Climate-Related Financial Disclosures Based on TCFD Recommendations

2024
Integrated Report
–Addendum–

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 of the Task Force on Climate-related Financial Disclosures (TCFD).

Governance

Strategy

Risk Management

Metrics and Targets

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.

JBIC has implemented initiatives to promote sustainability, including efforts for climate change ("sustainability promotion"), through the Sustainability Advisory Committee, the Sustainability Committee, and the Sustainability Management Department, established in June 2022, as a part of its efforts toward "strengthening its sustainability governance and management systems," as set out in its ESG Policy.

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 the resolution of global issues. To that end, JBIC will provide proactive support for initiatives by Japanese corporations to promote the SDGs and green transformation (GX) of the global economy and society and will ensure the appropriate disclosure 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 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.

Capacity building for directors and employees

To enhance the governance system for sustainability promotion and ensure its effectiveness, training programs were provided to directors and employees as follows.

- For executives and managing directors
  - ✓ A workshop with visiting lecturers: Recent trends on climate change in Japan and abroad
- For directors and employees
  - ✓ A sustainability e-learning program: A basic course on climate change, nature capital, and human rights
  - ✓ workshop on the risk-based approach (for applicants only)

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 its ESG policy

[Members] All directors

[Major deliberations/ decisions/ reports]
Reporting on policies to address TCFD disclosures, decisions on matters for consultation with the Sustainability Advisory Committee, and reporting on the holding of the committee

Inquiry and advice

Sustainability Advisory Committee

Provides advice on matters raised 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 and Professor of Practice in Climate Policy at the Blavatnik School of Government, University of Oxford)
- Prof. Tim Benton (Distinguished Fellow, Environment and Society Centre, Chatham House)

[Advice given in FY2023]

- ✓ A holistic approach to sustainable finance to accommodate inter-relationships among various sustainability issues (e.g., climate change, nature capital, food, and human rights)
- ✓ A strategy to take into account the influences that international affairs and geopolitics have on measures toward various sustainability issues

Deliberation or reporting

Execution function

Executive Committee

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

[Members] The governor, deputy governor, directors (except for the chairperson and outside directors), and all the managing executive officers

[Major deliberations/-decisions/-reports]
Decisions on policies to address TCFD disclosures and reports on the results of climate scenario analysis

Deliberation or reporting

Sustainability Committee
(deliberation body)

Deliberates 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 on and reported]
Deliberates on policies to address TCFD disclosures, calculate GHG emissions and reports on climate change-related updates

Corporate Risk Management Committee
(decision-making body)

Makes decisions and deliberations on important matters pertaining to 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 matters deliberated on and reported]
Deliberates on policies for climate scenario analysis and reports on the monitoring of top risks related to climate change

Strategy

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 effort to concretely address climate change has further accelerated. As a result, new business opportunities are expanding, driven by green transformation (GX) that is essential for achieving carbon neutrality, the business and technological transformations required for the transition to a decarbonized society, and the innovations to establish new technologies. JBIC regards the growing need for financing such decarbonization efforts as climate-related opportunities. To redirect and apply the flow of funds toward decarbonization, including through the mobilization of private finance, JBIC, as a policy-based financial institution, is committed to "navigating" green finance, transitional supports, and financing for innovative technologies and new businesses, through various financial supports and our long-term, strategic risk-assuming function.

Furthermore, addressing the global challenge of climate change entails collaborations across borders and industries. Achieving carbon neutrality on a global scale, in particular, requires energy transitions via various paths, taking into account regional and industrial characteristics, the balance between decarbonization and economic growth, and energy security. In order to "co-create" such decarbonization pathways, JBIC will provide concrete solutions and proactively contribute to resolving global challenges, leveraging the global networks that it has long cultivated as a policy-based financial institution, through continuous engagement with host countries' governments and authorities, and collaborations with overseas governmental and international organizations.

Sustainability in Fifth Medium-Term Business Plan

With the above in mind, JBIC established the Fifth Medium-Term Business Plan (FY2024–FY2026) in June 2024, which identified "Realize a Sustainable Future" and "Strengthen Resilience of Japanese Industry and Support Creative Innovation" as key focus areas. JBIC will realize a sustainable future through achieving carbon neutrality and solving social issues of host countries in cooperation with various stakeholders and will also proactively support the development and implementation of innovative technologies and new businesses by deploying its risk-assuming functions, such as its Special Operations (including support for startups).

Fifth Medium-Term Business Plan

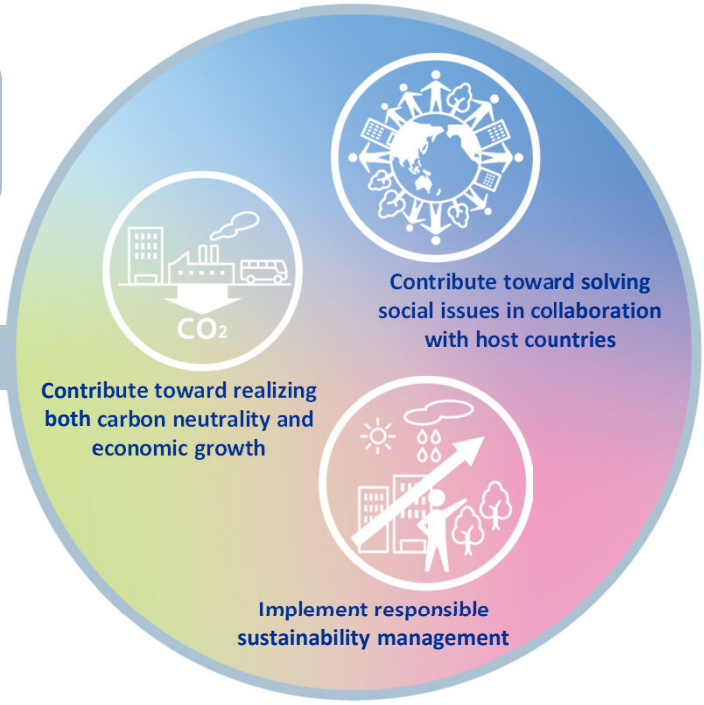
Navigate toward and Co-create a Valuable Future

▶ Key Focus Areas

Realize a Sustainable Future

- Strengthen Resilience of Japanese Industry and Support Creative Innovation
- Provide JBIC's Own Unique Solutions by Strategically Functioning as an International Financial Institution
- Reinforce and Reform the Organizational Base toward Value Creation

▶ Action Plans



ESG Policy (Climate Change Policy)

In October 2021, JBIC released its ESG policy, which sets out its Climate Change Policy. Under this policy, as a Japanese policy-based financial institution that contributes to the sound development of the Japanese and international economic community, we proactively provide financial support through climate change-related finance and other measures in accordance with the policies of the Japanese government.

In addition, as a contribution to the international implementation of the Paris Agreement, JBIC is committed to pursuing ambitious and accelerated efforts to reduce its operational emissions to net zero by 2030 and to achieve net zero emissions in its finance portfolio by 2050.

① Policies toward the realization of sustainability

② Climate Change Policy

- **Contributing to the global implementation of the Paris Agreement**

  JBIC is committed to pursuing ambitious and accelerated efforts to reduce its operational emissions to net zero by 2030 and to achieve net zero emissions in its finance portfolio by 2050.
- Strengthening **climate change-related finance**
- Enhanced **climate-related financial disclosures** pursuant to the TCFD recommendation
- **Environmentally and socially conscious financings and investments**

The approach to transitioning toward the realization of carbon neutrality

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 in 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.

Initiatives related to climate change-related finance

In the Fifth Medium-Term Business Plan, JBIC aims to contribute toward both carbon neutrality and economic growth by supporting efforts for global GX and energy transition via diverse paths to carbon neutrality in areas such as renewable energy and energy-efficient projects, hydrogen and ammonia, carbon-recycling fuel, rechargeable batteries, resources recycling (the circular economy), next-generation mobility, energy-saving building, energy transition, and CCS/CCUS.

Renewable Energy (Geothermal) | First Commercialization of Cutting-Edge Technology | Special Operations (Technology Risks)

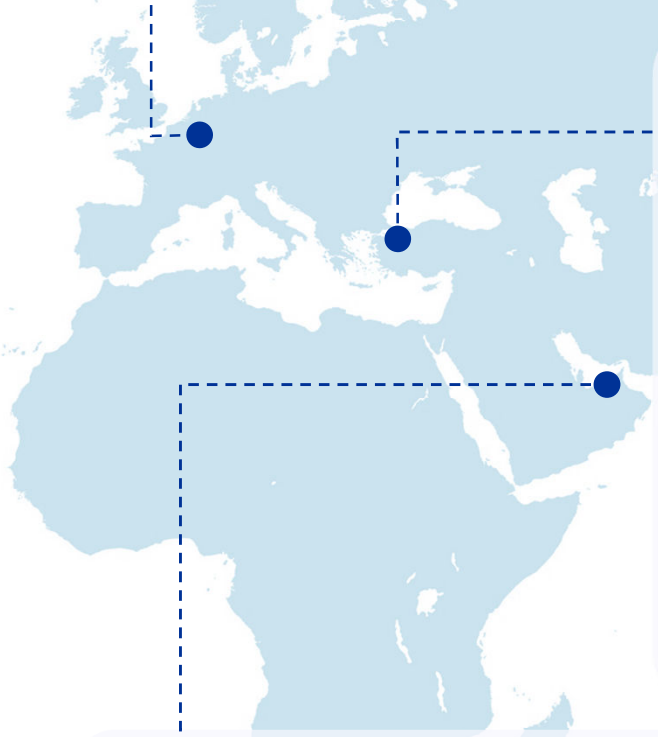
Germany/ Project Financing for Geothermal Power Generation and District Heat Supply Project (March 2024)

Total co-financing amount:
appox. EUR **131** mn

JBIC's contribution:
approx. EUR **43** mn

- Eavor Erdwärme Geretsried GmbH, which is invested in by Chubu Electric Power Company, Incorporated, will **build, own, and operate a geothermal power generation plant** with a total generation capacity of approximately 8.2 MW (a thermal output of approximately 64 MW) in Bavaria, Germany. By drilling closed loops approximately 5,000 meters underground and circulating water through them, it will efficiently extract underground heat for electrical power generation and supply heat to the district.
- **This is the first commercial project to use its closed-loop geothermal technology.** Unlike conventional geothermal technology, it enables the extraction of heat efficiently even in areas where sufficient hot water or steam is not available. Therefore, it can be applied to a wide range of areas. The EU Innovation Fund has also decided to support the technology, recognizing **its contribution to the stable supply of renewable energy-derived power and heat in Europe**. This technology is expected to be commercialized in countries around the world in the future.
- This is the first project financing under JBIC's Special Operations Account to take on "**technology risks**."

Rendering of the completed geothermal power generation plant (Source: Chubu Electric Power Company website)



Renewable Energy and Energy Efficiency | Support for Disaster Recovery | GREEN

Turkey/ Loan to Türkiye Sınai Kalkınma Bankası A.Ş. for Energy Projects Contributing to Disaster Recovery (December 2023)

Total co-financing amount:
approx. USD **200** mn

JBIC's contribution:
approx. USD **120** mn

- JBIC signed a loan agreement for a credit line with Türkiye Sınai Kalkınma Bankası A.Ş. (TSKB) as part of JBIC's GREEN operations. This credit line is intended to provide funding through TSKB for renewable energy projects, energy efficiency projects, and water and waste-related projects, which **contribute to recovery from the earthquake** that occurred in Turkey in February 2023.
- **This is the first project to support disaster recovery through JBIC's GREEN operations.** Through the loan for global environmental preservation projects contributing to disaster recovery, such as the restoration of high-efficiency transmission lines in disaster-affected areas, JBIC provides support aligned with the Turkish government's reconstruction policies.
- Regarding energy efficiency projects, JBIC includes in its support scope projects that require quantitative verification of reductions in GHG emissions, etc., thereby **creating business opportunities for Japanese companies** with strengths in manufacturing energy-efficient equipment.

Ammonia Production | Decarbonized Value Chain | Equity Bank Finance

UAE/ Loan for Ammonia Production and Sales Business (June 2024)

Total co-financing amount:
approx. USD **27** mn

JBIC's contribution:
approx. USD **12** mn

- Ammonia Project Company RSC LTD (APC), which is invested in by MITSUI & CO., LTD. (MITSUI), will **build, own, and operate a ammonia plant** for production and sale of 1 million tons of ammonia per year. The loan is intended to provide the funds necessary for MITSUI to invest in APC for the ammonia production and sales business in the UAE. MITSUI will offtake part of the ammonia produced in the operations and use it as a fuel source and a raw material for chemical and fertilizer production in Japan.
- The loan will **contribute toward establishing a supply chain of hydrogen and its derivatives** and **securing a long-term, stable supply of ammonia**, which is an important energy resource for Japan, in preparation for a decarbonized society. With numerous hydrogen production projects being planned around the world, this project supports the advanced initiatives of Japanese companies to establish an overseas value chain.
- Japan and South Korea are set to collaborate on building a global supply chain for hydrogen and ammonia in November 2023. This project in which the Japanese and Korean sponsors will participate is also in line with this concept.

Renewable Energy (Solar) | Collaboration with State-owned Company | GREEN

India/ Loan to NHPC Limited of India under GREEN Operations (March 2024)

Total co-financing amount:
JPY 20 bn

JBIC's contribution:
JPY 12 bn

- The loan is provided as part of JBIC's GREEN operations, and it is intended to provide NHPC Limited (NHPC), India's state-owned hydropower company, with the funds necessary for renewable energy projects in India.
- In India, the economic growth rate is high, and the demand for electric power is expected to grow. Under these circumstances, the Indian government pledged in 2021 that India will become energy independent by 2047 and achieve carbon neutrality by 2070. Also, the government of India aspires to achieving 50% cumulative electric power generation from non-fossil fuel-based energy resources by 2030. NHPC, as a state-owned power generation company, set the targets to contribute to carbon neutrality, which is the goal of the government of India.
- JBIC supports the initiatives of the government of India and NHPC that contribute toward global environmental preservation by supporting NHPC with its renewable energy projects.

Biomass Fuel | Decarbonized Value Chain | Support for the overseas business expansion of Japanese companies

Total co-financing amount:
approx. JPY 31.2 mn

JBIC's contribution:
approx. JPY 16.6 mn

Vietnam/ Loan for Biomass Fuel Manufacturing and Sales Business (September, October 2023)

- JBIC signed loan agreements with erex Co., Ltd. (erex) for a biomass manufacturing and sales business in Tuyen Quang Province and Yen Bai Province through its two subsidiaries in Vietnam, EREX SAKURA BIOMASS TUYEN QUANG CO., LTD (EREX TQ) and EREX SAKURA BIOMASS YEN BAI CO., LTD (EREX YB). This is the first loan for JBIC to a biomass fuel manufacturing and sales business.
- erex, in its Medium-Term Management Plan (2024–2026), has set the promotion of overseas business expansion as a goal and positions the manufacturing of biomass fuel and the establishment of new biomass power plants in Vietnam as the core of its overseas business. erex will offtake all the wood pellets, a type of biomass fuel produced in the operations, and use approximately half of them for power generation in Japan.
- The Vietnamese government has set a target of achieving at least 33% of its power generation mix from renewable energy sources, including biomass dedicated combustion power generation, by 2030. This project contributes to building the value chain of biomass fuel power generation in Vietnam and aligns with the government's carbon neutrality policy.

Renewable Energy | Power grid development | GREEN

Vietnam VPBank/ Loan for renewable energy and power grid development projects (October 2024)

Total co-financing amount:
USD 150 mn

JBIC's contribution:
USD 90 mn

- JBIC set up a credit line with Vietnam Prosperity Joint-Stock Commercial Bank (VPBank), a private commercial bank in Vietnam, under its GREEN operations. This credit line is intended to finance, through VPBank, the funds necessary for projects related to renewable energy and electricity grids in Vietnam.
- The government of Vietnam, which announced its national goal to achieve net zero emissions by 2050, plans projects to enhance and upgrade the power grids that connect optimal sites for power development with demand areas, in its Eighth Power Development Plan (PDP 8), released in May 2023, with the aim of promoting renewable energy.
- The loan is in line with the concept of the Asia Zero Emissions Community (AZEC) and the Just Energy Transition Partnership (JETP). In addition, JBIC extends this loan under the Vietnam Climate Finance Framework (VCFF), which was announced under the Australia–Japan–United States Trilateral Infrastructure Partnership (TIP) in January 2023.

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.

Agreement inked with G7, European development financial institutions, EBRD (June 2023)

- Signed **a business cooperation agreement on the Ukraine Investment Platform with G7 and European development finance institutions, as well as the European Bank for Reconstruction and Development (EBRD)**, at the Ukraine Recovery Conference co-hosted by the British and Ukrainian governments in London.
- Aims to **support Ukraine and neighboring countries** in solidarity among the G7, European development financial institutions, and the EBRD, primarily focusing on **exchanging information and collaborating on financing to assist the private sector**.

Statement of Intent with development finance institutions of G7 countries (May 2024)

- Based on previous discussions, such as the G7 Hiroshima Summit held in June 2023, the Statement of Intent aims to **contribute to sustainable development in countries in the Global South,** including those in Africa, through strengthened collaboration among the development finance institutions of G7 countries and the mobilization of private capital. **Its priority areas include climate change, infrastructure, sustainable food systems, and support for Ukraine.**

MOU for business cooperation with the Black Sea Trade and Development Bank (BSTDB) (February 2024)

- Strengthen mutual cooperation including **facilitating business activities that contribute to Ukraine's reconstruction**; **promoting structuring projects in the areas of agriculture, food, transportation, logistics, digital, and healthcare in Ukraine and neighboring countries**; and **the formation of projects that contribute to climate change mitigation in BSTDB member countries, focusing on renewable energy projects**.

MOU with International Finance Corporation (IFC) (February 2024)

- Aims to further strengthen cooperative relationship to promote structuring projects such as; sustainability including response to climate change and energy transition; infrastructure and natural resources that contribute toward enhancing supply chain resilience; and innovation

☞ Please see p.10 for our initiatives in Asia.

MOU with Saudi Arabian Electricity Company (SEC) (April 2024)

- Strengthen partnership with SEC to facilitate the country's energy transition investment by the introduction of products and technologies, and Japanese companies' financial solutions for the SEC's future projects.

MOU with U.S. International Development Finance Corporation (DFC) (April 2024)

- Signed an MOU on business cooperation with US DFC. The MOU affirms willingness to cooperate in areas such as quality infrastructure, supply chain resilience, and energy transition, primarily in the Indo–Pacific region, and will help realize the Free and Open Indo–Pacific promoted by the Government of Japan.

MOU with the Ministry of Finance and Public Enterprises (MFPE) of the Republic of Namibia (December 2023)

- JBIC signed an MOU with the MFPE of the Republic of Namibia, taking the opportunity of COP28 held in the UAE.
- The MOU aims to support the development of environmental preservation projects in Namibia with the involvement of Japanese companies through exchanging information between JBIC and the MFPE on the political and economic situations as well as on critical minerals-related projects and other potential projects that are committed to environmental preservation, including the reduction of greenhouse gas emissions.

MOU with Corporación Nacional del Cobre de Chile (CODELCO) (November 2023)

- The MOU, which establishes a framework to strengthen the cooperation between JBIC and CODELCO (the world's largest copper mine operator and wholly owned by the Chilean government), aims to promote collaboration between Japanese companies and CODELCO and to structure projects for **enhancing the resilience of supply chains for critical minerals, including copper, molybdenum, and lithium, and decarbonization projects by utilizing hydrogen, ammonia, etc.**

Collaboration with overseas governmental organizations and international organizations

Particularly related to the support for Ukraine and its neighboring countries

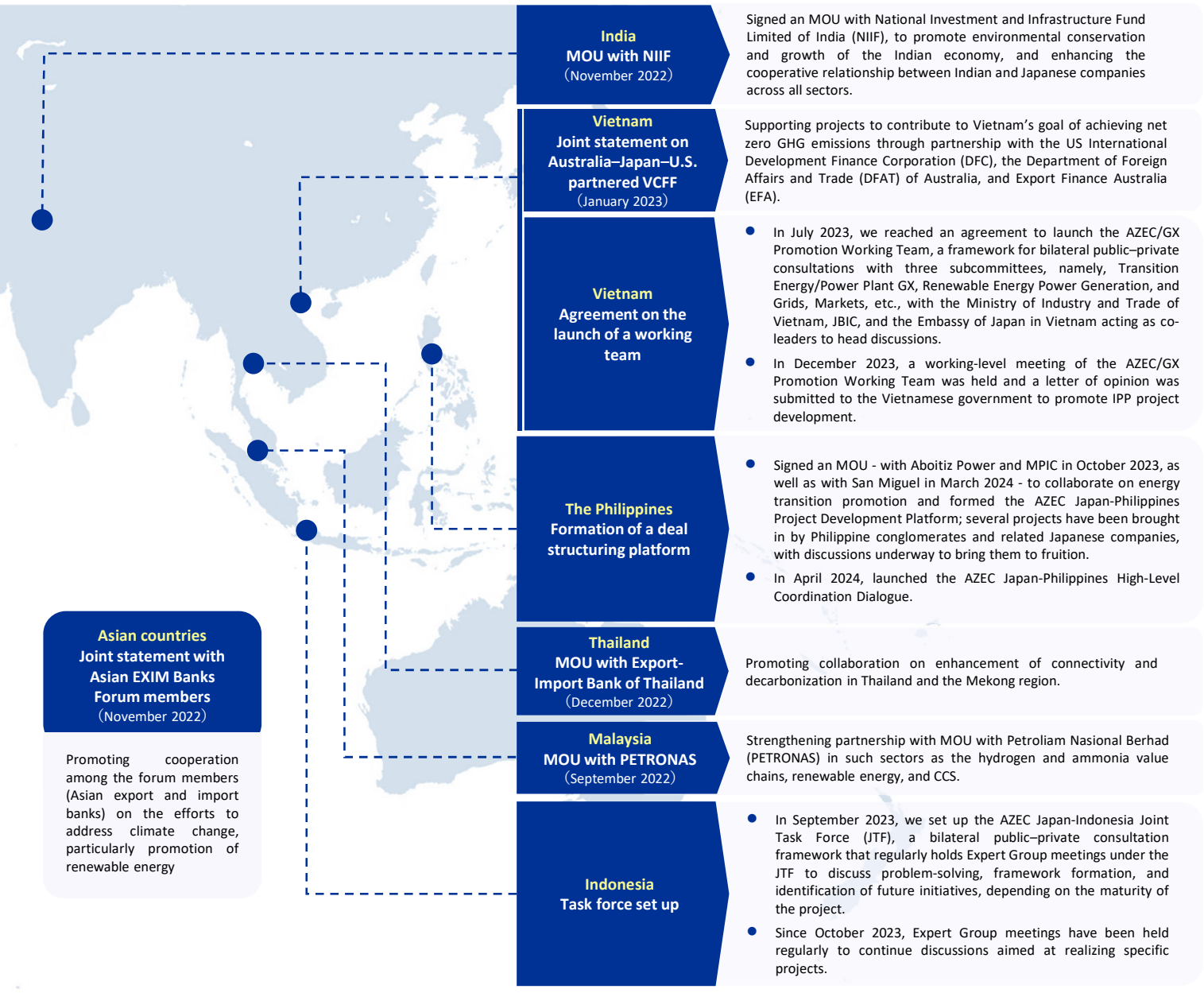
Support for energy transition in Asia

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.

Asia Zero Emission Community (AZEC)

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.

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



External communications

As part of its external communications, JBIC is participating in domestic and international initiatives to achieve sustainability in collaboration with various stakeholders.

◆ ESG Finance High-level Panel

The ESG Finance High-level Panel is a forum organized by Japan's Ministry of the Environment to discuss, take action to raise awareness about, and initiate efforts regarding ESG finance between the financial and investment industries and the government. JBIC has participated as a member since the fifth meeting held in March 2022. At the seventh meeting in March 2024, JBIC expressed its views on the importance of engagement as a prospect for deepening ESG finance in Japan.

◆ Executive Sustainability Forum

The Executive Sustainability Forum is an organization that brings together executives of Japanese businesses to discuss and disseminate information on sustainable growth and sustainable business in Japan and Asia. JBIC has been a participant since its launch in November 2022. At the World Economic Forum Annual Meeting in January 2024, the Executive Sustainability Forum announced a joint statement on the circular economy and carbon neutrality in ASEAN.

◆ Participation in panel discussion in APEC Business Advisory Council (ABAC)

ABAC, the private-sector advisory arm of APEC, provides APEC leaders with business perspectives. In the third ABAC 2024 meeting (August 2024), JBIC participated in a panel discussion on promoting transition finance, and it delivered the significance of diverse and realistic pathways to achieve carbon neutrality in balance with economic growth and economic security as well as related initiatives by JBIC.

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, and as risks that may materialize over a variety of time horizons, both short and long term, and through a wide range of channels and touchpoints.

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, 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 the deterioration of a borrower's business performance and collateral impairment 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. due to natural disasters.	Physical (acute) risk	Short-term risks
	Reputation risk	**Deterioration in 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.

◆ 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 has been implementing scenario analysis using the NGFS's climate scenarios in accordance with the TCFD's recommendations.

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.

The 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 until 2050. It is difficult to predict the future exposure balance and risk profile composition at this point in time. Therefore, we have adopted a method that assumes that the portfolio at the end of the fiscal year being analyzed will remain the same in the future and which evaluates the impact of climate change on that portfolio at each point in the future under climate change scenarios (the static method).

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, JBIC addresses fossil fuel projects in accordance with the G7 Leaders' Communiqué in 2022 and the Japanese government's policy and has discontinued its financing of unabated international thermal coal power generation projects. 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. For the other entities and projects in the scope, the scenario analysis takes a conservative stance, and it applies the assumption that the exposure and risk profile will be the same until 2050.

＜Summary of NGFS's scenarios＞

		Net Zero 2050	Current Policies
Narrative		Limits global warming to 1.5℃ through stringent climate policies and innovation, reaching net zero CO_2 emission around 2050	Assumes that only currently implemented policies are preserved, leading to high physical risks
Major premises	Rising mean temperatures	Below 1.5℃ by 2100	3.0℃ 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

Notes on scenarios applied by JBIC and its analysis

The scenarios JBIC applied are those developed by the NGFS and other organizations, but this does not mean that these scenarios are our outlook. The scenario analysis includes data that entails the following uncertainties:

- ✓ 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 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. 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.
- ✓ Regarding the scenario analysis of physical risks, it should be noted that disaster prediction data entail uncertainty and that the current or future disaster prevention measures in place are not considered.

Summary of scenario analysis

	Transition risk	Physical risk
Scenario	NGFS Net Zero 2050	NGFS Current Policies
Sectors in scope	Borrowers with large credit exposure to JBIC, including: • Sovereign entities*1 • Domestic and overseas corporations in electricity, energy, iron and steel, automobile, air transportation, and general trading company sectors • Overseas PF projects in electricity and energy sectors, etc.	Borrowers with large credit exposure to JBIC, including: • Sovereign entities*2 and overseas corporations*3 • Overseas PF projects*4
Analysis method	• Analyze with the bottom-up approach at the borrower level • Analyze the impact on credit ratings, and estimate the increase in the cumulative credit costs	• Analyze with a combination of the top-down approach, which assesses the ripple effects on borrowers from the impact at the sovereign level within the country, and the bottom-up approach at the borrower level*5. • Analyze the impact on credit ratings, and estimate the increase in the cumulative credit costs
Analysis period	Until 2050	
Analysis result: cumulative rise in credit costs	Estimated up to JPY 397 billion	Estimated up to JPY 31 billion

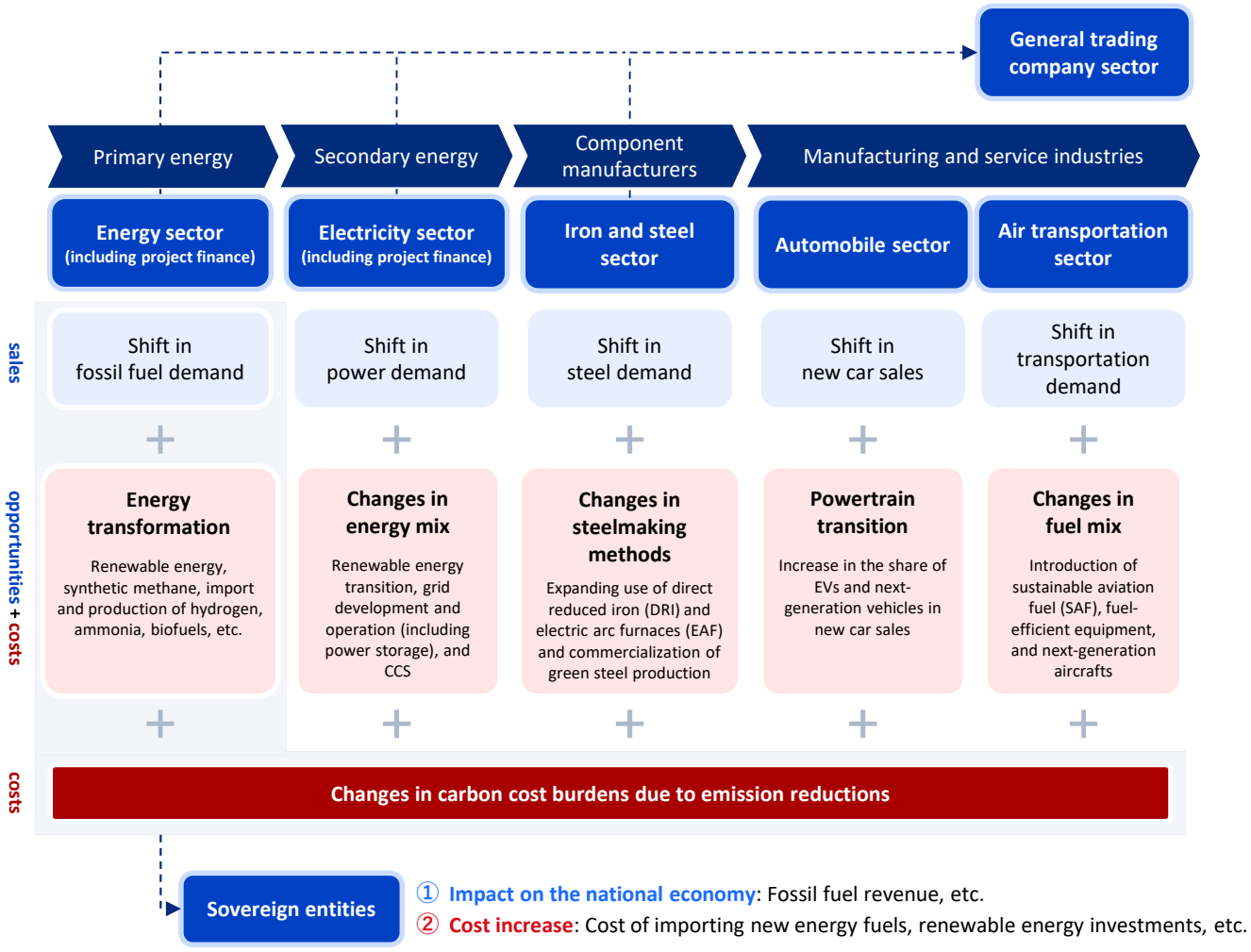
*1 Countries with large sums of fossil fuel exports and imports

*2 Countries highly affected by climate change
*3 Borrowers in the analyzed countries
*4 Borrowers highly affected by climate change
*5 Key borrowers for risk management

Transition risks

(1) Scenario analysis 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. Based on these characteristics, we apply the bottom-up approach, which simulates the financial conditions of each borrower when we estimate the risks and opportunities related to climate change. The following are factors that were assumed to have an impact on the specific corporation earnings structure of each sector in the scenario analysis of transition risks.



(2) Results of scenario analysis

According to the results of the scenario analysis of transition risks, based on the NGFS's Net Zero 2050 scenario, the cumulative rise in credit costs up to the year of 2050 is estimated to be JPY397 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.

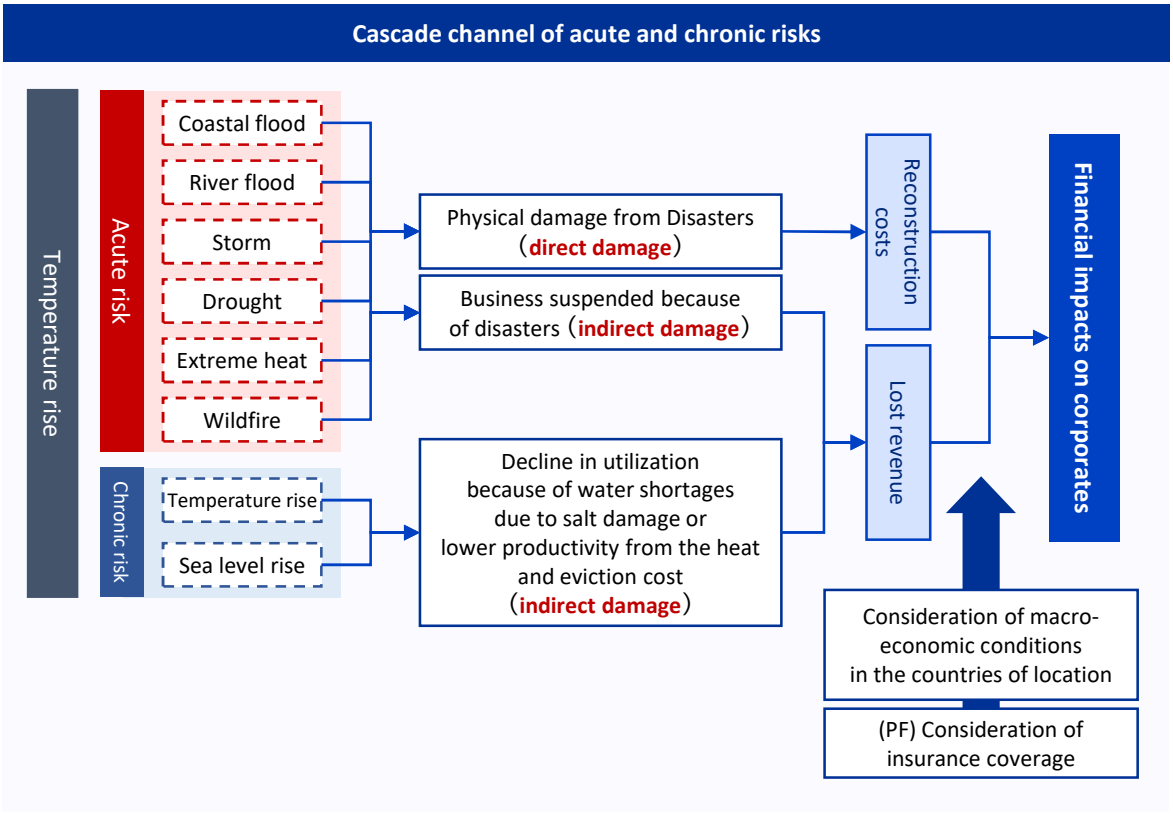
Physical risks

(1) Scenario analysis approach

Considering the characteristics of JBIC's portfolio, which it consists mainly of loans and guarantees to projects, governments, authorities, and companies abroad, we analyze physical risks with the combination of the top-down approach, which assesses the ripple effects on borrowers from impacts at the sovereign level, and the bottom-up approach at the borrower level.

The approaches to scenario analysis of physical risks are summarized as follows:

- ✓ We analyze the macro-economic impact of physical risks using the NGFS's Current Policies scenario and assess the impact on the sovereign entities of a selected country based on the hazards of climate-related natural disasters: floods (coastal floods and river floods), storms, droughts, heat waves, and temperature and sea level rises. We adopt the top-down approach, which assesses the ripple effects on borrowers from impacts at the sovereign level, and the bottom-up approach at the borrower level.
- ✓ In addition to the above, we also adopt the bottom-up approach to assess the financial impacts when a hazard materializes by identifying borrowers expected to be particularly affected by natural disasters in selected countries and using hazard maps and other tools to estimate the amount of damage and the duration of business suspensions due to the impacts on major assets or supply chain disruptions when key infrastructure, such as ports and roads, in the countries are affected.



(2) Results of scenario analysis

According to the scenario analysis of the physical risks for sovereign entities, overseas corporations, and project finance, based on the NGFS's Current Policies scenario, the cumulative credit costs up to 2050 are estimated to be a maximum of JPY31 billion, which means they have a limited impact on JBIC's financial soundness.

The bottom-up analysis has identified the following trends for damage to individual borrowers.

i. Project finance (PF)

- ✓ PF projects in our portfolio are globally dispersed; however, it has been confirmed that the risks are concentrated in North America, South Asia, Southeast Asia, and Oceania, and the projects could be particularly susceptible to hazards such as storms, river floods, and wildfires.
- ✓ The analysis also confirmed the high probability that the impact on project profitability and credit costs would be minimized in the event of damage, given that each project is properly insured and secured to ensure that financial losses will be compensated

ii. Corporate entities

- ✓ The analysis revealed that in Asian countries, which is where many of our borrowers are located, not only their offices and factories but also the country's key infrastructure in the supply chains, such as ports, airports, and access roads, have a high risk of being affected by disasters. These indirect risks could also have a significant impact on the business operations of our borrowers.
- ✓ It has been confirmed that each project is likely to receive financial support in the event of damage, including credit enhancement from its parent company, thereby minimizing the impact on credit costs.

Meanwhile, in order to more accurately assess the impacts on these projects and borrowers, it is necessary to analyze 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.

(3) Future actions

Regarding transition risks, given the assumptions and other parameters in the NGFS's scenarios, the scenario analysis confirmed the high probability that borrowers in the analyzed portfolio are expected to bear a certain amount of the investment burdens that are associated with business transformations toward a decarbonized society or the carbon-related burdens according to their GHG emission reduction status in the medium to long term.

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.

Regarding physical risks, their credit costs have a limited impact on JBIC's financial soundness. However, it was found that the borrowers analyzed were had a reasonable risk of not only having their business bases, but also their surrounding infrastructure affected by disasters.

The results also affirmed the importance of continuing dialogues and engagements with host countries' governments and borrowers, providing support to enhance the resilience of the supply chains against the risks of natural disasters, and to improve the investment environment, including infrastructure development, from the perspectives of disaster preparedness prevention and disaster early recovery.

JBIC acknowledges scenario analysis as a tool to assess the future impact of climate change on its portfolio and will continue to utilize this analysis to enhance the flexibility and resilience of its risk management for various future climate-related conditions. We will advance our relentless efforts to improve analysis and data utilization methods for more effective use. We will also continue dialogues and engagements with stakeholders, including international organizations, governments, and borrowers, through which we support initiatives to achieve carbon neutrality.

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 2024, the outstanding credit[*6] in these sectors amounted to JPY10.5 trillion, which accounts for approximately 63% of the total outstanding loans, guarantees, and equity participations of JBIC.

◆ 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℃ 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[*7] of project financing to the thermal coal power generation projects as of March 31, 2024, stood at JPY1,106.6 billion (which accounts for approximately 6% of the total outstanding loans, guarantees, and equity participations of JBIC), and we expect to reduce it to zero in the early 2040s.

*6 The amount includes loans and equity participations. The outstanding credit increased from the previous year due to the refinement of the calculation method.
*7 The amount includes loans and guarantees.

Metrics and Targets

Climate change-related finance

In order to promote initiatives to achieve both decarbonization and sustainable economic growth, JBIC has set forth “the realization of a sustainable future” as one of the key focus areas in its Fifth Medium-Term Business Plan, and it has set the number of committed or structured projects that “contribute toward realizing both carbon neutrality and economic growth” as its metric. For this metric, 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, is overseen.

The table below shows the targets and results concerning the number of green finance and transition finance projects*8, based on the Fourth Medium-term Business Plan, that were committed and structured in FY2023. The total co-financing amount for projects committed in FY2023 was JPY2,651.1 billion.

＜**Green finance and transition finance in FY2023**＞

Number of projects structured (target)	Number of projects committed (target)	Co-financing amount*9
57 (28)	32 (42)	JPY 2,651.1 bn

*8 The definition of green finance and transition finance is based on JBIC’s Fourth Medium-Term Business Plan.
For the details of the Fourth Medium-term Business Plan, please see here.
▶ https://www.jbic.go.jp/ja/about/image/230619_keikaku_tyuki.pdf

*9 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 FY2023. 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 FY2023, JBIC's major emission source in Scope 1 and 2 was the gas facilities used in the Head Office. Several measures were put in place to reduce GHG emissions from power consumed at our offices (which had been a major emission source until FY2022), including turning off unused lights, adopting a casual dress code during summer, and switching to LED lighting. In addition, in 2023, 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.

Since FY2022, we have been discussing the calculations for the categories in Scope 3 (including business trips).

Items measured		FY2023 (t-CO_2)	[Reference] FY2022 (t-CO_2)	Target
GHG emissions*10		275.9	1,042.9	Net zero by 2030
	Scope 1	186.8	181.5	
	Scope 2	89.1	861.4	

*10 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. Scope 1 includes gasoline and city gas. Scope 2 includes electricity (market based). 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.

株式会社国際協力銀行
JBIC JAPAN BANK FOR INTERNATIONAL COOPERATION