

Climate Change Initiatives: Disclosure Based on TCFD Recommendations

Introduction

The Bank of Japan, in its *Medium-Term Strategic Plan (Fiscal 2019-2023)*, describes the environment surrounding central banks: in the broader context of the global economy and society, various entities are expected to address the Sustainable Development Goals (SDGs). There is widespread acceptance both in Japan and overseas that climate change in particular is a global challenge that could have a broad impact on society and economic activity into the future, and that central banks are expected to address this issue from their particular standpoints.

In this context, the Bank outlined its basic stance on and comprehensive approach to climate change in *The Bank of Japan's Strategy on Climate Change*, released in July 2021, and is moving forward with various measures on this basis. Among these measures, in terms of external communication, the Bank announced that it will make disclosures that take into account the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

The TCFD recommends that each entity disclose climate change efforts in four thematic areas: governance, strategy, risk management, and metrics and targets (Chart 1). The Bank's initiatives regarding climate change are summarized below in line with the recommendations, consistent with the nature of the Bank's policies and business operations aimed at achieving price stability and ensuring the stability of the financial system.

Chart 1: TCFD Recommended Disclosures

Theme	Recommended Disclosures
Governance	Disclose the organization's governance around climate-related risks and opportunities.

Strategy	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.
Risk management	Disclose how the organization identifies, assesses, and manages climate-related risks.
Metrics and targets	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

Source: Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures.

I. Governance

The Bank of Japan's Strategy on Climate Change was decided at the Policy Board meeting held on July 16, 2021. At the meeting held on March 25, 2022, the Bank conducted an interim review of the *Medium-Term Strategic Plan (Fiscal 2019-2023)*. The Bank regarded developments in climate change as one of the main challenges it has faced in conducting business operations and organizational management since the formulation of the Plan. The Bank also decided that it will continue to address climate change in line with its Strategy for the remaining period of the Plan.

The Strategy outlines measures across a range of areas: monetary policy, the financial system, research, international finance, and business operations and external communication. Under these measures, the Bank will take important actions based on the decisions of the Policy Board, with various departments of the Bank and officers in charge promoting a specific response in each area. To support this process, the Bank set up the Climate Coordination Hub (CCH), an internal network, and put in place a collaborative framework led by the Head of the CCH to promote information sharing and coordination on various measures and address issues related to climate change. At present, the CCH consists of members from the Secretariat of the Policy Board, the Monetary Affairs Department, the Financial System and Bank Examination Department, the Payment and Settlement Systems Department, the Financial Markets Department, the Research and Statistics Department, and the Institute for Monetary and Economic Studies. The International Department serves as the secretariat for the CCH, and meetings are held approximately once a month. Every fiscal year, the Bank conducts performance reviews of related initiatives taken by each department as part of

measures under the Plan.

II. Strategy

A. The Bank's Mandate and the Impact and Risks of Climate Change

To address climate change, various entities within society and the economy need to actively play their roles, in tandem with governments and legislative bodies that formulate relevant policies. As various stakeholders across jurisdictions, including governments and firms, accelerate their efforts concerning climate change, the Bank, as the central bank of Japan, is furthering its efforts on climate change consistent with its mandate of achieving price stability and ensuring the stability of the financial system.

To this end, the Bank has categorized the impact and risks of climate change for economic activity, prices, and the financial system as follows.

When individual firms and households engage in economic activity without due consideration of the impact of greenhouse gas emissions on climate change, this results in an excessive amount of greenhouse gas emissions in society and the economy as a whole. If this situation continues, it would result in significant negative social and economic costs. The impact of excessive greenhouse gas emissions is not limited to one country but spreads to other countries, and such emissions have far-reaching future effects. Climate change has already had a sizable impact on daily life and social activities in recent years, including the global rise in temperatures and the increasing frequency and severity of large-scale natural disasters.

In terms of the specific impact on economic activity, there has been an increase in constraints on economic activity, such as supply chain disruptions caused by natural disasters in recent years. In the medium to long run, energy price fluctuations and a decrease in investment and employment in industries with significant greenhouse gas emissions may also exert downward pressure on economic activity. On the other hand, new opportunities may arise, such as an increase in investment related to renewable energy. The future impact on economic activity is highly uncertain. Prices and wages could be affected by both natural disasters and the various measures introduced for the transition to a carbon-neutral society.

Climate change, through the channels of "physical risk" and "transition risk," can also impact

the financial system. Physical risk refers to the risk that physical phenomena triggered by climate change, such as large-scale disasters and rising sea levels, will have a negative impact on firms and households. Transition risk refers to the risk of an economic impact on firms and households due to changes in policies, technologies, or consumer preferences associated with the transition to a carbon-neutral society. Depending on the response, both risks could adversely affect the financial system by changing the investment or lending behavior of financial institutions, both qualitatively and quantitatively.

B. The Bank's Strategy on Climate Change

In light of the potential impact of climate change on economic activity, prices, and the financial system, the Bank in its Strategy on Climate Change is pursuing measures in five areas: monetary policy, the financial system, research, international finance, and business operations and external communication (Chart 2).

Chart 2: Key Points of the Bank's Strategy on Climate Change

Monetary policy

- Implement a new fund-provisioning measure to support various efforts in the private sector to address climate change.

Financial system

- Stability of the financial system: identify and manage climate-related financial risks.
- Smooth-functioning of financial intermediation: support financial institutions with respect to their customers' decarbonization.

Research

- Deepen the analysis on climate change impact. Improve data and analytical tools.
- Examine the functioning of financial markets and infrastructure, and consider issues relevant to payment systems and market infrastructures.

International finance

- Contribute to developing responses to climate change and climate-related financial risks.
- Promote investment in climate-related financial products as part of international financial cooperation in Asia.

- Purchase green bonds issued by foreign governments based on the Bank's management principles.

Business operations and external communication

- Undertake operations by paying due consideration to climate change (e.g., reduction in greenhouse gas emissions).
- Make TCFD-consistent disclosures and enhance the Bank's communication on climate-related conduct.

III. Risk Management

Various entities, including governments and firms, have been actively addressing climate change. In light of the risk that climate change will exert an extremely large impact on economic activity, prices, and the financial system from a medium- to long-term perspective, the Bank will further its efforts on climate change in respective areas from a central bank standpoint, consistent with its mandate of achieving price stability and ensuring the stability of the financial system. Specifically, it has made progress in the following five areas set out in its Strategy on Climate Change and will continue to pursue initiatives.

A. Monetary Policy

As part of efforts through its conduct of monetary policy, the Bank introduced the Funds-Supplying Operations to Support Financing for Climate Change Responses (Climate Response Financing Operations) so that financial institutions can receive funds from the Bank against their investment or loans that contribute to Japan's actions to address climate change. Through the first operation in December 2021, the Bank provided funds amounting to about 2 trillion yen to 43 eligible counterparties. It plans to offer loans biannually in principle while accepting additional counterparties for the operations.

With a view to ensuring the proper conduct of the Climate Response Financing Operations, the Bank designed them as follows.

The Bank requires counterparties to disclose a certain level of information, including that based on the TCFD recommendations. In this way, the Bank selects those that organizationally engage in investment or loans to address climate change under

appropriate governance.

In order to avoid direct involvement in micro-level resource allocation as much as possible, the Bank, while indicating a list of broad types of investment and loans against which it will provide funds, leaves concrete decisions to counterparties. In doing so, the Bank requires them to disclose criteria with which they determine which investment or loans can be used for the operations so as to ensure that discipline will be exercised.

Moreover, since it will take a long time to address climate change, counterparties will be able to receive funds until the end of fiscal 2030 through the operations. Given that efforts to address climate change will advance over time, the counterparties can make rollovers while determining yearly which investment or loans can be used for the Bank's fund-provisioning.

B. Financial System

Climate change, through the aforementioned channels of "physical risk" and "transition risk," could significantly affect the businesses of financial institutions, and consequently the stability of the financial system. In addition, the proper functioning of financial intermediation is vital for decarbonizing society and the economy. The Bank will actively support financial institutions in identifying and managing their climate-related financial risks, with a view to maintaining the stability of the financial system and the smooth functioning of financial intermediation.

Based on this thinking, through its on-site examinations and off-site monitoring, the Bank has been having in-depth discussions with financial institutions on their efforts to address climate-related financial risks and on their engagement with corporate customers in pursuit of decarbonization. These points were also spelled out in the *On-Site Examination Policy for Fiscal 2022* released in March 2022.

In doing so, quantitative assessment of climate-related financial risks is important. With recognition of the usefulness of scenario analysis in measuring such risks, the Bank, in cooperation with the Financial Services Agency (FSA), has been carrying out pilot exercises of the scenario analysis based on common scenarios since fiscal 2021, targeting

some major financial institutions. The Bank will encourage financial institutions to develop their climate scenario analyses in line with their size and characteristics, taking into account the pilot exercises as well as international discussions on regulations, supervision, and risk management related to climate-related financial risks.

Efforts to conduct scenario analysis and quantify relevant risks require appropriate reflection of differences in climate change impact arising from the natural environment and industrial structure of each region. As part of its scenario analysis, the Bank has been making quantitative analysis on the impact of floods on the real economy and financial system, taking into account the risk characteristics of Japan, where floods are one of the most common natural disasters.

The Bank is also encouraging financial institutions to enhance their disclosures, both qualitatively and quantitatively, based on the TCFD framework. To this end, the Bank is taking steps to gain better understanding, such as by holding a seminar for them through its Center for Advanced Financial Technology (CAFT) to elucidate the content of the TCFD recommendations.

C. Research

The Bank has been deepening its analysis of how climate change would affect the macroeconomy -- including economic activity and prices -- financial markets, and the financial system, as well as working to collect climate-related data and refine its analytical tools to better conduct surveillance and identify risks. In addition to releasing its findings through various research papers and reports on its website (Chart 3), the Bank has been sharing and discussing such findings with stakeholders at home and abroad. Specifically, besides holding an international research workshop on climate-related financial risks in March 2021, the Bank is actively conducting interviews and hearings with individual stakeholders.

Moreover, the Bank is examining the functioning of financial markets in relation to climate change. It conducts the *Market Functioning Survey concerning Climate Change*, covering a broad set of market participants, in order to assess the functioning of Japanese financial markets in relation to climate change and to identify challenges for future developments.

The Bank will continue to conduct research and analysis on climate change from multiple perspectives and release its findings.

Chart 3: Research Papers and Reports related to Climate Change

Year	Title
2022	How Do Floods Affect the Economy? An Empirical Analysis using Japanese Flood Data*
	Flood Risk Perception and its Impact on Land Prices in Japan*
	Challenges for Japan's Economy in the Decarbonization Process*
	The Economics of Climate Change: An Introduction to Major Studies in the U.S. and Europe**
	Transmission of Flood Damage to the Real Economy and Financial Intermediation: Simulation Analysis using a DSGE Model*
	Physical risks from climate change faced by Japan's financial institutions: Impact of floods on real economy, land prices, and FIs' financial conditions
	Final Report on the Results of the Public Consultation on the Market Functioning Survey concerning Climate Change
2021	Public Consultation on the Market Functioning Survey concerning Climate Change
	CO2 Emissions and Corporate Performance: Japan's Evidence with Double Machine Learning
	Addressing Practical Challenges toward the Development of ESG Investment**
	Special Volume of IMES Newsletter: The Economics of Climate Change (5) -- Empirical Studies**
	Special Volume of IMES Newsletter: The Economics of Climate Change (4) -- Climate Change and Unconventional Monetary Policy**
	Special Volume of IMES Newsletter: The Economics of Climate Change (3) -- Climate Change and Technological Progress**
	Special Volume of IMES Newsletter: The Economics of Climate Change (2) -- Climate Change and Optimal Taxation**
	Special Volume of IMES Newsletter: The Economics of Climate Change (1) -- Capturing the Relationship between Climate Change and Macroeconomics: The DICE Model**
	Quantitative Analysis of the Impact of Floods on Firms' Financial Conditions

2020	How Does Climate Change Interact with the Financial System? A Survey
	International Developments of Issues around Climate-related Financial Risks: A New Discussion on Financial Stability**
	Some Reflections on the Relationship between ESG Investment and Fiduciary Duties of Institutional Investors: Based on the Perception of Directors' Duties in the United Kingdom**
	Trends among Japanese Institutional Investors in ESG Investment**
2019	Recent Trends in ESG Investment**

Note: As of April 2022.

* The English version will be forthcoming.

** Available only in Japanese (the English title is based on the Japanese original).

D. International Finance

The Bank has been making contributions in terms of developing measures against climate change by learning from other jurisdictions' experiences at international forums, such as the Group of Seven (G7), the Group of Twenty (G20), and the Executives' Meeting of East Asia-Pacific Central Banks (EMEAP), sharing the experiences gained through its measures, and taking part in multilateral discussions. The Bank has contributed to international discussions on climate change responses, actively participating in deliberations on topics such as promoting sustainable finance and transition finance, with a view to taking into account circumstances unique to each region, such as Asia. By taking part in such discussions and other activities on climate change, the Bank will continue to make contributions in terms of developing measures to address climate change globally.

On the financial system front, the Bank, in close collaboration with the FSA, has explored the effective management of climate-related financial risks, as well as research that aims to develop scenario analysis at international forums such as the Basel Committee on Banking Supervision, the Financial Stability Board (FSB), and the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). The Bank is contributing in terms of sharing best knowledge and practice in managing climate-related financial risks. In addition, regarding data gaps, the Bank is working with financial institutions and relevant authorities to contribute to international initiatives for improving the availability of data necessary for assessing climate-related financial risks.

Meanwhile, with the aim of helping to catalyze further deepening of the local currency-denominated green bond markets in Asia, the Bank, in consultation with other EMEAP member central banks and stakeholders, has promoted investment in green bonds through the Asian Bond Fund. Regarding the Bank's foreign currency assets, it has been purchasing foreign currency-denominated green bonds issued by governments and other foreign institutions based on the existing management principles.

E. The Bank's Business Operations and External Communication

The Bank has been undertaking its business operations by paying due consideration to climate change, in accordance with its existing principle of conducting proper and efficient central bank business operations. In this regard, the Bank to date has been making efforts to reduce greenhouse gas emissions and promote energy saving in its management of the Head Office and branch facilities, in order to achieve the targets set by central and local governments. At the same time, from the standpoint of the stable conduct of central banking operations, the Bank continues to steadily strengthen its business continuity plan to cope with an increasing flood risk.

As for external communication, a series of speeches have been delivered on climate change and the Bank is working to enhance the content of the "climate change" page on its website. Also, it has made disclosure based on the TCFD recommendations and explained its ongoing climate-related conduct in this *Climate Change Initiatives: Disclosure Based on TCFD Recommendations* document. The Bank will update the disclosure yearly as part of its efforts to provide appropriate external communication.

The impacts of climate change on economic activity, prices, and the financial system are highly uncertain and could greatly vary over time. The risk management efforts outlined in sections A. to D. above constitute a process whereby the Bank, after having conducted sufficient research and analysis on the impact and risks of climate change on economic activity and the financial system, will pursue, from a long-term perspective, initiatives that contribute to stabilizing the macroeconomy and measures to maintain the stability of the financial system. Through its ongoing pursuit of these initiatives, the Bank will help to shape an appropriate response in society and the economy as a whole to the impact and risks of climate change. Additionally, through the efforts outlined in section E. above, the Bank will

continue to address climate change in its business operations and adequately communicate its climate-related conduct to the public.

IV. Metrics and Targets

With regard to business operations and external communication mentioned in Chapter III. E., the Bank has resolved to measure and disclose direct (Scope 1) and indirect (Scope 2) carbon dioxide (CO₂) emissions arising from its own business operations every fiscal year (Chart 4). Efforts so far have yielded a decrease in CO₂ emissions in recent years compared to previous levels.

In addition, the Bank is required to reduce energy consumption intensity by an annual average of 1 percent or more over the medium to long term, under the Act on the Rational Use of Energy (Energy Saving Act) enacted by the Japanese government. The Bank continues to achieve this target (Chart 5).

Data for fiscal 2021 will be released on the Bank's website around this summer.

Chart 4: CO₂ Emissions from the Bank's Business Operations

Item		t-CO ₂				
		FY2016	FY2017	FY2018	FY2019	FY2020
Scope 1 (Direct CO ₂ emissions)	City gas	2,331	2,605	2,642	2,661	2,973
	Heavy oil	352	341	331	309	341
	Kerosene	672	670	600	682	578
	Light oil	215	235	251	266	261
	Gasoline	248	204	169	144	111
	Subtotal	3,818	4,056	3,993	4,062	4,265
Scope 2 (Indirect CO ₂ emissions)	Electricity	34,246	34,880	35,604	29,841	22,732
	Hot water	410	393	400	404	445
	Cold water	512	544	500	472	546
	Subtotal	35,168	35,818	36,504	30,717	23,722
Total CO ₂ emissions		38,986	39,874	40,497	34,779	27,987

Notes: 1. Figures are those for the Head Office, branches, and local offices in Japan.

2. CO₂ emissions are calculated according to the method based on the Act on Promotion of Global Warming Countermeasures. CO₂ emissions of electricity are calculated based on the basic emissions factors of individual electricity companies.

Chart 5: The Bank's Energy Consumption

	FY2016	FY2017	FY2018	FY2019	FY2020
Energy consumption (kl)	19,814	19,864	19,506	18,995	18,718
Energy consumption intensity (kl/m ²)	0.0419	0.0421	0.0413	0.0402	0.0397
Annual average change over 5 years (%)	-3.3	-3.8	-3.2	-2.8	-1.3

- Notes: 1. Figures are those for the Head Office, branches, and local offices in Japan.
2. Data for energy consumption cover city gas, heavy oil, kerosene, electricity, hot water, and cold water.
3. Figures for energy consumption are converted into crude oil equivalent by using the energy conversion factors based on the Energy Saving Act. Energy consumption intensity is energy consumption per unit of the floor area of the Bank's buildings.