

Climate Change (Based on TCFD Recommendations) - Metrics and Targets -

Metrics and Targets

Classification	Metrics	Latest Results	Targets
Reduce financed emissions	GHG emissions from the investment and loan portfolio		FY2030 Interim targets toward net zero in 2050
	[Lending] Power Sector Base year: FY2019 results 213gCO ₂ e/kWh	FY2020* 217gCO ₂ e/kWh	138 to 165gCO ₂ e/kWh
	[Investment] Emissions per unit of investment basis (stocks and bonds) Base year: FY2019 results 0.66tCO ₂ e/million yen	FY2020 0.55tCO ₂ e/million yen -17% compared to FY 2019	-49% compared to FY2019
	Secure the amount of the forest carbon sink, together with JForest members	FY2021 6.12 million tCO ₂	9 million tCO ₂ /year, as of FY2030
	GHG Emissions by the Bank Itself	FY2021 19,849tCO ₂	Net zero by FY2030
Encourage sustainable business	New sustainable finance	FY2021 to FY2022 (Cumulative) ¥4.4 trillion	¥10 trillion by FY2030
Strengthening the risk management system	Reduction of outstanding investment and loan for coal-fired thermal power	End of FY2022 ¥36.6 billion	Zero by 2040

*The increase compared to fiscal 2019 is due to an increase in the number of clients classified in the electricity sector. This increase in clients resulted from system registration maintenance, in addition to increased exposure from the spread of COVID-19.

Reducing Financed Emissions – Approach to Setting the Interim Targets

Basic Approach

- The Bank is committed to achieving Net Zero GHG emissions by 2050 for its investes and borrowers through its signature on the Net Zero Banking Alliance (NZBA).
- In accordance with the NZBA framework, we have set interim targets for 2030 for the electricity sector of our loan portfolio. We will continue to set targets in turn for the nine carbon-intensive sectors (includes electricity as well as oil and gas, steel, coal, transportation, real estate, agriculture, cement, and aluminum) specified in the framework.
- In addition to described above, considering the percentage of investment assets in our investment and loan portfolio is vital. the Bank will additionally set interim targets for the investment portfolio (this time covering equities and corporate bonds) for fiscal 2030 by taking the Net Zero Initiative framework for institutional investors into consideration. Going forward, the Bank will continue to expand the investment asset classes covered by these targets in light of developments in GHG measurement practices at the Bank.

	Lending portfolio	Investment portfolio
1 Target	<p>Loans to the power sector, and project financing</p> <p>(*This sector was chosen because, as its share of GHG emissions within the Bank’s lending portfolio was relatively high, and as demand for electric power is expected to rise because of global economic growth and electrification in various industries, it was deemed that the power sector was of high priority in terms of realizing the Net Zero society.)</p>	<p>Equities and corporate bonds</p> <p>(*This asset class was chosen because, of the various asset classes in the Bank’s investment portfolio, the PCAF has already developed GHG measurement methods for this asset class, and the Bank has already completed the process of measuring GHG emissions for this asset class.)</p>
2 Target for 2030	<p>138 to 165 gCO₂e/kWh</p> <p>(*baseline year emissions were 213 gCO₂e/kWh)</p>	<p>49% reduction compared to baseline year</p> <p>(*baseline year emissions were 0.66 tCO₂e / million yen, on a per unit of investment basis)</p>
3 Baseline year	<p>FY2019 (year ended March 31, 2020) (*This year was chosen because subsequent years were affected by the temporary reduction in GHG emissions due to the COVID-19 pandemic)</p>	
4 Scenario used	<p>IEA World Energy Outlook 2021 and 2022, Net Zero Emissions by 2050 Scenario (NZE)</p> <p>(*The upper end of the target range was taken from the NZE scenario in the 2022 report, and the lower end was taken from the NZA scenario in the 2021 report)</p>	<p>Reduction target ranges used by Net Zero alliances for institutional investors, etc.</p>
5 Measurement method	$\sum \left(\frac{\text{Amount of investment or loans provided by The Norinchukin Bank for each company or project}}{\text{Shareholders' equity and liabilities of each company or project}} \times \text{GHG emissions of each company or project} \right)$ <p>(*The measurement method advocated by the PCAF was adopted)</p>	
6 Data sources	<p>Data disclosed by customers, the CDP, etc. (*Going forward, data sources will be updated as appropriate in line with developments in data availability)</p>	

Calculating Financed Emissions

The Bank recognizes that measuring and reducing the indirect GHG emissions (Financed Emissions, Scope 3 Category 15) from investment and loan is an important issue, as these emissions account for a large proportion of the total GHG emissions of financial institutions. In fiscal 2022, we made a provisional estimate of GHG emissions to better understand the current situation of GHG emissions, targeting a broad range of asset classes in our investment and finance portfolios. The estimate covered loans, corporate bonds and stocks intended for industrial corporations (including matters for investment and finance in the form of any funds).

Methodology to measure financed emissions

In the provisional estimate of GHG emissions, we referred to the measuring methodology proposed by the PCAF. The Bank became a member of the PCAF in March 2022. In the future, the Bank will further improve initiatives related to the measurement and disclosure of GHG emissions of its investment and financing portfolios by leveraging the PCAF's knowledge and databases.

Target Assets	These assets include loans for business corporation, bonds, and stocks (including fund investment and finance projects*) and project financing (for power generation). *1 Since FY2023, we include non-look-through assets (when calculating risk-weighted assets for Basel Accord -related ratios) in private equity ("PE," below) funds for this measurement.
Formula	$\left[\begin{array}{l} \text{Total GHG Emissions of the Norinchukin Bank investees and borrowers} \\ \text{[Loans, Bonds, and Stocks]} \\ = \sum \left(\frac{\text{amount of investment and loan to each company from the Norinchukin Bank}}{\text{capital stock of each company + their liabilities}} \times \text{total GHG emissions of each company}^{*2} \right) \\ \text{[Project Financing (for Power Generation)]} \\ = \sum \left(\frac{\text{amount of investment and loans to each company from the Norinchukin Bank}}{\text{capital stock of each PJ + their interest-bearing debt}} \times \text{total GHG emissions of each PJ}^{*2} \right) \end{array} \right] \text{*2 Scope 1 and 2 emissions}$
Target Year	FY2020 Norinchukin Bank investment and loan: Balance as of March 2021 Financial and emissions data: The latest available data within three years of March 31, 2021
Source of Emissions Data	<ul style="list-style-type: none"> Loans, Bonds, and Stocks We utilize Trucost, an external information vendor, to provide the disclosure and estimation data from the companies of our investees and borrowers. If this information is not available, we estimate this data using emissions intensity data (by region and sector) from the PCAF database. Project Financing (for Power Generation) Estimated using the PJ estimated annual power generation*3 x emission factors*4 published by the European Investment Bank (EIB) <p>*3 Calculated as generating capacity x 24h x 365d x Capacity Factor (published by IEA). *4 Emission factors are set to zero for renewable energy projects.</p>

Results

Assets shown on the left amounted to 22.1 million tCO₂e of measured GHG emissions. The following is a breakdown of sectors recommended to be disclosed according to the TCFD.

Sector		GHG Emissions (Million t CO ₂ e)	Economic Emissions Intensity (t CO ₂ e/100 million yen)	Measurable Exposure (trillions of yen)	Unmeasurable Exposure (trillions of yen)
TCFD Recommendations Sector	Energy (Including Electric Utilities)	7.5	467	1.6	0.05
	Transportation	2.1	100	2.1	0.03
	Materials and Buildings	8.0	173	4.6	0.11
	Agriculture, Food, and Forest Products	2.1	112	1.8	0.02
Other	Other	2.4	21	11.3	1.46
Total		22.1	103	21.5	1.66

*This table is based on current measurements. Figures are subject to change as measurements are refined going forward. No third-party certification has been obtained for the measurements in this table.

Supplementary Information on Our Measurements

- The above measurements are based on on-balance sheet assets of the Bank for business corporations. For fund investment and finance projects, we not only include look-through cases where individual companies can be identified when calculating risk assets for Basel Accord-related ratios, but we also include non-look-through assets in PE funds in our measurements by correcting data.
- This fiscal year, we began measuring project financing (for power generation) and PE funds (non-look-through assets) in accordance with the PCAF standards. These measurements amounted to ¥ 0.7 trillion and ¥0.1 trillion, respectively, and are included in the measurable exposure above.
- We calculate investment and loan for group finance and captive finance corporations as financial exposure to the parent companies since we measure emissions that reflect actual figures as much as possible.
- Unmeasurable exposure in the above table mainly resulted from a lack of financial data.

Data Quality Score Calculation

- The PCAF established the data quality score to evaluate the quality of estimated emissions and recommends calculating relevant scores. These scores are presented in the following table.
- The status of emissions data disclosure at each of the companies of our investees and borrowers varies widely. For those that did not disclose their emissions data, we estimated their economic activity-based emissions by using estimated data from an external information vendor (Trucost). We additionally used sales and emissions intensity data from the companies as supplementary information.
- In addition to using Trucost data, we began using the CDP database to enhance our calculation logic to determine if external certification was present based on individual company responses to a CDP questionnaire. As a result, we successfully granted them a score of 1. The calculated data quality score for current measurements is approximately 2.48. We will continue to improve this score.

Reliability	High	Methodology to measure financed emissions			
		Level	Score	Methodology	
↑	High	Score 1	Company's disclosed data	1a	<ul style="list-style-type: none"> • There are data on the balances of investments and financing, and financial data of the target company. • Certified emissions are disclosed.
				1b	<ul style="list-style-type: none"> • 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.
	Score 2	Emissions based on physical activities	2a	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	
	Score 3	Emissions based on economic activities	3a	<ul style="list-style-type: none"> • 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			<ul style="list-style-type: none"> • 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. 		
3c			<ul style="list-style-type: none"> • 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. 		

Carbon-Related Assets

The Bank expanded the disclosure sector to reflect the revised definition of carbon-related assets based on the October 2021 revision of the TCFD recommendations. As of March 31, 2023, carbon-related asset exposure (loans) as of totaled ¥7.4 trillion, and occupy 43.9% to total exposure (loans) of all sectors. The Bank established its 2030 interim GHG emission reduction targets for the electricity sector in accordance with the NZBA framework, and will gradually establish targets for other carbon-intensive sectors going forward. We will take measures to achieve our target of Net Zero greenhouse gas emissions by 2050, from our investment and loan portfolio, and appropriately monitor relevant exposure.

March 31, 2023 Exposure to Carbon-Related Assets*

Sector	Exp (Trillion yen)	Concentration Ratio
Electric Utilities	0.8	4.6%
Oil and Gas	0.4	2.5%
Coal	0.0	0.0%
Energy Subtotal	1.2	7.2%
Air Freight	0.0	0.2%
Passenger Air Transportation	0.0	0.3%
Maritime Transportation	0.1	0.8%
Rail Transportation	0.4	2.1%
Trucking Services	0.0	0.3%
Automotive and Components	0.8	4.6%
Transportation Subtotal	1.4	8.3%
Metals and Mining	0.3	1.8%
Chemicals	0.6	3.7%
Construction Materials	0.1	0.5%
Capital Goods	1.9	11.5%
Real Estate Management and Development	1.0	6.1%
Materials and Buildings Subtotal	4.0	23.6%
Beverages	0.1	0.7%
Agriculture	0.1	0.6%
Packed Food and Meats	0.4	2.2%
Paper and Forest Products	0.2	1.4%
Agriculture, Food and Forest Products Subtotal	0.8	4.8%
Total of Aforementioned Sectors	7.4	43.9%
Total for All Sectors	16.9	100%

*Covers non-consolidated loans for the Bank.