) tool for visualizing financed emissions, assets, and sector-specific target indicators. This tool allows us to easily check emissions, emissions intensity, and outstanding investments and loans of a business, fund, or asset management company. We are using it to build a PDCA system that integrates frontline, middle, and planning activities.

Note that some figures have been revised based on data obtained by engagement with investees and borrowers or corrections of disclosed data by clients, and corrections to the logic used in calculating financed emissions.

Investment Portfolio

In our investment portfolio, we have set interim targets for FY2030 in terms of economic intensity per unit of investment. For now, the only assets covered are stocks and bonds, but we are thinking of expanding the scope of assets, as and when appropriate, according to the progress of discussions about measurement of financed emissions for specific assets.



The PCAF methodology for measuring emissions from investments in collateralized loan obligations (CLO), which account for a certain percentage of the Bank's investment assets, has yet to be finalized. We are researching emission measurement methods to gain a better understanding within the Bank. Specifically, we are collecting data on individual stocks within the assets backing the tranches we hold. We are working to calculate attribution factors based on investment balances and financial information.

Loan Portfolio Targets by Sector

Taking into account financed emissions, exposures, relations among sectors, and other factors its portfolio, the Bank set targets for power in FY2022, for oil and gas, coal, and steel in FY2023, and for real estate, automobiles, and marine transport in FY2024.

Power Generation Sector

a. Overview and understanding of current status

The electric power generation sector accounts for approximately 40%* of the world's GHG emissions by demand. This important sector is fundamental to economies and societies, supporting all industry and household lifestyles. We recognize the need to consider electrification across a wide range of sectors and the prospect of a parallel increase in demand for electric power amid the expected global economic growth in developed and developing countries.

*IEA World Energy Outlook 2024 <https://www.iea.org/reports/world-energy-outlook-2024>

b. Recognize business opportunities and risks

Considering that appropriate use of renewable energy and nuclear power, increase of grid efficiency in the electricity distribution network, and development of next-generation technologies using solar power, hydrogen, etc.—all in light of Japan's energy mix—are essential preconditions for decarbonizing the power sector, we recognize the following opportunities and risks.

Opportunities



Power generation from renewable energy sources

- Recognize finance opportunities for renewable energy development and expansion

Power generation and distribution grid efficiency

- Recognize finance opportunities for power grid development

Risks



Fossil fuel power generation facilities become stranded assets

- Note the risk of fossil fuel power generation facilities becoming stranded assets due to tougher decarbonization regulations in various countries and advances in renewable power.

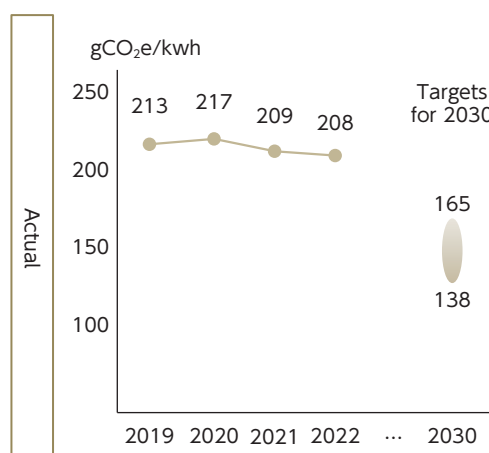
Next-generation technology development resulting in stranded assets

- Thoroughly evaluate the feasibility and validity of next-generation technologies such as hydrogen, ammonia, and nuclear power

c. Targets, results, and major initiatives

As interim targets for 2030 toward the goal of net zero by 2050, we are setting targets for Scope 1 emissions of electric power generation business based on the IEA NZE scenario and monitoring their progress.

Scope	Scope 1 of power generation business
Assets	Loans to the power generation sector + Project financing
Metrics	Physical intensity (gCO ₂ e/kWh) * GHG (CO ₂ equivalent) emissions (g) per 1kw of electricity generated
Target	138–165gCO ₂ e/kw
Base Year	FY2019 (March 2020) * Temporary GHG emission reductions due to the impact of COVID-19, etc., taken into account
Scenario	IEA World Energy Outlook 2021,2022 NZE * Higher end of target range consistent with 2022, lower end consistent with 2021 net zero scenario
Data Source	Borrower disclosure data, CDP, etc.



Oil and Gas Sector

a. Overview and understanding of current status

The oil and gas sector accounts for approximately 50%* of the world's CO₂ emissions by energy source, making the effort toward net-zero emissions crucial for this sector. At the same time, oil and gas remain fundamental energy sources for economies and societies. We recognize the importance of ensuring a balanced transition to lower GHG emissions and renewable energy, while accepting the need for a stable energy supply in the face of growing geopolitical risks.

*IEA World Energy Outlook 2024 <https://www.iea.org/reports/world-energy-outlook-2024>

b. Recognize business opportunities and risks

Considering that the deployment of equipment to increase the efficiency of existing oil and gas production, use of alternative energy sources such as hydrogen and ammonia, and the development of new carbon reduction technologies such as carbon dioxide capture, utilization, and storage (CCUS) are essential preconditions for sector decarbonization, we recognize the following opportunities and risks.

Opportunities



Decarbonization across existing businesses

- Recognize finance opportunities for equipment efficiency improvement, CCUS, etc.

Next-generation technology development

- Recognize finance opportunities for hydrogen and ammonia supply chain development, etc.

Risks



Transition risks associated with energy conversion, etc.

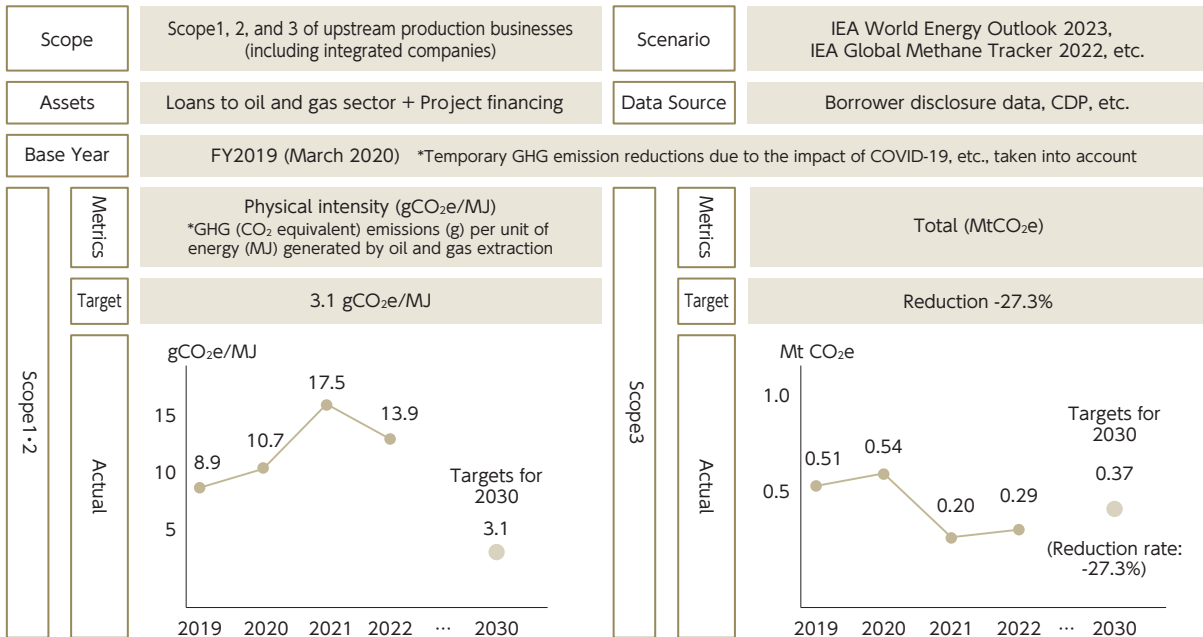
- Thoroughly manage risks based on sector policies and coordinated credit decisions by front and middle offices

Outlook for technology trends as a basis for decarbonization

- Thoroughly manage risks by appropriately assessing the probability and validity of technology development and implementation timing

c. Targets, results, and major initiatives

As interim targets for 2030 toward the goal of net zero by 2050, we are setting separate targets for Scope 1 and 2 emissions and Scope 3 emissions, and monitoring their progress.



Coal sector

a. Overview and understanding of current status

The coal sector is a major driver of GHG emissions. The production and use of so-called thermal coal is declining throughout the world, both in developed and developing countries. However, we expect a certain level of demand for Metallurgical coal to continue in the future due to the difficulty of substituting it with an alternative raw material in the supply chains of steelmaking and other processes. We also recognize the need to work in tandem with the steel and other relevant sectors.

b. Recognize business opportunities and risks

For the coal sector, the Bank recognizes that we must consider its exceptionally high transition risk, beyond the business opportunities it may present. Accordingly, we will continue to avoid any exposure to thermal coal and limit and maintain only a very little exposure to Metallurgical coal.

Opportunities



Responding to coal sector business transformation

- Appropriately support companies engaged mainly in thermal and coking coal in their business transition

Risks



Paying particular attention to transition risks

- In principle, maintain zero exposure to thermal coal
- In principle, maintain the current very minimal exposure to metallurgical coal

c. Targets, results, and major initiatives

As interim targets for 2030 toward the goal of net zero by 2050, we are setting separate qualitative targets for thermal coal and Metallurgical coal. Note that, as shown below, our current exposure is extremely limited, and we maintain a steady dialogue with clients whose main business is Metallurgical coal.

	Thermal coal	Metallurgical coal
Assumptions	• The following rules apply to policies and measures for environmental and social considerations related to thermal coal mining investments and loans. “ Coal mining involves the risk of...stranded assets, as well as the risk of...and negative environmental and social impacts. We also recognize the importance of the impact on the rights of and health issues of indigenous peoples and communities, in addition to considerations of human rights issues, including forced labor and child labor. Based on this recognition, when considering investments and loans...to coal mining businesses, the Bank confirms the extent to which the potential customer considers environmental and social issues. In addition, The Norinchukin Bank does not invest in or finance coal mining projects in the Appalachian region of the U.S. that use the mountaintop removal method...which is one of the most environmentally damaging coal mining methods practiced. Further, the Bank does not invest in or finance mining businesses related to thermal coal.	• Given the Bank's minimal exposure to finance clients whose main business is metallurgical coal, we believe it is appropriate to set qualitative guidelines as targets necessary to support transition • We understand that we must work in concert and engage with the steel sector for the transition to decarbonization for metallurgical coal, as the steel sector interrelates with the Metallurgical coal value and supply chains
Exposure	0 * Exposure to coal-fired power generation and coal mining (as of March 31, 2024) Expected to remain at zero in the future.	Less than 0.1% of total loan portfolio *As of March 2025.
Policy (Targets)	• Appropriately manage policies and measures reflecting environmental and social considerations related to investments and loans; review of policies and measures in light of domestic and international trends (As a result, we will maintain the current exposure (zero))	• Engage in dialogue at least once a year with all borrowers whose main business is metallurgical coal to confirm decarbonization policies • Continue to follow trends in metallurgical coal use in steel and other related sectors

Steel Sector

a. Overview and understanding of current status

In the steel sector, GHG emissions from blast furnaces are the subject of growing attention globally. In Japan, where the sector structure relies heavily on blast furnaces to meet the demand for high-grade steel in automobiles and other applications, steel accounts for approximately 40%* of total energy-related CO₂ emissions from all industrial sectors. Therefore, we recognize the importance of pursuing blast furnace decarbonization through technological innovations such as hydrogen reduction and related technologies for CCUS, in addition to transitioning to electric furnaces.

* Ministry of the Environment, Japan's National Greenhouse Gas Emissions and Removals in Fiscal Year 2023
<https://www.env.go.jp/content/000310244.pdf>

b. Recognize business opportunities and risks

Considering that the promotion of electric furnaces and the development of hydrogen reduction and other technologies for blast furnace steel production are essential preconditions for reducing GHG emissions in the steel sector, we recognize the following opportunities and risks.

Opportunities



Decarbonized blast furnaces

- Recognize financing opportunities for streamlining and increasing the efficiency of existing blast furnaces and adopting new technologies such as hydrogen reduction

Electric furnaces

- Recognize finance opportunities for conversion to electric furnaces capable of producing high-grade steel

Risks



Outlook for technology trends as a basis for decarbonization

- Thoroughly manage risks by assessing the probability and validity of technology development and implementation timing

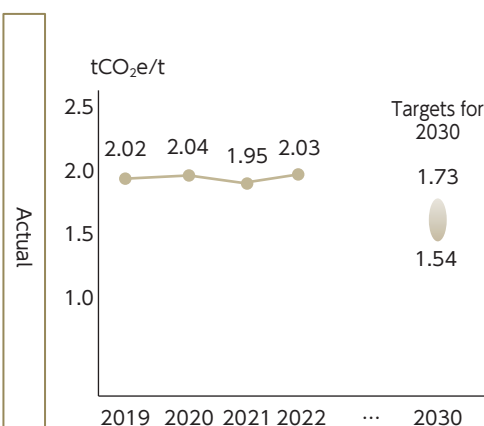
Stranded blast furnace facility assets

- Note that blast furnace facilities may become stranded assets due to the rapid shift to electric furnaces

c. Targets, results, and major initiatives

As interim targets for 2030 toward the goal of net zero by 2050, we are setting targets for Scope 1 and 2 emissions from crude steel production based on the TM scenario of the Mission Possible Partnership and the decarbonization roadmaps of our clients.

Scope	Scope1 and 2 of crude steel production (blast furnaces, electric furnaces)
Assets	Loans to the steel sector
Metrics	Physical intensity (tCO ₂ e/t) * GHG (CO ₂ equivalent) emissions (t) per ton of crude steel produced
Target	1.54-1.73 tCO ₂ e/t
Base Year	FY2019 (March 2020) * Temporary GHG emission reductions due to the impact of COVID-19, etc., taken into account
Scenario	Roadmaps for each loan client company, Mission Possible Partnership (MPP) Technology Moratorium (TM) scenario * Lower limit of target range consistent with 1.5°C
Data Source	Borrower disclosure data, CDP, etc.



Real Estate Sector

a. Overview and understanding of current status

Although the real estate sector accounts for no more than around 8%* of global CO₂ emissions, the Bank's exposure as a proportion of its portfolio is relatively large. We therefore recognize the need to promote the spread of ZEB and ZEH technologies, taking into account the connections of real estate with sectors such as steel and cement.

*IEA World Energy Outlook 2024
<https://www.iea.org/reports/world-energy-outlook-2024>

b. Recognize business opportunities and risks

Considering that the promotion of ZEB and ZEH for new construction projects and the installation of energy-saving equipment in existing buildings are essential preconditions for the reduction of GHG emissions in the real estate sector, we recognize the following risks and opportunities.

Opportunities



Popularization of newly constructed ZEB and ZEH properties

- Finance opportunities for construction and renovation of properties to ZEB and ZEH standards

Increasing demand for data centers, etc.

- Recognize finance opportunities for expanding real estate demand due to advances in AI technology, etc.

Risks



Stranded assets due to stricter environmental regulations

- Note that the asset value of aging properties with inferior energy-saving performance deteriorates rapidly

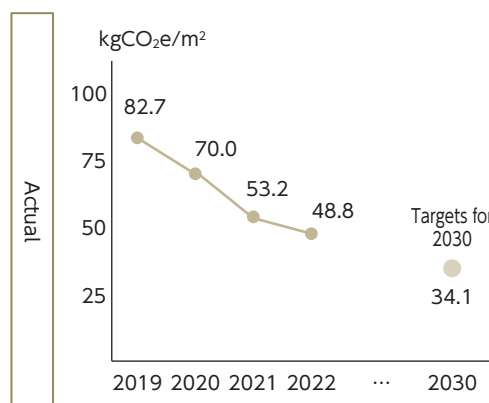
Increasing physical risks due to climate change

- Note the risk of real estate damage and value loss due to flooding, storm surges, etc.

c. Targets, results, and major initiatives

As interim targets for 2030 toward the goal of net zero by 2050, we are setting targets for Scope 1, 2 and 3 emissions generated by the use of real estate based on the 1.5°C scenario of Carbon Risk Real Estate Monitor (CRREM).

Scope	Scope 1, 2, 3 of the use of real estate [Category 13]
Assets	Loans for real estate businesses and REITs, and non-recourse real estate loans
Metrics	Physical intensity (kgCO ₂ e/m ²) * GHG (CO ₂ equivalent) emissions per m ² of real estate floor area (kg)
Target	34.1kgCO ₂ e/m ²
Base Year	FY2019 (March 2020) * Temporary GHG emission reductions due to the impact of COVID-19, etc., taken into account
Scenario	CRREM (Carbon Risk Real Estate Monitor) 1.5°C
Data Source	Borrower disclosure data, CDP, etc.



Automobile Sector

a. Overview and understanding of current status

The automobile sector accounts for approximately 84%* of the total energy-related CO₂ emissions of the transportation sector. It is also one of Japan's most important industries with its extensive supply chains. Given that global demand for automobiles is expected to keep growing, we recognize the importance of increasing the emissions efficiency of automobiles, through the adoption of HEVs and EVs, and other means.

* Ministry of the Environment, Japan's National Greenhouse Gas Emissions and Removals in Fiscal Year 2023
<https://www.env.go.jp/content/000310244.pdf>

b. Recognize business opportunities and risks

Considering that a shift to HEVs and EVs and the development of associated infrastructure such as charging facilities are essential preconditions for promoting the reduction of GHG emissions in the automobile sector, we recognize the following risks and opportunities.

Opportunities



Power shift to HEV, EV and hydrogen vehicles

- Recognize finance opportunities for the production shift and growing demand for HEV, EV, and hydrogen vehicles

Associated infrastructure development

- Recognize finance opportunities for development of associated infrastructure such as charging equipment and hydrogen fueling stations

Risks



Intensifying competition due to rapid shift to EVs

- Note that the rapid commodification of automobiles is driving a surge of new market entrants and intense competition between existing manufacturers

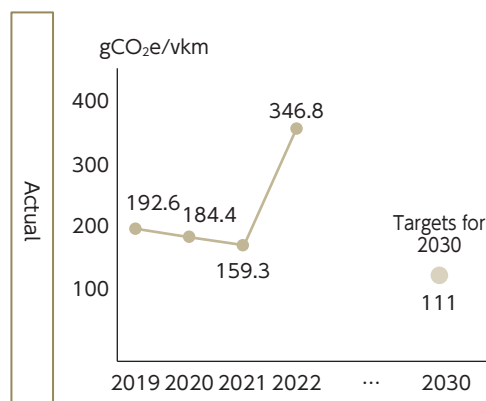
Stranded assets such as ICE-related equipment due to stricter environmental regulations

- Note the risk of stranded asset, such as related facilities, due to declining demand for ICE automobiles (and related equipment) as a result of stricter regulations

c. Targets, results, and major initiatives

As interim targets for 2030 toward the goal of net zero by 2050, we are setting targets for Scope 3 emissions from new light-duty vehicles (LDVs) based on the IEA NZE scenario and monitoring their progress.

Scope	Scope 3 of LDVs (new) [Category 11 / Well-to-Wheel]
Assets	Loans to finished auto makers
Metrics	Physical intensity (gCO ₂ e/MJ) * GHG (CO ₂ equivalent) emissions per km of electricity generated (g)
Target	111gCO ₂ e/vkm
Base Year	FY2019 (March 2020) * Temporary GHG emission reductions due to the impact of COVID-19, etc., taken into account
Scenario	IEA NZE
Data Source	Borrower disclosure data, CDP, etc.



Marine Transport Sector

a. Overview and understanding of current status

Although the marine transport sector accounts for no more than around 6% of the total energy-related CO₂ emissions of the transportation sector, the volume of marine transport is expected to keep growing for the foreseeable future. In light of this, we view the sector as important for decarbonization through the expansion of LNG ships, the adoption of next-generation fuels and development of related infrastructure, and for the conservation of marine ecosystems from the perspective of natural capital.

* Ministry of the Environment, Japan's National Greenhouse Gas Emissions and Removals in Fiscal Year 2023
<https://www.env.go.jp/content/000310244.pdf>

b. Recognize business opportunities and risks

Considering that the expansion of LNG ships and the adoption of next-generation fuels such as hydrogen and ammonia are essential preconditions for reducing GHG emissions in the marine transport sector, we recognize the following risks and opportunities.

Opportunities



Progress in deployment of LNG and next-generation fuels

- Recognize finance opportunities for adoption of LNG and next-generation fuels for shipping

Associated infrastructure development

- Recognize finance opportunities for development of associated infrastructure such as hydrogen and ammonia facilities at ports

Risks



Increase in days of operation due to abnormal weather and damage to port facilities

- Note cost increases due to additional fuel resulting from increase in days of operation and port damage

Stranded assets due to stricter environmental regulations of IMO and governments

- Note the risk of existing ships becoming stranded assets due to carbon taxes and stricter regulations

c. Targets, results, and major initiatives

As interim targets for 2030 toward the goal of net zero by 2050, we are setting targets for Scope 1 emissions from shipping operations with reference to scenarios set by the International Maritime Organization (IMO) and the Poseidon Principles, a banking initiative for promoting the decarbonization of marine transport. We are also monitoring the progress of these targets.

Scope	Scope 1 of Shipping operations [Well-to-Wake]	Calculation Method	$AER : xi = \frac{\text{Annual CO}_2 \text{ emissions from operation}}{\text{Annual operation distance} \times \text{Load capacity in tons}}$ $VCA : \Delta i = \left(\frac{xi - rs}{rs} \right) * 100$ $PCA : \sum \Delta i \times \frac{\text{Outstanding loan balance of ship } i}{\text{Total outstanding balance of Bank's ship-secured loans}}$
Assets	Ship-secured financing		
Metrics	PCA (Portfolio Climate Alignment)	Actual	Targets for 2030 PCA ≤ 0%
Target	PCA ≤ 0%		
Base Year	End of December 2023 * Most recent point in time from the target is selected based on the nature of the indicator		
Scenario, etc.	IMO decarbonization scenario * Refer to both "Striving" and "Minimum" standards		
Data Source	Borrower disclosure data, CDP, Poseidon Principles Technical Guidance, data vendors, etc.		

* The Poseidon Principles define two kinds of trajectories for PCAs: "Striving," corresponding to emissions reductions of 30% by 2030 and 80% by 2040 relative to 2008, and "Minimum," corresponding to emissions reductions of 20% by 2030 and 70% by 2040 relative to 2008. While the Principles aim to achieve net zero for both trajectories, our goal is to achieve less than 0% for both trajectories.

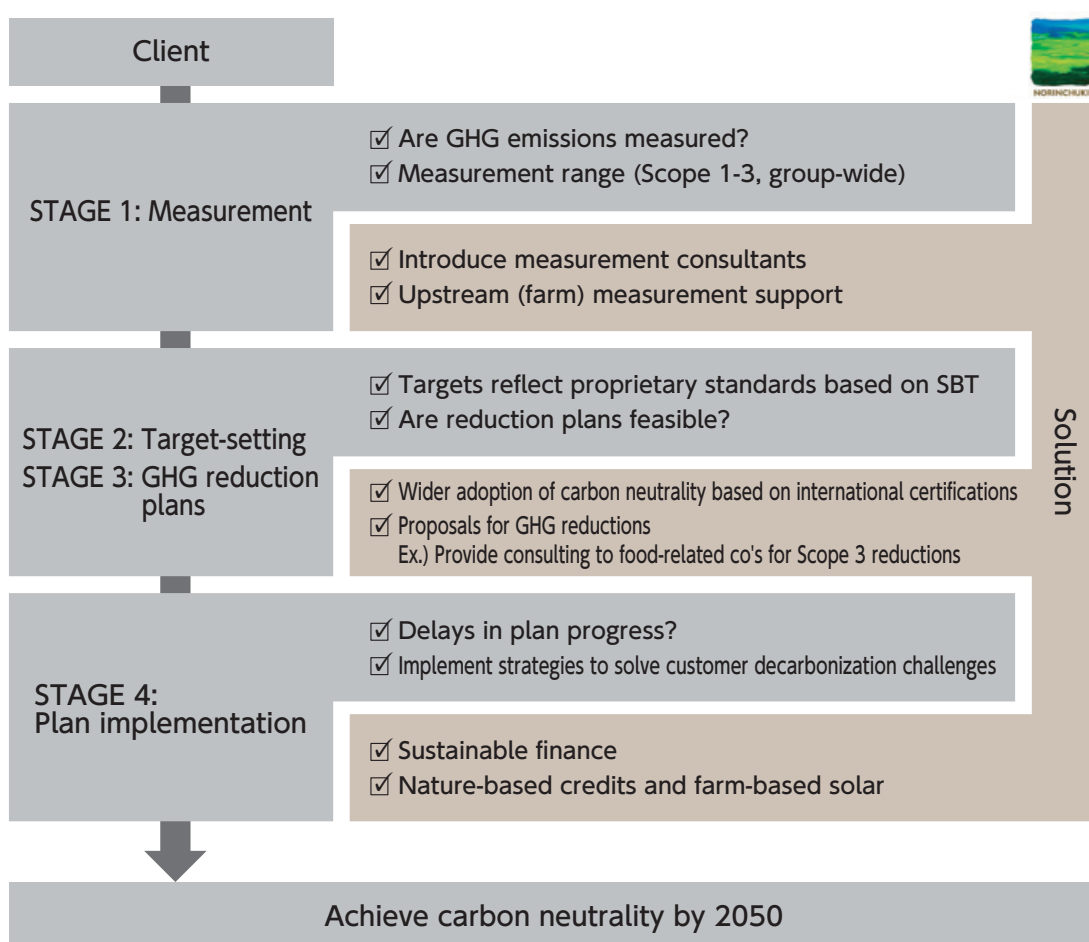
Engagement Initiatives With Investees and Borrowers

Engagement initiatives create opportunities to support the Bank's investees and borrowers in their transition to net zero. By collaborating with them, we can also reduce our own climate change-related risks. As a global institutional investor, we also work to maintain a dialogue with the asset managers we engage to look after our assets. As an asset owner, we endeavor to deepen our understanding by checking the investment policies of asset managers, to determine how they manage the transition risks of investment clients in terms of risks and returns.

Relationship-based Engagement With Borrowers

We continually engage in dialogue with our borrowers about their current situation, issues, and climate change action based on our perception of climate change-related risks. Based on the information we obtain, we also develop and offer solutions. As a rule, starting in FY2024, we are conducting assessments of all our borrowers to determine the level of their climate change initiatives, based on interviews and publicly available information. For certain high-emitting sectors, we are also working to formulate standards for assessing the progress of transition efforts in accordance with sector and regional characteristics. This is to help manage transition risks, engage in in-depth dialogue with borrowers, and provide support for transitions. To judge the speed of transition and the adequacy of responses, we are considering the implementation of engagement through the lens of transition planning activities of the clients that we are currently formulating.

The process of achieving carbon neutrality for a company typically consists of four stages: measurement, target-setting, GHG reduction plans (specific actions), and plan implementation. The Bank engages with our borrowers to understand where they are in terms of the stages of climate change action, and what challenges they are facing. This allows us to provide them with the solutions we consider most appropriate to their needs.



Engagement as a Global Institutional Investor

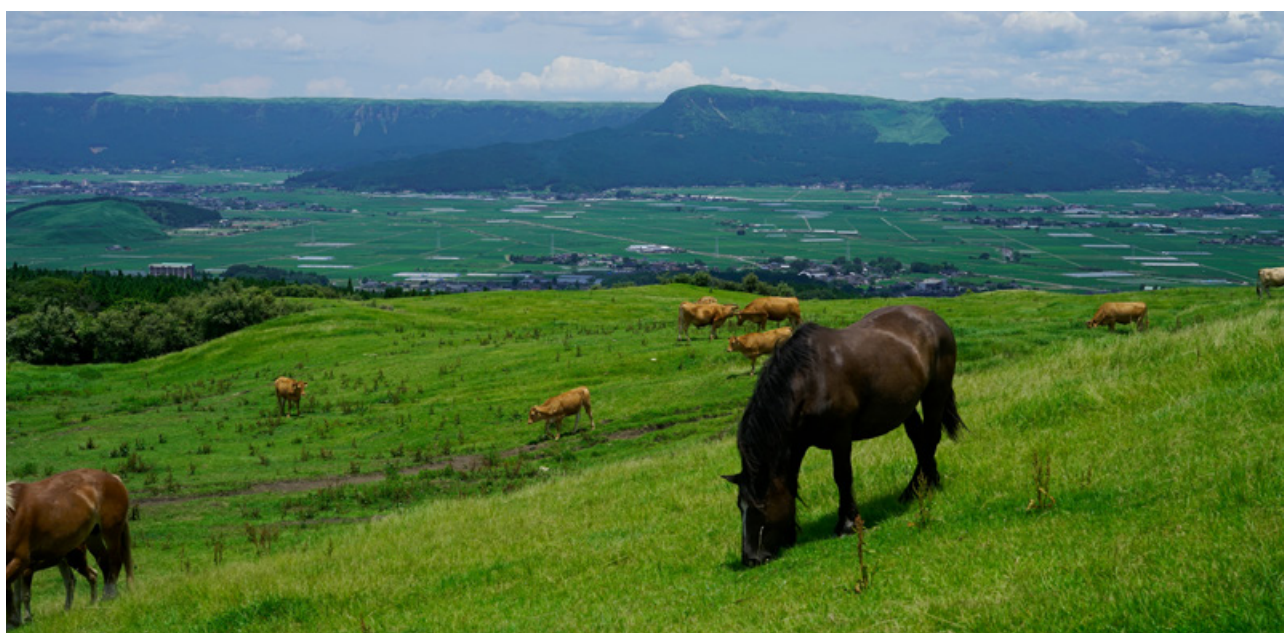
Since a large part of the Bank's investment portfolio consists of indirect investments made through investment funds, we identify the sustainability-related risks that may affect investment performance and check the investment management methods by engaging in dialogue with the asset managers in charge of the investments. More specifically, we added questions about perceptions of climate and nature-related risks to the annual questionnaire we send to asset management companies as part of our due diligence. We are now also analyzing the management policies of asset managers and their plans for engagement with companies in the investment portfolio.

Since the various kinds of financial products in an investment portfolio are different in terms of their characteristics and how they relate to environmental issues in their operational performance, the Bank has formulated specific policies for each financial product, and engages in dialogue about them. In our regular exchanges of views with bond issuers, such as state governments and international institutions, we express our stance on sustainability and discuss the details and conditions of sustainable bonds that we seek as an institutional investor. Through such deep dialogue, we also identify investment opportunities. In real estate investments too, we engage in dialogue with management companies and other parties about acquiring sustainability certification and reducing GHG emissions for the relevant investment properties.

We plan to keep ourselves up to date with best practices through global collaboration with other institutional investors, thereby increasing the effectiveness of our engagement.

Engagement Initiatives with Group Companies

Group asset management company Norinchukin Zenkyoren Asset Management Co., Ltd. (NZAM) plays an important role in the Bank's investment portfolio by outsourcing many investments. As a signatory to Principles for Responsible Investment (PRI), NZAM is accelerating its efforts to improve the quality of its engagement, offer net zero-related investment products, and raise awareness of sustainable investment among clients, including the JA Group. As part of our engagement, we have held dialogues with 70% of all the high-emission companies in our portfolio that we consider a transition risk. They plan to continue expanding the scope of this engagement. NZAM also established a Sustainability Committee this fiscal year to facilitate internal discussions at the managerial level and strengthen our system of promotion.



Impact and Scenario Analysis of Climate Change-Related Risk

The risks of climate change can be divided into transition risks and physical risks. Transition risks are risks that emerge in transitioning to a decarbonized society. For example, the introduction of a carbon tax levied on GHG emissions could lead to a negative financial impact on investees and borrowers that have high emissions. This, in turn, could result in credit costs for financial institutions.

Physical risks, on the other hand, are risks related to the greater intensity and frequency of extreme weather events due to climate change, as well as risks arising from long-term changes in climate patterns. Physical risks are further classified into acute risks (e.g., increased extreme weather events such as flooding), and chronic risks

Climate Change Risks Recognized by the Bank

Risk	Subcategory	Major Risks	Time Frame
Transition risk	Policy, Law Tech., Mkts.	- Increased credit costs due to the impact of regulatory compliance on investees and borrowers business models and performance to achieve the 1.5° C target - Increased credit costs due to changes in the supply-demand relationship for goods and services and the impact on corporate performance as markets become more decarbonization-oriented	Medium- to Long-Term
	Policy	Changes in regulations in response to growing international concern regarding climate change	Short-term
	Reputation	Risk of inadequate climate change efforts and information disclosure	Short-term
Physical risk	Acute	Downturn resulting from stagnating investees and borrowers businesses due to natural disasters such as typhoons and torrential rains, as well as increasing credit costs resulting from damage to the collateral value of real estate and other assets	Short-, Medium-, and Long-Term
	Chronic	- Risk that climate change will affect land use, productivity of primary industries, etc. - Impact on business continuity due to damage to the Bank's assets caused by extreme weather	

● Climate Change-Related Risk Assessment by Sector

Assessment of transition risks*

Low Risk High



Sector	2030			2040			2050		
	Japan	EU	US	Japan	EU	US	Japan	EU	US
Power	Low	Low	Low	Low	High	High	High	High	High
Oil-gas-coal	Low	Low	Low	Low	Low	Low	High	High	High
Chemicals	Low	Low	Low	Low	Low	Low	High	High	Low
Metal and mining	Low	Low	Low	Low	Low	Low	High	High	Low
Food and agriculture	Low	Low	Low	Low	Low	Low	Low	Low	Low
Beverages	Low	Low	Low	Low	Low	Low	Low	Low	Low
Railroad	Low	Low	Low	Low	Low	Low	Low	Low	Low
Land transport	Low	Low	Low	Low	Low	Low	Low	Low	Low
Marine transport	Low	Low	Low	Low	Low	Low	Low	Low	Low

Physical risk assessment*

Sector	2030			2040			2050		
	Japan	EU	US	Japan	EU	US	Japan	EU	US
Chemicals									
Real estate management and development									
Real estate-related finance									
Insurance									
Paper products and forest products									
Food and agriculture									
Beverages									
Metal and mining									
Electricity									
Oil-gas-coal									
Railroad									

*Transition risks are assessed based on a 2°C scenario in which policy measures mitigate climate change, while physical risks are assessed based on a 4°C scenario in which global warming advances.

Scenario Analysis Overview

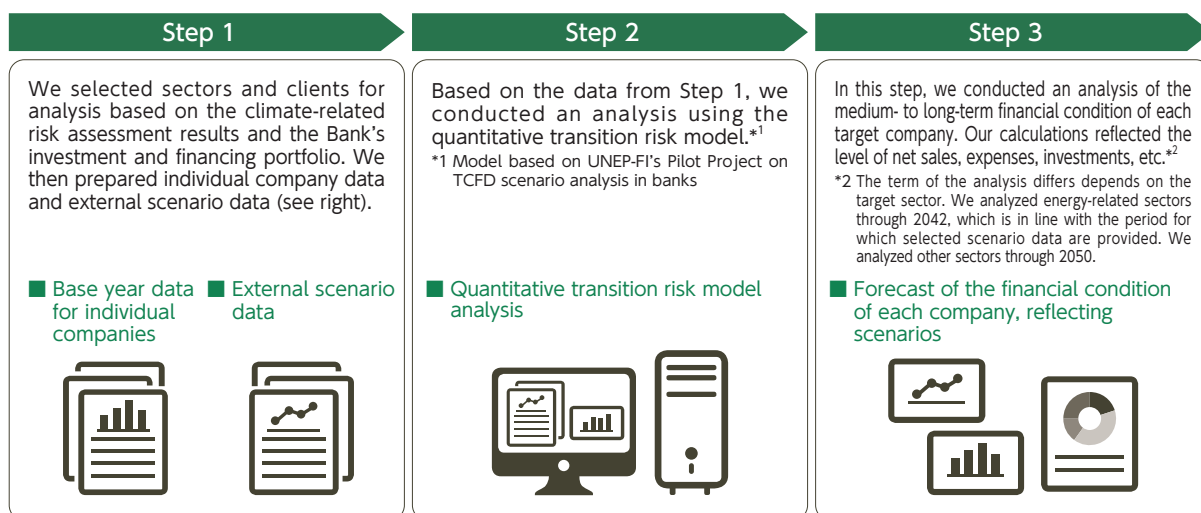
We conduct scenario analyses to understand the impact of climate-related risks on our credit portfolio and finances, etc.

		FY2020	FY2021	FY2022	FY2023	FY2024
Physical Risk	Transition Risk	- Scenario analysis of the power, oil-gas-coal, food and agriculture, and beverage sectors - Added chemicals sector - Conducted more advanced analyses based on NGFS scenarios, etc. - Added steel sector - Updated NGFS scenario (Ver. 2 to Ver. 4)				
	Acute Risk	- Scenario analysis of the impact of flood damage on key domestic locations of domestic borrowers and real estate collateral pledged by the Bank - Added key overseas offices of the borrower and the Bank Group's own offices - Mapped the results				
	Chronic Risk	- Scenario analysis of income change rates in the agricultural sector (rice and livestock) - Added fishery sector				

Scenario Analysis on Transition Risk

Based on risk analysis of climate change by sector, we selected the high-risk power, oil-gas-coal, chemical and steel sectors as well as the food and agriculture, beverages sectors, which form the food and agricultural value chains. We conducted scenario analysis to evaluate the medium- and long-term changes in credit costs caused by the progress of decarbonization.

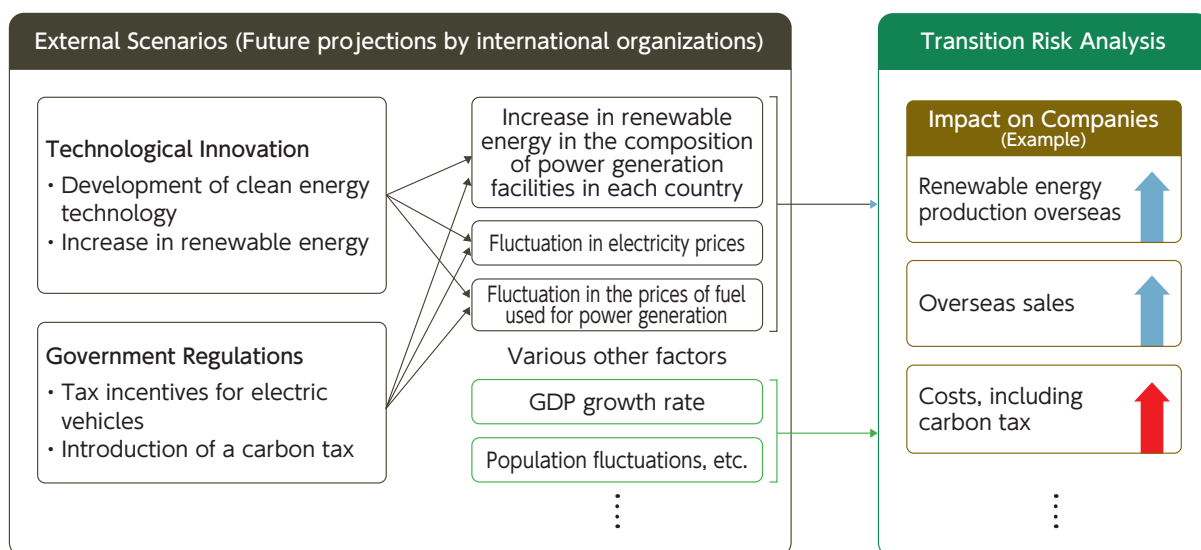
Scenarios analyzed include the Net Zero 2050 scenario published by the Network for Greening the Financial System (NGFS), as well as scenarios published by the leading International Energy Agency (IEA) and the Food and Agriculture Organization of the United Nations (FAO). For further information, please refer to the Appendix.



Six-Way Scenario Analysis

	Dynamic Approach (An approach reflecting new capital investments in response to market demand)	Static Approach (An approach reflecting the status quo without additional capital investment)
Current Policies (a scenario that assumes that only policies currently in place will be retained)	Current Policies × Dynamic	Current Policies × Static
Delayed Transition (Scenario in which annual GHG emissions do not decline by 2030, followed by strong emissions reduction policies)	Delayed Transition × Dynamic	Delayed Transition × Static
Net Zero 2050 (a scenario that limits global warming to 1.5°C through rigorous climate policy and technological innovation, achieving net zero global CO ₂ emissions in or around the year 2025)	Net Zero 2050 × Dynamic	Net Zero 2050 × Static

Reference Analysis Overview Example (Electric power company)



Analysis Target	Selection Scenario	Complementary Scenario
Energy (Electricity, Oil-Gas-Coal)	NGFS ● Current Policies ● Delayed Transition ● Net Zero 2050	IEA World Energy Outlook 2021—SDS, STEPS ● SDS stands for Sustainable Development Scenario ● STEPS stands for Stated Policies Scenario
Food and agriculture, beverages		FAO Food and agriculture projections to 2050—TSS, BAU ● TSS stands for Towards Sustainability Scenario ● BAU stands for Business As Usual
Chemicals		IEA Energy Technology Perspectives 2022-STEP, SSDS IEA Ammonia Technology Roadmap October 2021—STEPS, SDS

Transition Risk Scenario Analysis Results

Power and oil-gas-coal sectors

In all scenarios, increased demand for renewable energy and stricter regulations on carbon emissions in various countries would result in stranded fossil fuel assets and reduced market demand. Businesses dependent on fossil fuels would experience deteriorating profits. At the same time, companies that view renewable energy as a climate change-related opportunity tend to find an increase in earnings after making capital investments.

Food and agriculture, beverages sector

Food and agriculture, beverage sectors in both scenarios, the demand for food on a global level increases due to global population growth and other factors. This demand leads to increased production and increased earnings for companies engaged in business activities on a global scale. At the same time, companies operating in a particular region may see earnings increase or decrease depending on regional characteristics (changes in food culture, population increase or decrease, etc.). The results of these analyses vary from region to region.

Chemicals sector

Scenario analysis results varied depending on the chemical products manufactured and the region in which the company in question operates. Analyses using the Delayed Transition scenario (toward decarbonization) and Net Zero 2050 scenarios indicated slower economic growth. The result was, with a few exceptions, relatively lower demand for each chemical product compared with the Current Policies scenario. On the other hand, demand for hydrogen and ammonia as fuels that do not directly emit CO₂ is expected to increase. Demand for functional chemical products used as battery materials is also expected to increase with the spread of electric vehicles. However, the price shift to these products is expected to be limited.

Steel Sector (New)

Scenario analysis results varied according to business structure and the region in which the company in question operates. In the Delayed Transition scenario and the Net Zero 2050 scenario for decarbonization, the impact of carbon costs varies significantly between companies, according to the quantity of GHG emissions. Companies with business facilities in the U.S. and other Asia countries (e.g., southeast Asia), where steel demand is expected to keep rising, have tended to enjoy profit growth resulted from capital investment toward decarbonization.

Impact on credit portfolio

The total impact of transition risk in the four aforementioned sectors could increase the cost of credit by about 1 billion yen to 25 billion yen per year through the year 2050 (the range is the difference between the Current Policies scenario and Net Zero 2050 scenario). However, the impact on our credit portfolio would be limited.

Using analysis results

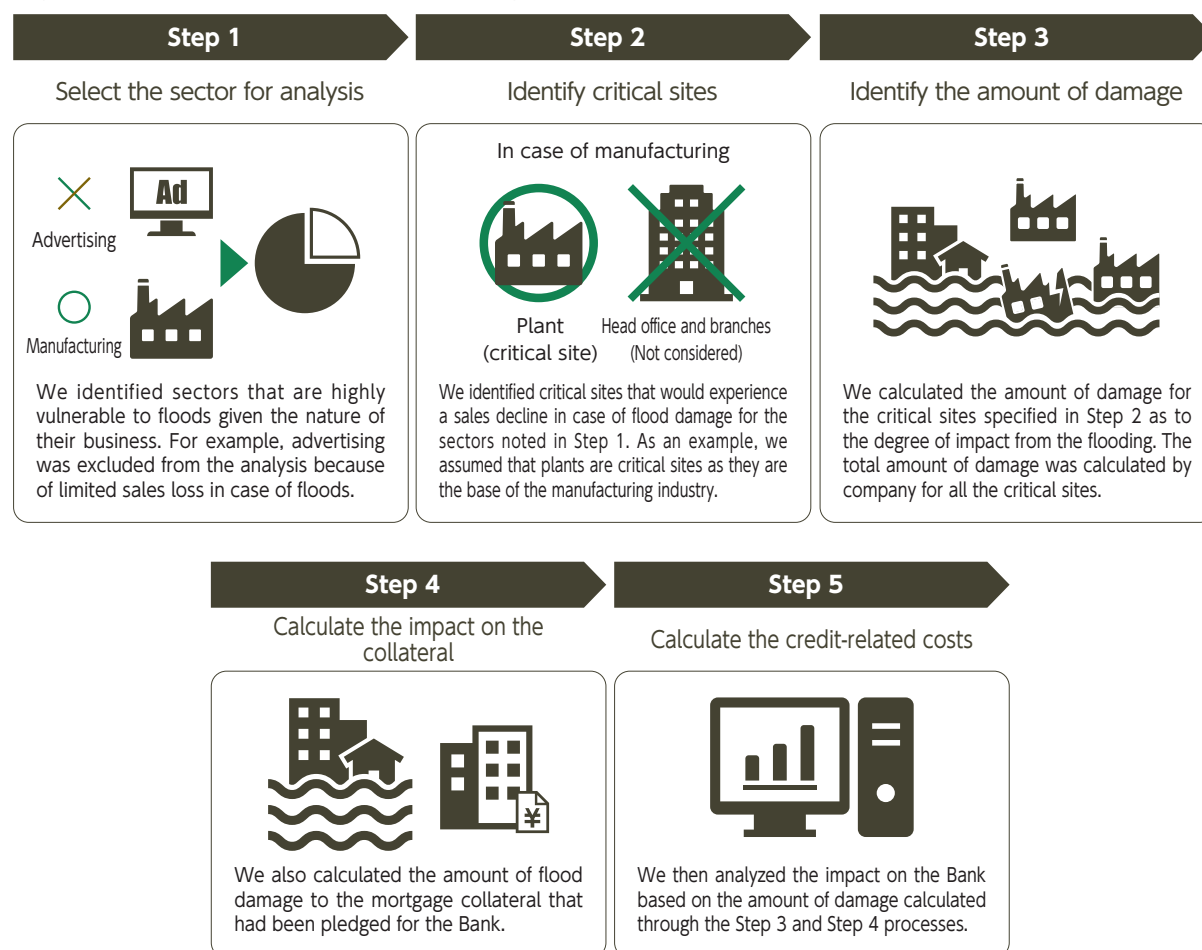
Based on the results of our transition risk analysis, we initiated engagement on climate change initiatives with our investees and borrowers in sectors where we identified a relatively large impact. By sharing an awareness of the issues with our investees and borrowers, we will strengthen our efforts to address climate change together and work toward creating a decarbonized society.

Scenario Analysis for Physical Risk Related to Climate Change (Acute Risk)

We analyzed acute risk related to flood damage, which has caused significant problems in recent years. In addition to key global locations of domestic and overseas borrowers and real estate collateral pledged to the Bank, we included the assets of Bank Group locations (buildings and equipment) in the analysis.

Norinchukin Bank Group assets) through the year 2100. The impact of additional losses would appear to be limited. See the Appendix for details.

Physical Risk (Acute Risk) and Scenario Analysis Overview

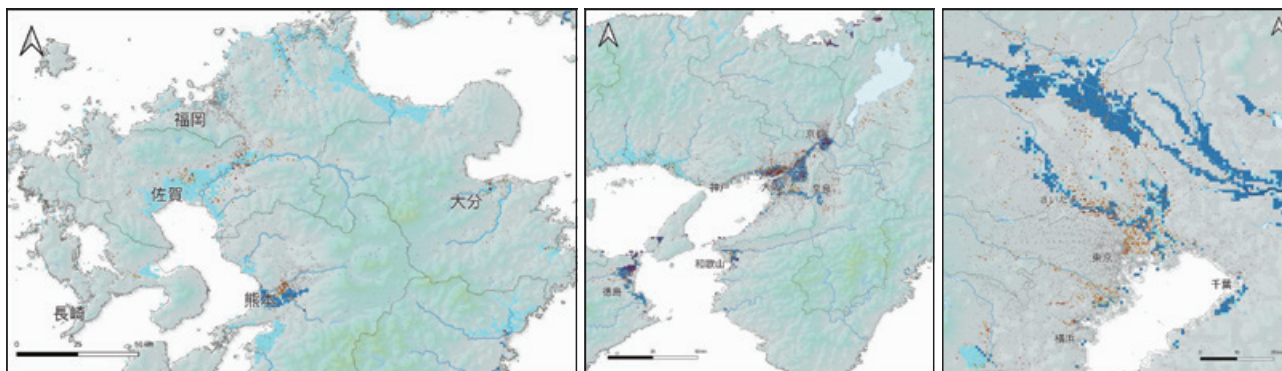


Physical Risk (Acute Risk) Analysis Overview

Subject of Analysis	(1) Key domestic and overseas locations of borrowers expected to be affected by flooding (2) Real estate collateral pledged to the Bank (3) Assets at Bank Group domestic and overseas locations (buildings and fixtures)
Not Subjected to Analysis	Industries where flood damage is not expected (e.g., advertising, publishing, finance, etc.)
Analysis Scenario	IPCC RCP2.6 and RCP8.5
Measurement Results	Cumulative additional losses of approximately ¥23 billion through the year 2100 (credit costs plus damage to Bank Group assets)

Utilizing the results of earlier scenario analyses of physical risks, we plotted the locations of companies in the Bank's investment portfolio on a flood risk map for 2030 to analyze the medium-term risks arising from the kind of extreme weather events that have recently occurred. Specifically, we plotted the locations of our investment and loan clients on the Flood Hazards Maps available with the Aqueduct tools provided by the World Resources Institute (WRI) to identify where they overlap with areas of high flood risk. For sites expected to incur large losses in 2100 and to be exposed to high flood risks in 2030, we believe that we need to deeply understand the probability of financial risks. We can do this by investigating the nature of business operations at each site, the number of floors (of operational buildings), and the state of adaptation measures from the perspective of short- to medium-term physical risk management or the necessity of adaptation.

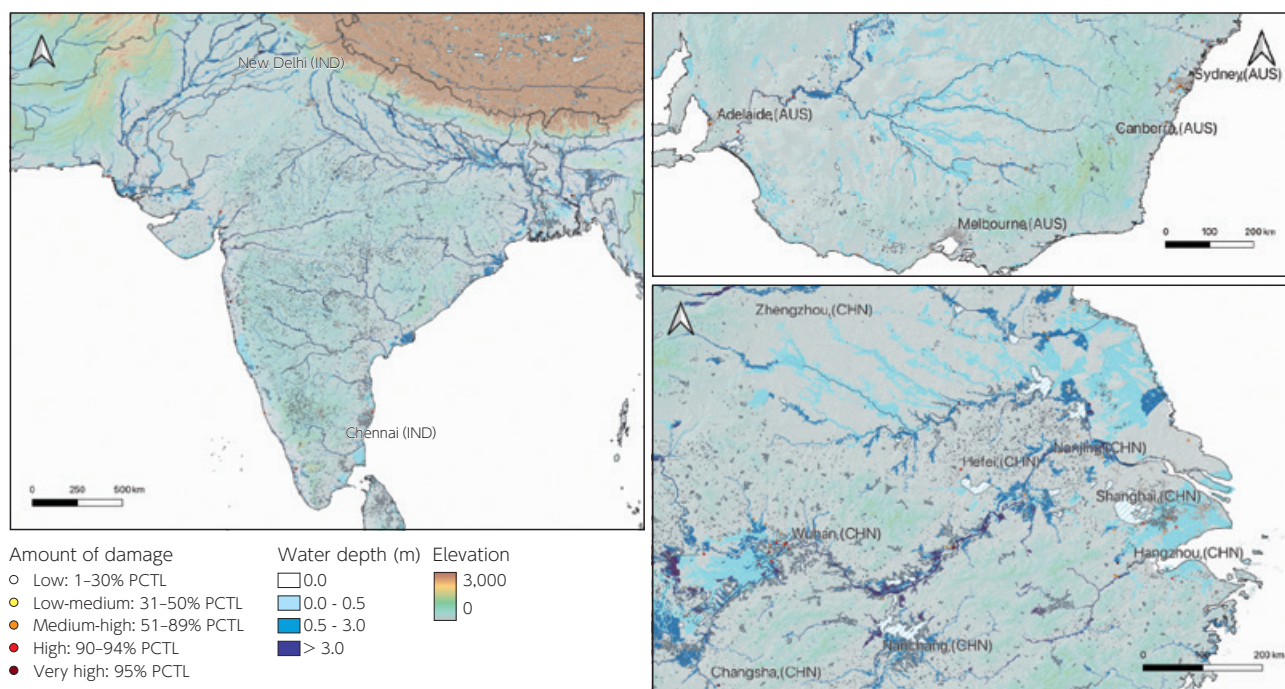
2030 Flood Risk Map by Location of Investment/Loan Client Operation Site (Japan)



* Note that the "Flood Navi" used in the flood risk analysis of sites in Japan for the 2100 scenario takes into account levee breaches. That is, the analysis method used for the 2030 risk analysis is different to the 2100 analysis method.

Source: aiESG, Inc.

2030 Flood Risk Map by Investment/Loan Client Operation Site Location (China, Australia, India)



* The top three countries (excluding Japan) in terms of loss of sales of the Bank's investment/loan client companies (China, Australia, India) were identified.

Source: aiESG

Using analysis results

For this physical risk analysis, we identified the cumulative additional losses that should be provided for up to the year 2100. We will also consider analyzing and measuring the impact of hazards other than flooding associated with physical risks, taking into account supply chains, utilizing the information related to the key domestic and overseas locations of investment and loan clients surveyed in this analysis.

Physical Risk (Chronic Risk) Analysis

The Norinchukin Bank is committed to achieving Net Zero by 2050 across our investees and borrowers. In conjunction, we pursue an increase in the income of farmers, fishermen and foresters as a 2030 medium- to long-term goal in support of sustainable agriculture, fishery and forestry industries and local communities. Given that the agriculture, fishery and forestry industries are vulnerable to the effects of climate change, we endeavor to analyze the impact of climate change on the incomes of participants in these industries.

For chronic risk, we selected agriculture and fisheries as sectors to analyze. These industries are important to the Bank, which serves the agriculture, fishery and forestry industries. We chose rice cultivation, livestock production (raw milk and beef cattle), and ocean fisheries (bonito) as target commodities to analyze. Our analyses addressed the impact of climate change, including increases in air and ocean surface temperatures, on producer and fisher income, as well as adaptive measures. (Our analysis addressing agriculture is the same as that disclosed in Sustainability Report 2022.)

no measures are taken to address rising temperatures, while the other assumes measures are taken to adapt to rising temperatures. We adopted the IPCC RCP 2.6 and RCP 8.5 scenarios ("2°C increase" and "4°C increase," respectively) for analysis, conducting a total of four analyses.



Analysis method: Rate of change in production volume + Rate of change in product prices = Rate of change in revenue

The following provides a summary of the results of chronic risk analysis for the agricultural sector. The results indicate a decline in income due to the effects of climate change. However, it may be possible to achieve flat income levels through adaptive measures. See the Appendix for details.

	Scenarios	Production Output	Prices	Revenue (w/Adaptive Measures)	Revenue (w/out Adaptive Measures)
Rice cultivation	4°C rise	-6.4%	+1.4%	-5.0%	+3.5%
	2°C rise	+3.3%	-1.6%	+1.7%	-
Raw milk	4°C rise	-1.1%	+0.9%	-0.1%	±0.0%
	2°C rise	-0.2%	+0.2%	± 0.0%	-
Beef cattle	4°C rise	-1.2%	+0.6%	-0.6%	±0.0%
	2°C rise	-0.3%	+0.2%	-0.2%	-

The following provides a summary of the results of chronic risk analysis for the fisheries sector. The results indicate regional variances in income due to the effects of climate change. However, it may be possible to limit income declines through adaptive measures. See the Appendix for details

	Scenario	Catch	Prices	Revenue (w/out Adaptive Measures)	Revenue (w/Adaptive Measures)
Ocean fishing (bonito)	4°C rise	-9.2% to +4.7%	-0.6% to +1.3%	-8.0% to +4.0%	-7.6% to +4.0%
	2°C rise	-9.2% to +9.5%	-1.2% to +1.3%	-8.0% to +8.1%	-6.1% to +4.0%

Our analysis includes several assumptions and hypotheses due to the many limitations in scenario analysis models for the agriculture and fisheries sectors. These limitations include 1) a lack of available methodologies established globally, 2) incomplete data, and 3) diversified and complicated impact channels. Note that impacts may differ from the actual impact on agriculture and fisheries management, as our analysis targets revenue, not revenue (i.e., the amount after deducting expenses, etc., from revenue).

Adaptation to Climate Change

In recent years, climate change has caused an increase in the severity of natural disasters around the world, including windstorms, floods, and landslides. The importance of climate change adaptation measures increases by the day. We collaborate with a variety of stakeholders in connection with climate change adaptation and reflecting scenario analyses of physical risks and finance activities. Our efforts include engagement with our investees and borrowers, as well as participation in initiatives through dialogue with the Ministry of the Environment and the Ministry of Economy, Trade and Industry.

We practice both mitigation and aspects of adaptation in our sustainable finance. As an example, we financed a seawater desalination project in the Middle East to enhance adaptive capacity in terms of water supply in a region where access to water resources is threatened by drought and other factors. Through investments in sustainability awareness bonds issued by the European Investment Bank, we provide funds for infrastructure development and other activities that contribute to flood and other natural disaster risk management. In 2022, we invested in Ac-Planta, Inc. through The Norinchukin Bank Innovation Fund. Ac-Planta conducts research, development, manufacturing, and sales of biostimulants that are resistant to drought, high temperatures, and salt damage.

In Japan, recent natural disasters have caused extensive damage to the production infrastructure of the agriculture, fishery and forestry industries. JA Bank and JF Marine Bank are working together to provide financial support for these industries, including low-interest disaster relief funds and subsidized interest on agricultural funds, facilitating the financing of these industries. The Norinchukin Bank also provides financial support through means including interest subsidies for agricultural funds.

The intensifying severity and frequency of weather-related disasters have a tremendous impact on the business activities of our investees and borrowers, the agriculture, fishery and forestry industries that serve as the foundation of the Bank, and human health. Although the Bank's efforts in adaptation are far from complete, we continue to work with stakeholders to demonstrate our role as a financial institution through effective adaptation practices.



Nature-related Strategies and Portfolio Analysis

Nature

The series of initiatives taken by the Bank to address nature-related risks and opportunities and promote the transition to a nature-positive society, with reference to the TNFD's "Discussion paper on nature transition plans," is summarized below.

Efforts to Develop a Nature Positive Transition Plan

Foundation	Our Purpose		
	Environment and Human Rights Policies	Important Issues in Achieving Our Purpose	Commitment to Achieving Net Zero by 2050
	Our Vision for 2030: Create Impact for the Global Environment, Society and Economy Harnessing the power of cooperatives and finance, we aspire to continue to create positive impact toward sustainable environment, society, and economy.		
Implementation Strategy	Products and Services	Risk Analysis Activities and Decision-making	Risk Management Policy and Conditions
	- Strengthen investment and finance for conservation of natural capital and biodiversity - We provide consulting to our investees and borrowers to help reduce nature-related risks and create investment opportunities based on the TNFD recommendations.	Through collaboration with academia and startups, we are enhancing the climate and nature-related risk assessment of our portfolios and applying analytical findings to engagement and other risk management activities.	- Sector policies: To prevent the possibility of increasing the risk of adverse environmental impacts, including extreme weather, we plan to add non-coal mining operations. - We began considering methods for assessing the nature-related risks of our investees and borrowers.
Engagement Strategy	Engagement with Clients and Portfolio Companies		Engagement with Diverse Stakeholders
	We plan to begin engaging with companies about nature-related risks and opportunities in FY2025. Food and agriculture, which is deeply interconnected with primary industries in value chains, is a particularly important sector in our portfolios. Our policy is to focus on engaging with our investees and borrowers in such sectors about risks and opportunities relating to both climate and nature.		- As a TNFD Taskforce member, we are contributing to the development of a global framework for nature-related financial disclosures. - As a member of various review committees and study groups, we provide opinions on the transition to nature positive. - In collaboration with members and governments, we build projects that incorporate an integrated perspective on climate and nature, e.g., by supporting the certification of Nationally Certified Sustainably Managed Natural Sites.
Metrics and Targets	We conduct assessments to understand the current nature-related risks and opportunities faced by our investees and borrowers involved in food within the consumer staples, consumer discretionary, and materials sectors, which we identified as having high impacts and dependencies in our risk analyses. We are particularly focused on proposing financing solutions and supporting the transition of multinational and large clients in these sectors to reduce their risks. * Consumer staples sector: food distribution, food retail, brewing, spirits and wines, soft drinks and non-alcoholic beverages, agricultural products and services, packaged foods and meat; Consumer discretionary goods sector: restaurants; Materials sector: fertilizers and pesticides, paper products		
Governance	- Major policies and significant revisions of the transition plan are discussed by the Sustainable Management Committee and decided by the Board of Directors. The specific state of implementation based on plans and policies as well as partial revisions of plans are reported and decided on by the Sustainable Management Committee, with oversight of the Board of Directors and the Supervisory Committee. (Key initiatives are reflected in executive compensation.) - The Chief Sustainability Officer oversees and promotes sustainability and collaborates with HQ/unit sustainability officers within the organization. - Regular review of transition plan details and progress, reporting to external stakeholders. - As part of our efforts to foster sustainability professionals (internal penetration and awareness-raising), we include information on natural capital (as well as climate change) in materials for new employees and mid-career hires.		

Governance

Strategy (戦略)

Risk Management (Risk and Impact Management)

Metrics and Targets

We identify nature-related issues (dependencies and impacts, risks and opportunities) across our portfolio through analysis based on The Norinchukin Bank business model and the value chains and locations of our investees and borrowers. We then develop and implement financial and non-financial strategies as appropriate. The analysis of dependencies, impacts, and other nature-related issues in this report covers the Bank's investment and lending activities as downstream in our value chain. Since the majority of our operational facilities are leased, non-ground floor spaces, we assume the dependencies and impacts of the Bank's operations on nature to be very insignificant. Our operations are therefore omitted from this analysis.

Understanding Nature-related Opportunities

Business opportunities related to nature positive stem from business models and innovations that protect and capitalize on natural capital in three areas: (1) food, land, and ocean use; (2) infrastructure and construction; and (3) energy and mining.

The World Economic Forum (WEF) estimates* that the size of the global nature positive-related business opportunity is approximately US\$10 trillion per year. When multiplied by Japan's share of GDP (approximately 3.4%), this translates to an opportunity in Japan of approximately ¥52 trillion. Given this estimate, the business opportunities have tremendous potential—even those opportunities limited strictly to Japan. Further, the transition to a nature positive economy will lead to sustainable economic development in harmony with nature. We understand the need for diverse entities to work together to set goals, disclose information, and promote investment, innovation, etc., if we are to achieve this vision.

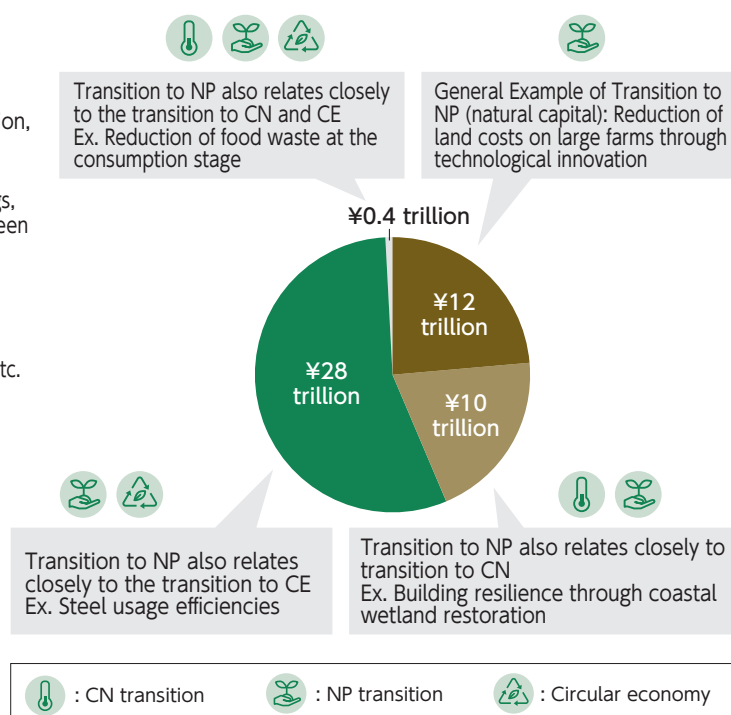
* World Economic Forum New Nature Economy Report II: The Future of Nature and Business
http://www3.weforum.org/docs/WEF_The_Future_Of_Nature_And_Business_2020.pdf

¥52 trillion

Share of Global Opportunity: 3.4%

¥27 trillion	Circular economy: Cars, appliances, buildings, renewable energy expansion, reconstruction of dams, etc.
¥11 trillion	Home sharing, energy-efficient buildings, waste management, sewage reuse, green roofs, etc.
¥14 trillion	Ecotourism, organic food and beverages, sustainable pesticides and fertilizers, sustainable forestry, natural fisheries management, utilization of food waste, etc.

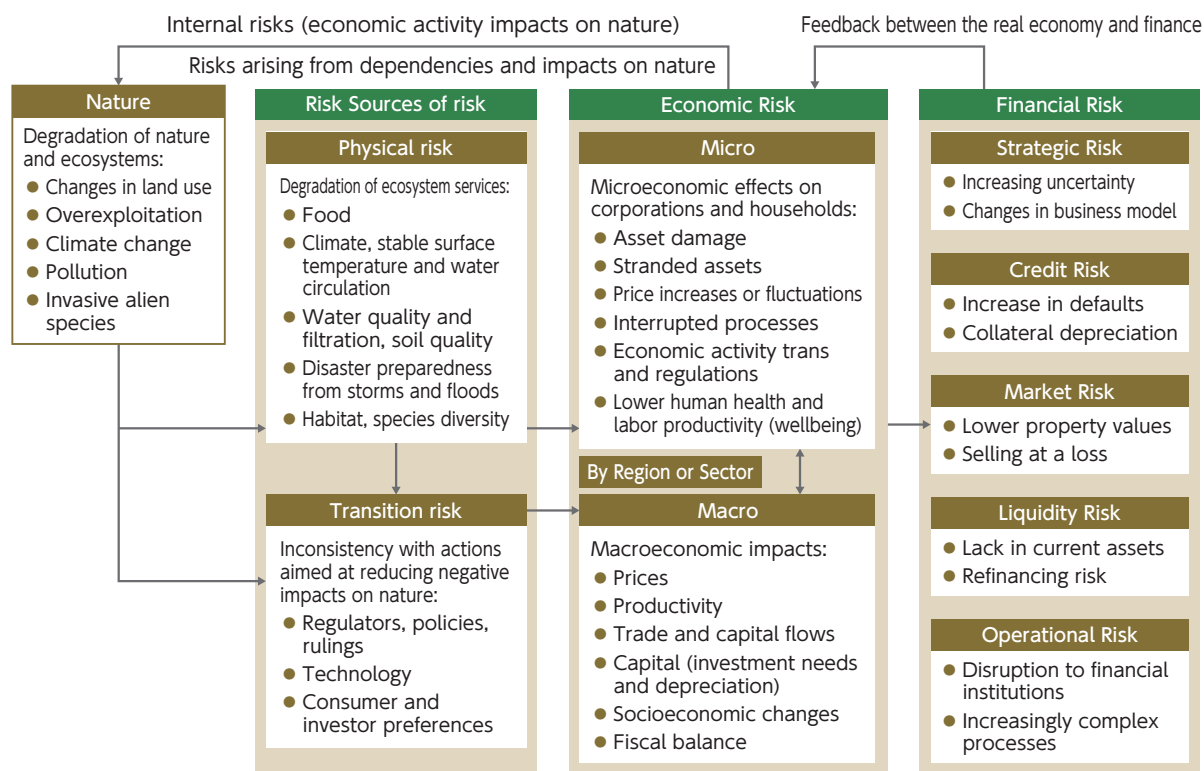
- Utilities, Energy, and Resources
- Infrastructure and Building Environment Systems
- Agriculture, Fishery and Forestry and Food-Related



Source: Prepared by The Norinchukin Bank based on Toward the Development of a Strategy for the Transition to a Nature Positive Economy (working title), Ministry of the Environment, Japan
 Note: Calculated at ¥150 to US\$1

Recognizing Nature-related Risks

Nature-related risks refer to potential economic and financial impacts resulting from changes in the natural environment. This includes biodiversity loss and climate change. Deforestation and water resource depletion are examples of nature-related risks that damage agriculture and tourism industries, causing social unrest and conflict. Changes in the natural environment correlate to causes and effects of climate change, resulting in ecosystem service degradation (from climate change) and changes in policy and consumption behavior. In turn, these changes affect financial systems through physical and transition risks. As a financial institution, the Bank recognizes that such changes can lead to credit, market, and strategic risks through spillover effects such as economic and social impacts, and financial conditions of clients.



Source: Prepared by The Norinchukin Bank in accordance with the NGFS Nature-related Financial Risks: a Conceptual Framework to guide Action by Central Banks and Supervisors.

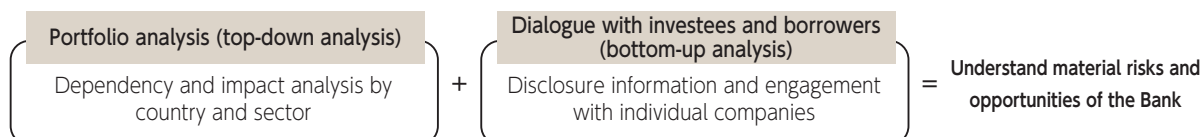
Risk Category	Scenarios
Credit Risk	Credit risk refers to the risk of negative impacts to repayment capacity or creditworthiness of investees and borrowers due to changing or diminishing natural environments. For example, natural-related disasters or environmental regulations may reduce the profitability and asset values of lending companies.
Market Risk	Market risk refers to the risk that market prices and demand will fluctuate due to changing or diminishing natural environments. For example, depleting natural resources or environmental taxes may cause fluctuations in values of financial instrument or currencies.
Operational Risk	Operational risk is the risk of disruptions or delays in business activities and supply chains due to changing or diminishing natural environments. For example, natural disasters or damaged ecosystems may damage facilities and infrastructure, causing shortages of raw materials or logistics.
Liquidity Risk	Liquidity risk is the risk that financing and asset disposal will become difficult due to changing or diminishing natural environments. For example, nature-related shocks may reduce market liquidity or limit the supply of funds.
Reputation Risk	Reputation risk is the risk of social criticism or rumors resulting from making investments or loans in economic activities that may inflict negative impacts on nature. For example, offering financial products or services with extremely high negative impacts on nature may give rise to criticism from consumers and investors.
Strategy Risk	Strategy risk is the risk of revisions to strategies and business models to accommodate changing or diminishing natural environments. For example, organizations may need to develop and introduce new technologies and products to reduce the impacts and dependencies on nature.
Regulatory Risk	Regulatory risk is the risk of capital additions or fines due to noncompliance or insufficient compliance with nature-related regulations.

Increasing Awareness of Nature-related Risks and Turning Them into Opportunities

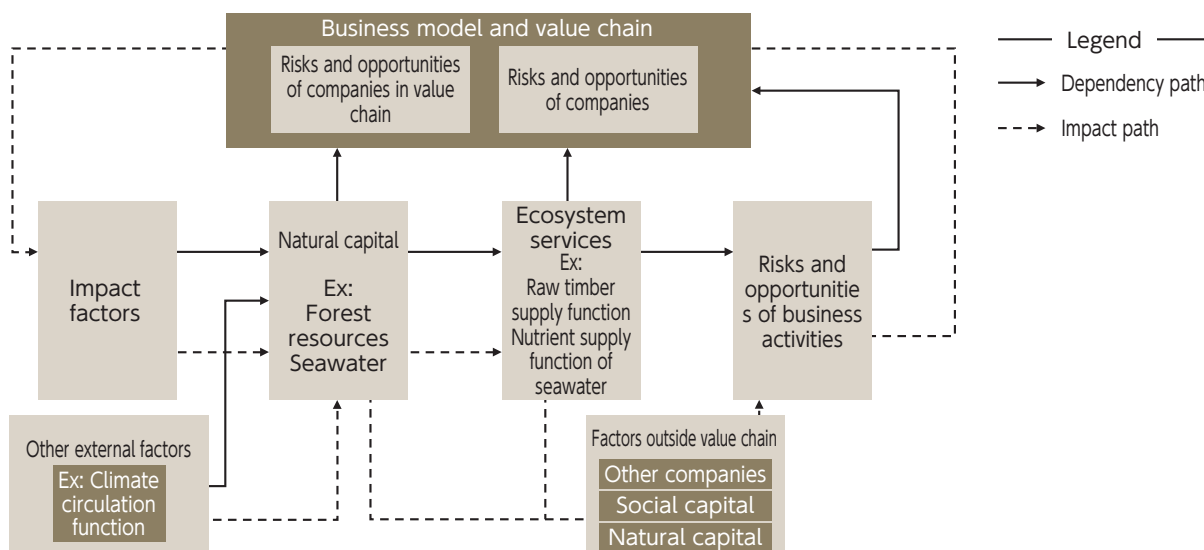
Since last fiscal year, the Bank has collaborated with research institutes and startups on conducting top-down analyses of the nature-related risks in our portfolio.

At the same time, nature-related risks are highly specific to the location of each investees/borrowers and vary greatly among the clients. It is therefore not possible to accurately assess the Bank's nature-related financial risks through portfolio analysis alone. In light of this, this fiscal year we started to assess the current state of risks and opportunities specific to each portfolio company through dialogue.

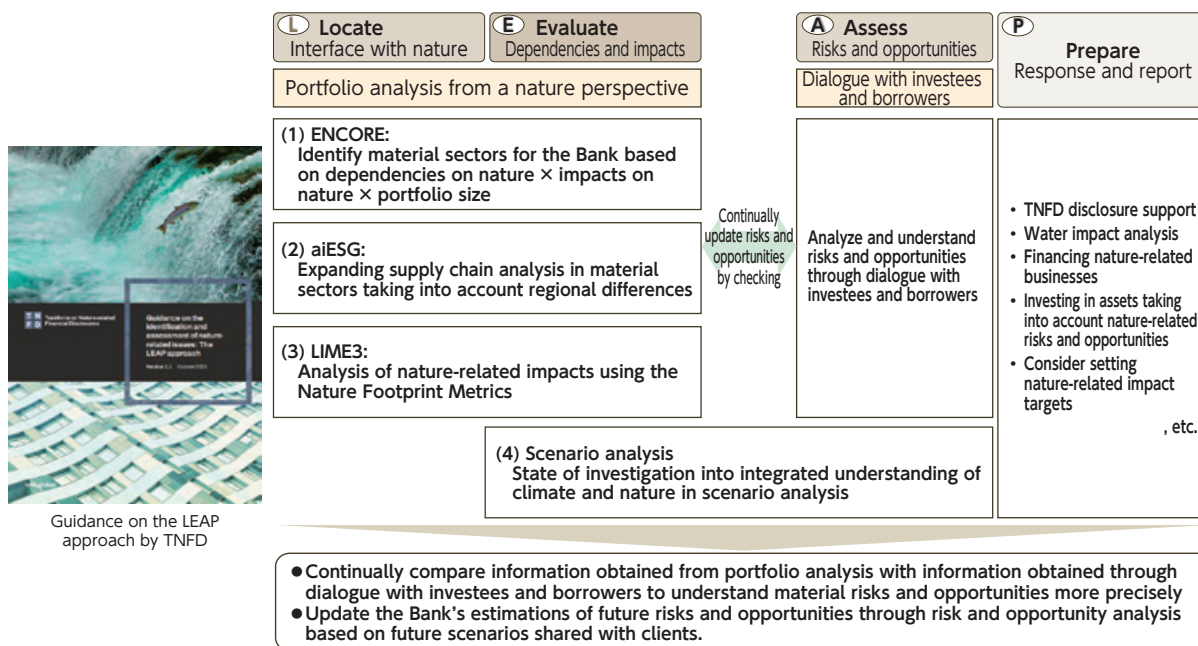
As we engage continually in dialogue with clients based on our portfolio analysis, we will try to enhance our nature-related risk management by incorporating a deeper understanding of inherent risks through the dialogue.



Relationship of Natural Ecosystem Services and Natural Capital to Corporate Risks and Opportunities



Source: Created by The Norinchukin Bank based on various sources



Source: Created by The Norinchukin Bank based on various sources

Nature-related Portfolio Analysis

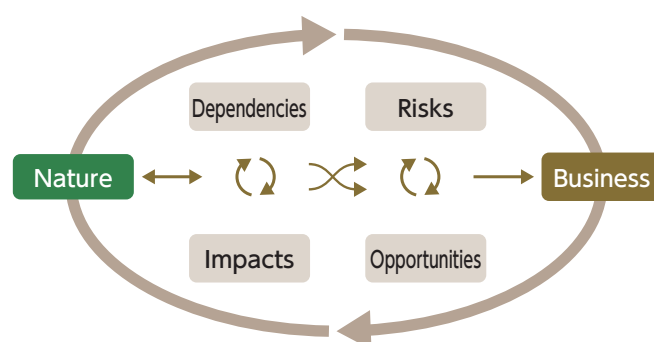
The Bank conducted a portfolio analysis to identify sectors with significant nature-related exposure and impact and to understand the types and locations of nature-related dependencies and impacts of identified sectors. This analysis corresponds to the “L” (Locate) and “E” (Evaluate) in the LEAP approach recommended by TNFD. Through a multifaceted analysis combining multiple tools, we can identify sectors that require prioritized risk management and strategic treatment in the portfolio.

Locate and Evaluate

Identifying the Bank's Material Sectors Based on Nature Dependencies × Impact × Portfolio Size

Last fiscal year, we conducted an analysis of the dependencies and impacts for our investment and loan portfolios for business enterprise as a whole to determine our nature-related risks and opportunities.

We recognize that analysis methodologies in identifying nature-related risks and opportunities are not fully developed. The Bank based this portfolio analysis on the methodologies proposed by the TNFD recommendations, PBAF, NGFS, and other initiatives. We also sought advice from experts in environmental economics, environmental science, life cycle impact assessment, and ecology.



Source: Prepared by the Bank based on TNFDv1.0

To get a complete overview of our investment and loan portfolio on a sector- by-sector basis, we used ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure) data (as of October 2024) and the Materiality Screening Tool (analysis module) of the Science Based Targets Network to analyze the dependencies and impacts characteristic of direct operations in each sector. (For now, we are not taking into account business models, locations, or value chains of individual companies in the sector.)

Note that in the ENCORE data of October 2024, the term “impact” was substituted with “pressure.” For the sake of clarity, however, whatever is termed “pressure” under ENCORE is described as “impact” in this report.

Sector classifications in nature-related analyses are based on GICS. This analysis includes Bank loans, stock, bonds, and certain funds. Public bonds, CLOs, and other securitized products in investment portfolios are excluded from this analysis due to a lack of data and methodology. Committed credit lines in lending are also excluded.

Sector	Sub-Sectors
Energy	Energy Equipment & Services; Oil, Gas & Consumable Fuels
Materials	Chemicals, Construction Materials, Containers & Packaging, Metals & Mining, Paper & Forest Products
Industrials	Capital Goods, Commercial & Professional Services, Transportation
Consumer Staples	Consumer Staples Distribution & Retail; Food, Beverage & Tobacco, Household & Personal Products, Agriculture
Consumer Discretionary	Automobiles & Components, Consumer Durables & Apparel
Health Care	Biotechnology, Health Care Equipment & Supplies, Health Care Providers & Services, Pharmaceuticals
Financials	Banks, Insurance, Investment Funds, Asset Management, Securities, Trading Markets
Information Technology	Communications Equipment; Electronics and Components; Semiconductors & Semiconductor Equipment; Software; Technology Hardware, Storage & Peripherals; IT Services
Communication Services	Telecommunication Services, Wireless Telecommunication Services, Cable Telecommunication Services, Media, Entertainment
Utilities	Electricity (including renewable energy), Gas, and Water
Real Estate	Real Estate Management & Development

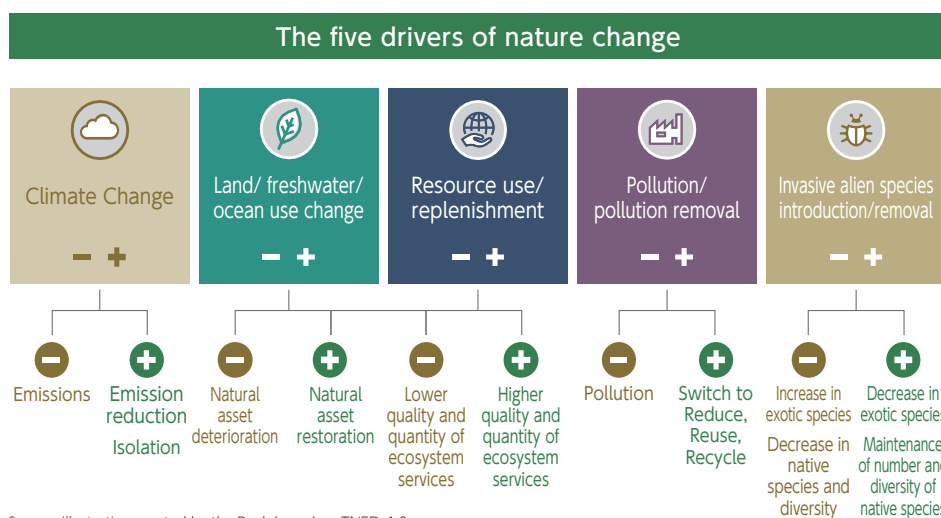
Analysis of Nature Dependencies and Impacts in the Bank’s Portfolios

Sectors that are highly dependent on nature may present financial risks through impacts on business activities if nature deteriorates. On the other hand, it is also possible to think that these sectors have established a business model in which the sector benefits from coexisting with nature. Business models that are deeply rooted in nature may reflect that the organization maintains nature through its business. In a society where the value and importance of nature is increasing, returns from the dependencies in such business models may increase.

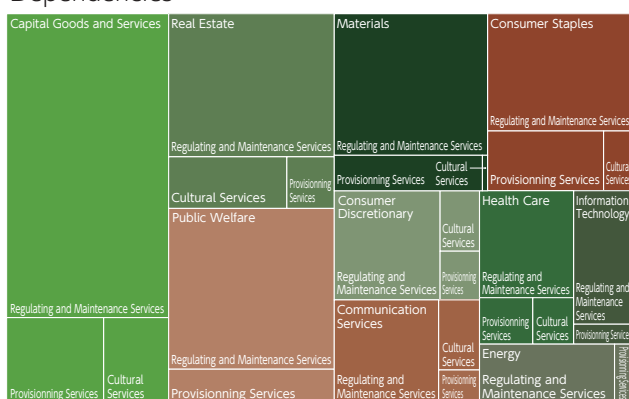
While dependency represents a single factor in assessing nature-related risks and opportunities, we recognize the importance of analyzing location-specific risks and opportunities when assessing financial impacts on the Bank. One example of location-specific analysis includes assessing water resources at the watershed level over water intake areas.

Business activities of our investees and borrowers may change (impact) natural capital and ecosystem services. Excessive negative impacts can lead to the degradation of the natural resources on which the business of the investee or borrower relies, as well as to reputation risk. Such risks may in turn lead to medium- to long-term financial risk. On the other hand, positive impacts may increase the value of nature and lead to sustainable business and positive result for stakeholders.

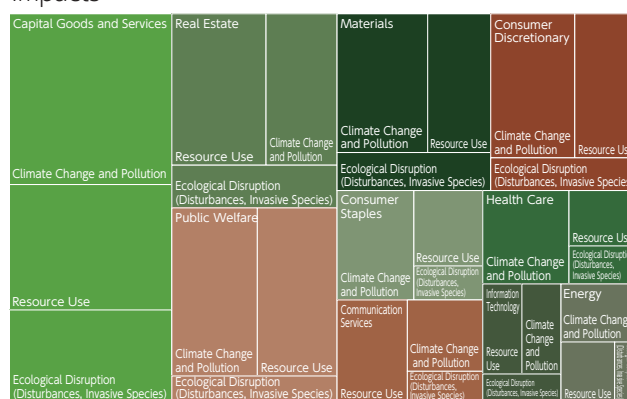
In the Climate and Nature Report, we analyzed our portfolios for five root causes of changes to the natural environment (impact drivers) based on the TNFD recommendations. We utilized available portfolio data to analyze impacts from investees and borrowers’ business.



Dependencies



Impacts

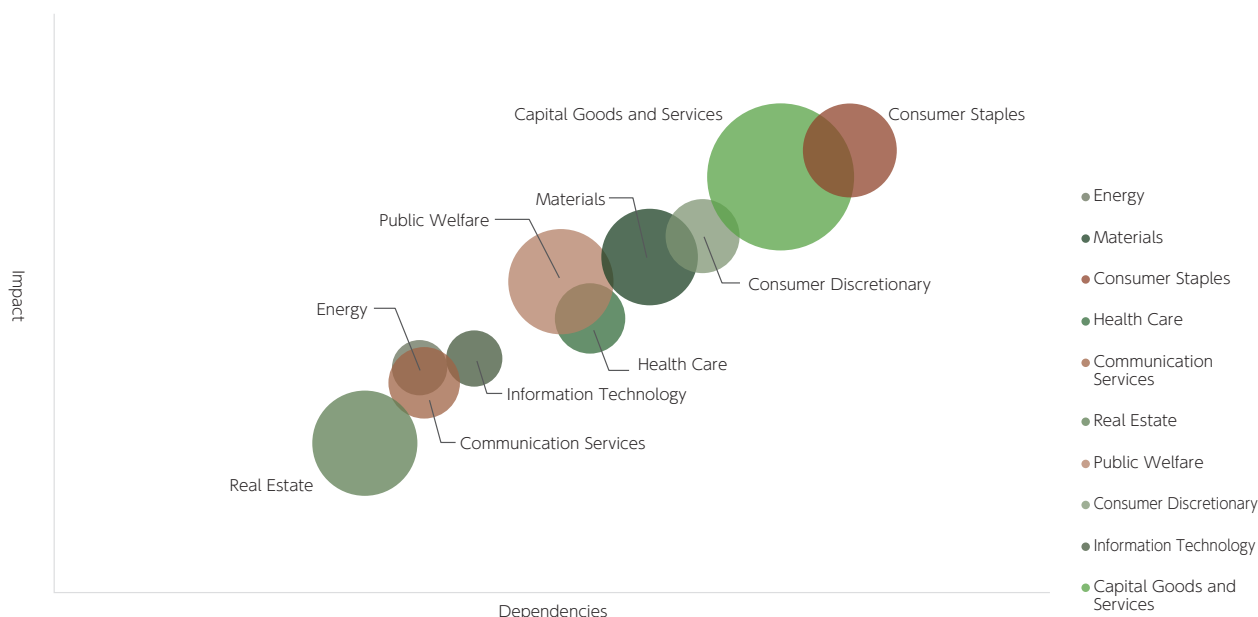


Source: Created by The Norinchukin Bank

In the light of the results of our analysis of the impact drivers affecting nature by sector (e.g., land use changes, resource use, and pollution), we recognize the need for further detailed analysis of the impacts of land use changes and water resource use, which figure significantly in the Bank's portfolios.

Overall Nature Dependencies and Impacts in Portfolios

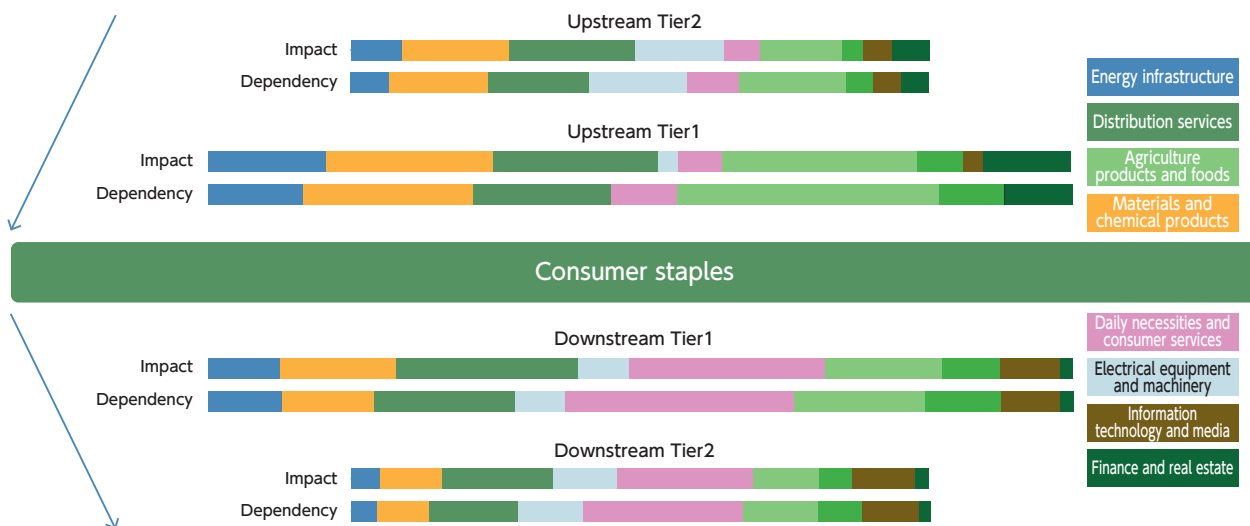
The figure below shows the relationships between nature dependencies and impacts across our entire portfolios projected sector-by-sector. The size of the circles represents investment and loan sizes.



Source: Created by The Norinchukin Bank

The graph confirms that the Bank has relatively high dependencies and impacts in sectors such as consumer staples, which is closely connected to agriculture, fishery and forestry (industries that are fundamental to the Bank's business), as well as capital goods and services, which account for a large portion of our investments and loans. Using up-to-date data from ENCORE that takes into account value chains, we attempted to perform a value chain analysis for the consumer staples sector.

The results showed that for consumer staples, there is high dependency on agricultural products and food upstream, and high dependency on daily necessities and consumer services downstream in the value chain. Impact was relatively high for distribution services upstream, whereas downstream in the value chain, impact was relatively high (as was dependency) for daily necessities and consumer services.



Source: Created by The Norinchukin Bank

The table summarizes the results of an analysis of the Bank's impacts on nature by sector that the Bank invests in or finances, by region. We identified sectors with high impacts in Japan and North America, the principal regions of the Bank's investment and financing.

		Area of freshwater use	Area of land use	Area of seabed use	Disturbances (e.g. noise, light)	Emissions of GHG	Emissions of non-GHG	Emissions of nutrient pollutants to water and soil	Emissions of toxic pollutants to water and soil	Other abiotic resource extraction	Other biotic resource extraction (e.g. fish, timber)	Introduction of invasive species	Volume of water use	Generation and release of solid waste
Sector														
Japan	Energy	High												
	Communication Services													
	Health Care													
	Consumer Discretionary													
	Public Welfare													
	Capital Goods and Services													
	Information Technology													
	Consumer Staples													
	Materials													
Asia	Real Estate													
	Energy	High												
	Communication Services													
	Health Care													
	Consumer Discretionary													
	Public Welfare													
	Capital Goods and Services													
	Information Technology													
	Consumer Staples													
EU	Materials													
	Real Estate													
	Energy	High												
	Communication Services													
	Health Care													
	Consumer Discretionary													
	Public Welfare													
	Capital Goods and Services													
	Information Technology													
North America	Consumer Staples													
	Materials													
	Real Estate													
	Energy	High												
	Communication Services													
	Health Care													
	Consumer Discretionary													
	Public Welfare													
	Capital Goods and Services													

Source: Created by The Norinchukin Bank

From the results of our analysis of direct operations in each sector above, we identified consumer staples (food-related, agriculture, fishery and forestry), and capital goods and services, which rank highest in terms of dependencies and impacts on nature, as sectors we need to prioritize in developing nature-related strategies and managing risks.

While ENCORE analysis is useful for identifying sectors of high dependency and impact on nature in a portfolio, there are limitations to fully analyze and understand using this data. These are due to the fact that it does not take into account regional differences, and only considers value chains up to the secondary level of activity, both upstream and downstream. For this reason, the Bank conducted a portfolio analysis in collaboration with aiESG, a startup with expertise in AI-based value chain analysis.

Locate and Evaluate

Expanding Supply Chain Analysis in Material Sectors Taking into Account Regional Differences

Analysis Overview

This analysis, conducted with aiESG, a startup company originating from Kyushu University, focused on the consumer staples sector, one of the sectors that are material to the Bank's investment and finance (as derived using ENCORE). We conducted a further detailed analysis centered on the subsectors of the consumer staples sector in Japan, to examine environmental and social impacts in supply chains. On top of the analysis results on nature impacts derived with ENCORE, this analysis goes one step further in analyzing the supply chains of our investees and borrowers. Since it enables the identification of environmental and social impacts at each stage of supply chains, it is able to make clear the structure of impacts from upstream to downstream.

Last fiscal year's analysis examined the five subsectors :packaged foods and meat, soft drinks, distilled spirits and wines, agricultural produce, and brewing. Impacts relating to eight environmental factors, such as GHG emissions and cultivated land burden, were investigated.

This fiscal year, we wanted to expand our understanding of food-related supply chains by analyzing other subsectors (different to those above). (See table below.) In addition to some upstream subsectors, we are also analyzing various supply chains relating to assorted procurement items in these sectors, focusing on retail downstream and distribution midstream. This enables us to determine not only the environmental and social impacts of the manufacturing of specific products, but also the impacts of various products handled by downstream and midstream companies.

From the approximately 140 environmental and social impact indicators provided by aiESG, we conducted an initial supply chain screening to carefully select indicators suitable for assessing relatively high impacts in the subsectors under analysis. This year we are using 17 indicators, compared to eight last year, enabling a more wide-ranging analysis of the environmental and social impacts arising in subsectors. Depending on subsectors, there are indicators that carry significant relevance and impact, and indicators that have a relatively small contributing impact.

This fiscal year, we also analyzed the environmental and social impacts related to the following two layers. We are confident that in addition to environmental and social impacts considered financially material when exposure is taken into account, we can now measure burden per unit of production value.

(1) Analysis taking into account the Bank's exposure

Useful for revealing subsectors that are financially material and have significant environmental and social impacts

(2) Analysis of individual subsectors per unit of production value

Useful for understanding burden per unit of production value for each subsector and burden reduction efforts

Note that this analysis covers the whole world. Country-level environmental and social impact data are used for basic geographical analysis units. Adding AI-based analysis allowed us to complementary cite information in survey reports on country-specific burden, etc. This enabled us to obtain qualitative information on hotspots in a country as information covering some states or prefectures.

Sectors analyzed this fiscal year

Restaurants	Food retail
Food distribution	Consumer staples retail
Agricultural and farm machinery	Fertilizers and agricultural chemicals
Department stores	Tobacco

Analysis Metrics for this Fiscal Year

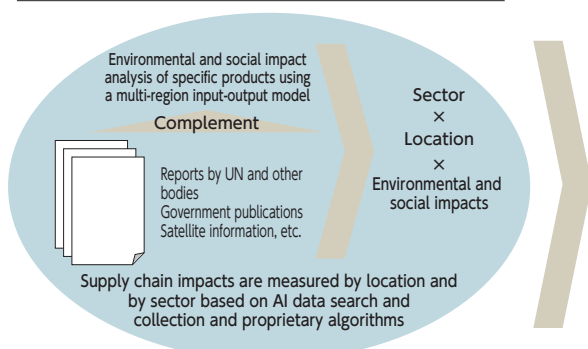
GHG-CO₂ emissions (kg) Carbon dioxide emitted in procurement	Wastewater usage (l) Wastewater consumed in procurement
GHG-CH₄ emissions (kg) Methane emitted in procurement	Nitrogen emissions (kg) Total quantity of nitrogen compounds released to the environment through agricultural activities
GHG-N₂O emissions (kg) Nitrous oxide emitted in procurement	Forced labor (hours) Total number of hours worked under conditions of forced labor or other risk of human rights violation in procurement
AIR-SO₂ emissions (kg) Sulfur dioxide emitted in procurement	Excessive working time (hours) Total number of hours worked under conditions of overwork or other risk of human rights violation in procurement
AIR-NO_x emissions (kg) Nitrogen oxides emitted in procurement	Planted forest (m²) Forests made up primarily of trees planted through afforestation or artificial seeding
Raw material inputs, total biomass (t) Biomass consumed in procurement	Natural forest (m²) Forests made up mainly of trees established by natural regeneration
Total cropland area (m²) Cultivated land used in procurement	Pasture (m²) Land under permanent cultivation (for at least 5 years) of herbaceous forage crops, natural grassland, or pasture
Fresh water usage (l) Freshwater resources consumed in procurement	EEZ used for capture fisheries (m²) Exclusive economic zones (EEZs) in nature used for the purpose of capturing aquatic animals or harvesting aquatic plants.
Evapotranspiration water usage (l) Rainwater resources used in procurement	

Analysis Approach

This analysis was conducted in collaboration with aiESG, utilizing a multi-regional input-output model to analyze the environmental and social impact per unit of production value. The analysis was also supplemented by integrating the academic expertise of Kyushu University, including the use of AI to collect and analyze data from UN and government-issued reports and satellite data.

Main analysis process

Measure environmental and social impacts in the supply chain



Visualize supply chain impacts on a dashboard

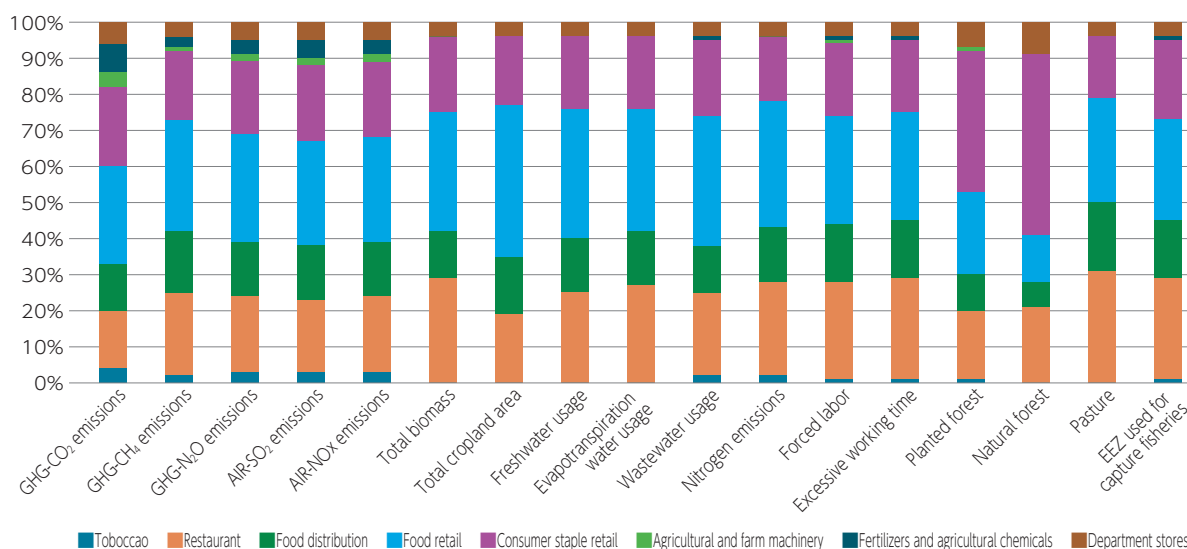


Source: Created by the Norinchukin Bank based on aiESG analysis

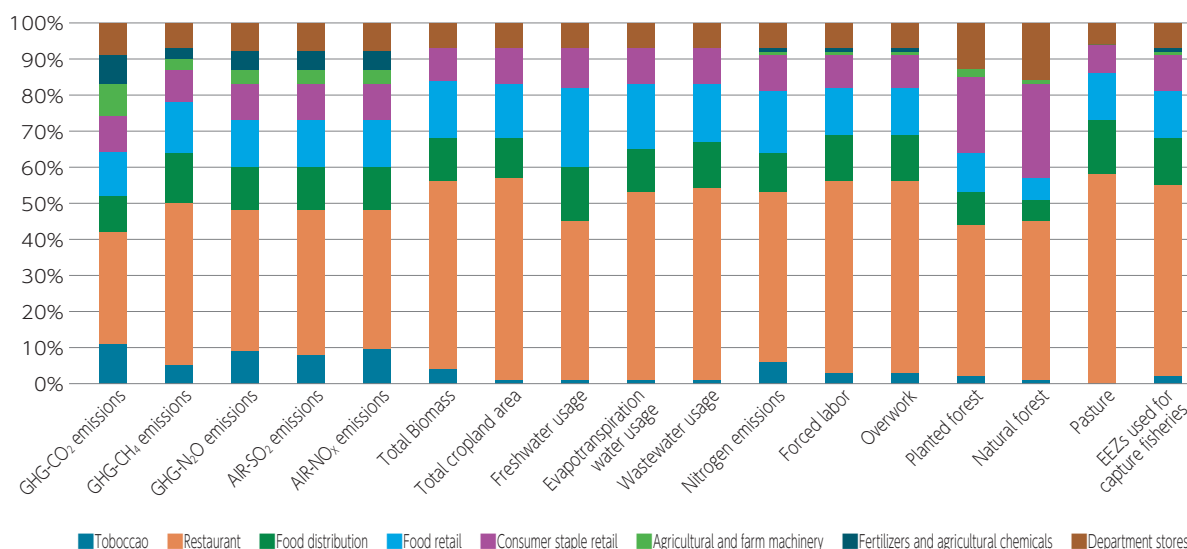
Analysis Results

Firstly, an overview of environmental and social impacts that takes into account the Bank's exposures reveals relatively high impacts on the three sub-sectors of food retail, consumer staples retail, and restaurants. The results also showed that the impact per unit of production value was particularly high in the case of the restaurants subsector. The differences in the results indicate that the most material subsector for the Bank depends on the purpose of analysis.

Proportion of Environmental and Social Impacts Taking into Account the Bank's Exposure



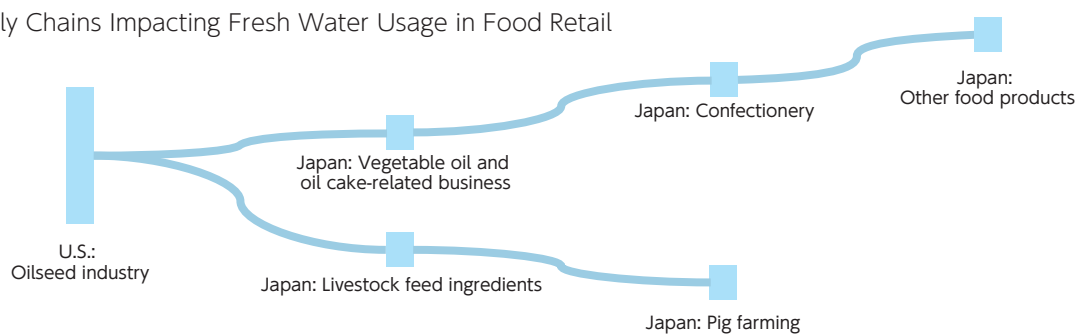
Proportion of Environmental and Social Impacts Per Unit of Production



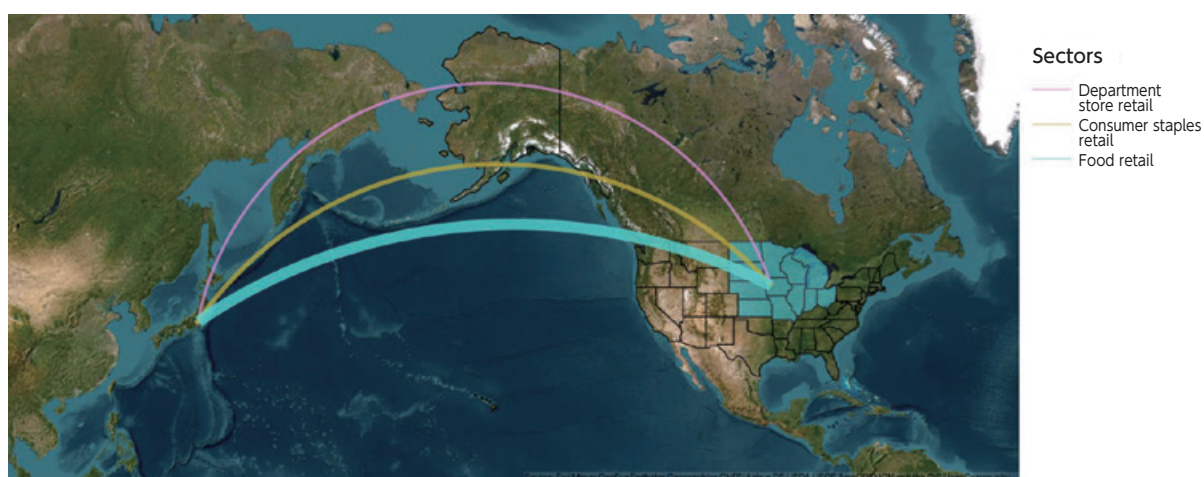
This analysis also revealed the possibility that different subsectors procure products through common supply chains. For example, by tracing the supply chains of sectors such as food retail, consumer staples retail, and department stores, all were found to have exposure to U.S. oilseed agriculture. Through intermediate products such as oilseed cakes and livestock feed, oilseed is incorporated into the impact of final products in downstream sectors. Our analysis showed that the impact of U.S. oilseed agriculture on freshwater usage and other water-related indicators per unit of production value is high. Therefore, mitigating these impacts require the coordinated efforts of multiple sectors. This also suggests that it is important for financial institutions to understand the complex structure of supply chains in order to reduce risks by cooperating with a diversity of investees/borrowers and stakeholders.

Furthermore, AI-driven data collection shows that U.S. oilseed agriculture requires huge quantities of water for irrigation on top of rainwater. This poses the risk of water depletion in arid regions. This risk is known to exist in the Midwest region of the U.S.

Supply Chains Impacting Fresh Water Usage in Food Retail



Visualization of supply chain risks for oilseed agriculture in the U.S. Midwest



Source aiESG

Comment from Academia

MANAGI Shunsuke, Distinguished Professor,
Kyushu University and Representative Director, aiESG, Inc.



In Japan, climate change-related water disasters have seriously impacted society. Total precipitation is up by around 20% and the frequency of linear precipitation zones has risen by around 50%. Against this backdrop, The Norinchukin Bank is committed to contributing to sustainable development in agriculture, fishery and forestry, the core industries that sustain life, has set such activities as its "Purpose."

These industries are all very much impacted by climate change. There are various reasons. These industries are highly dependent on weather conditions; the frequency and severity of extreme weather events are increasing; ecosystems are being impacted; and it is difficult to adapt to long-term impacts. To fulfill its Purpose, it is therefore essential for the Bank to strongly promote action to address climate and nature.

I find it very encouraging that in addition to focusing on solutions such as sustainable finance, and the creation and distribution of carbon credits derived from agriculture, fishery and forestry, The Norinchukin Bank also places importance on industry-government-academia collaborations. Through its involvement with climate change, where action is preceded by debate, and collaboration with academia and startups such as aiESG, the Bank is tackling the complex and difficult challenge of determining nature-related risks and opportunities. This report clearly demonstrates the serious effort it is making to develop solid nature-positive initiatives.

Finally, for the world of the coming years, it is an urgent task to create mechanisms that enable AI and other new technologies to help solve societal challenges. This is because AI is set to become mainstream in all kinds of systems. In partnership with aiESG, The Norinchukin Bank has already adopted AI for its analysis needs. We believe that further utilization of this technology will improve the predictability of climate and nature-related initiatives, thereby allowing us to offer more options to make it easier to build consensus among diverse stakeholders. I expect The Norinchukin Bank to actively lead the way in deploying the latest knowledge through AI and other technologies without fear, to advance our response to climate and nature challenges and reshape the future of agriculture, fishery and forestry.

Analysis of Nature-related Impacts Using Nature Footprint Indicator

The Bank participated in a joint research project with Waseda University's Norihiro Itsubo Laboratory (including Tokyo City University) aimed at developing a deeper systematic understanding of the impacts of investment and financing on climate change, natural capital, and biodiversity. Utilizing information about financed emissions from our investment and loan portfolio for business enterprises, we calculated equity footprint indicators using the methodology of life cycle assessment (LCA) to assess the biodiversity impacts of portfolio client companies with a certain emissions profile affecting climate change.

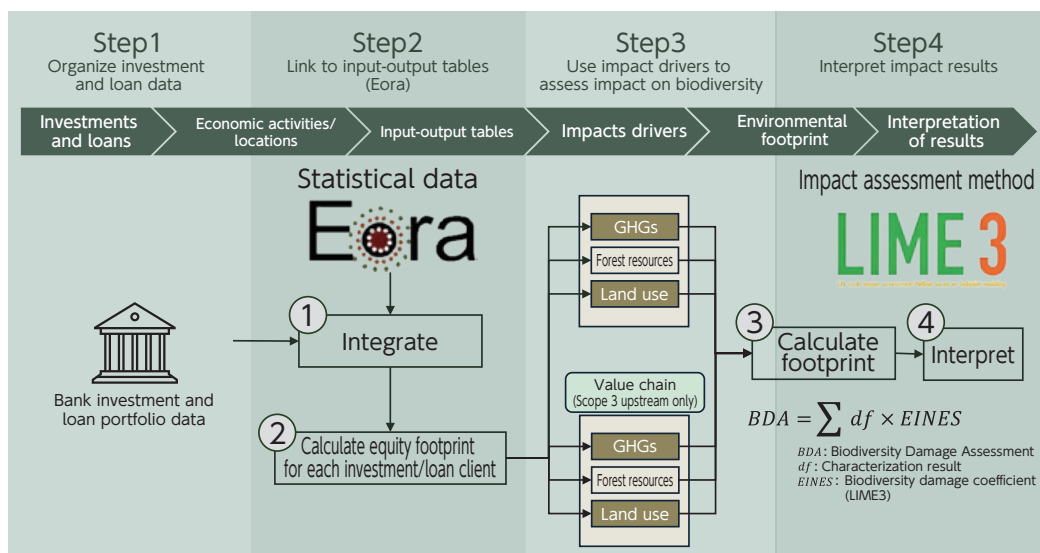
When conducting analyses that consider value chains (and not just direct operations) with the aim of assessing the total impact of a business on nature, it is necessary to taken into account the current limitations of disclosure data currently available from investment and loan clients, as well as the incomplete development of analysis methodologies. In collaboration with the Itsubo Laboratory at Waseda University, the Bank developed a method for assessing the impacts of investment and finance portfolios of financial institutions that reflects multi-region input-output tables and regional environmental conditions. Last fiscal year, we started disclosing the results of this analysis in our reports. This analysis method makes use of the Life-Cycle Impact Assessment Method based on the Endpoint Modeling (LIME), a damage calculation-type method developed under Professor Itsubo. We applied multi-regional input-output tables to the entire portfolio to reflect the supply chain and environmental impacts of each country and sector, taking into account the significant impact of raw material procurement in the country of origin.

The multi-regional input-output tables utilize the EORA database. We linked portfolio data to EORA to calculate our contribution to impacts in relation to GHG emissions and occupied land areas in accordance with the equity ratio corresponding to the value of investments and loans in portfolio companies. Equity ratio in this analysis is calculated as the ratio of the Bank's outstanding investment or loan to the total net assets and liabilities of the portfolio company. For this calculation, we applied the financed emissions measurement method for calculating the GHG emissions equity ratio, i.e., the contribution of each financial institution to the total emissions of the portfolio company.

For our previous report, we conducted an environmental impact assessment of GHG emissions (Scope 1 and 2) of our investment and finance clients, confirming that the sectors of the Bank portfolio contributing the most to species extinction risk through GHG emissions were consumer staples in Japan, healthcare in the U.S., capital goods and services in Japan, and consumer goods in the U.S.

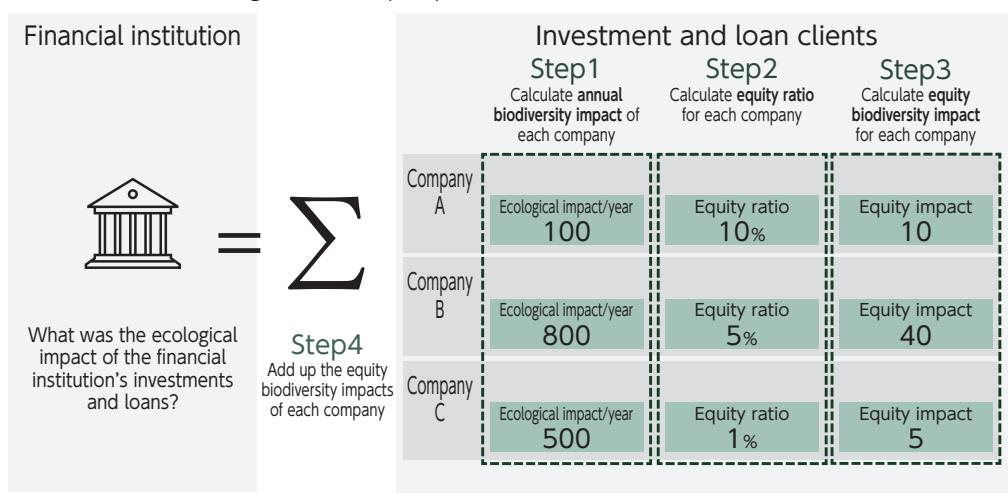
In this year's report, we added GHG emissions to our analysis (Scope 3 upstream) and expanded the impact domain to include land modification (changes in occupied land area based on FAO statistics).

Analysis process



Source: Created by Itsubo Lab

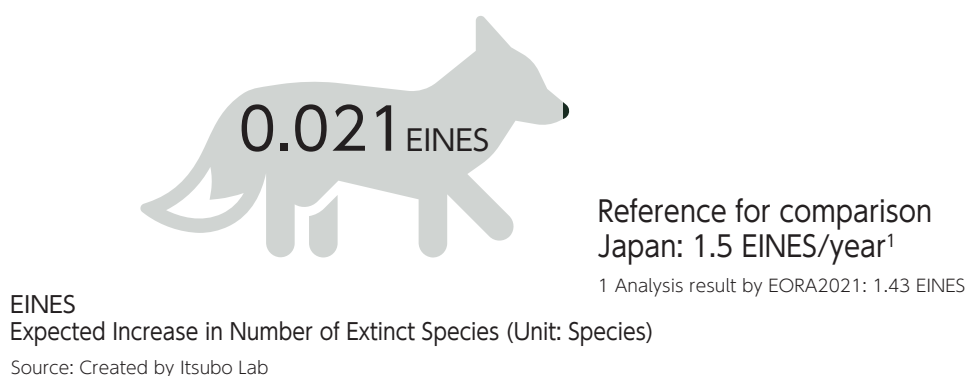
Method of Calculating Biodiversity Impacts of Investments and Loans



Source: Created by Itsubo Lab

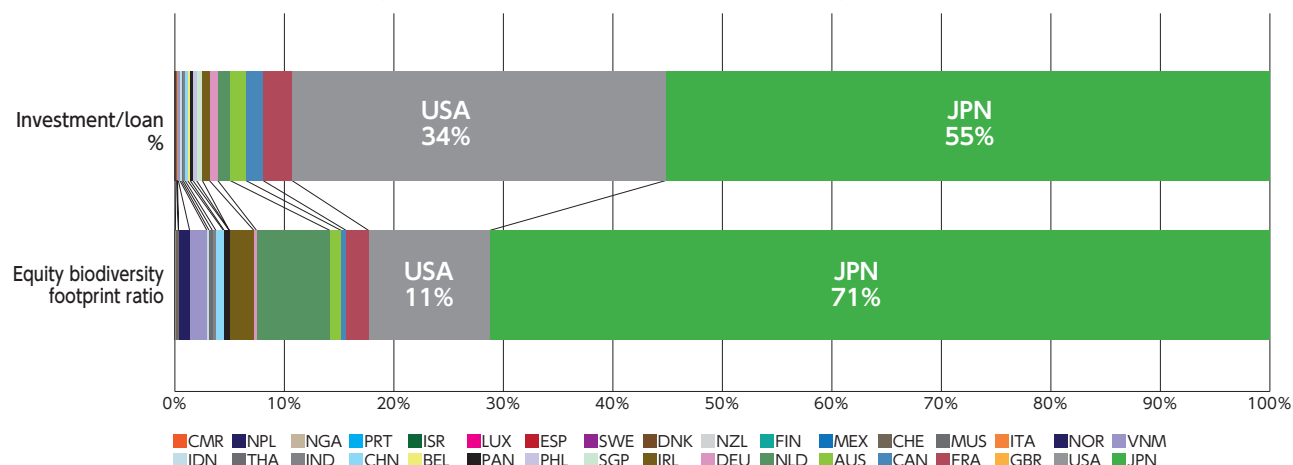
The results showed that the size of EINES in our portfolio is 0.021 EINES/year. This means that the Bank's investments and loans are generating an extinction risk equivalent to 0.021 species per year. Note that the biodiversity footprint arising from Japan's economic activities amounts to 1.5 EINES per year. Our EINES value in FY2021 based on our portfolio analysis was 0.026. Thus, the value has fallen since our last analysis. This is due to reduced exposure, primarily in the chemical manufacturing sector and education, health and other services sectors.

Biodiversity Assessment Results for the Bank's Investment and Loan in FY2023

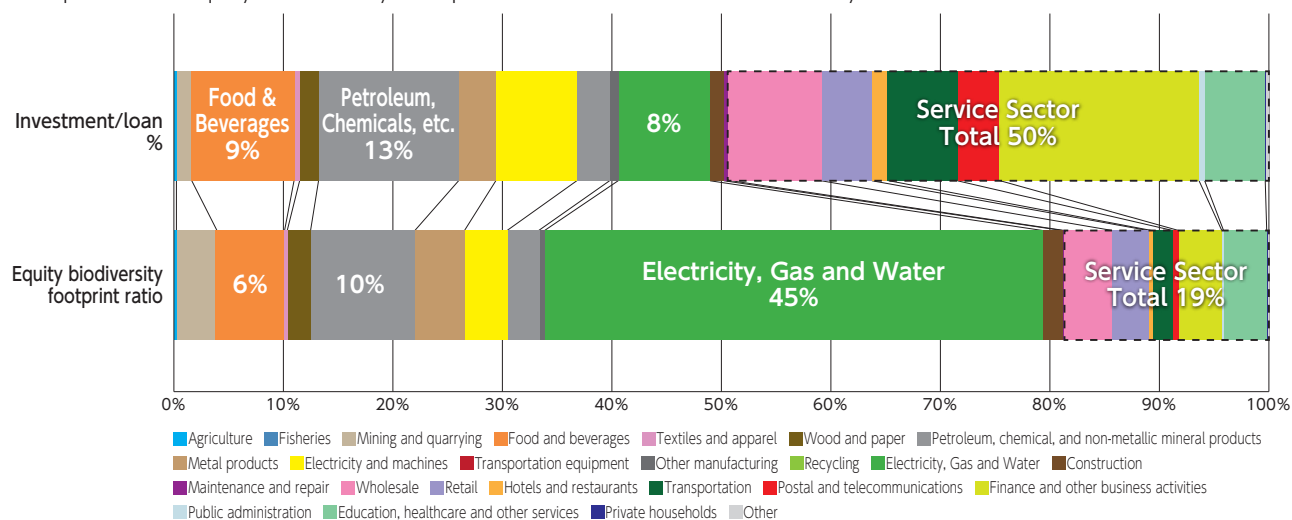


The following figure shows comparisons of investment and loan amounts and equity biodiversity footprint by country and sector. The analysis by country shows that equity biodiversity has become relatively large compared to investment/loan amount for Japanese companies, but relatively small in the case of U.S. companies. The results by sector reveal that the impact of the electricity sector is large, but that of service sector is small.

Comparison of Equity Biodiversity Damage and Investment/Loan Value by Country



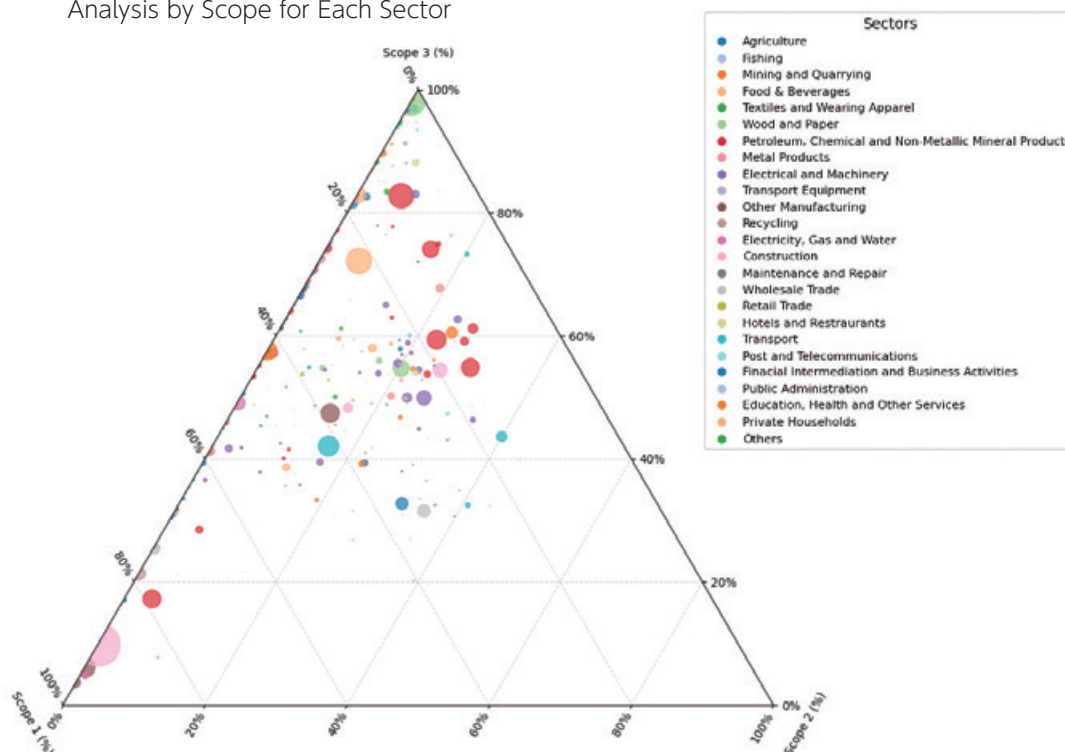
Comparison of Equity Biodiversity Footprint and Investment/Loan Value by Sector



Source: Created by Itsubo Lab

We also analyzed the biodiversity footprint of investment/loan clients in each sector by Scope of emissions (1, 2, 3). The analysis confirmed that Scope 3 emissions account for over 50% of the biodiversity footprint of many investees/borrowers, with sizable impacts throughout supply chains. On the other hand, the impact of Scope 1 emissions is large in the electricity sector, with sector-specific activities such as energy production processes contributing to the biodiversity footprint.

Analysis by Scope for Each Sector



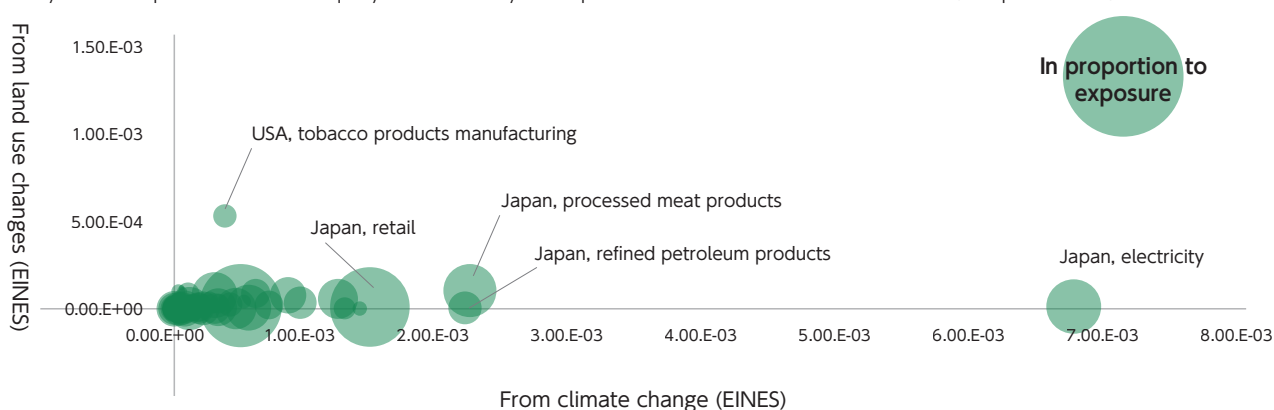
Source: Created by Itsubo Lab

The following three graphs offer a comparison of equity biodiversity footprint of our investment/loan clients by sector, taking into account Scope 3 emissions such as land use changes and GHG emissions in supply chains. Japan's electricity sector, processed meats sector, and chemical manufacturing sector are ranked high in terms of impact on species extinction risk.

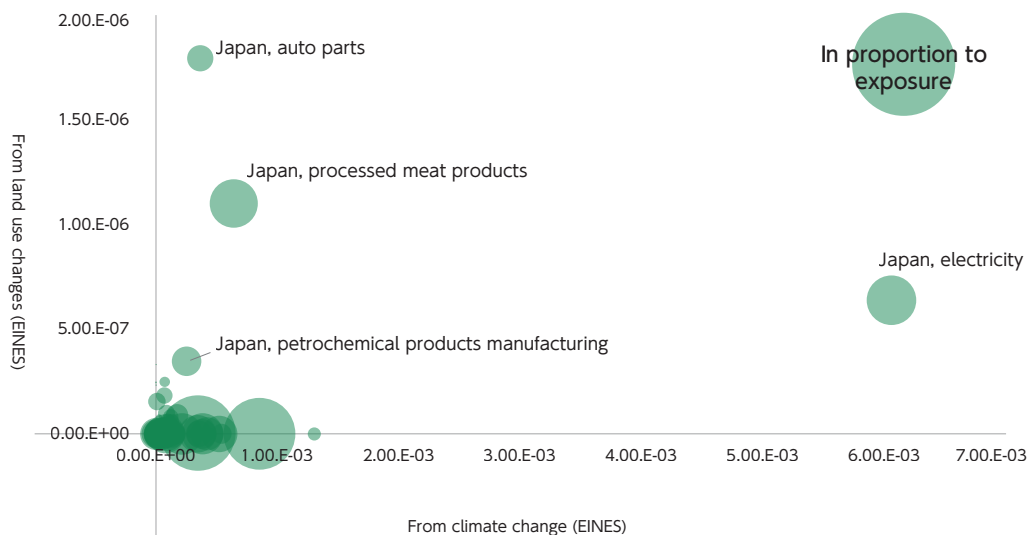
When focusing only on Scope 3 emissions in supply chains, we found that the impact of climate change was particularly high on the food and beverages sector and processed meats sector. This suggests that analyzing only Scope 1 and 2 emissions, without considering supply chains, does not allow the impacts on nature of individual sectors to be adequately assessed.

Furthermore, a comparison of impacts in the processed meats sector by Scope shows that the impacts of land use changes are larger than in other sectors in the case of Scope 1 and 2 emissions (directly related to operations), while an analysis of impacts of Scope 3 emissions throughout supply chains shows that climate change-derived impacts are larger than in other sectors.

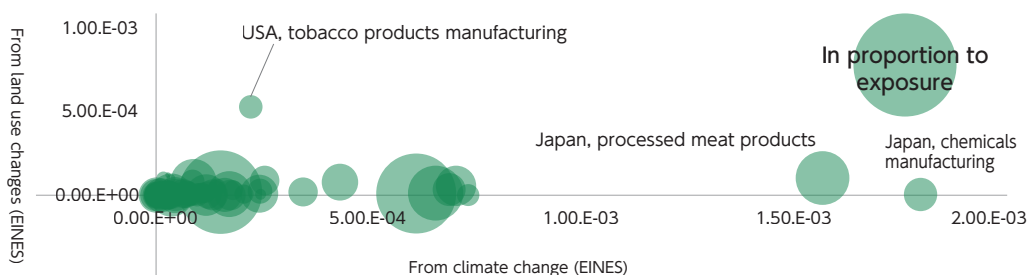
Analysis of Impact Areas of Equity Biodiversity Footprint of Investment/Loan Clients (Scope 1, 2, 3)



Analysis of Impact Areas of Equity Biodiversity Footprint of Investment/Loan Clients (Scope 1, 2)



Analysis of Impact Areas of Equity Biodiversity Footprint of Investment/Loan Clients (Scope 3)



Source: Created by Itsubo Lab

Through a series of analyses, we were able to confirm that the sectors in the Bank's portfolio companies that contribute most to species extinction risk due to GHG emissions and land use change are Japan's electricity sector and processed meats sector.

In the future, we want to contribute to developing and promoting the use of Japan's biodiversity footprint through participation in the previously mentioned "Development and Demonstration Project of Nature Footprint Based on the Promotion of Nature-Related Information Disclosure and International Standardization by Financial/Investment Institutions." We also want to expand our analysis to cover a wide range of impacts, such as forest resource consumption and fossil fuels, and investigate methods for utilizing location-specific analysis and comprehensive assessments in conjunction with information disclosed by companies.

At the same time, we recognize that like financed emissions, nature footprint indicators for assessing impacts do not, alone, necessarily provide information about risk magnitude or future risks (or opportunities) in investments and loans. To step up the promotion of transition initiatives aimed at realizing a nature-positive economy, we hope to better understand the correlations, i.e., how the business dependencies and the impacts measured in this analysis affect the risks and opportunities. As a financial institution, we can benefit from such understanding.

Comment from Academia

ITSUBO Norihiro, Professor, Faculty of Science and Engineering, Waseda University



In addition to climate-related disclosures, we are seeing more and more attention paid to nature-related disclosures. Up to now, financial institutions have mostly conducted portfolio assessments based on GHG emissions in accordance with Partnership for Carbon Accounting Financials (PCAF) and Scope 3. However, with time we hope that they expand their disclosures to include nature-related assessments. Quantitatively assessing and sharing the relationships between agriculture, fishery, forestry, and ecosystems from the perspective of global supply chains is vital for enabling constructive dialogue between financial institutions and their investment and loan clients. The Norinchukin Bank was quick to implement portfolio assessment using LIME3, an LCA impact assessment method. Quantitative analysis that takes into account both climate and land use changes serves as a fundamental basis for proposing optimal engagement for specific sectors. It can greatly help the Bank to fulfill its Purpose. We are currently working together with the Cabinet Office and the Ministry of the Environment to conduct initiatives aimed at developing nature footprint metrics. Analytical methods with greater regional precision that take into account both biodiversity and ecosystem services promise to be valuable for facilitating more detailed engagement. The Norinchukin Bank has already begun deploying such tools, with our strong support. We look forward to seeing the Bank continue leading the way in the field of natural capital through disclosure based on global standards such as TNFD.



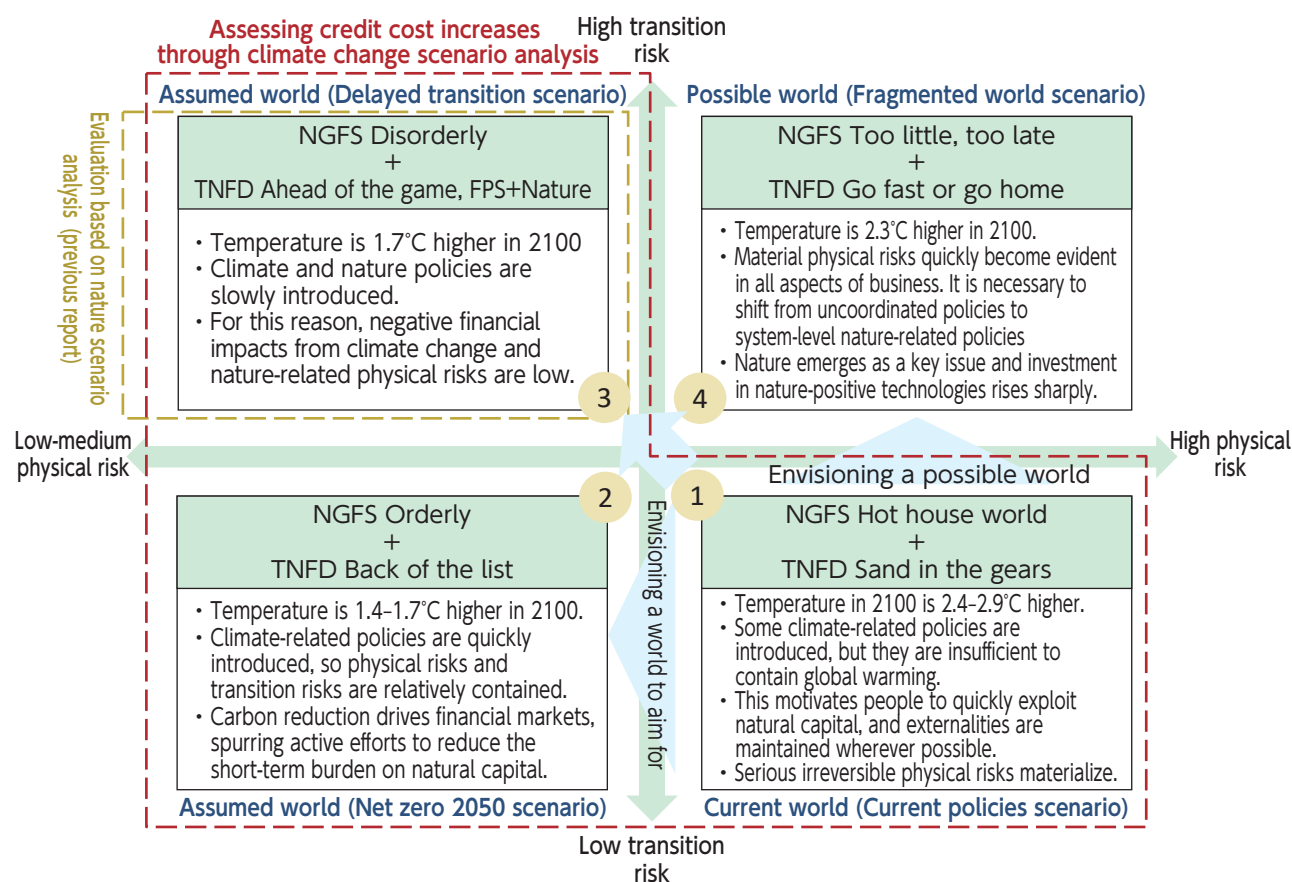
State of Investigation into Integrated Understanding of Climate and Nature in Scenario Analysis

In our Climate & Nature Report 2024, we used the IPR Forecast Policy Scenario + Nature (FPS+Nature) scenario to conduct an analysis focused on food and agriculture-related sectors (key industries in food and agriculture supply chains). This scenario enables integrated analysis of climate and nature-related risks. FPS + Nature is the first integrated nature and climate scenario developed for investors through Inevitable Policy Response (IPR), the climate change scenario development program of Principles for Responsible Investment (PRI), released in 2023.

In our previous analysis, we utilized data on nature-related physical risks in the transition scenarios provided by FPS + Nature, focusing on the two “state of nature” parameters that relate closely to food and agriculture-related sectors—water scarcity and pollination—with reference to the “Discussion paper on conducting scenario analysis” published by TNFD. We assessed these risks for three regions—Japan/Korea, North America, and the EU—for the time frames of 2030 (medium term) and 2050 (long term). (Note that this data was not publicly available at the time of this report’s publication.) The results suggest that in Japan a decline in pollinators will become a risk factor in the agricultural products and services sector, and in North America that water risks are likely to increase in sectors of high water usage. They confirm that the degree of physical risk varies between regions due to differences in state of nature changes.

Up to now, the Bank has addressed climate change by conducting scenario analyses of transition risks and physical risks, expanding the sectors and locations of analysis, and continually updating scenarios, in our efforts to assess impacts on credit costs (financial impact). However, given that climate-related risk is a driver that leads to the materialization of traditional risks such as credit risk, and that climate change is a driver of impacts on nature and biodiversity, we recognize that there are various hurdles to overcome before the results of climate-related scenario analyses alone can be used in making management or investment/financial decisions. We believe that similar challenges will arise in the future when attempting to advance scenario analyses related to nature.

Aware of this issue, the Bank interpreted the NGFS climate change scenarios (4th edition), which we used in our climate-related scenario analysis, the nature-related narratives for different worldviews presented by the TNFD in its “Guidance on scenario analysis,” and the future scenarios envisaged by FPS + Nature. We then plotted each one according to the degree of transition risk and physical risk, organizing the depictions of the worldviews of future scenarios relating to climate and nature.



Source : Created by The Norinchukin Bank based on various sources

In light of this analysis, we intend to examine which worldviews and scenarios are currently materializing, the probability of future transition to another quadrant, the transition risks involving trade-offs that depend on time frames in such cases, and how physical risks impact each sector from upstream to downstream in the value chain. The results of these investigations will inform our assessment of the resilience of our current portfolio and sector composition.

Confirming Current Locations

In quadrant ①, two climate change-related transition risk scenarios are provided. These are two NGFS Hot House World scenarios: Nationally Determined Contributions (NDCs) and Current Policies. The TNFD describes a situation in which policies aimed at the conservation and restoration of nature are not properly implemented, leading to a premature overexploitation of natural capital. The impact of economic activities on the natural environment is unpriced in the market, so they continue to be treated as externalities, and irreversible physical risks emerge.

The worldview depicted in this quadrant is the current state of confronting climate change and nature-related challenges. The quadrant serves as a starting point for examining which of the quadrant's worldviews will enable the economic and social transition to net zero and nature positive, and what kind of risks may arise from the transition.

Considering Connections with Nature Based on the Results of Climate Change Scenario Analysis Results

In the Bank's scenario analysis of climate change-related transition risk, it was estimated that investments and loans in the analyzed sectors (energy, food and agriculture and beverages, chemicals, and steel) would lead to an increase in credit cost of approximately 1 to 25 billion yen per year up to 2050. By scenario, the smallest increase was under the Current Policies scenario (quadrant ①) followed by the Delayed Transition scenario (quadrant ③). The largest increase was under Net Zero 2050 (quadrant ②).

It is also necessary to take into account the physical risk situation in each quadrant. For example, even with substantial reductions in GHG emissions, temperature rise will peak 10–20 years later. Considering that forest restoration and soil carbon sequestration takes more than 10 years to get established, transition risks (or associated cost increases) will manifest before physical risk mitigation takes effect. We believe that taking into account these trade-offs over time is useful in understanding the risk assessments associated with investments and loans.

When conducting nature-related risk analyses, it is not necessarily valid to assess impacts by adding the expected increase in credit cost that may be driven by separate nature-related risks to the expected credit cost mentioned above. Instead, it is necessary to consider the worldview in the assumed quadrant and the state of climate and nature under the prevailing economic and social system, as well as to examine how synergies and trade-offs arise in response to policies and measures. At the same time, we believe it is essential to consider differences in the degree of impact between sectors at each stage of supply chains, in order to better understand how our investment/loan portfolio is impacted by policy, climate, and the state of nature.

For now, it is difficult to qualitatively examine them due to the lack of data, scenarios, and methodologies. However, it might be possible to make use of the six scenario categories of the Nexus Assessment report of the IPBES based on the nexus elements (biodiversity, water, food, health, climate change): nature-oriented nexus, balanced nexus, conservation first, climate first, food first, and nature overexploitation. With the climate first nexus, aligned with the narrative of quadrant ②, climate change measures offer certain co-benefits for biodiversity, but their overall impact is assumed to be negative. Their impact on food is assumed to be especially negative. In the nature overexploitation nexus, corresponding to quadrant ①, the impacts on biodiversity, climate, and food are all expected to be extremely negative.

A Comprehensive Perspective from Downstream to Upstream to Enhance the Sustainability of Portfolios and Entire Value Chains

Given the geopolitical dynamics surrounding climate change and sustainability, the real world seems to be approaching the fragmented world of quadrant ④. We have not yet conducted a quantitative assessment of the impact on our portfolio and the various policies, climate change, and state of nature in this scenario and worldview. However, we are apprehensive about the increased physical risks associated with transition delays, and particularly the impact on agriculture, fishery and forestry, which are the upstream sectors most vulnerable to physical risks. At the same time, the fact that stricter regulations on GHG emissions and nature conservation are applied unevenly across national and regional levels could lead to restructuring of midstream and downstream production and business bases, disruption of supply chains, and adverse impacts on raw material procurement. In terms of understanding impacts on the Bank through scenario analyses, we recognize the need to engage in discussions on whether our portfolio is resilient to these kinds of potential financial impacts, and whether our sectors and geographical distribution are appropriate.

The Bank is working toward transition in a way that encompasses the whole of food and agriculture value chains, both in Japan and internationally, from upstream to downstream. We believe it is crucial to apprehend the rapidly changing climate and environmental shifts surrounding nature, understand the risks and opportunities for investment and loan clients in agriculture, fishery, forestry, and related sectors from a broad perspective (including value chain interrelationships and risk transmission pathways), and translate this more precise understanding into appropriate action. Additionally, we need to properly assess both the current worldview and expected future worldviews. In accordance with all the above, we will continue to pursue impact-oriented sustainable finance, support nature-derived carbon credits, offer various solutions including initiatives to promote insetting, and work to share information through engagement. Along with this, we will study how best to address the challenge of adaptation (physical risks).

In December 2024, the Network for Greening the Financial System (NGFS) published a technical paper on recommendations for formulating scenarios for assessing nature-related economic and financial risks. We understand that efforts are underway in international forums to unify the future worldviews envisioned in climate change scenarios with the worldviews envisioned in nature-related scenarios. As we continue to closely monitor trends from TNFD and other international discussions, we will also aim to take a more unified approach to climate and nature, and conduct analyses directed at assessing financial impacts quantitatively. To help us to conduct analyses that are useful for strategic decision-making, we will try to keep increasing our understanding of the current state of the environment (in terms of both climate and nature), the situation of markets and the economy, and the worldview under possible future scenarios.

Challenges Identified through Portfolio Analysis and Future Actions

Through collaboration with research institutes and startups, we were able to analyze the environmental impacts associated with companies in our portfolio at the levels of industry, region, and country. The results of these analyses will serve as a steppingstone for engaging in discussions with various stakeholders, such as investees and borrowers and asset managers. Scenario analysis also allows us to envision possible future worlds, and through backcasting to formulate appropriate strategies to address them.

On top of this, to develop a more precise understanding of the risks of the Bank's investees and borrowers, it is necessary to identify and analyze the regions where specific companies operate, along with the business activities they conduct there.

Looking ahead, we want to know the risks and opportunities presented by our portfolio better, by leveraging our top-down portfolio analysis results to promote dialogue with individual clients, and determine their regions of operation and business activities more precisely.

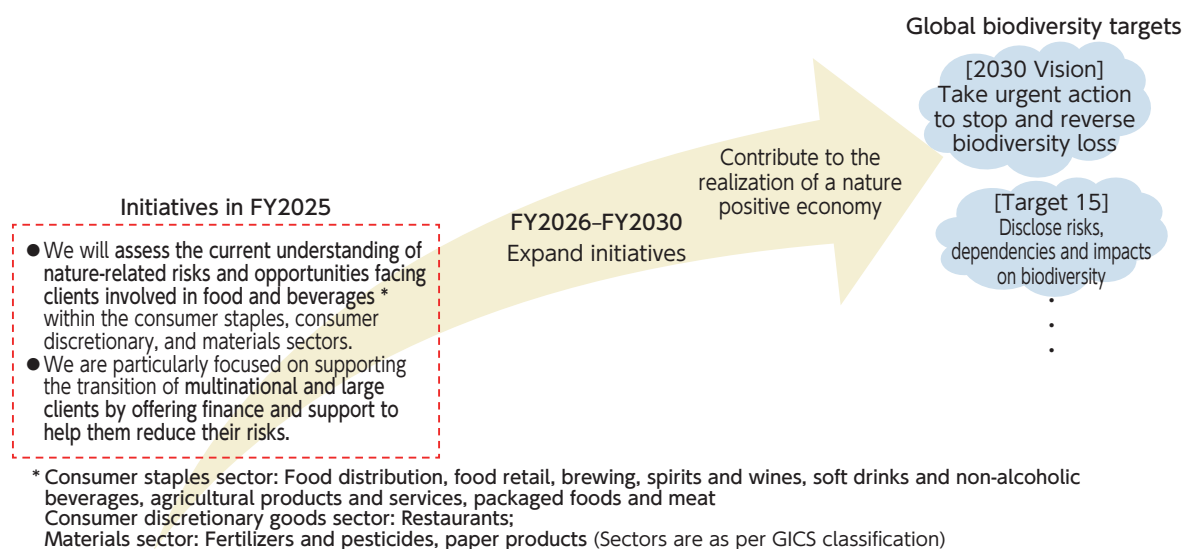
Assess

Identifying Risks and Opportunities through Nature-related Engagement

As well as a country and sector-level understanding, the assessment of nature-related risks and opportunities requires an understanding of the transmission pathways of risks and opportunities (the state of dependencies and impacts) based on the characteristics of individual investment and financing projects. For this reason, we have set targets for nature-related engagement with our investees and borrowers as action goals for FY2025, maintaining dialogues about the targets. This can also be positioned as a process (activity) goal that will lead to setting future nature-positive goals (impact goals) for an entire portfolio.

Engagement also contributes to the Global Biodiversity Framework (GBF) goal of achieving nature positive by 2030, and helps to create opportunities by reducing client risk and creating opportunities through transition to nature positive. In FY2025, with a view to expanding our engagement targets over the medium to long term, we will attempt to understand the current state of nature-related risks and opportunities of clients in subsectors of food-related sectors (consumer staples, consumer goods, and materials). (See fig. below.)

More specifically, we will set verification and interview questions based on the TNFD recommendations, and in addition to dialogue with high-priority clients selected based on impacts and dependencies, and on whether or not they are publicly listed, we will make use of disclosed information to learn about locations and business models that cannot be identified through top-down analysis.

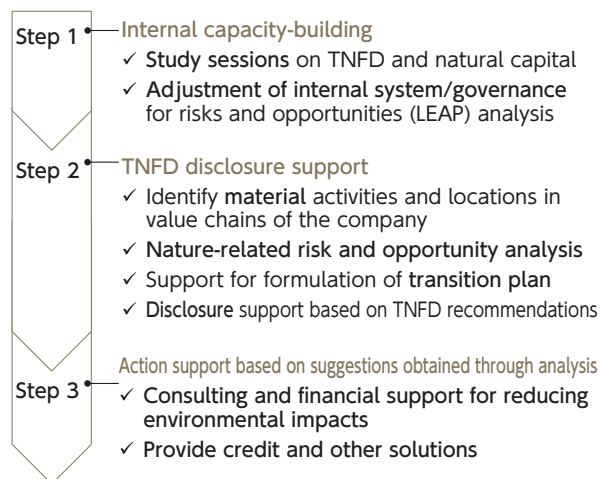


Plan Support Initiatives through the Bank's Nature-related Solution Services

The Bank offers nature-related solutions such as financing to support the nature positive initiatives of investees and borrowers, as well as consulting services for clients, in collaboration with Norinchukin Research Institute (NRI).

In accordance with the client challenges identified through the above-mentioned dialogues, we will expand and deliver optimized solutions in partnership with NRI and outside companies.

Nature-related solution services provided by the Bank



Column

Analysis of Nature-related Risks by Location in Collaboration with NRI and Natcap

To support companies interested in nature-related risks and opportunities, Norinchukin Research Institute (NRI) makes use of a variety of tools to analyze the relationships between their businesses and nature. One of these tools is provided by Nature Capital Research Limited (Natcap) a pioneer in this field.

A nature-related analysis service offered by Natcap uses appropriate indicators to assess the relationship with nature for each business location of a company, based on scientific information. This helps to identify the locations that the client needs to address most urgently. NRI utilizes the results of Natcap's analysis of high-priority locations to assist clients in identifying and assessing nature-related risks and opportunities, and formulating strategic response measures.

Overview of Priority Assessment by Location Based on Natcap

	Priority	Key biodiversity area	Connections with surrounding ecosystems	Changes in connections with surround ecosystems	Ecosystem health
Location 1	Very high	Very high	Very high	Very low	Low
Location 2	Very high	Data N/A	Data N/A	Low	Low
Location 3	Very high	Data N/A	Data N/A	Very low	Medium

Examples of Suitable Indicators for Calculation

Type	Indicator		
State of nature	• Ecosystem health (integrity) • High ecosystem service areas	• Decline in ecosystem health • Sensitive ecosystem areas	• High water stress areas
Degree of impact	• Land cover changes in inland and coastal areas • Change in degree of connection with surrounding ecosystems • Change in degree of fragmentation of surrounding ecosystems		
Degree of dependency	• Pollination	• Rainwater supply	• Irrigation water supply
Physical risk	• Flooding	• Wildfires	• Soil erosion

Basic Risk Management Policy

Climate

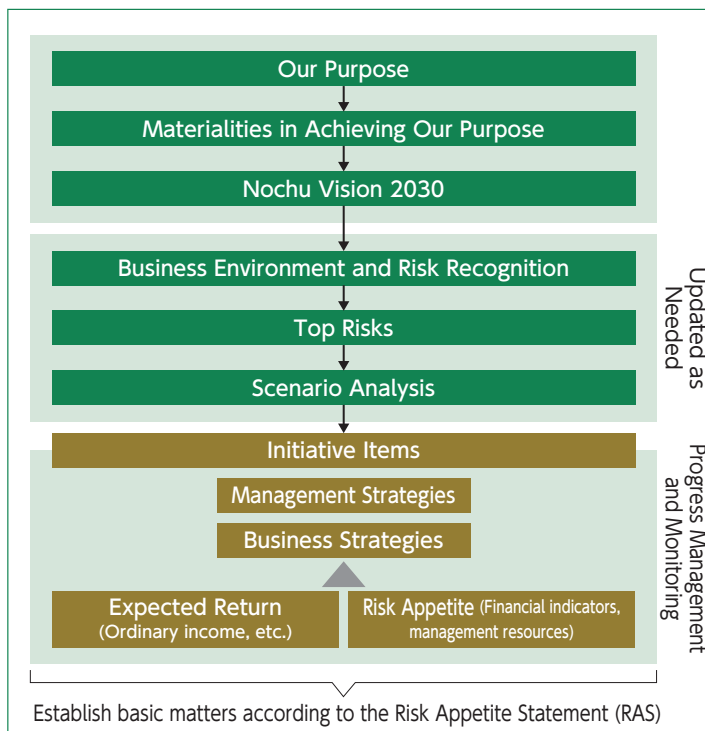
Nature

To properly manage risks throughout the company, the Board of Directors of The Norinchukin Bank formulated the Risk Management Policy. This policy defines a fundamental framework for risk management, including the types of risks to recognize, management systems, and methods. In accordance with this core policy, the Bank strives to fulfill its role and take maximum advantage of its unique characteristics and presence as a financial institution involved in agriculture, fishery, forestry, and food. Our management goal is to deliver stable returns to members by further strengthening our credit business infrastructure while further developing our existing international diversified investments.

Under this objective, we continue to enhance our risk management framework. The Bank manages risks in an integrated manner by assessing risk materialities faced in business operations and identifying risks to be managed. We manage these risks individually based on their unique characteristics while using quantification methods to identify and compare risks to management strength. The main risks that the Bank manages include credit risk, market risk, liquidity risk, model risk, and operational risk. We also manage environmental and social risks (including climate and nature-related risks), controlling them based on individual risk characteristics under specific risk categories.

Risk Appetite Framework

The Norinchukin Bank Risk Appetite Framework (RAF) clearly defines management and business strategies, expected returns (type and amount of targeted returns), and risk appetite (type and amount of risk willingly assumed or tolerated, and optimal management resources). Through the integrated management of these factors, this business management framework leads to disciplined risk-taking and optimal risk returns. The Bank will utilize RAF to adapt to changes in the surrounding environment and effectively allocate limited management resources (e.g., business management expenses and personnel), further strengthening the soundness of our management.



Reflection in Top Risks

The Bank formulated a Risk Appetite Statement to establish and document basic matters related to risk appetite framework (RAF) management. In developing this management plan, we select top risks (risk events that require special attention in the future) based on the business environment and risk perception in accordance with the risk appetite statement. We then analyze possible future scenarios.

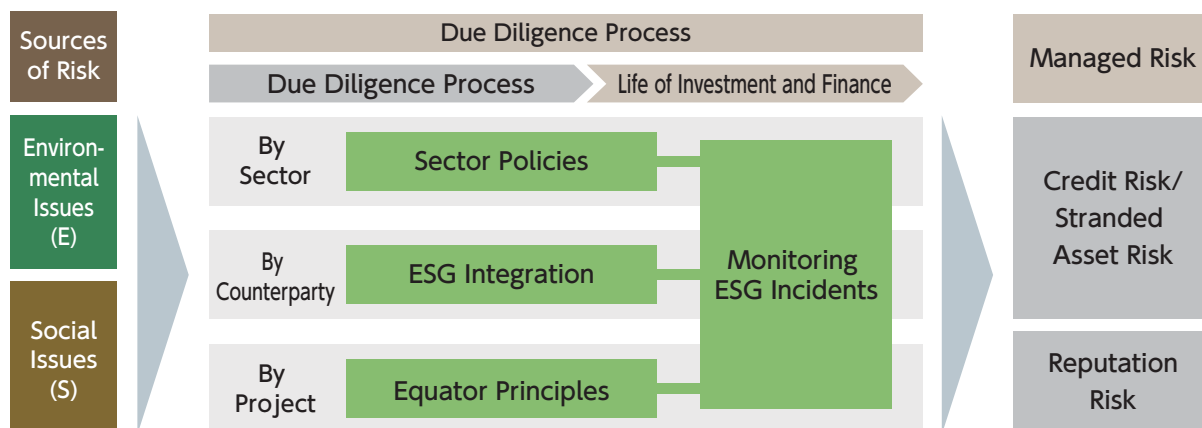
The Bank selected climate change, biodiversity and other sustainability-related issues as the top risks to address.

By selecting top risks, we aim to align the perspective of our organization with risk recognition, thereby building greater sophistication in our risk management structure. Through discussions that include the Bank's managements, we pursue our purpose and medium- to long-term goals, while catching up to current global trends.

Environmental and Social Risk Management Framework in Investments and Loans

The Bank assesses and determines climate and nature-related risks associated with our investments and loans. We consider environmental and social risks, based on an environmental and social risk management (ESRM) system. We additionally establish a framework for the risk management department to control and contain risks, under which decisions may be escalated when necessary. We will work on advancing the sophistication of our ESRM framework in a phased manner, aiming to incorporate the framework into integrated risk management.

The ESRM Framework



The following summarizes specific initiatives the Bank takes when considering and financing investment and loans.

Investment and Loan Policy (Policy on Environmental and Social Considerations in Financing and Investment Activities)

The Bank established a policy to ensure that it takes into consideration environmental and social issues such as climate change, natural capital, and biodiversity in all investment and financing activities that may have significant negative environmental and social impacts. (See the Bank's website for more details on this policy.)

Policy on Environmental and Social Considerations in Financing and Investment Activities

	Cross-sector items	Specific sector items
Transactions for which the Bank prohibits financing and investment	- Projects with an adverse impact on UNESCO World Heritage sites - Projects with an adverse impact on wetlands designated as Wetlands of International Importance under the Ramsar Convention - Projects engaging in child labor, forced labor, or human trafficking	Cluster munitions manufacturing
Transactions for which the Bank restricts financing and investment	- Projects with adverse impacts on high conservation value areas - Projects with adverse impacts on indigenous peoples' communities - Projects involving in land expropriation leading to involuntary resettlement - Projects with adverse human rights impacts in conflict areas	- Coal-fired power generation - Coal mining - Palm oil - Forestry - Inhumane weapons - Oil and gas - Large-scale agriculture - Large-scale hydropower generation - Woody biomass power generation

In March 2025, in light of growing attention to the sustainability of fuel for woody biomass power generation projects and further progress in public debate on human rights issues, we added “Woody biomass power generation” to our list of specific sectors. We also added projects involving human trafficking to the list of projects in which investment/finance is prohibited under the list of cross-sectoral items, and added projects that negatively impact human rights in conflict zones to the list of projects requiring special attention.

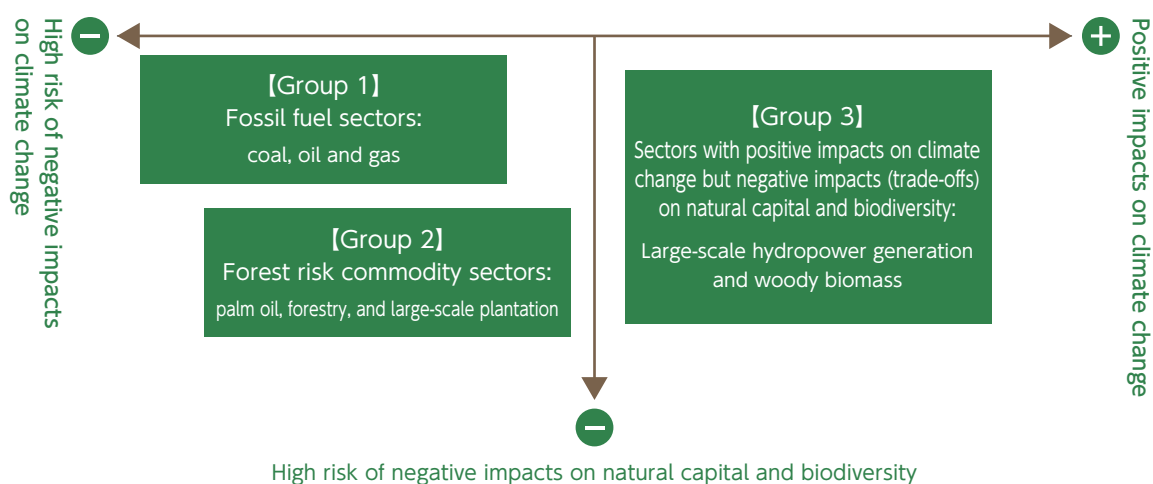
The specific environmental and social issues that require attention in specific sectors, excluding “inhumane weapons,” are shown in the table below. The table highlights the main environmental and social issues that the Bank recognizes for each sector policy. (The environmental issues correspond to the five drivers of nature change presented by the TNFD.) For each policy, we assess the responses of our clients to these environmental and social issues. As necessary, we make careful investment/financing decisions following discussion at the management level.

Environmental and Social Issues Recognized by Specific Sectors

Environmental/ social issue	Environmental					Social	
	Climate change	Changes in land, freshwater, marine use	Pollution	Resource use	Invasive species	Modern slavery	Consideration for indigenous peoples/ local communities, avoidance of involuntary relocation
Specific sectors							
Coal-fired power							
Coal mining							
Palm oil							
Forests							
Oil and gas							
Large-scale farming							
Large-scale hydropower							
Woody biomass							

For the coal mining, palm oil, forestry (logging), and oil and gas sectors, the focus is on upstream operations directly involved in extraction, oil pressing, logging, and similar activities.

In accordance with the above, the figure below illustrates the relationships between specific sectors that may have negative impacts in terms of climate change, natural capital, or biodiversity. Sectors are grouped by common environmental issues.



Fossil fuel sectors in Group 1 share the risk of negative impacts on climate change due to GHG emissions derived from use of fossil fuels in power and heat generation. These sectors also pose ecosystem destruction and other risks in the event that fossil fuel mining operations are managed improperly. In response, we formulated policies for the coal-fired power generation, coal mining, and oil and gas sectors to verify implementation status of environmental and social considerations. Particularly, our policy stipulates against investments or loans for use in new construction or expansion of existing coal-fired power plants. We aim to reduce the balance of investments and loans for coal-fired power generation to zero by 2040 in accordance with this policy.

The Bank revised its policies and measures for the coal-fired power generation and coal mining sectors in March 2024, in light of progressing discussions on global decarbonization. These revisions focused on the perspective of strengthening our response to climate change.

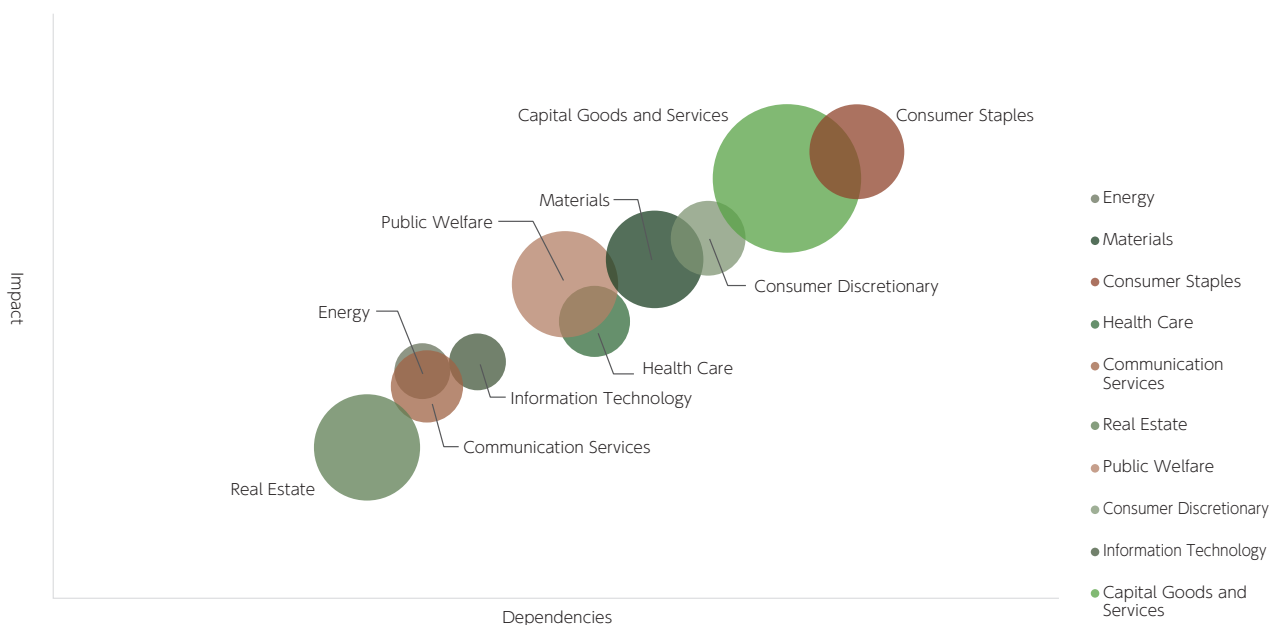
Group 2 consists of forest risk commodity sectors, including the palm oil, forestry, and large-scale plantation sectors. These sectors share risks of deforestation associated with operations and development. Forests play an important role in mitigating global warming through the absorption and storage of carbon dioxide, while serving as a valuable resource that contributes to biodiversity conservation. Forests are crucial from the perspective of climate change, natural capital, and biodiversity. As necessary when considering investments and loans in these sectors, the Bank verifies that its clients obtain appropriate environmental and social certifications. We also require clients to announce their compliance with the No Deforestation, No Peat, No Exploitation (NDPE) sustainability commitment.

Certain sectors face trade-offs, such as those in Group 3. These trade-offs include situations in which they have positive impacts on climate change, while having potential negative impacts on natural capital and biodiversity. One such trade-off arises in the large-scale hydroelectric power generation sector, which contributes to the supply of clean energy as a renewable energy source. However, the Bank recognizes risks associated with dam construction, including impact on the biodiversity of river basins. In response, the Bank takes into account client implementation of environmental and social considerations in investments and loans for large-scale hydroelectric power generation projects. The newly added woody biomass power generation also falls into Group 3. This sector is recognized as a form of clean energy that contributes to the transition to a decarbonized society as a renewable energy source. Furthermore, particularly in the case of locally produced-locally consumed energy, it has the potential to contribute to regional development through job creation. However, we also recognize that some projects may pose a risk of damage to ecosystems and biodiversity due to logging of natural forests or deforestation for fuel procurement. Accordingly, when considering investment or financing of woody biomass power generation projects, we verify the client's environmental and social consideration for the sustainability of fuel used, lifecycle GHG emissions, etc. by confirming its international third-party certification.

As described under “Nature-related Strategies and Portfolio Analysis” (in Chapter 4 Strategy), to assess the dependencies and impacts throughout its investment and loan portfolios, the Bank conducts analyses of dependencies and impacts for all business enterprises in the portfolios. More specifically, we examine whether our policies for the sectors we invest in and finance are adequate for managing the risks of sectors impacting natural capital, as revealed by analysis of the Bank's portfolio using ENCORE.

The figure below shows the relationship between the dependencies and impacts on nature of the Bank's portfolio by sector. The size of the circles represents investment and loan sizes.

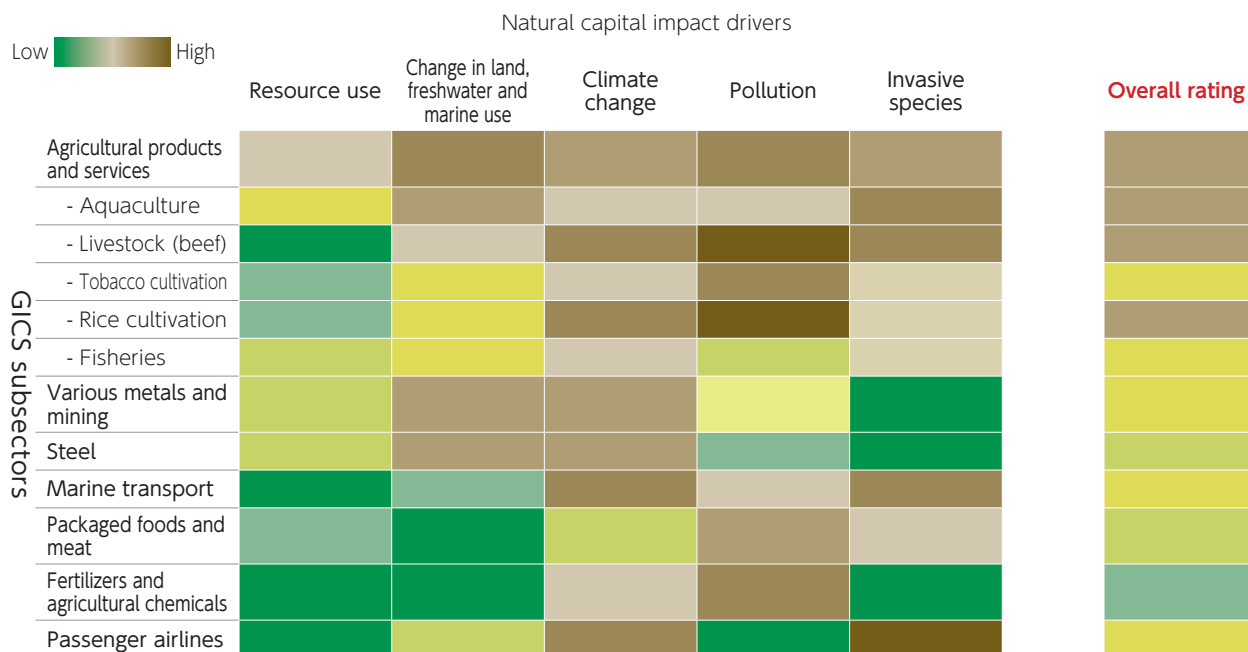
Mapping of Dependencies and Impacts on Nature of Each Sector in Bank's Portfolio



Our investment/financing sector policies require consideration of the environmental and social impacts of projects in the case of any potentially significant negative impacts. For this purpose, among the impact drivers and ecosystem services defined by ENCORE, we focused on the importance of the impact drivers when narrowing down the sectors of concern.

Based on the results from ENCORE, we further break down the top four sectors of our portfolio in terms of high dependency and impact on nature (consumer staples, capital goods and services, general consumer goods and services, materials) into GICS industry subsectors. The heat map below shows the subsectors broken down into categories according to their overall impact on natural capital.

Assessment of high-impact sectors by subsector



We selected seven GICS industry subsectors with a significant impact on natural capital, such as Agricultural Products & Services, and Metals & Mining. (Since commodities in the Agricultural Products & Services subsector have different risk profiles, we listed the top five commodities in the subsector.)

Some risks in the Agricultural Products & Services subsector are addressed under our investment/financing policies for the large-scale agriculture sector and palm oil sector. For example, the policy for large-scale agriculture requires verification of consideration for land use change (a high-risk item on the heat map) by checking NDPE compliance. In our palm oil sector policy, we check the acquisition of RSPO certification to verify consideration for emissions from land use change and pollution, which are high-risk items on the heat map.

Risks relating to the Metals & Mining subsector, which is the next most critical area in terms of pressure, are addressed under our policy for coal mining within our investment/financing sector policies. The policy prohibits investment/financing in coal mining projects that use the highly damaging mountain top removal (MTR) method, and considers risks such as land use change and pollution, which are prevalent in this sector.

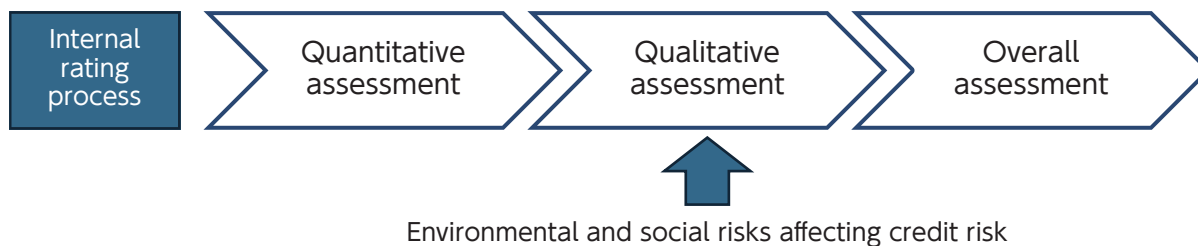
We are thinking of revising our investment and financing sector policies based on risk recognition for impact drivers defined by ENCORE, taking into account the track record of sustainability and public expectations for relevant sectors.

ESG Integration in Risk Management

The risk management department evaluates environmental and social risks for Bank investment and loans and serves as a second line of support for ESG integration conducted by the front-line departments.

The Bank implements integrated operations with credit risk management in our internal rating system for evaluating the credibility of credit clients. We use the Environmental and Social Risk Check Sheet as a qualitative factor to assess clients in certain sectors, mainly those in sectors facing high transition risk due to climate change. The Environmental and Social Risk Check Sheet is a tool that fosters understanding of response status to environmental and social risk factors according to sector. Specifically, the Bank's internal credit rating process involves quantitative and qualitative assessments before a final rating is determined. In this context, we are working to incorporate quantitative evaluations into our environmental and social risk assessments of borrowers.

Overview of Environmental and Social Risk Assessment Inclusion in Internal Rating Systems

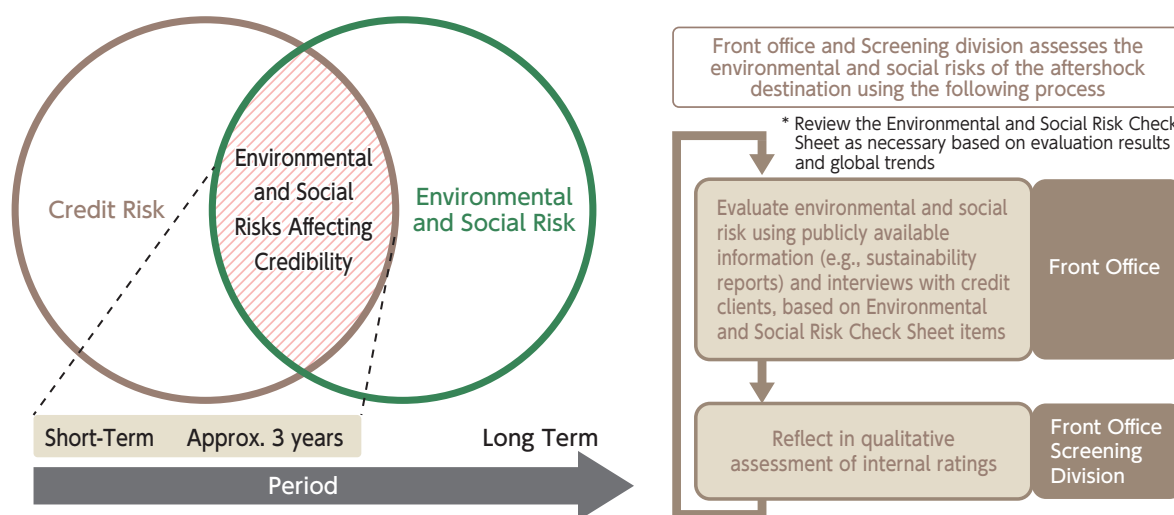


This initiative began in FY2023. As mentioned above, we are not applying this to all industries across the board, but only to high-transition risk sectors such as electricity and oil and gas, selected by a risk-based approach.

In FY2025 we added the agriculture (livestock) sector, which are considered to be sectors of relatively high environmental and social risk within the primary industries that form the traditional basis of the Bank's business. We recognize that there is room for improvement in sustainable practices in this industry and that we need to consider our environmental and social impacts and encourage improvement through ongoing engagement. Eventually, we also want to make use of information on the environmental and social risks of our business partners, obtained through ESG integration efforts, to serve as reference material for engagements.

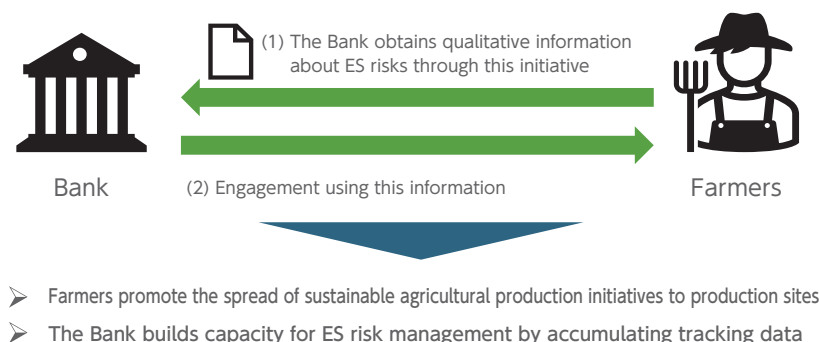
The Bank will discuss reviewing and expanding target sectors in this initiative, taking external environments into account.

Scope of Consideration of Environmental and Social Risk Factors in Credibility Assessment



* The Bank strives to incorporate environmental and social risk that may affect credibility over a relatively short period of time (approximately three years) into the assessment.

Overview of engagement initiatives in agriculture, fishery and forestry through ESG integration (future vision)



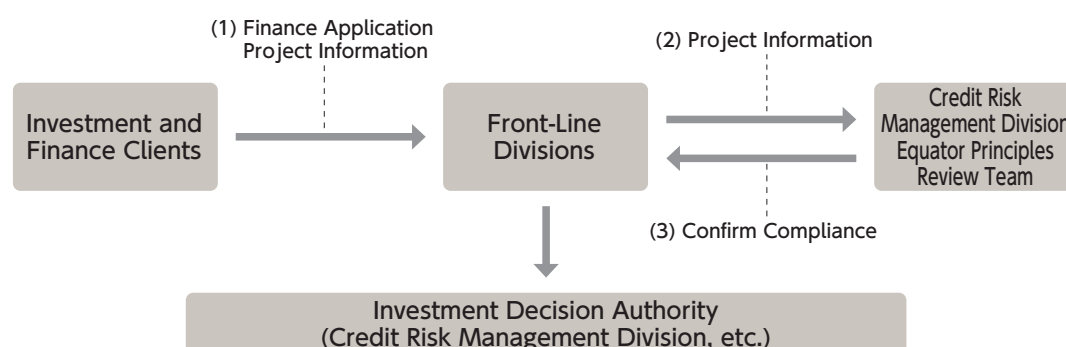
Efforts as an Organization That Endorses the Equator Principles

The Equator Principles is an assessment framework used by private financial institutions when financing large-scale development projects. This framework is used to assess whether the development project pays the appropriate attention to the natural environment and local communities. It is widely used in the project finance field as a method to identify, evaluate, and manage environmental and social risks.

Financial institutions that have adopted the Equator Principles are required to incorporate these into their internal policies and procedures and to construct appropriate management and administrative systems. Furthermore, they may not invest in projects that are not compliant with the Equator Principles.

The Bank adopted the Equator Principles in May 2017 based on growing public awareness of environmental and social issues and societal expectations of financial institutions, further strengthening its commitment to sustainable environment stewardship.

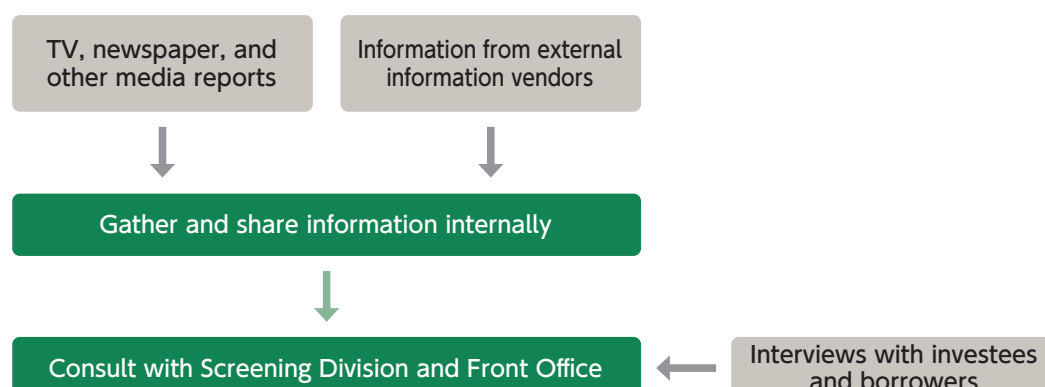
Specifically, we formulated the Basic Policy Regarding the Equator Principles and the Administration Guidelines for the Equator Principles, based on our Basic Policy for Investment and Loans. As part of our investment and loan decision-making, we check for compliance with the Equator Principles and support our clients in addressing the environmental and social considerations required for the project category.



Responding to Environmental and Social Incidents

We monitor information regularly on environmental and social incidents (corporate actions, business activities, and related events that may have serious environmental and social impacts) of investees and borrowers. Through monitoring, we respond to avoid reputation and credit risks arising from environmental and social risks.

Environmental and Social Incident Response Flow



Climate-Related Metrics, Targets, and Recent Results

Climate

	Classification	Metrics	Latest Results	Target	
Metrics and Targets	Reduce GHG Emissions by Investment and Loan Clients	Financed Emissions		Interim Target for FY2030 toward net zero by 2050	
		Lending	[Power] Base year: FY2019 213 gCO ₂ e/kWh	FY2022 208 gCO ₂ e/kWh	138–165 gCO ₂ e/kWh
			[Oil and Gas] Scope 1 & 2 Base year: FY2019 8.9 gCO ₂ e/MJ	FY2022 13.9 gCO ₂ e/MJ	3.1 gCO ₂ e/MJ
			[Oil and Gas] Scope3 Base year: FY2019 0.51 MtCO ₂ e	FY2022 0.29 MtCO ₂ e	0.37 MtCO ₂ e
			[Coal]	Response and engagement based on Policy on Environmental and Social Considerations in Financing and Investment Activities	
			[Oil and Gas] Base year: FY2019 2.02 tCO ₂ e/t	FY2022 2.03 tCO ₂ e/t	1.54–1.73 tCO ₂ e/t
			[Real Estate] Base year: FY2019 82.7 kgCO ₂ e/m ²	FY2022 48.8 kgCO ₂ e/m ²	34.1 kgCO ₂ e/m ²
			[Automobiles] Base year: FY2019 192.6 gCO ₂ e/vkm	FY2022 346.8 gCO ₂ e/vkm	111 gCO ₂ e/vkm
			[Marine Transport] (Base month: December 2023) Striving: 36.9%, Minimum: 30.5%		PCA≤0%
		Investments	[Stocks and Bonds] Emissions per unit of investment Base year: FY2019 0.83 tCO ₂ e/million yen	FY2022 0.75 tCO ₂ e/million yen	Vs. FY2019 -49%
		Establishing forest carbon sink with members		FY2023 6.71 million tCO ₂	9 million tCO ₂ /year as of FY2030
		GHG emissions from the Norinchukin Bank Group locations		FY2024 14,545 tCO ₂	Net zero by FY2030
	Promote sustainable business	New sustainable finance		FY2021–FY2024 ¥9.0 trillion ¥10 trillion by FY2030	
	Strengthen approach to risk management	Reduce outstanding investments and loans for coal-fired power generation		Investments outstanding as of FY2024 ¥36.7 billion Zero by FY2040	

Reducing Financed Emissions

The Bank is committed to achieving net zero GHG emissions of all its investees and borrowers by 2050. For this goal, we have set interim 2030 targets for the electricity, oil and gas, steel, coal, real estate, automobiles, and marine transport sectors of our portfolios.

Considering the importance of the large ratio of investment assets in our investment and loan portfolio, we also established interim 2030 targets for our investment portfolio (stocks and bonds for now). These targets reference frameworks such as net zero initiatives for institutional investors. We will also consider setting targets for a wider range of investment assets in light of developments in GHG emission measurement practices at the Bank.

Investment and Finance Client GHG Emissions Calculations

Indirect GHG emissions in connection with investments and loans (Financed Emissions, Scope 3 Category 15) account for a significant proportion of total GHG emissions from financial institutions. We recognize that measuring and reducing these emissions is an important issue.

In FY2023, the Bank set out to determine the current level of GHG emissions across a wide range of asset within our investment and loan portfolio. We measured emissions associated with loans, bonds, and stocks of business enterprises (including investments and loans through funds) and project financing (for power generation and oil and gas).

Calculation Method

We referenced the calculation method proposed by the PCAF to measure GHG emissions. The Bank joined the PCAF in March 2022, and we continue to step up our efforts to measure and disclose the GHG emissions of our investment and loan portfolio, including estimates based on the expertise and database of the PCAF.

Assets	Loans, bonds, and stocks (including investments and loans through funds ^{*1}) related to business entities; project financing (power generation and oil and gas projects) ^{*1} Calculations also include non-look-through funds when calculating risk-weighted assets related to Basel requirements for private equity (PE) funds.
Calculation Methodology	[The Norinchukin Bank Investment and Finance Client GHG Emissions] [Loans, Bonds, and Stocks] $= \sum \left(\frac{\text{The Norinchukin Bank Investments and Loans to Each Entity}}{\text{Shareholders' Equity} + \text{Individual Company Liabilities}} \times \text{GHG Emissions of Each Company}^{*2} \right)$ ^{*2} For Scope 1 and 2 emissions. [Project Financing] $= \sum \left(\frac{\text{The Norinchukin Bank Loans by Individual Project}}{\text{Shareholders' Equity in Each Project} + \text{Interest-Bearing Debt}} \times \text{GHG Emissions for Each Project}^{*3} \right)$ ^{*3} Scope 1 related to power generation businesses; Scope 3 related to oil and gas businesses.
Year Analyzed	FY2021 The Norinchukin Bank investments and loans: Balance as of March 2022 Financial and emissions data: Available data for the most recent three years through March 2022
Emissions Data Source	● Loans, Bonds, and Stocks We used Trucost (external information vendor) for disclosures and estimate data related to investment and finance clients. If no information was available from Trucost, we estimated intensity using data from the PCAF database (by region, by sector). ● Project Financing (Power Generation Projects) We estimated this value using an estimate of annual power generation for the project in question^{*4} multiplied by the emissions factors^{*5} published by the European Investment Bank (EIB). ^{*4} Calculated based on generating capacity x 24 hours x 365 days x capacity factor (value published by IEA). ^{*5} Emission factors set to zero for renewable energy projects. ● Project Financing (Oil and Gas Projects) We estimated this value using the annual fuel consumption of the project in question multiplied by unit calorific value multiplied by the emissions factor multiplied by 44/12^{*6}. ^{*6} Referenced the Ministry of the Environment's GHG Emissions Accounting, Reporting, and Disclosure System formula for calculating energy-derived CO₂.

Results

The total measured GHG emissions for the assets described above amounted to 36.0 million tCO₂e. The following is a breakdown based on the sectors recommended for disclosure by the TCFD.

Sector	GHG Emissions (million t CO ₂ e)	Economic Intensity (tCO ₂ e/¥100 million)	Measurable Exposure (¥trillions)	Unmeasurable Exposure (¥trillions)
Electricity	4.2	744	0.6	0.06
Oil and Gas	2.8	623	0.4	0.03
Coal	0.0	246	0.0	0.00
Energy Subtotal	7.0	687	1.0	0.08
Air Cargo	0.1	177	0.1	0.00
Passenger Airlines	0.3	460	0.1	0.00
Marine Transport	0.5	400	0.1	0.00
Railroad	0.1	33	0.4	0.00
Truck Service	0.0	81	0.0	0.01
Automotive - Components	0.2	25	0.9	0.02
Transportation Subtotal	1.4	84	1.7	0.04
Metal and Mining	5.4	1,517	0.4	0.01
Chemicals	2.7	237	1.1	0.04
Construction	0.3	316	0.1	0.00
Capital Goods	1.4	57	2.5	0.10
Real Estate	0.0	6	0.8	0.07
Materials - Buildings Subtotal	9.8	203	4.8	0.23
Beverages	0.1	17	0.4	0.00
Agriculture	0.8	824	0.1	0.00
Packaged Foods - Meat	9.0	1,121	0.8	0.01
Paper and Forest Products	1.2	466	0.3	0.00
Agriculture - Food - Forest Products Subtotal	11.0	729	1.5	0.02
Above Sectors Total	29.2	324	9.0	0.37
All Sectors Total	36.0	189	19.2	2.96

* This table is based on current measurements and may change significantly in the future as companies expand emissions disclosures and refine measurements. We have not obtained third-party certification for the measurement results included in this table.

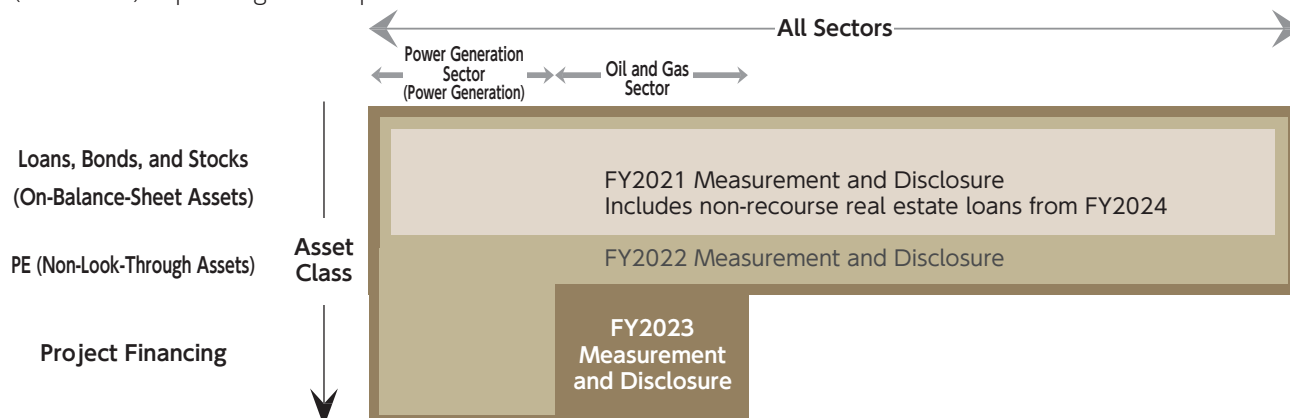
Supplementary Information on Measurement Results

The measurements above encompass on-balance sheet investment and loan assets related to the Bank's business clients. Measurements for fund investments and loans include non-look-through assets in PE funds with data corrected for outliers, in addition to the look-through assets identified by specific companies when calculating risk-weighted assets related to Basel requirements.

The measurable exposure above includes approximately 1 trillion yen in project financing (for power generation, oil and gas projects), and 40 billion yen in PE funds (non-look-through assets), for which we started measurement in FY2022 based on PCAF standards. Investments and loans for group finance and captive finance are considered to be and measured as exposure on the part of the parent company from the viewpoint of measuring emissions in line with actual conditions as much as possible.

The inability to measure exposure above is mainly due to a lack of financial data.

(Reference) Expanding the Scope of Investment and Finance Client Assets Measured for GHG Emissions



Carbon-Related Assets

Sectors for disclosure have been expanded to reflect updated definitions of carbon-related assets based on the October 2021 revision of the TCFD Recommendations. As of the end of March 2024, carbon-related asset exposure (investment) stood at 2.5 trillion yen, representing 19.9% of exposure to all sectors. Carbon-related asset exposure (loans) amounted to 6.5 trillion yen, accounting for 39.6% of exposure to all sectors.

Further, we will continue to pursue measures toward net-zero GHG emissions across our investment and loan portfolio by 2050, monitoring exposure appropriately.

Exposure to carbon-related assets (Investments) (as of March 31, 2024)

Sector	Exp (¥trillions)	Concentration Ratio	Sector	Exp (¥trillions)	Concentration Ratio
Electricity	0.2	1.2%	Metal and Mining	0.0	0.3%
Oil and Gas	0.3	2.1%	Chemicals	0.4	3.2%
Coal	0.0	0.0%	Construction	0.0	0.0%
Energy Subtotal	0.4	3.3%	Capital Goods	0.5	4.3%
Air Cargo	0.0	0.2%	Real Estate	0.0	0.1%
Passenger Airlines	0.0	0.1%	Materials - Buildings Subtotal	1.0	8.0%
Marine Transport	0.0	0.1%	Beverages	0.2	1.9%
Railroad	0.2	1.2%	Agriculture	0.0	0.1%
Truck Service	0.0	0.1%	Packaged Foods - Meat	0.5	3.8%
Automotive - Components	0.1	0.9%	Paper and Forest Products	0.0	0.2%
Transportation Subtotal	0.3	2.7%	Agriculture - Food - Forest Products Subtotal	0.7	6.0%
			Above Sectors Total	2.5	19.9%
			All Sectors Total	12.4	100%

Exposure to Carbon-related Assets (Loans) (as of March 31, 2024)

Sector	Exp (¥trillions)	Concentration Ratio	Sector	Exp (¥trillions)	Concentration Ratio
Electricity	0.4	2.6%	Metal and Mining	0.3	2.0%
Oil and Gas	0.2	1.1%	Chemicals	0.7	4.1%
Coal	0.0	0.1%	Construction	0.1	0.5%
Energy Subtotal	0.6	3.8%	Capital Goods	1.9	11.5%
Air Cargo	0.1	0.3%	Real Estate	0.9	5.3%
Passenger Airlines	0.0	0.3%	Materials - Buildings Subtotal	3.8	23.3%
Marine Transport	0.1	0.7%	Beverages	0.1	0.5%
Railroad	0.3	1.9%	Agriculture	0.1	0.4%
Truck Service	0.0	0.1%	Packaged Foods - Meat	0.4	2.2%
Automotive - Components	0.8	4.7%	Paper and Forest Products	0.2	1.3%
Transportation Subtotal	1.3	8.1%	Agriculture - Food - Forest Products Subtotal	0.7	4.4%
			Above Sectors Total	6.5	39.6%
			All Sectors Total	16.4	100%

Calculation of Data Quality Score

PCAF has established a data quality score for evaluating the quality of estimated emissions, as shown in the table below. It recommends calculating this score.

For companies that do not disclose emissions data, we used emissions data from an external information vendor (Trucost), estimating emissions based on economic activities reflecting sales and emissions intensity by sector (or the median emissions intensity of the country in question if the investment and finance client industry is unclassified) as supplemental data (see the latest PCAF database, updated in FY2023).

To improve the calculation logic, we used the CDP database in addition to existing Trucost data. We achieved Score 1 (the highest quality level on a scale of 1 to 5) by determining whether individual companies have external certifications based on their responses to CDP surveys. The data quality score calculated for this measurement is approximately 2.47, and we intend to continue improving our score.

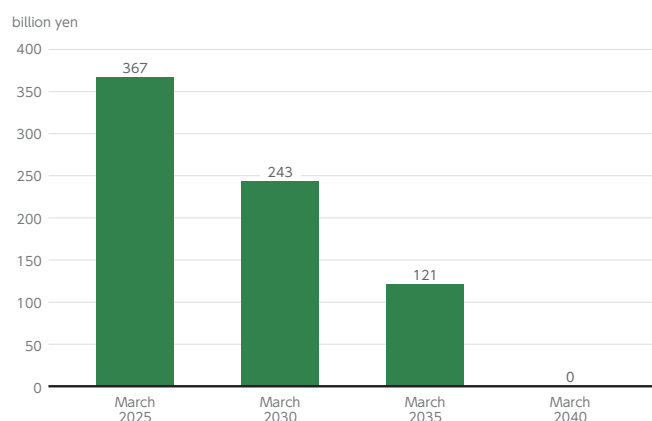
Level	Methodology to measure financed emissions		
Score1	Company's disclosed data	1a	- There are data on the balances of investments and financing, and financial data of the target company. - Certified emissions are disclosed.
Score2		1b	- There are data on the balances of investments and financing of the target company, and financial data of the target company. - Uncertified emissions are disclosed.
Score3	Company's disclosed data	2a	- There are data on the balances of investments and financing, financial data and energy consumption data of the target company, but emissions are not disclosed. - Emissions are computed using energy consumption and relevant coefficients.
		2b	- There are data on the balances of investments and financing, and financial data of the target company. Emissions are not disclosed. - Emissions are computed using production volume and emission intensity.
Score4	Emissions based on economic activities	3a	- There are data on the balances of investments and financing, financial data and sales data of the target company, but emissions are not disclosed. - Emissions are computed using sales and emission intensity.
		3b	- There are data on the balances of investments and financing of the target company, but emissions are not disclosed. - Emissions are computed using the data on the balances of investments and financing of the target company, as well as emission intensity per asset unit.
Score5		3c	- There are data on the balances of investments and financing of the target company, but emissions are not disclosed. - Emissions are computed using the data on the balances of investments and financing of the target company, emission intensity per sales unit and asset turnover.

Future Response

Our latest analysis incorporates a more sophisticated approach and the inclusion of project financing to the scope of measurement. We will also consider expanding the scope of measurement to other assets for which the PCAF has finalized methodologies once we have confirmed the availability and continuity of data.

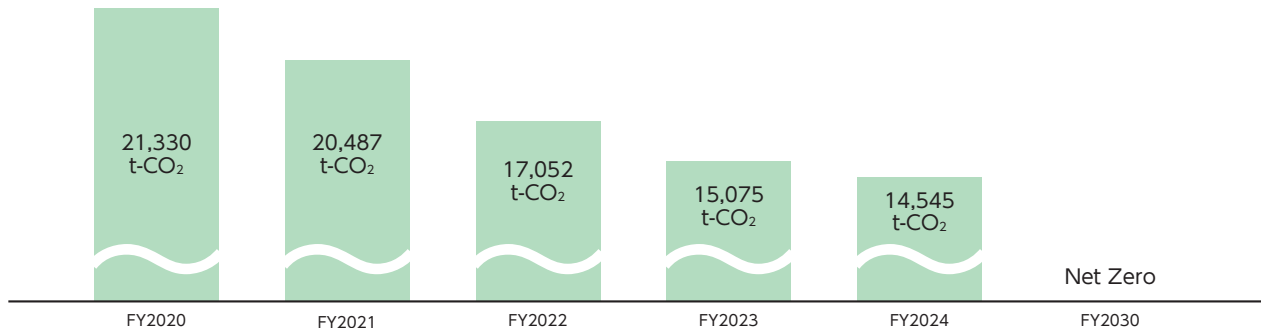
An increasing number of entities pursue Scope 3 measurements (Categories 1-15), reflecting a growing awareness of the importance of understanding emissions throughout the value chain. At present, the Scope 3 (Categories 1-15) data available from vendors and the PCAF database is insufficiently comprehensive, and therefore, with some exceptions, we have not implemented this disclosure. However, with more companies disclosing information, the situation is expected to improve. We will continue to consider ways to enhance disclosure.

Outstanding investments and loans for coal-fired power generation (projections)



GHG Emissions at Norinchukin Bank Locations

The Bank aims to achieve net zero GHG emissions from all Bank Group locations by 2030. In FY2024, total GHG emissions from our locations amounted to 14,545 tCO₂. This result reflects our efforts to incorporate renewable energy and other energy conservation measures in the buildings we occupy. We continue to pursue GHG emission reductions by switching to renewable energy sources, installing LED lighting, and other measures.



Column

Establishing Forest CO₂ Sinks with Members

The Norinchukin Bank established a forest carbon sink target of 9 million tCO₂ per year by fiscal 2030 based on area forecasts* derived from nationwide forestry cooperative targets.

Forests play an important role in absorbing CO₂ and conserving biodiversity. At the same time, they face challenges that include low prices for standing timber, costs associated with reforestation, and a lack of stakeholders to engage in forest leadership. To ensure the effectiveness of CO₂ sinks, the Bank works to resolve forest and forestry-related issues across the whole forestry value chain (upstream, midstream, and downstream) to support sustainable forest operations among forestry cooperatives.

*Forest management, including new planting (reforestation), undercutting, clearing, thinning, and final cutting

The Norinchukin Bank / JForest Association Initiatives		
Upstream Issues Management intensification, integration and expansion of raw wood production 	Nochu Potential Forest Productivity Fund	We established this fund in 2005 (before renewing it in 2013). Up to FY2024, this fund has provided subsidized 136 projects across Japan, representing a total of more than 18,865 ha of forest valued at 2.82 billion yen. The fund contributes to the regeneration of privately owned forests by subsidizing activities aimed at sustaining the public benefits and multifunctional role of forests.
	Forestry Labor Safety Improvement Measures	The annual death and injury rate per 1,000 workers in the forestry industry is around 10 times higher the average for all industries, so improving labor safety is an urgent challenge. This project offers subsidies for the purchase of work safety equipment to forestry cooperatives, private forestry enterprises (that work on contract for cooperatives), and forestry educational institutions ("forestry colleges"), etc. (4,824 items of equipment from FY2015 to FY2024). In FY2020, we also developed and introduced an educational tool, "Forestry Safety Education 360°", aimed at improving the work safety of forestry workers.
	Forest-Derived Credit Platform	With the aim of promoting the green growth of forests and forestry and helping to shape a carbon-neutral society, we collaborated with the National Federation of Forest Owners' Cooperative Association (JForest) to launch a platform that offers comprehensive support for forest-derived credits, from creation to sale (creation support site: FC BASE-C, and sale support site: FC BASE-M).
	Investment in Overseas Forest Funds	We have invested in overseas forest funds with the aim of exploring initiatives for promoting carbon neutral and nature positive outcomes, as well as contributing to the development of domestic forestry by increasing the efficiency and sophistication of forest management and acquiring knowledge about carbon credits.
Midstream Issues Productivity improvement of processing and marketing 	Export Support	As the world's population grows, global demand for wood is expected to expand. Forestry cooperatives are working to support exports through timber intensification and cultivating new demand overseas.
	Wood Solution Network (WSN) / Japan Wood Design Association (JWDA)	To address the challenges facing Japan's forestry industry, in 2016 the Bank established the Wood Solution Network (WSN) as a platform that brings together various companies and other stakeholders from across supply chains (upstream to downstream). We continue to work to expand the use of timber, e.g., by creating and distributing "approach books" on design approaches to timber construction and the use of wood in interior spaces. The Bank also participates in the Japan Wood Design Association (JWDA), which was formed to help shape a sustainable society by promoting the use of domestic forest resources and materials.
Downstream Issues Productivity improvement of processing and marketing 	Expanding the Use of Wood Products Nationwide	As part of our effort to increase the incomes of producers, we are collaborating with forestry cooperatives nationwide to support the sale of wood products and conduct business matching. To support the national government's efforts to expand timber supply, we are providing subsidies for initiatives that stimulate demand for domestic timber.

Nature-related Metrics and Targets

Nature

Since TNFD requires companies to disclose their impacts on nature, we are estimating the quantities of resources used.

Resources Used at Bank Facilities

	Unit	FY2022	FY2023	FY2024
Water resource inputs ¹	m ³	49,629	51,059	47,936
Paper consumption ²	t	170	169	116
Waste generated ³	t	115	85	81
Reuse ³	t	30	28	26

*1 Water consumption at The Norinchukin Bank Head Office Building (Otemachi one Tower), Akishima Center, and other group companies and overseas offices

*2 Amount of copy paper delivered to The Norinchukin Bank offices, group companies, and overseas locations

*3 Amount of waste generated at the The Norinchukin Bank Head Office Building (Otemachi one Tower), group companies, and overseas locations

Metrics Related to Dependencies and Impact-related Exposure

On a trial basis, the Bank estimated the value of nature-related exposure across its investment and loan portfolio. We determined the amount of exposure by classifying each sector into relevant natural capital and biodiversity categories. Using ENCORE classifications and other tools, we calculated our exposure related to the dependencies and impacts on nature of our investment and loan clients. We weighted energy supply services, for example, by multiplying total exposure by the weight of the supply services of the investment/loan clients associated with the energy sector (ENCORE biomass supply, genetic samples, water supply, and animal-derived energy).

Exposure to Nature Dependency in Our Investment and Finance Portfolios

	Provisioning Services	Regulating and Maintenance Services	Cultural Services	Provisioning Services	Regulating and Maintenance Services	Cultural Services
Energy	630	4,510	0	12%	88%	0%
Communication Services	766	6,186	1,641	9%	72%	19%
Health Care	1,428	5,826	1,089	17%	70%	13%
Consumer Discretionary	1,117	6,708	1,400	12%	73%	15%
Public Welfare	3,151	15,456	0	17%	83%	0%
Capital Goods and Services	4,710	28,466	3,190	13%	78%	9%
Information Technology	689	4,648	0	13%	87%	0%
Consumer Staples	3,972	9,851	1,026	27%	66%	7%
Materials	2,997	12,567	112	19%	80%	1%
Real Estate	1,405	13,694	3,511	8%	74%	19%

Unit : ¥100 mil.

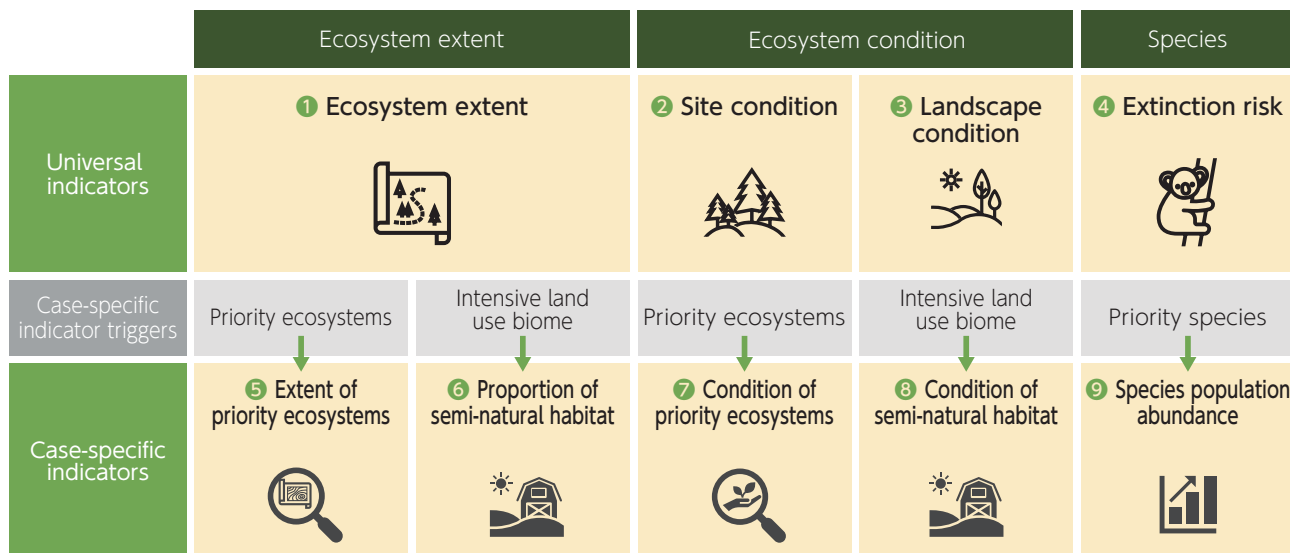
Exposure to Nature Impacts in Our Investment and Finance Portfolios

	Climate Change and Pollution	Resource Use	Ecological Disruption (Disturbances, Invasive Species)	Climate Change and Pollution	Resource Use	Ecological Disruption (Disturbances, Invasive Species)
Energy	2,525	1,875	741	49%	36%	14%
Communication Services	3,114	4,147	1,332	36%	48%	15%
Health Care	4,706	2,145	1,492	56%	26%	18%
Consumer Discretionary	4,865	2,997	1,362	53%	32%	15%
Public Welfare	8,360	7,757	2,489	45%	42%	13%
Capital Goods and Services	15,975	11,734	8,658	44%	32%	24%
Information Technology	2,019	2,035	1,282	38%	38%	24%
Consumer Staples	6,988	5,133	2,730	47%	35%	18%
Materials	7,249	5,051	3,375	46%	32%	22%
Real Estate	6,203	8,271	4,136	33%	44%	22%

Unit : ¥100 mil.

Nature-related Footprint Metrics

The TNFD has proposed 14 core global indicators applicable to all industries. However, the indicator for “State of Nature” remains as a placeholder due to a lack of international consensus on suitable indicators. In this context, the Nature Positive Initiative (NPI), which is backed by NGOs, companies, financial groups, and local governments, selected nine indicators for measuring the state of nature of the land areas from over 600 candidates. Following a public comment period, these were published in January 2025.



Source : Created by The Norinchukin Bank based on NPI sources

The Bank is experimenting with measurements using nature-related footprint metrics across its portfolio, specifically focused on species extinction risk among nature-related metrics, based on a discussion paper about the footprint approach published by the TNFD for financial institutions.

More specifically, in collaboration with the Norihiro Itsubo Lab at Waseda University, we are conducting trial calculations with footprint indicators using LIME3. Using the expected increase in number of extinct species (EINES), a biodiversity extinction risk metric, to analyze the impact on biodiversity of climate change as part of our life cycle assessments (as specified in our strategy), we quantified the extent of biodiversity damage due to climate change associated with our investment and loan portfolio.

The following tables indicate the EINES for various sectors (10 GICS sectors) in Japan, North America, and Europe, the regions where most of the Bank's investments and loans are made.

Sector	Japan		Europe		North America	
	EINES (GHG)	EINES (land modification)	EINES (GHG)	EINES (land modification)	EINES (GHG)	EINES (land modification)
Energy	2.27E-03	1.03E-05	1.81E-05	1.94E-06	4.01E-04	3.07E-07
Materials	4.20E-03	2.59E-04	3.82E-04	2.67E-05	6.29E-04	2.35E-06
Capital Goods and Services	2.52E-03	1.28E-04	2.68E-04	3.27E-06	9.09E-04	2.14E-06
Consumer Discretionary	1.99E-03	1.09E-04	5.15E-05	1.70E-06	6.77E-04	1.12E-05
Consumer Staples	2.90E-03	1.69E-04	2.12E-04	8.67E-05	9.04E-04	5.41E-04
Health Care	1.68E-04	1.57E-05	1.04E-05	1.31E-07	1.72E-03	1.19E-06
Information Technology	4.00E-04	3.15E-05	9.40E-06	1.03E-07	1.25E-04	1.13E-07
Communication Services	8.68E-06	8.47E-07	2.43E-06	9.25E-08	3.38E-04	4.75E-07
Public Welfare	6.71E-03	1.23E-05	1.21E-03	1.33E-04	1.26E-04	6.09E-06
Real Estate	4.97E-04	1.73E-05	7.75E-06	9.26E-09	4.43E-05	9.87E-08

Note: The EINES metric is a metric related to extinction risk, expressed as an index since the value is smaller for sectors with smaller impacts (1.E-03 equals 1 minus 3 squared, or 0.001)

Source: The Norinchukin Bank based on analysis conducted at the Norihiro Itsubo Lab, Waseda University

The Bank's Contribution to the Kunming-Montreal Biodiversity Framework (GBF)

While metrics for achieving nature positive targets continue to be discussed internationally, the Bank sees compliance with the internationally agreed GBF targets as the impact it should achieve. In other words, as we engage in dialogue with and finance clients, we will advance our initiatives with a conscious focus on connecting and linking to GBF, including nature-related information disclosure and promotion of fund mobilization, as well as collaborate with our members as a cooperative in the agriculture, fishery and forestry industries. The logic model that describes the relationship between GBF targets and the Bank's activities is outlined below.



Climate

Nature

Due to recent changes in geopolitical dynamics, the environment surrounding our sustainable management is changing on a daily basis. At the same time, the agriculture, fishery and forestry industries that we deal with as a financial institution engage directly with nature to create, nurture, and connect life. Consequently, they are not industries that can produce change or results overnight. With our grounding in agriculture, fishery and forestry, we will continue to steadily address the sustainability-related challenges of climate change, nature, and biodiversity, to firmly and unwaveringly advance toward our goal.

In May 2024, the Basic Act on Food, Agriculture and Rural Areas was amended for the first time in 25 years. The revised law puts food security for every citizen at the center of its basic principles and introduces “a food system in harmony with the environment” as a new core principle. Based on an understanding that agricultural production activities contribute significantly to conserving the natural environment, even as they impose burdens on it, supplementary resolutions to the law call for the implementation of GHG emission reductions and biodiversity conservation at every stage of production, distribution, and consumption. Globally, discussions on the systemic change of food systems are rapidly advancing both domestically and internationally. These include “the Emirates Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action” announced at COP28 in December 2023.

To achieve sustainable food systems, transition of food and agriculture value chains (upstream to downstream), which are made up of a variety of players (both domestic and international) is vital. We believe that this must be achieved while balancing reductions in environmental impacts on climate and nature with increases in producer incomes and economic sustainability.

In this report, we have analyzed dependencies and impacts, as well as the risks and opportunities within our portfolio from the perspectives of climate change, nature, and biodiversity through collaboration and partnership with various stakeholders. This has enabled us to understand the relationships between investment/financing, the agriculture, fishery and forestry industries, and nature more deeply. As a financial institution that combines the characteristics of a cooperative bank and a global institutional investor, we will continue to deepen and expand these initiatives. Through collaboration with diverse stakeholders and local communities (i.e., through a landscape/seascape approach), we will strive for solutions to local and global climate and nature challenges by utilizing our knowledge and networks as a financial institution, and making new contributions beyond our traditional functions and scope.

The areas we need to further expand our efforts to achieve our vision to address the issues of climate change, nature, and biodiversity are as follows.

Addressing Climate Change Issues

We will continue to examine assessment frameworks for transition risk, which are essential for supporting the transition to net zero of our investment and loan clients through financial and non-financial means. At the same time, we recognize the need for deeper investigation of responses to physical risks and the possibilities of financing for adaptation to them. On top of supporting the creation of nature-based carbon credits, we will work to promote the adoption of carbon offsets domestically.

Addressing Nature and Biodiversity Challenges

Through dialogue with its investment and loan clients the Bank will work to better understand the risks and opportunities related to nature. We will also expand solutions that support nature-positive initiatives, contribute to development and diffusion of footprint metrics, and consider setting impact targets.

In addition to these areas, we will consciously consider the nexus between the issues of climate and nature, human rights, food, etc. (interactions arising from deployed measures, e.g., trade-offs, synergies), while utilizing tools such as transition plans and scenario analysis, in our efforts to create a net positive impact.

Appendix

The content of this appendix has been already disclosed in the previous report.

● 1 Climate Change: Transition Risk Scenario Analysis

Methodology for Transition Risk Scenario Analysis

■ Analysis Target and Sectors

We analyzed the electricity, oil-gas-coal, food and agriculture, beverage and chemical sectors as targets for transition risk scenario analysis based on the results of our qualitative assessment of climate change-related risks. The final TCFD report and SASB recognize the electricity, oil-gas-coal, and chemical sectors as high carbon-emitting sectors that are highly vulnerable to transition risks. We strive to select target sectors based on these global views. We selected the food and agriculture and the beverages sectors based not only on our climate change qualitative assessment results, but also due to these two sectors representing the foundation of the Bank. Considering the characteristics of our investment and loan portfolio, this analysis targeted not only domestic and overseas borrowers, but also our investees in corporate bonds.

■ Analysis Scenarios and Data

The Norinchukin Bank uses the three scenarios published by the NGFS. The Current Policies scenario assumes that only current policies will be maintained, while the Delayed Transition scenario assumes that annual GHG emissions will not decline by 2030. Rather, this scenario assumes that strict policies will be implemented after 2030. The Net Zero 2050 scenario assumes that global temperatures will not rise more than 1.5 °C from rigorous climate policies and technological innovation, and that net zero CO₂ emissions will be reached by 2050. The Bank adopts these three scenarios as future scenarios. We predicted impact on Bank investees and borrowers and analyzed fluctuations in credit costs by integrating scenario data with dynamic and static approaches. A dynamic approach refers to a company making new capital investments in response to climate change, while a static approach refers to a company not making additional capital investments in response.

In connection with the NGFS scenario for which we lacked sufficient data, our analysis used as complementary data from IEA, WRI (World Resources Institute) etc.

- In connection with the analysis of the chemical sector, we referred in part to the IEA's World Energy Outlook 2023.
- In connection with the steel sector, we partially referred to the data contained in the IEA World Energy Outlook 2023 and the IEA Iron and Steel technology Roadmap.
- For the food and agriculture and beverage sectors, we used WRI data as complementary data.

■ Enhancing Scenario Analysis Models

- The Norinchukin Bank began disclosing the results of our scenario analyses in our Sustainability Report 2021. We work to enhance our models to better explain and leverage analysis results in engagement (constructive dialogue).
- One way we improve analytical models is by altering parameters (variables) to produce more precise and practical results. We will continue enhancing these models to refine analysis results.

Our transition risk scenario analysis adopts version 2 of the NGFS scenario published in 2021. Of the three NGFS models, we analyze scenarios using the values of the REMIND-MagPIE model. These values were also used in the Pilot Scenario Analysis Exercise on Climate-Related Risks Based on Common Scenarios by the Financial Services Agency and the Bank of Japan, the results of which were published in August 2022.

Overview of NGFS Scenarios Analyzed

	NetZero 2050	Delayed Transition	Current Policies
Overview	Limits rise in global temperatures to 1.5° C through strict climate policies and technological innovation, reaching net zero CO ₂ emissions by 2050	Assumes annual CO ₂ emissions will not decrease until 2030, followed by strict policies	Assumes that only current policies will be retained
Rise in temperature (by 2100)	Less than 1.4°C	Approx. 1.7°C	Approx. 2.9°C

Each NGFS scenario analyzes from different forecasted perspectives. The Net Zero 2050 scenario assumes that countries implement immediate, strict climate change policies and regulations, thereby reducing corporate CO₂ emissions. On the other hand, the Current Policies scenario assumes that CO₂ emissions will not be curbed, while the Delayed Transition scenario assumes rapid decline in CO₂ emissions starting in 2030 after implementation of strict measures and policies.

A carbon price refers to the price assigned to CO₂ emitted from companies and other entities. Each scenario assumes that governments would impose taxes on carbon based on the amount of CO₂ emitted. For example, Japan introduced a restrictive carbon tax to address global warming, which the Current Policies scenario assumes will be maintained. While tax per ton of CO₂ emissions is assumed to be limited, the Net Zero 2050 and Delayed Transition scenarios assume significant introductions of carbon tax. The Bank assumes the introduction of a carbon tax in our scenario analysis, and we reflect impacts on corporate earnings and other factors in the analysis results.

The Net Zero 2050 and Delayed Transition scenarios aim for carbon neutrality by 2050. In these scenarios, solar power, wind power, and other renewable energy sources serve as the main energy sources to reduce CO₂ emissions. At the same time, power generation that emits large amounts of CO₂ using coal and natural gas is reduced in these scenarios.

● 2 Climate Change: Physical Risk (Acute Risk) Scenario Analysis for Flood Damage

Physical Risk (Acute Risk) Scenario Analysis Method

Flooding has caused significant damage around the globe in recent years. In response, we conducted a scenario analysis of flood damage, analyzing impacts up to the year 2100. This analysis targets global key locations of domestic and overseas borrowers, as well as impacts of flooding on real estate collateral pledged to the Bank. Targets also include assets (buildings and fixtures) of Bank group locations in the analysis. Our analysis is based on the Intergovernmental Panel on Climate Change (IPCC) scenario. We analyzed risks, referring to the methodology stipulated in *A Guide to Flood Risk Assessments for Enhanced TCFD Disclosures* by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT).

We first narrowed down target industries, as certain borrower businesses are insusceptible to flooding. Next, we identified locations in each industry sector that would be affected by flooding and reduce company sales. After identifying these locations, we surveyed the impact on the key global locations of the borrower and analyzed supply chains for acute risk.

We also analyzed real estate collateral pledged to the Bank, as flooding affects credit costs through impacts to assessed values of such collateral. Impact on our portfolios is analyzed by factoring in impact on the borrower and real estate collateral.

Flooding causes damage and asset deterioration, affecting assets (buildings and fixtures) of Bank group domestic and overseas locations. The Bank analyzed these assets and calculated the final addition loss.

Physical Risk (Acute Risk) Analysis

We estimate the total acute risk impact to be a cumulative additional loss of approximately 23 billion yen by 2100 (sum of credit costs and the amount of damage to the Bank group assets), with limited impact of the additional losses. The percentage of key global locations with deeper estimated flood depths is relatively higher in Japan compared with domestic and overseas borrowers by region (Japan, the Americas, Europe/Middle East, and Asia/Oceania). Moreover, no overseas regions indicated outstanding percentages, with minimal regional differences.

● 3 Climate Change: Physical Risk (Chronic Risk) Scenario Analysis on the Agriculture Sector

(Reprinted From Sustainability Report 2022)

We conducted a scenario analysis of chronic risks in the agricultural sector, a sector of importance to the bank. Under the TCFD recommendations, the agricultural sector is considered vulnerable to the impacts of climate change. We believe climate change in the agricultural, fishery and forestry industries will have a significant impact on the continuity of the Bank's business, which is why we conducted this analysis. Note that scenario analysis for the agricultural sector is based on multiple assumptions and hypotheses due to the many limitations of the model: (1) no internationally accepted methods have been established, (2) the data is incomplete, and (3) the impact pathways are diverse and complex. Also note that the analysis targets revenue, not income (i.e., revenue minus expenses, etc.), and thus may differ from the actual impact on agricultural operations.

Our analysis covered rice cultivation and livestock production (milk and beef cattle), which has the largest number of farmers engaged and the greatest production volume. Our analysis estimated the impact of rising temperatures and other factors associated with climate change on the production volume and prices of the commodities analyzed. Finally, we estimated the impact on producer revenue.

For beef cattle, we conducted separate analyses, assuming that Japanese Wagyu and other domestic cattle have different heat tolerances.

This analysis estimated the change in revenue as of the end of the 21st century compared to the end of the 20th century in two scenarios: (1) one in which no measures are taken to adapt to rising temperatures and (2) one in which measures are taken to adapt to rising temperatures.

Item	Scenario	Impact on Production Volume	Price Impact	Revenue (No Adaptation Measures Taken)	Revenue (Adaptation Measures Taken)
Rice crop	4°C increase	Nationwide production decreases by -6.4% as the optimum temperature for rice cultivation is exceeded across nearly the entirety of the country.	Rice quality (first-class rice ratio) deteriorates, but prices rise by +1.4% due to lower production.	By the end of the 21st century, revenue may decrease by 5.0% due to lower production volumes and quality compared to the end of the 20th century.	Nationwide revenues increase by 3.5% (+8.5% if measures are taken) due to the introduction of (1) rice varieties tolerant to high temperatures and (2) measures such as postponing rice transplant dates by one to two months.
	2°C increase	Nationwide production increases by +3.3% as a wide range of regions, particularly in eastern Japan, experience more suitable temperatures for rice cultivation.	Prices decrease -1.6% due to increased production and a slight deterioration in quality.	Revenue from rice cultivation would increase with greater amounts of land suitable for rice cultivation, resulting in a +1.7% increase in revenue by the end of the 21st century.	—
Raw Milk	4°C increase	Seasonal differences become significant throughout the year. While there is no significant impact in winter, in summer, the hot environment affects milk production, resulting in a decrease of -4.0% during summer, with a decrease of -1.1% in annual production nationwide.	Milk prices are likely to increase due to a decrease in milk production as a result of higher temperatures, resulting in a +0.9% rise in prices for a 4°C increase.	Milk production revenue decreases by no more than 0.1% by the end of the 21st century compared to the end of the 20th century. This result is due to an increase in prices to offset the impact of lower production volume.	We conducted our analysis assuming the adoption of and advancements in fine misting equipment used as an adaptation measure in raw milk production. The analysis shows that adaptation measures should limit the impact of increasing temperatures and ensure that revenues remain flat.
	2°C increase	There is essentially no precipitation factor and a slight decrease in annual production of -0.2% due to rising temperatures. While production remains unchanged from winter to spring, summer production will decrease by roughly -1.0% across all regions.	Milk prices are likely to increase due to a decrease in milk production as a result of higher temperatures, resulting in a +0.2% rise in prices for a 2°C increase.	Milk production revenue remains steady at a maximum of ±0.0% at the end of the 21st century compared to the end of the 20th century. This result is due to an increase in prices to offset the impact of lower production volume.	—
Beef Cattle	4°C increase	The rise in temperature affected cattle fattening, resulting in a decrease of -0.8% in Wagyu beef carcass production and a decrease of -1.6% in the beef carcass production of domestic cattle, resulting in a -1.2% decrease in the beef carcass production nationwide.	Prices are expected to increase by 0.6% due to supply and demand factors, as well as subsidies from the Beef Marukin system.	Revenue decreases by a maximum of 0.6% at the end of the 21st century compared to the end of the 20th century. While Wagyu revenue will increase slightly, domestic beef revenue may decrease by 1.4%, mainly due to lower production volumes.	We conducted our analysis assuming the adoption of and advancements in fine misting equipment used as an adaptation measure, similar to that used in raw milk production. As with raw milk production, our analysis indicates that adaptive measures can ensure flat or modest increases in revenue.
	2°C increase	Japanese Wagyu cattle, domestic cattle, and national production experienced minor decreases at -0.2%, -0.4%, and -0.3%, respectively.	Prices are expected to increase by +0.2% due to supply and demand factors, as well as subsidies from the Beef Marukin system.	Revenue decreases by a maximum of 0.2% at the end of the 21st century compared to the end of the 20th century. While Wagyu revenue will increase slightly, domestic beef revenue may decrease by 1.4%, mainly due to lower production volumes.	—

● 4 Climate Change: Physical Risk (Chronic Risk) Scenario Analysis on the Fisheries Sector

The Bank analyzed scenarios for chronic risks in the fisheries sector. The TCFD recommendations refer to the fisheries sector as an industry vulnerable to climate change, similar to the agriculture sector. We believe climate change risk in the agriculture, fishery, and forestry industries will have a significant impact on the continuity of the Bank's business, which is why we conducted this analysis. The Bank made several assumptions and hypotheses, as scenario analysis of the fisheries sector also poses numerous model limitations. These limitations include 1) the lack of available methodologies established globally, 2) imperfect or poor data, and 3) diversified and complicated impact channels. Also note that the analysis targets revenue, not income (i.e., revenue minus expenses, etc.), and thus may differ from the actual impact on fishery operations.

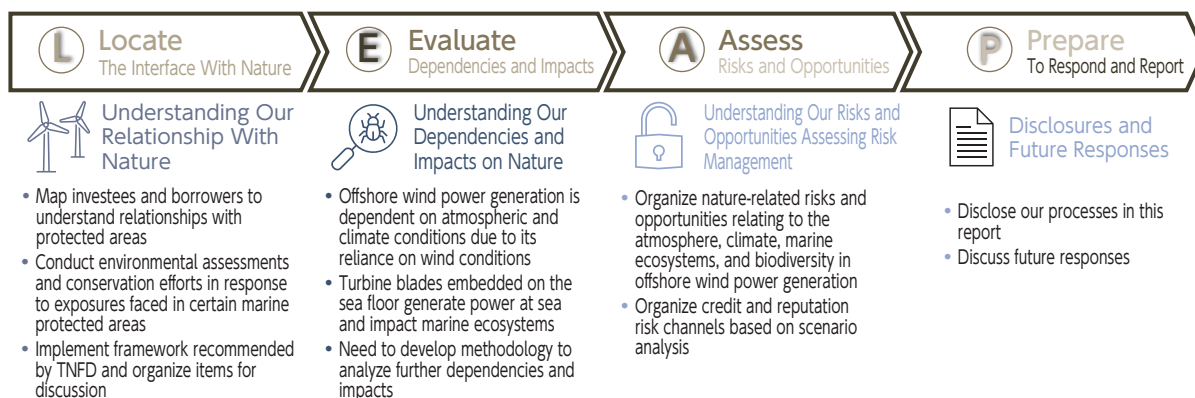
The Bank decided to analyze skipjack tuna from the perspective of selecting species that have significant impact on the revenues of fishermen throughout Japan. Japan catches large amounts of skipjack tuna, with shares dispersed well among prefectures. We estimated the impact of rising ocean surface temperatures resulting from climate change on catches and prices of analysis targets. Next, we estimated the provisional final impact on fisherman revenues.

Sea surface temperatures and other climate change effects differ by habitat areas and fishing grounds for skipjack tuna. Given this assumption, we conducted separate analyses for inshore fisheries in the coastal waters of Japan (bordering the Pacific Ocean) and deep sea fisheries in the Midwest Pacific Ocean. In the inshore fisheries analysis, we divided the coastal waters of Japan bordering the Pacific Ocean into six regions: Hokkaido-Tohoku, Kanto, Chubu, Kinki, Chugoku-Shikoku, and Kyushu.

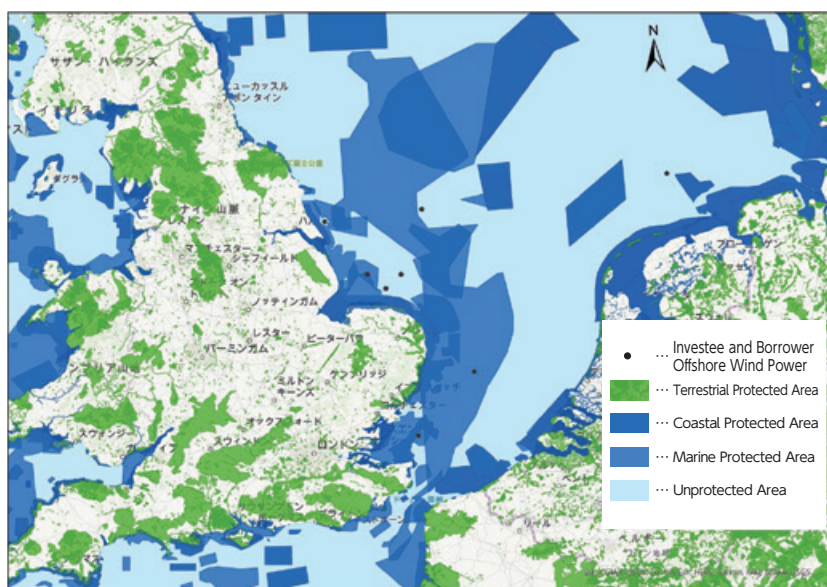
Fish Species		Scenario	Impact on Catch	Impact on Price ^{*Note 1}	Revenue (Without Measures)	Revenue (With Measures)
Skipjack tuna Marine Fisheries	Inshore Fisheries	4℃ increase	Rising sea temperatures are likely to cause fluctuations in ocean currents, including the Black Current, which in turn affects skipjack tuna habitats and catches. Skipjack tuna caught by inshore fisheries increases by 1.3% to 4.7% in Kanto and Chubu, while catches decrease by 2.7% to 9.2% in Kinki and Kyushu.	Prices of fresh skipjack tuna in the Kanto and Chubu regions decrease by 0.1% to 0.6%, while prices in Kinki and Kyushu rise 0.3% to 1.3%.	Regional differences are likely to emerge, ranging from an 8.0 decrease to a 4.0% increase in revenue at the end of the 21st century, compared to the end of the 20th century. While revenue may increase in Kanto and Chubu, located near the Black Current and the Oyashio Current, revenue may decrease in Kinki and Kyushu due to decreased catches caused by faster currents.	Analysis indicates that changing fishing seasons will reduce impacts of rising surface water temperatures and mitigate future declines in revenue.
		2℃ increase	Skipjack tuna caught by inshore fisheries increases by +1.1% to 9.5% in Kanto and Chubu, while catches decrease by 2.6% to 9.2% in Kinki and Kyushu.	Prices of fresh skipjack tuna in the Kanto and Chubu regions decrease by 0.1% to 1.2%, while prices in Kinki and Kyushu rise 0.3% to 1.3%.	Regional differences are likely to emerge, ranging from an 8.0 decrease to an 8.1% increase in revenue.	
	Deep Sea Fisheries	4℃ increase	Expected increase of 1.6% in deep sea fisheries.	Expected decline of 0.4% in frozen skipjack tuna prices.	Expected increase of 1.2% in deep sea fishery revenues due to larger catches.	—
		2℃ increase	Expected increase of 0.5% in deep sea fisheries.	Expected decline of 0.1% in frozen skipjack tuna prices.	Expected increase of 0.4% in deep sea fishery revenues.	

Note 1: We conducted separate analyses of fresh and frozen prices due to differences in price levels of skipjack tuna. We analyzed fresh and frozen fish prices based on inshore fishery catches and deep sea fishery catches, respectively. We expect the price sensitivity (price elasticity) per 1% reduction in catch to be 0.14% for fresh fish prices and 0.24% for frozen fish prices, with frozen fish prices likely to be more elastic.

● 5 Natural Capital and Biodiversity: Implementing the LEAP Approach for Investments in Offshore Wind Power



The Bank used the LEAP approach recommended by the TNFD to analyze offshore wind power generation in light of the portfolio analysis. Offshore wind power generation presents significant exposures in the critical sector of utilities. Our project financing of offshore wind power generation faces a certain degree of exposure. In response, we analyzed nature-related risks and opportunities, taking project financing into account as a significant asset in terms of both quality and quantity.



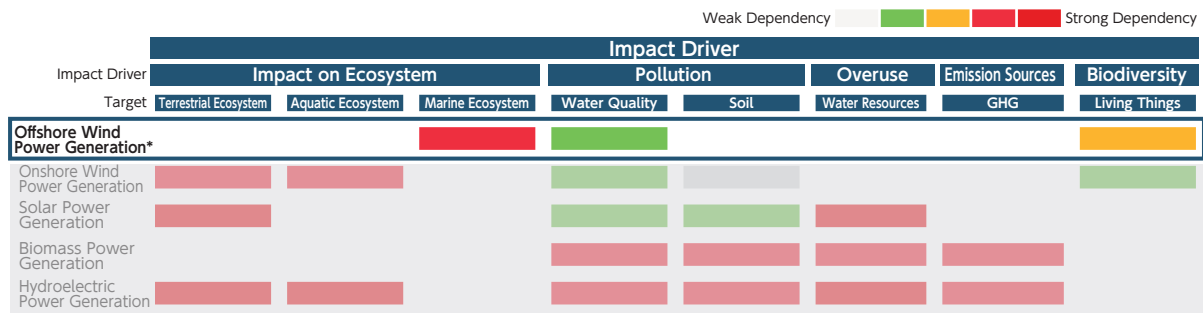
The TNFD Recommendations require the Bank to verify if the active areas of our investees and borrowers qualify as protected areas. We recognize that environmental assessments of future risk of offshore wind power generation in protected areas may advance further going forward. On the other hand, non-protected areas have may face higher transition risks than protected areas due to stricter future regulations.

		Weak Dependency Strong Dependency							
		Dependencies							
Natural Capital Assets		Water Resources				Atmosphere	Land		Biodiversity
Ecosystem Services		Surface Water	Underground Water	Water Cycle	Water Quality	Climate Regulation	Flood and Storm Responses	Soil and Substrate Stabilization	Derived Material
Offshore Wind Power Generation*									
Onshore Wind Power Generation									
Solar Power Generation									
Biomass Power Generation									
Hydroelectric Power Generation									

*It is difficult to analyze special characteristics of floating turbines, fixed-based turbines, and other projects in offshore wind power generation using the tool (ENCORE)

Results indicate that offshore windpower, in which we have a high degree of investment and loan exposure, is dependent on the atmosphere and land (seabed). Offshore windpower is also highly dependent on high-quality airflow (i.e., climate regulation in terms of ecosystem services), a factor crucial to ensuring the wind speed and air volume to power wind turbines.

We analyzed multiple climate change scenarios of risk to the Bank in areas of exposure near the North Sea. These scenarios indicated no potential significant physical risk events or spillover to financial risk of the Bank in the near future. We will continue to monitor future developments closely.



*It is difficult to analyze special characteristics of floating turbines, fixed-based turbines, and other projects in offshore wind power generation using the tool (ENCORE)

Offshore wind power generation poses a relatively low impact on nature compared to other renewable energy sources. There major impacts include those on marine ecosystems, water quality, and interference with living organisms. Installation and operation of offshore wind turbines is said to pose the significant impact of altering ecosystems home to fish, algae, birds, mammals, and other species. Two major impacts on living organisms include negative impacts of noise made during construction and the concern of birds colliding with the turbine blades. Depending on the location of the turbines, these two impacts may lead to the destruction of bird habitats in the area.

The Bank recognizes the need to expand our assessment of the environment and on impacts to living organisms within our analysis of offshore wind power generation in protected areas and areas home to rare species. We will continue to aim for further improvement of our analyses and risk management.





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