

# Annual Report 2023 Addendum

Climate-related Financial Disclosures  
based on TCFD recommendations



**JAPAN BANK FOR  
INTERNATIONAL COOPERATION**

Recognizing the importance of the climate-related financial disclosures in its ESG policy, the Japan Bank for International Cooperation (JBIC) has promoted and will continue to make appropriate information disclosures based on the recommendations by Task Force on Climate-related Financial Disclosures (TCFD).

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## ■ Governance

### Sustainability governance and management systems

At JBIC, important matters related to sustainability, including items concerning climate change, are discussed at the Executive Committee, the Sustainability Committee, and the Corporate Risk Management Committee under the supervision of the Board of Directors.

In June 2022, JBIC established the Sustainability Advisory Committee, Sustainability Committee, and Sustainability Management Department as a part of its efforts toward “strengthening its sustainability governance and management systems,” as set out in the ESG Policy and has implemented initiatives to promote sustainability including efforts for climate change (“sustainability promotion”). JBIC’s governance system concerning sustainability promotion including initiatives for climate change are shown as below.

Under such sustainability governance and management systems, JBIC will contribute actively to the realization of global sustainability, including sustainable development of the global economy and society and resolution of global issues. To that end, JBIC will provide proactive support for initiatives by Japanese corporations to promote the SDGs and realize the decarbonization of global economy and society, and ensure the appropriate disclosure and announcement of the outcomes of such initiatives to stakeholders.

### 1. Role of Board of Directors

The Board of Directors supervises the basic policies on sustainability promotion and its progress in JBIC. Matters concerning sustainability promotion, including climate change, are addressed as important managerial matters and are discussed by the Board of Directors. The outcomes are reflected in the management strategies and risk management policies.

In addition, the status of climate finance is regularly reported to and properly supervised by the Board of Directors.

The Sustainability Advisory Committee, comprising external experts, was founded in June 2022 as an advisory body of the Board of Directors. It provides advice on matters such as JBIC’s policies for advancing sustainability promotion including initiatives for climate change.

### 2. Role of Executive Committee

The Executive Committee is responsible for the implementation of climate change-related operations, based on the mandate of the Board of Directors.

The Sustainability Committee, based on the mandate of the Executive Committee, deliberates on policies for advancing initiatives toward the realization of sustainability and other important issues, and it reports the progress of sustainability promotions by JBIC and related general updates in Japan and abroad. Matters deliberated on are reported to the Executive Committee and are taken to the Board of Directors if necessary, following the discussions and decisions by the Committee.

The Corporate Risk Management Committee deliberates and decides on the important matters related to the management of corporate and credit risks (including climate risks), based on the basic policies determined by the Board of Directors, the Executive Committee, and others. When necessary, the Committee reports and takes matters to the Board of Directors and the Executive Committee.

Supervisory and evaluation function

Board of Directors

Passes resolutions on basic matters and changes thereof related to policies for advancing initiatives toward the realization of sustainability, including ESG policy

[Members] All directors

Inquiry and Advice

Sustainability Advisory Committee

Provides advice on the matters inquired by the Board of Directors related to policies for advancing initiatives toward the realization of sustainability

[Members]

**Prof. TAKAMURA Yukari** (Professor, Institution for Future Initiatives, University of Tokyo)

**Prof. Rachel Kyte** (Dean Emerita, the Fletcher School, Tufts University)

**Prof. Tim Benton** (Director, Environment and Society Programme, Chatham House)

[Advice made in FY2022]

Just Transition in response to climate change based on economic growth and regional factors

Deliberation or reporting

Execution function

Executive Committee

Makes decisions and deliberations on matters of managerial important that relate to policies for advancing initiatives toward the realization of sustainability, based on the mandate of the Board of Directors

[Members] Governor, deputy governor, and directors (except for chairman and outside directors) as well as all the managing executive officers

[Major matters deliberated and decided]

Decision on policies to address TCFD disclosures and reporting of the result of climate change scenario analysis

Deliberation or reporting

Sustainability Committee

(Deliberation body)

Makes deliberation on policies to promote initiatives for realizing sustainability and other important matters, based on the mandate of the Executive Committee

[Chairperson] Managing Executive Officer, Global Head of Corporate Planning Group

[Major matters deliberated and reported]

Deliberation on policies to address TCFD disclosures, deliberation on policies to calculate GHG emissions, and reporting of the climate change-related updates

Corporate Risk Management Committee

(Decision-making body)

Makes decisions and deliberations on important matters pertaining corporate risks (including climate risks) based on the mandate of the Board of Directors

[Chairperson] Managing Executive Officer, Global Head of Credit, Assessment and Risk Management Group

[Major deliberations, decisions, and reports]

Decision on policies for climate scenario analysis, deliberation and decision of climate risk management, and reporting on monitoring of Top Risks related to climate change

## ■ Strategy

In its Fourth Medium-term Business Plan announced in June 2021, JBIC identified the addressing of “global issues toward realizing sustainable development for the global economy and society” as its first key focus area. As climate change has become a particularly urgent global issue in recent years, we recognize climate change as an opportunity to accelerate energy transitions toward a decarbonized society, and we actively work to support this global agenda through the proactive provision of green finance, transition finance, and social impact finance and the reinforcement of the organizational structure.

In addition, as one important role of JBIC as Japan’s policy-based financial institution, we are promoting engagement with the host countries’ governments and authorities and collaboration with overseas governmental organizations and international organizations for achieving global carbon neutrality.

### Approach to transitioning toward the realization of carbon neutrality

Climate change is one of the most urgent challenges facing the world’s economies. Following the adoption of the Paris Agreement in December 2015, the global concrete effort to address climate change has accelerated. As achieving the objectives of the Paris Agreement requires substantial investment, the flow of funds, including through the mobilization of private finance, needs to be redirected and applied to pathways towards decarbonization.

Under the ESG policy announced in October 2021 and in line with the policy of Japanese government, JBIC, as a policy-based financial institution that contributes to the sound development of Japan and global economy, has proactively supported global climate change initiatives, through green finance, transition finance, engagements with stakeholders, and others.

JBIC regards the growing need for financing green energy projects to realize carbon neutrality, the business and technological transformation required for the transition to a decarbonized society, and innovation to establish new technologies as opportunities that are related to climate change, and it intends to support such initiatives toward the realization of a decarbonized society. Based on this understanding, we believe it is crucial for us to promote initiatives toward decarbonization by borrowers and host countries’ governments through financing and also engaging with stakeholders.

Achieving carbon neutrality at the global scale is an issue to be tackled in tandem with the pursuit of sustainable economic growth. Moreover, amid the growing uncertainties of recent events internationally, it is also necessary to take into account regional and industrial characteristics as well as energy security and geopolitical risks in order to promote steady decarbonization across various areas and sectors around the world.

JBIC has been pursuing net zero GHG emissions of its finance portfolio by the year 2050 to align with the objectives of the Paris Agreement. In order to ensure that this initiative contributes to the steady decarbonization of the real economy, it is crucial for JBIC to support various paths to a sustainable decarbonized society while considering the above-mentioned viewpoints and the Japanese government’s policies, as Japan’s policy-based financial institution. It is vital for JBIC to provide proactive support to projects that contribute to the decarbonization of the real economy in the course of achieving net zero emissions in the medium and long term.

In particular, to achieve the energy transition for decarbonization, it is important to identify projects that provide sustainable decarbonization and to give them comprehensive support, such as green finance and transition finance, which use various energy sources and innovations related to next-generation technologies and energies.

With such recognition, JBIC is committed to supporting energy transition-related projects from their initial phases and boosting decarbonization initiatives through various types of financial support while considering the Japanese government’s policies. For this purpose, we will utilize our long-term strategic risk-taking function as a policy-based financial institution as well as our continuous engagement with host countries’ governments and authorities and collaborations with overseas governmental organizations and international organizations.

We will accelerate the energy transition, particularly in emerging and developing countries, and will contribute to global carbon neutrality through the following initiatives while pursuing to achieve net zero GHG emissions for our finance portfolio by 2050.

## Initiatives related to climate change-related finance

In its Fourth Medium-term Business Plan announced in June 2021, JBIC has been actively working to solve global agenda through financial supports such as green finance and transition finance.

### ◆ Initiatives related to green finance

To contribute toward the creation of a new ecosystem, and with a view to reducing GHG emissions worldwide and realizing decarbonization in Japan, we support efforts to reduce GHG emissions and popularize green innovation by financing projects in fields such as renewable energy and energy savings, smart energy (power storage technology, etc.), green mobility, smart cities, and promotion of the production, transportation, and utilization of hydrogen.

### Project financing for onshore wind farm project in Egypt

JBIC concluded in November 2022 a loan agreement in project financing amounting to up to approximately USD281 million with AMUNET WIND POWER COMPANY S.A.E. (AMUNET) of Egypt, invested in by Sumitomo Corporation and others for an onshore wind farm project. The loan is co-financed with International Finance Corporation (IFC), Sumitomo Mitsui Banking Corporation, and Sumitomo Mitsui Trust Bank, Limited, bringing the total co-financing amount to approximately USD518 million.

In this project, AMUNET will build, own, and operate an approximately 500 MW onshore wind farm within the Red Sea Governorate along the shore of the Gulf of Suez. AMUNET will also sell the electricity generated by the wind farm to Egyptian Electricity Transmission Company for a duration of 25 years. The Government of Egypt aims for a 30% reduction in GHG emissions by 2030 by increasing renewable energy in its energy mix. The project is expected to contribute toward the energy transition of the Government of Egypt.

### Supporting renewable energy project by Indonesian National Oil Company

JBIC concluded in December 2022 a loan agreement amounting to up to USD30 million with PT Pertamina (Persero) (Pertamina), Indonesia's state-owned oil company, for renewable energy projects. The loan is co-financed with MUFG Bank, Ltd. and the Chiba Bank, Ltd., bringing the total amount of co-financing to USD50 million. JBIC will also provide a guarantee for the portion co-financed by the private financial institutions.

The Government of Indonesia has expressed its national goal of reducing GHGs by at least around 32% by 2030 and achieving net-zero emissions by 2060. Pertamina is responding by focusing on new businesses in cleaner energy fields in conjunction with decarbonization of existing business. Also, the loan contributes to the Just Energy Transition Partnership (JETP), which was agreed on by the Government of Indonesia and its partner countries, including Japan and the US., in November 2022. In addition, the loan is in line with the concept of the Asia Zero Emission Community (AZEC) released by the Governments of Japan and Indonesia in November 2022.



Signing ceremony of the GREEN to Pertamina

### ◆ Initiatives related to transition finance

While working to engage host countries to make the shift toward sustainable energy, we provide support for initiatives toward global energy transitions by financing projects in areas such as energy conversion, CCUS/ carbon recycling, and ammonia and hydrogen co-combustion, in order to contribute toward expanding businesses that help to achieve a decarbonized society.

#### Loan for building pellet feed plant in Brazil

JBIC signed in March 2023 a loan agreement amounting to up to USD980 million (JBIC portion) with CSN Mineração S.A. (CM) of Brazil. The loan is co-financed with BNP PARIBAS, Tokyo Branch, Citibank, N.A., Tokyo Branch, JP Morgan Chase Bank, N.A., Tokyo Branch, Crédit Agricole Corporate and Investment Bank, Tokyo Branch, Sumitomo Mitsui Trust Bank, Limited, and Sumitomo Mitsui Banking Corporation, bringing the total co-financing amount to USD1,400 million.

The loan is intended to finance the funds necessary for CM, of which Itochu Corporation (Itochu), JFE Steel Corporation, and Kobe Steel, Ltd. are shareholders among others, to build a new pellet feed production plant. Pellet feed is processed iron ore crushed into particles, which is a raw material for low-carbon steelmaking. It plays an important role in reducing CO<sub>2</sub> in iron-manufacturing process. The factory will enable Itochu to secure pellet feed for a long term.

The loan will financially support Itochu's long-term securing of pellet feed, thereby contributing toward a stable supply of the critical mineral resource for the Japanese steel industry and toward supply chain resilience and the realization of a sustainable society.



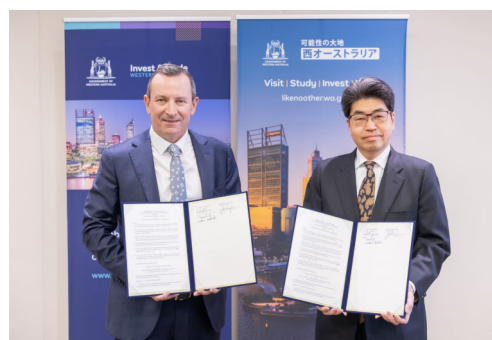
Construction site for a Pellet Feed Plant in Brazil

### ◆ Initiatives related to innovative energy

In addition to providing financial supports, JBIC has strengthened its abilities to collect and disseminate information and conduct studies for structuring projects related to hydrogen, ammonia, and other forms of innovative energy as well as associated loan, guarantee, and research operations, by establishing the Energy Transformation Strategy Office within the Energy and Natural Resources Finance Group on July 1, 2022.

#### Signing MOU with State of Western Australia

JBIC signed in January 2023 a Memorandum of Understanding (MOU) with the State of Western Australia to build a comprehensive strategic partnership with the aim of encouraging Japanese companies to invest in and structure projects in Western Australia. Against the backdrop of common issues shared by Japan and Australia, such as growing geopolitical risks and climate change, we revised the MOU of 2011 to expand the area of cooperation to include hydrogen, ammonia, and critical minerals.


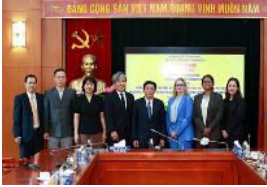




Signing Ceremony of the MOU



## Engagement

We believe that engagement with stakeholders, including host countries' governments and authorities represents our important responsibility as a policy-based financial institution for accelerating energy transition in emerging and developing countries toward the realization of a decarbonized society and for ultimately achieving global carbon neutrality. As Japan's policy-based financial institution, JBIC continues to be proactive in providing financial support for efforts to tackle climate change through the reinforcement of collaboration with overseas governmental organizations and international organizations.

### ◆ Engagement with host countries' governments etc.

|  |  |   |
|--|--|---|
| <p><b>Vietnam</b><br/>Dialogue between JBIC's Governor and Prime Minister of Vietnam, H.E. Pham Minh Chinh<br/>(September 2022)</p>              | <ul style="list-style-type: none"> <li>- Exchanged views with the <b>Government of Vietnam and Communist Party</b>, which announced at COP26 its target of achieving carbon neutrality by 2050, on <b>financial cooperation towards promoting projects of energy transition and decarbonization</b></li> </ul>   |   |
| <p><b>Vietnam</b><br/>Australia-Japan-United States dialogues with Communist Party of Vietnam Central Economic Commission<br/>(October 2022)</p> | <ul style="list-style-type: none"> <li>- Dispatched a joint mission to Vietnam with the U.S. DFC and Australia's DFAT/EFA and announced to the Government of Vietnam and the Communist Party its intention to <b>accelerate support for the energy transition in Vietnam</b></li> </ul>  |    |
| <p><b>Vietnam</b><br/>Launch of Vietnam Climate Finance Framework (VCFF)<br/>(January 2023)</p>  | <ul style="list-style-type: none"> <li>- Launched the <b>Vietnam Climate Finance Framework (VCFF)</b> under the Australia-Japan-United States partnership to promote projects contributing to Vietnam's goal of achieving net zero greenhouse gas (GHG) emissions by 2050</li> </ul>   |   |
| <p><b>Indonesia</b><br/>Annual dialogue with PT PLN (Persero), the state-owned electricity utility company<br/>(December 2022)</p>               | <ul style="list-style-type: none"> <li>- Conducted Fifth Annual Dialogue with PLN, which is taking on a leading role in Indonesia's <b>energy transition</b> based on the Electricity Supply Business Plan (RUPTL 2021 - 2030)</li> <li>- Exchanged views on the potential for collaboration between JBIC and PLN for a <b>smooth energy transition in Indonesia</b></li> </ul>      |  |
| <p><b>Indonesia</b><br/>Annual policy dialogue with the Government of Indonesia<br/>(March 2022)</p>   | <ul style="list-style-type: none"> <li>- Conducted 10th Policy Dialogue among JBIC, the Ministry of Finance of Indonesia, the Ministry of Energy and Mineral Resources (MEMR) and the Indonesia Investment Authority (INA)</li> <li>- Exchanged views on investment trends of Japanese companies and JBIC's potential plan to <b>support decarbonization in Indonesia</b></li> </ul> |  |

### ◆ Cooperation with government and international agencies

|  |   |   |
|--|---|---|
| <p><b>Egypt</b><br/>MOU with Ministry of International Cooperation<br/>(April 2023)</p>                    | <ul style="list-style-type: none"> <li>- Support the business development of Japanese companies in a variety of sectors, including <b>decarbonization, such as renewable energy, hydrogen, and ammonia</b>, by strengthen the cooperation between the Government of Egypt and JBIC</li> </ul>   |  |
| <p><b>UAE</b><br/>MOU with Abu Dhabi National Oil Company (ADNOC)<br/>(July 2023)</p>                      | <ul style="list-style-type: none"> <li>- Promote cooperation between ADNOC and Japanese corporations, with a focus on <b>areas such as decarbonization, energy transition, and energy efficiency</b></li> </ul>   |  |
| <p>MOU with European Bank for Reconstruction and Development (EBRD)<br/>(October 2022)</p>                 | <ul style="list-style-type: none"> <li>- <b>Further promote cooperation between JBIC and EBRD</b> in financing operations in areas such as <b>Central and Eastern Europe, Central Asia, and the Southern and Eastern Mediterranean</b>, as well as in <b>energy transformation, digital transformation, and solutions to social issues</b>, by developing the MOU signed in 2019 for global environmental protection, and innovation promotion, etc.</li> </ul> |   |
| <p>MOU with Inter-American Development Bank and Inter-American Investment Corporation<br/>(April 2023)</p> | <ul style="list-style-type: none"> <li>- <b>Further strengthen the existing cooperative relationship</b> between the two organizations by <b>expanding the areas of cooperation to sustainability (including hydrogen and ammonia), social infrastructure, and supply chain resiliency</b>, in addition to the existing areas of cooperation, such as energy conservation and renewable energy</li> </ul>   |   |
| <p>MOU with Africa Finance Corporation (AFC)<br/>(May 2023)</p>  | <ul style="list-style-type: none"> <li>- Promote structuring projects with the involvement of Japanese companies in Africa by strengthening relations through the exchange of information on the political and economic situation and the <b>environmental conservation sector, including greenhouse gas emission reductions of AFC member countries all over Africa</b></li> </ul>   |   |



## ◆ Support for energy transitions in Asia

The Japanese government promotes decarbonization through the Just Energy Transition Partnership (JETP) and the Asia Zero Emissions Community (AZEC). JBIC supports energy transitions by engaging with host countries' governments and developing projects such as renewable energy projects.

### Just Energy Transition Partnership (JETP)

The Just Energy Transition Partnership (JETP), comprising some G7 countries and the EU, is an initiative that supports just energy transitions. Following South Africa, Indonesia and Vietnam announced the launch of JETPs in November and December 2022, respectively.

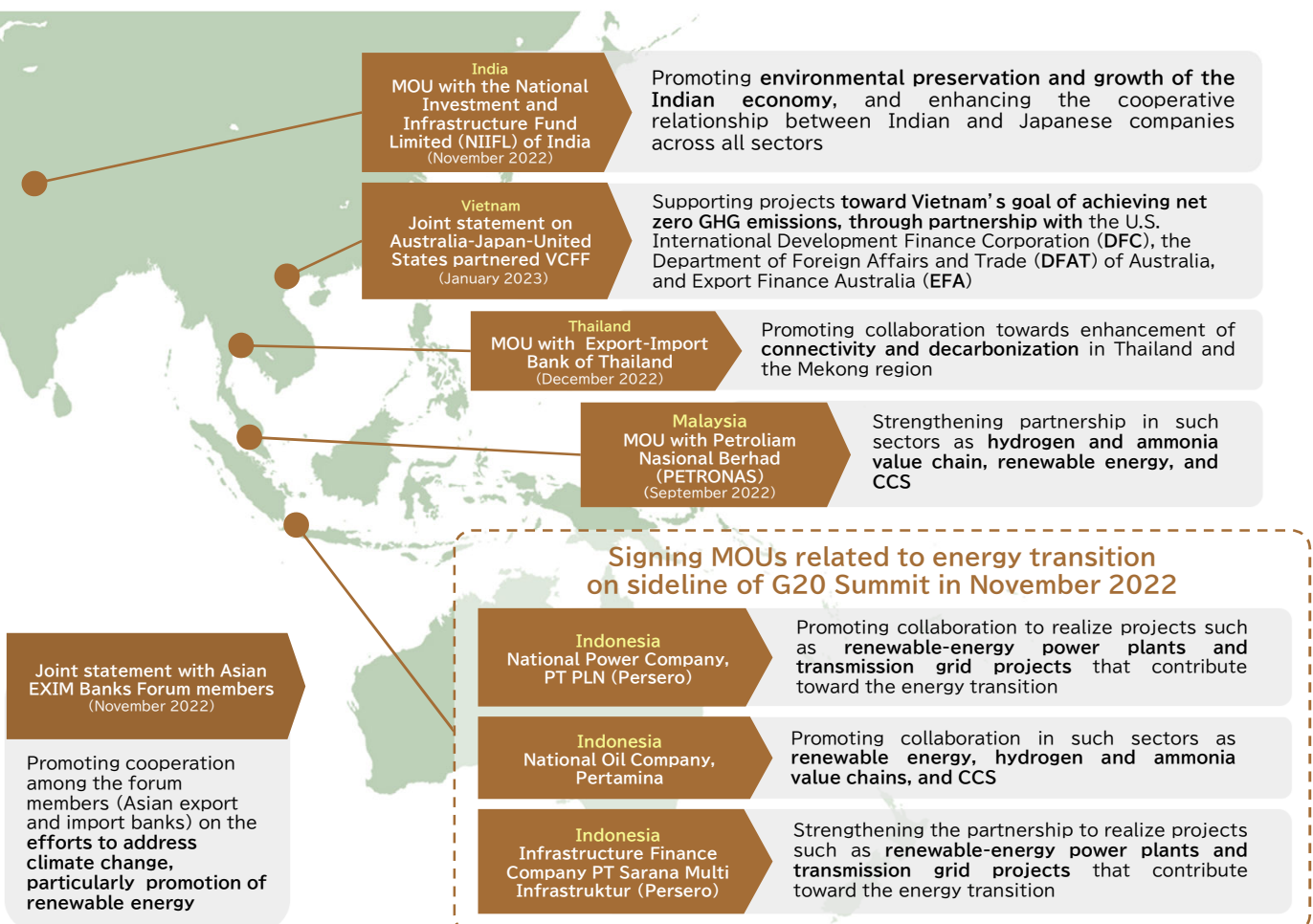
In November 2022, JBIC signed MOUs with Pertamina, PLN, and SMI to strengthen partnerships with them toward achieving carbon neutrality in Indonesia. Under the MOU, JBIC provided Pertamina with the funds required for its renewable energy project in December 2022.

### Asia Zero Emission Community (AZEC)

The Asia Zero Emission Community (AZEC) is a multilateral platform that was put forward by Prime Minister KISHIDA Fumio in January 2022 and launched under the leadership of the Government of Japan in March 2023. Together with other Asian countries that are actively tackling carbon neutrality, AZEC supports decarbonization while considering the unique circumstances each country faces to ensure economic growth and energy security.

On the sidelines of the G20 summit in November 2022, Japan and Indonesia jointly announced an initiative toward realization of the AZEC concept.

In line with the AZEC concept, JBIC strengthens support for decarbonization in Indonesia and Vietnam not only through promoting engagement with the host countries' governments but also by structuring renewable energy projects in those countries.



## Risk management

JBIC recognizes the importance of managing risks related to climate change (collectively, “climate-related risks”), and it decided on the climate risk management policy in 2023. Based on this policy, JBIC has prepared a framework to identify, assess, and manage climate-related risks.

### Risk management frameworks

JBIC recognizes climate-related risks as forward-looking risks that may materialize in different patterns and magnitudes, subject to future environmental and social circumstances, and which therefore need to be addressed through long-term, comprehensive perspectives. We also understand that climate-related risks are characterized as risk drivers that are associated with every risk category, including credit risk, market risk, liquidity risk, and operational risk. Thus, they may materialize over a variety of time horizons, both short and long term, and through a wide range of channels and touchpoints.

Based on this recognition, JBIC has designated climate-related risks as one of the Top Risks (risk events that will significantly impact JBIC when they become apparent and require particular attention) in its enterprise risk management framework, and it comprehensively manages these risks by monitoring the social and regulatory trends related to climate issues and changes in situations regarding fossil fuel projects.

We also conducted a qualitative assessment of the significance of climate-related risk events that are anticipated in each risk

category with external experts, taking into account the characteristics of JBIC’s business activities and portfolios. This assessment shows that JBIC’s credit risks (e.g., increases in credit-related costs due to a deterioration in a borrower’s business performance) are of high significance, so JBIC has been prioritizing the development of climate-related risk assessments and management frameworks.

One of the climate-related credit-risk assessment measures that JBIC implements is scenario analysis regarding the transition and physical risks of borrowers. As the TCFD’s supplemental guidance for the financial sector recommends the disclosure of significant concentrations of credit exposure to carbon-related assets for certain sectors, JBIC has designated the four sectors of electricity, energy, transportation, and iron and steel as “High-priority Sectors” where climate-related risks are captured intensively in light of the relatively large credit amounts. Through scenario analysis, JBIC understands the crucial factors for business transformations in each sector that enable transitions to a decarbonized society. We provide support through individual project monitoring and dialogues with clients, and we work to measure and reduce GHG emissions in our portfolio.

|                        |                     | Examples of risk events   | Climate risk                         | Timeframe                   |
|------------------------|---------------------|---|--------------------------------------|-----------------------------|
| Credit risk            |                     | Increasing credit costs along with the deterioration of a borrower’s business performance resulting from declining revenue and increasing carbon-related burdens, mainly in carbon-related industries | Transition risk                      | Medium- to long-term risks  |
|                        |                     | Increasing credit costs along with the deterioration of a borrower’s business performance and collateral impairment due to extreme weather  | Physical (acute) risk                | Short-term risks            |
|                        |                     | Increasing credit costs resulting from collateral impairment and deterioration of a borrower’s business performance resulting from long-term climate change   | Physical (chronic) risk              | Medium- to long-term risks  |
| Market/ liquidity risk |                     | Disruption to financial and commodity markets and accompanying price fluctuations of financial products and commodities due to hasty transitions or natural disasters                                 | Transition and physical (acute) risk | Short- to long-term risks   |
|                        |                     | Increasing funding costs due to a deterioration in reputation resulting from a delayed response to transition risks   | Transition risk                      | Short- to medium-term risks |
| Operational risk       | Tangible asset risk | Damage to the head office, branch, etc.   | Physical (acute) risk                | Short-term risks            |
|                        | Reputation risk     | Deterioration of reputation resulting from an inadequate response to climate change issues and delayed responses to disclosures   | Transition risk                      | Short-term risks            |

## Scenario analysis

In order to evaluate the impacts that climate change will have on our portfolio in the future, we conduct scenario analysis for transition risk and physical risk. The analysis is based on multiple scenarios, including the 1.5°C scenario that aims for net zero emissions by 2050, to enhance the flexibility and resilience of our risk management against various future circumstances that are related to climate change.

### ◆ Approach to scenario analysis and preconditions for analysis

Climate scenarios are generally quantified and modeled projections of transition processes to a world that is expected to be realized, based on various assumptions related to climate change including environmental change and social, economic, and policy issues, as well as markets (supply and demand), technology, and other factors that will lead to decarbonization. Such scenarios are developed and published by international organizations and initiatives, including the Network for Greening the Financial System (NGFS), the International Energy Agency (IEA), and the Intergovernmental Panel on Climate Change (IPCC).

JBIC considers it important to evaluate the impact of transition and physical risks due to climate change on its portfolio and to make countermeasures as needed, as well as appropriately comprehend each borrower's transition risks and opportunities and consider having dialogues with stakeholders, such as borrowers and host countries' governments, and provide support for transition. Based on this understanding, JBIC has been implementing scenario analysis of transition risks from FY2021 and of physical risks from FY2022 using the NGFS's climate scenarios in accordance with the TCFD's recommendations.

In the scenario analysis of transition risks conducted in FY2022 and FY2021, we applied as the main scenario the Net Zero 2050 scenario (the below 1.5°C rise scenario) in which net zero CO<sub>2</sub> emissions (carbon neutrality) will be achieved by 2050 on a global level. The scenario analysis of physical risks conducted in FY2022 used the Current Policies scenario (the 3°C rise scenario), which assumes the largest temperature rise among the NGFS's scenarios.

However, there exist some constraints in obtaining necessary data from the NGFS's scenarios. Data for certain regions and sectors were not detailed enough to analyze those regions and sectors in light of the characteristics of JBIC's credit portfolio, and some data were not available, such as the costs of implementation and management or carbon emission reduction effects of decarbonization technologies that are currently expected to be introduced in each sector. Therefore, JBIC conducted the analysis with external experts, and supplemented the available related data and estimations from climate scenarios issued by international organizations, such as the IEA and the IPCC, industry reports, and the Technology Roadmap for Transition Finance by the Ministry of Economy, Trade and Industry (METI), and it aligned the transition risks scenario with the Net Zero 2050 scenario and the physical risks scenario with the Current Policies scenario to the maximum extent possible.

#### <Summary of NGFS's scenarios>

|                |  | Net Zero 2050  | Current Policies   |
|----------------|--|--|--|
| Narrative      |  | Limits global warming to 1.5°C through stringent climate policies and innovation, reaching net zero CO <sub>2</sub> emission around 2050 | Assumes that only currently implemented policies are preserved, leading to high physical risks |
| Major premises | Rising mean temperatures               | Below 1.5°C by 2100  | 3.0°C by 2100  |
|                | Carbon emissions                       | Net zero by 2050   | Net zero goal not met by 2050  |
|                | Carbon prices                          | Continued rise from present to 2050  | Virtually no rise  |
|                | Companies' efforts for decarbonization | Progress in changing business from present   | Virtually no progress  |

The FY2022 scenario analysis of transition and physical risks simulated the impacts of each climate scenario on borrowers' financial conditions and credit ratings and on JBIC's credit costs on the assumption that JBIC's portfolio and risk profile composition will remain unchanged from the end of March 2022 until 2050 for transition risks and from the end of March 2023 until 2050 for physical risks. We applied the method to evaluate and capture the impact of possible climate change by assessing the portfolio components as of the end of March 2022 and March 2023, at future dates defined in the climate scenario as it is difficult to estimate the future portfolio and risk profile at this time.

The actual portfolio composition in the future is expected to differ from the current one as JBIC follows its principle of providing loans to projects that are in line with the business areas and policy objectives stipulated in the JBIC Act.

Additionally, the scenario analysis takes a conservative stance from the viewpoint of risk management, and it applies the assumption that the exposure and risk profile will be the same until 2050, except for the loans for coal power generation projects. We address fossil fuel projects in accordance with the G7 Leaders' Communiqué in 2022 and the Japanese government's policy.

JBIC has discontinued its financing of unabated international thermal coal power generation projects in accordance with the G7 Leaders' Communiqué in 2022 and the Japanese government's policy. Since it is evident that our exposure to such projects will be phased down, we conducted the analysis assuming that the exposure will decline over time rather than remain unchanged until 2050.

JBIC acknowledges scenario analysis as a tool to assess the future impact that climate change will have on its portfolio, and it will continue to utilize scenario analysis in order to enhance the flexibility and resilience of its risk management for various future climate-related conditions. We will advance our ceaseless efforts to improve the analysis and data utilization method through dialogue with various stakeholders, including host countries' governments and clients so that we can enable scenario analysis to reflect decarbonization prospects in each sector and clients' transition plans.

#### ◆ Notes on scenarios applied by JBIC and its analysis

While it is widely recognized that scenario analysis is a useful approach, the following points need to be noted:

- ✓ The scenarios JBIC applied are those developed by the NGFS and other organizations, but this does not mean that these scenarios are our outlook. Also, assumptions in the scenarios contain a number of uncertain factors, including who will bear the carbon costs. The actual society in the future or the pathway for GHG emission reductions may differ from the assumptions and scenarios. The objective of our analysis is to evaluate and comprehend what and how much the impact of the assumptions and scenarios will pose and how it will be channeled.
- ✓ The FY2022 scenario analysis of transition risks estimated the impact on borrowers' financial conditions by considering the costs of implementing and managing decarbonization technologies that are currently expected to be introduced and their emission reduction effects and by referring to technical reports issued by organizations, such as the IEA, and receiving advice from external experts. With regard to our scenario analysis, the following is to be noted: we have not assessed the feasibility of decarbonization technologies. The outlook for the future technologies may be relatively less reliable than the outlook for other parameters, and we have not considered the possibility that future policy changes may affect the timing of the deployment or competitiveness of individual technologies.

## ◆ Transition risks

### (1) Analytical approach

JBIC's portfolio consists mainly of long-term and large-scale loans because it operates in accordance with the principle of supplementing the private financial sector as a policy-based financial institution, so it is characterized as vulnerable to the credit strength of certain regions, sectors, or borrowers. Also, sovereign or country risk accounts for a large portion of the credit risk since JBIC frequently provides loans and guarantees to governments, authorities, and companies in foreign countries. Based on these characteristics, we apply the bottom-up approach, which simulates the financial conditions of each borrower, rather than the top-down approach, which assesses the macro-economic impact on the portfolio, when we estimate the risks and opportunities related to climate change.

Considering GHG emissions and the credit exposure of JBIC, the following targets have been extracted for analysis:

- ✓ **Corporate finance:** Of the sectors that constitute carbon-related sectors defined in TCFD recommendations for which the disclosure of credit concentration is recommended in the TCFD's supplemental guidance for the financial sector, four sectors (electricity, energy, iron and steel, and air transportation) that account for a significant part of JBIC's portfolio were

extracted for analysis in FY2021, and the automobile and general trading company sectors were added in the FY2022 analysis. The analysis focused on domestic and foreign clients in the above sectors, especially those with large credit exposure.

- ✓ **Project finance (PF):** As a policy-based financial institution, project finance makes up a relatively large portion of JBIC's portfolio compared to other financial institutions, and each project tends to be long term and large. Therefore, we adopted our original approach and focused the analysis on carbon-related project finance, especially those projects with large credit exposure.
- ✓ **Credit for foreign governments:** Given the nature of a policy-based financial institution, credit for foreign governments accounts for a relatively large part of JBIC's portfolio. Therefore, we adopted our original approach and focused the analysis on large-lot borrowers, which are more susceptible to transitioning to a decarbonized society.

### (2) Results of analysis

According to the results of the scenario analysis of transition risks, based on the NGFS's Net Zero 2050 scenario in FY2022, the cumulative rise in credit costs up to the year of 2050 is estimated to be JPY348.2 billion. It is suggested that this may impose a reasonable cost burden on JBIC in the medium to long term, but the short-term impact on JBIC's financial soundness is limited. In addition to the analysis above, we identified short-term stress events and their features by using our own developed scenarios to measure the short-term impacts of rapidly and acutely accelerating the Net Zero 2050 scenario on a global scale.

Given the assumptions and other parameters in the NGFS's scenarios, the results confirmed the high possibility that borrowers in the analyzed portfolio are expected to bear a certain amount of the investment burden that is associated with business transformations

toward a decarbonized society or the carbon-related burden according to their GHG emission reduction status in the medium to long term and which translate into increased credit costs.

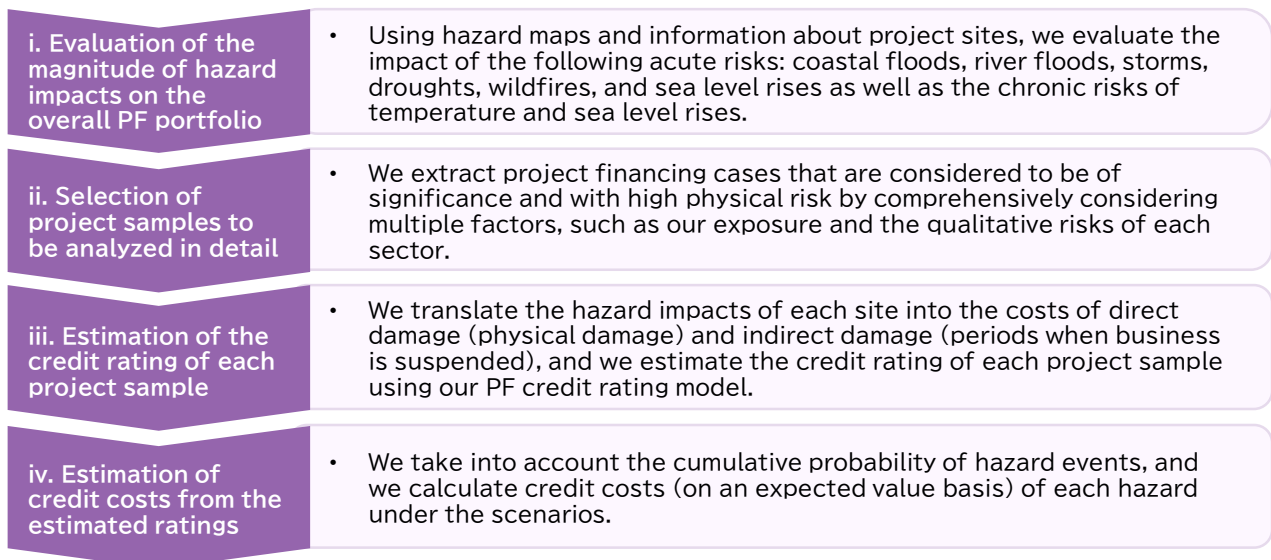
The results also confirmed the importance of continuing dialogues and engagements with host countries' governments and borrowers as well as providing support through green finance and transition finance to ensure that initiatives toward decarbonization will be implemented as planned.

We will continue to support initiatives to achieve carbon neutrality through dialogues and engagements with stakeholders, including international organizations, governments, and borrowers.

## ◆ Physical risks

### (1) Analytical approach

As in the transition risk analysis, we have adopted a bottom-up approach that simulates the financial conditions of each borrower. Details of the process are described below:



#### ① Evaluation of hazard impacts

The evaluation covers all of JBIC's project financing. It takes into account the characteristics of our credit portfolio, where project finance accounts for a relatively large part, and that project finance is more susceptible to hazards (climate disasters) as the revenue assets tend to be concentrated in one location, compared to companies and governments, whose vital assets and revenue sources are diversified and widely distributed.

We evaluate from the hazard maps the impact of the following acute risks: coastal floods, river floods, storms, droughts, wildfires, and sea level rises as well as the chronic risks of temperature and sea level rises, taking into account the possible impacts of distinct hazards by location as our projects are globally dispersed.

#### ② Evaluation of financial impacts

Based on the results of the hazard impacts evaluation, we selected the projects that were significant in terms of physical risk and credit exposure, and we assessed the financial impacts of each project under NGFS's Current Policies and other scenarios. Concretely, we estimated the costs of direct damage and indirect damage, such as losses due to business interruptions caused by acute risk hazards, as well as reduced labor productivity caused by chronic risk hazards. We then considered financial factors, including insurance, followed by scenario analysis with external experts to estimate the impact on each project's credit rating, such as losses due to business and our cost of credit after financial compensation, such as insurance to cover damage.

### (2) Results of Analysis

#### ① Evaluation of hazard impacts

We conducted a hazard impact evaluation by identifying the location of each project, assessing the hazards of acute risks and chronic risks with hazard maps, and considering multiple factors, including our exposure and the qualitative risks of each sector.

The evaluation confirmed that JBIC's project financing is globally dispersed and could be impacted by distinct hazards at each location. By hazard, projects in disaster-prone areas for storms, river floods, and wildfires could be relatively more impacted than others. It also found that of the regions where many JBIC projects are located, risks are relatively more concentrated in North America, South Asia, Southeast Asia, and Oceania.

## ② Evaluation of financial impacts

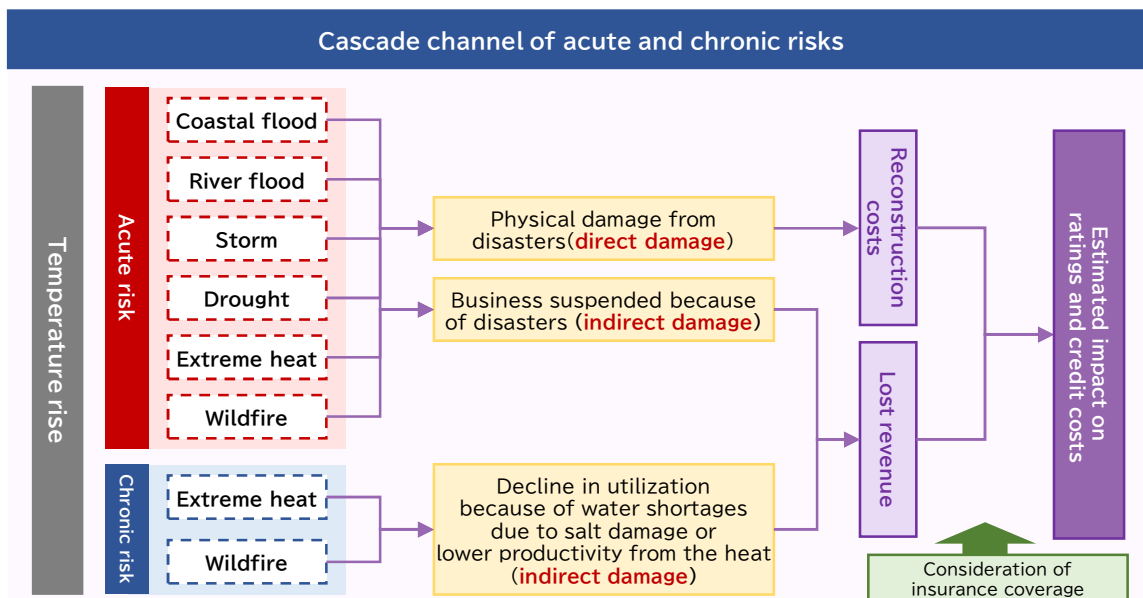
According to the scenario analysis of physical risks for the selected projects, based on the NGFS' s Current Policies scenario, the cumulative credit costs up to 2050 are estimated to be a maximum of JPY13.5 billion for acute risks and JPY13.2 billion for chronic risks<sup>1</sup>, which means they have a limited impact on JBIC' s financial soundness.

Given the assumptions and other parameters in the NGFS' s scenarios, the results confirmed the high possibility that borrowers in the analyzed portfolio are susceptible to distinct hazards in each area, especially storms, river floods, and wildfires. On the other hand, the result also confirmed that each project is likely to be properly insured, so financial losses will be compensated, minimizing the impact on project profitability and credit costs.

Meanwhile, in order to more accurately assess the risks of physical climate hazards for these projects, it is necessary to analyze more detailed weather data, each project' s measures for mitigation and adaptation, and the insurance conditions. It should be noted that trends in natural disasters related to climate change may affect insurance market trends.

From the scenario analysis, we have confirmed the importance of continued dialogue and engagement with host countries' governments and borrowers, recognizing natural disaster risks, and implementing climate mitigation and adaptation measures. We will continue proper credit management, taking into account the characteristics of each project.

<sup>1</sup> These amounts exclude the reversal of credit-related costs resulting from a decline in balances.



## Outstanding credit for High-priority Sectors

In addition to scenario analysis for the four sectors of electricity, energy, transportation, and iron and steel, which are designated as High-priority Sectors where climate-related risks are captured intensively, for individual projects we provide support through monitoring and dialogues with clients, and for portfolios, we give consideration and respond to GHG emission measurements and reduction measures.

As of the end of March 2023, the outstanding credit in these sectors amounted to JPY8,924.3 billion<sup>2</sup>, which accounts for approximately 51% of the total outstanding loans, guarantees, and equity participations of JBIC.

<sup>2</sup> The amount includes loans, guarantees, and equity participations. In the electricity sector, renewable energy and transmission and distribution projects are included.

### ◆ Initiatives related to thermal coal power generation projects

In order to achieve carbon neutrality, it is crucial to support various transition pathways while taking into account regional and industrial characteristics, energy security, and geopolitics. JBIC addresses fossil fuel projects appropriately in line with the Japanese government's policies (e.g., consistency with the 1.5°C target and goals of the Paris Agreement), and we have discontinued financing for unabated international thermal coal power generation projects. We also continue to engage with host countries' governments and collaborate with foreign government bodies and international organizations.

Outstanding credit of project financing to the thermal coal power generation projects as of March 31, 2023, stood at JPY1,177.6 billion<sup>3</sup> (which accounts for approximately 7% of the total outstanding loans, guarantees, and equity participations of JBIC), and we expect to reduce it to zero in the early 2040s.

<sup>3</sup> The amount includes loans and guarantees.



## ■ Metrics and targets

### Climate change-related finance

JBIC believes it is essential that the flow of funds, including those through the mobilization of private finance, needs to be redirected to and shore up the decarbonization pathways to accelerate energy transitions and realize carbon neutrality on a global scale.

Accordingly, under one of our action plans, “Respond to energy transformation toward the realization of a decarbonized society” in our Fourth Medium-Term Business Plan, we have set the numbers of green finance and transition finance<sup>4</sup> projects that are

committed and structured as our metrics. For these metrics, we have defined quantitative targets for each fiscal year and have been monitoring the status of achievement at the Executive Committee. The status of climate change-related finance projects is regularly reported to the Board of Directors, and the progress of strategies, such as the Medium-Term Business Plan, are overseen.

The table below shows the targets and results concerning the numbers of green finance and transition finance projects committed and structured in FY2022. The total co-financing amount for projects committed in FY2022 was JPY1,623.2 billion<sup>5</sup>.

<Green finance and transition finance in FY2022>

| Number of projects structured (target) | Number of projects committed (target) | Co-financing amount |
|--|---------------------------------------|---------------------|
| 57 (35)                                | 21 (33)                               | JPY1,623.2 billion  |

<sup>4</sup> The definition of green finance and transition finance is based on JBIC’s Fourth Medium-term Business Plan. See P.20 “Medium-term Business Plan (FY2021-FY2023)” in 2023 Annual Report.

<sup>5</sup> The amount includes guarantees.

### GHG emissions

JBIC is conducting analysis and examination on the measurement of its GHG emissions as a metric to evaluate and manage climate-related risks and opportunities.

#### ◆ Initiatives toward reduction of GHG emissions from our operations

We are committed to pursuing efforts to reduce GHG emissions from our operations to net zero by 2030 under the ESG policy established in October 2021.

The table below shows the amounts of GHG emissions from our operations for FY2022. We will continuously consider and execute emission reduction measures in Scope 1

(direct GHG emissions from our own operations) and Scope 2 (indirect GHG emissions from purchased electricity, heat, or steam consumed by JBIC).

In FY2022, JBIC’s major emission source in Scope 1 and 2 was power consumed by offices. So far, we have taken emission reduction measures, such as turning off unused lights and implementing a casual dress code during summer. In addition, in 2022 we signed a contract with an electricity provider that generates renewable energy to be the main power source for the Head Office. Going forward, we will work to procure power derived from renewable energy.

In FY2022, we also started calculations for the categories in Scope 3 (including business trips).

| Items measured <sup>6</sup> | FY2022 (t-CO <sub>2</sub> ) <sup>9</sup> | Target           |
|-----------------------------|--|------------------|
| GHG emissions               | 1,042.9                                  | Net zero by 2030 |
| Scope 1 <sup>7</sup>        | 181.5                                    |                  |
| Scope 2 <sup>8</sup>        | 861.4                                    |                  |

<sup>6</sup> The scope of data collection includes the Head Office, the Osaka Branch, the Keidanren Kaikan office, a training center, and a system back-up center.

<sup>7</sup> Scope 1 includes gasoline and city gas.

<sup>8</sup> Scope 2 includes electricity (market based).

<sup>9</sup> GHG emissions in Scope 1 are calculated according to emissions factors based on the Act on the Promotion of Global Warming Countermeasures. The calculation for Scope 2 applies the emission factors of electric power utilities, as listed by the Ministry of the Environment and the METI.

## ◆ GHG emissions from our finance portfolio

JBIC recognizes the substantial role that financial institutions can play in climate change initiatives, and under its ESG policy, we are committed to pursuing to achieve net zero GHG emissions in our finance portfolio by 2050, toward the global implementation of the Paris Agreement.

Energy transitions toward a decarbonized society are especially important in emerging and developing countries, as well as in developed countries. There is no single pathway, and it is vital to provide comprehensive support for transitions with consideration for regional and industrial features, energy security, and geopolitics. While pursuing to achieve net zero GHG emissions in its finance portfolio, JBIC will accelerate the energy transition to a decarbonized society in emerging and developing countries through continued engagements with host countries' governments and collaborations with government bodies and overseas and international organizations, and we will contribute toward realizing carbon neutrality on a global basis.

Currently a trial calculation of GHG emissions in our finance portfolio, based on our operational features, is underway. We will continue to analyze and adjust the scope of calculations and monitoring toward achieving net zero by 2050.



**JAPAN BANK FOR  
INTERNATIONAL COOPERATION**