NEWS RELEASE

JCR Sustainable Evaluation

25-D-1420
January 19, 2026

Japan Credit Rating Agency, Ltd. (JCR) announces the following preliminary Climate Transition Bond Evaluation Results.

The Government of Japan

Japan Climate Transition Bond (FY2025) — Assignment

<Alignment with Climate Transition Bond Guidelines>

The bond is aligned with Climate Transition Bond Guidelines

Overall Preliminary Evaluation	Greenness/ Transition Preliminary Evaluation (Use of Proceeds)	Management, Operation and Transparency Preliminary Evaluation
Green 1(T)	gt1	m1

Issuer	The Government of Japan
Subject	10-year Japan Climate Transition Bonds (4th) 5-year Japan Climate Transition Bonds (4th)
Type	interest-bearing government bonds
Issue Amount	10-year bonds: face value of approximately JPY 300 billion 5-year bonds: face value of approximately JPY 300 billion
Interest Rate	to be decided
Auction Date	10-year bond: March 2026 5-year bond: January 26, 2026
Redemption Date	10-year bond; For bids in March 2026: December 2035 (TBD) 5-year bonds; For bids in January 2026: December 2030 (TBD)
Method of Redemption	Lump-sum redemption at maturity
Use of Proceeds	Projects that meet the eligibility criteria identified in the Climate Transition Bond Framework based on the GX 2040 Vision

Evaluation Overview

1. Overview of Japan

Japan is located off the coast of the Far East and East Asia at the eastern tip of the Eurasian continent, and along the northwest coast of the Pacific Ocean, forming an arcuate archipelago as a whole. Approximately 70 % of Japan's land is mountainous, and approximately 67 % of that is forest. Japan is a country that experiences more natural disasters such as earthquakes and typhoons than any other country in the world. 18.5 % of earthquakes of magnitude 6 or higher that occur around the world occur in Japan. In addition, Japan accounts for 17.5 % of the damage caused by natural disasters including typhoons and earthquakes worldwide. In Japan, natural disasters, which have become increasingly severe in recent years, have caused much damage, including blackouts that lasted for several weeks, and further measures to both mitigate and adapt to climate change have become an urgent and top priority issue.

Japan has many manufacturing industries that are internationally competitive. According to the 2023 White Paper on Manufacturing Industries[1], there were 825 major manufacturing items in 2020, of which 220 items had a global share of 60 % or more, making it an overwhelming leader in the world. Approximately 70 % of this is used as parts and materials for electronics and automobiles, making this a strength of Japan's manufacturing industry.

The total amount of greenhouse gas (hereinafter referred to as "GHG")[2] emissions in Japan with the thriving manufacturing industry, was 1.071 billion tons-CO_{2e} as of FY2023 that ranked the seventh largest in the world[3]; however, the actual amount in FY2023 was reduced by approximately 23.3 % from FY2013. Of which, the total carbon dioxide (hereinafter referred to as "CO_2") emissions amounted to 989 billion tons-CO_2 and 93.2 % of the emissions are resulting from energy use. The breakdown by sector is as follows: the energy transformation sector, 40.1 %; the industrial sector, 24.7 %; the transportation sector, 18.5 %; the commercial industry, etc. sectors, 5.1 % and the residential sector, 4.7 %.

2. Overview of Japan's transition strategy

The Government of Japan, considering the goals set by the Paris Agreement (to keep the global temperature rise well below 2°C, and continue efforts to limit the increase to 1.5°C), declared "Carbon Neutrality by 2050" in October 2020. This was later legislated with the amendment of the Act on Global Warming Countermeasures in the following year. In April 2021, as an interim target towards carbon neutrality by 2050, it was declared to aim for a 46% reduction in GHG emissions by FY2030 compared to the FY2013, and to continue striving towards the higher goal of 50%. Additionally, in February 2025, a revision of the Basic Plan for Global Warming

[1] METI, MHLW and MEXT "White Paper on Manufacturing Industries" (2023) (Annual report based on Article 8 of Basic Act on the Promotion of Core Manufacturing Technology)
https://www.meti.go.jp/report/whitepaper/mono/2023 /index.html

[2] CO_2, methane, dinitrogen monoxide (nitrous oxide,) hydrofluorocarbons (HFC,) perfluorocarbons (PFC) and sulfur hexafluoride (SF6)

[3] Emissions Database for Global Atmospheric Research (EDGAR) "Emissions Database for Global Atmospheric Research" in 2023
https://edgar.jrc.ec.europa.eu/report_2024

Countermeasures was conducted, specifying the aim to achieve a 60% reduction by FY2035 and a 73% reduction by FY2040, compared to FY2013 levels. These goals have been submitted to the Secretariat of the United Nations Framework Convention on Climate Change as Japan's NDC (Nationally Determined Contribution).

Just under 90% of Japan's GHG emissions are energy-related CO_2. Hence, to achieve the targets set for each fiscal year in the NDC, it is important to steadily implement specific decarbonization measures in the industrial, commercial, transportation, and residential sectors, based on the country's strategic energy plan and energy mix. In the 6th Strategic Energy Plan approved by the Japanese Cabinet in October 2021, the Government of Japan introduced the concept of "Green Transformation (GX)," aiming to shift the industrial and social structures from being centered on fossil energy, which has been the focus since the Industrial Revolution, to centering on clean energy. Starting in 2022, the GX Implementation Council was held with the Prime Minister as the chairperson and experts from the public, private, and academic sectors participating. By 2023, they had compiled the "Basic Policy for Realizing GX." Furthermore, the GX Promotion Act and the GX Decarbonized Power Act were enacted in the same year, establishing a system for promoting initiatives toward the "Pro-Growth Carbon Pricing Concept." Also, as a concrete strategy for the implementation of a series of policies, the "GX Promotion Strategy" was approved by the Cabinet in July 2023 based on the GX Promotion Act. In addition, in February 2025, the "7th Strategic Energy Plan" will be approved by the Cabinet, and the "GX 2040 Vision" will be formulated as a revision of the GX promotion strategy.

The specific initiatives undertaken by the Government of Japan include thorough energy efficiency improvement and fuel switching within the manufacturing, while maximizing the use of decarbonized power sources such as renewables and nuclear power, both of which contribute to energy security.

▶▶▶ 3. Validity on Transition Strategy (Outline of Alignment Evaluation with CTFH)

The transition strategy and specific policies in Japan meet the four components in the Climate Transition Finance Handbook[4] and the Basic Guidelines for Climate Transition Finance[5] (collectively, the "CTFH, etc."). Furthermore, the Government of Japan's transition strategy involves calling for a 150 trillion-yen investment from both the public and private sectors over 10 years. This is to achieve carbon neutrality by 2050 and to meet the intermediate milestones for FY2030, FY2035, and FY2040 (with a reduction of 46%, 60%, and 73% compared to FY2013). By preceding Japan Climate Transition Bond Framework (the "Framework") with government-implemented investments, they intend to stimulate Green Transformation (GX) investment. These measures exceed the traditional framework ("Business As Usual"), and JCR evaluates them as a highly ambitious strategy.

Also, the goal of the Government of Japan is set as a target consistent with the goals of the Paris Agreement (significantly below 2°C, aiming for a maximum of 1.5°C). JCR evaluates that, even when compared by aligning with other countries' target values and base years, it is at a relatively ambitious level.

[4] International Capital Market Association (ICMA) (2023) "*Climate Transition Finance Handbook*" https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/climate-transition-finance-handbook/

[5] FSA, METI and MOE (2025) "Basic Guidelines on Climate Transition Finance" https://www.meti.go.jp/policy/energy_environment/global_warming/transition/basic_guidelines_on_climate_transition_finance_jpn_2025.pdfhttp://www.meti.go.jp/press/2021/05/20210507001/20210507001-1.pdf

4. Overview of climate transition bond evaluation

The subjects of this evaluation are the 10-year Japan Climate Transition Bonds (3rd) and the 5-year Japan Climate Transition Bonds (4th) to be issued by Japan in FY2025 ending in March 2026 (collectively, the "Japan Climate Transition Bonds (FY2025)" or the "Bonds"). JCR evaluates whether the Bonds comply with the Green Bond Principles ("GBP")[6], the Green Bond Guidelines ("GB Guidelines")[7], the CTFH, etc. Although these are principles or guidelines rather than legally backed regulations, JCR performs evaluations by referring to them as currently unified domestic and international standards. In addition, the evaluation is conducted in order to confirm alignment with the new guidelines on climate transition finance (the "Climate Transition Bond Guidelines" (CTBG))[5] launched by ICMA in November 2025.

The Government of Japan set eligibility criteria under the Framework in November 2023 in line with the goals and policies included in the GX Promotion Strategy based on the Plan for Global Warming Countermeasures, the Strategic Energy Plan, etc. Subsequently, the government revised the Framework in June 2025 following the revision of the Plan for Global Warming Countermeasures and the formulation of the 7th Strategic Energy Plan[8]. The projects for which the proceeds of the Bonds will be used are R&D funds and/or subsidy programs selected by the Government of Japan which meets the eligibility criteria set forth in its framework. In addition, although many of the eligible projects are research and development funding and subsidy programs and are unlikely to directly cause serious negative environmental or social impacts, environmental and social considerations should be taken into account when evaluating and selecting individual eligible projects. Based on the above, it is expected that the use of proceeds from the Bonds will promote GX initiatives across Japan and contribute to achieving net-zero by 2050 and its each milestone goal. Looking at the specific allocation of funds by CO_2 emitting sector, JCR sees that measures are being taken in a well-balanced manner, as shown in the figure below.

6 International Capital Market Association (ICMA) (2025) "Green Bond Principles"
https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/
7 MOE (2024) "Green Bond Guidelines"
https://greenfinanceportal.env.go.jp/pdf/greenbond_guideline_eng.pdf
5 International Capital Market Association (ICMA) " Climate Transition Bond Guidelines 2025"
https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/climate-transition-finance-handbook/
8 Cabinet Secretariat, FSA, MOF, METI and MOE "Japan Climate Transition Bond Framework November 2023" (Revised June 2025)
https://www.mof.go.jp/english/policy/jgbs/topics/JapanClimateTransitionBonds/climate_transition_bond_framework_eng.pdf

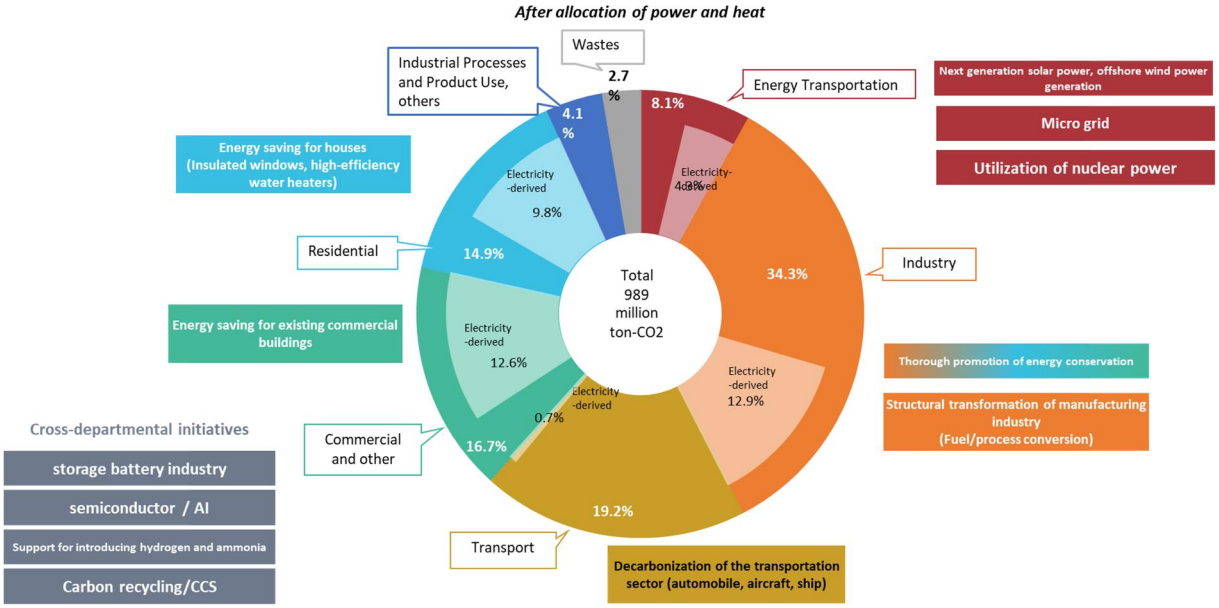


Figure 1: Relationship between Use of Proceeds from the Bonds and CO_2 Emitting Industries[9]

In the process of selecting projects set out in the Bonds by the government include (1) a liaison system between relevant ministries and agencies has been established; (2) the selection is to be finally approved in the GX Implementation Council chaired by the Prime Minister; (3) bonds to be issued, based on the Framework are managed separately from other accounts in the energy supply and demand account of the special account for energy measures and (4) allocated projects are separately categorized as GX-related budgets in the same account. JCR therefore has evaluated that a system has been established to properly classify and manage proceeds financed, based on the Framework. JCR has also confirmed that reporting contents/periods on the allocation of proceeds and impacts are adequately established. Accordingly, JCR has evaluated that the management and operation system in the national government has been established and has transparency.

In addition, we confirmed that the the Bonds satisfy the four items set out in the CTBG—(i) Use of Proceeds, (ii) Process for Project Evaluation and Selection (iii) Management of Proceeds, and (iv) Reporting—and also confirmed that the safeguards required for climate transition bonds with respect to the use of proceeds are met.

Accordingly, JCR has assigned "gt1" to the preliminary evaluation of the "Greenness/Transition Evaluation (Use of Proceeds),"m1" to the preliminary evaluation of the "Management, Operation and Transparency Evaluation" and "Green 1(T)" to the "JCR Climate Transition Bond Preliminary Evaluation" for the Bonds. JCR has evaluated that the Bonds satisfies the criteria for items required in the "Green Bond Principles," "Green Bond Guidelines," and CTFH, etc.

[9] Created by JCR based on MOE's "Japan's National Greenhouse Gas Emissions and Removals in FY2023"

Table of contents

Chapter 1: Overview of Evaluation Targets

The subjects of this evaluation are the 10-year Japan Climate Transition Bonds (4th) and 5-year Japan Climate Transition Bonds (4th) to be issued by Japan in FY2025 (collectively, the "Japan Climate Transition Bonds (FY2025)" or the "Bonds").

Based on the "GX2040 Vision," the proceeds will be allocated to projects aimed at achieving the internationally pledged NZE by 2050 and each milestone greenhouse gas (GHG) reduction target in line with the Paris Agreement. The proceeds shall be selected from the measures/projects stipulated “GX2040 Vision” as well as the Framework established by the government. It will be repaid by several measures, since future carbon pricing ("CP" refers to charge for fossil fuels and expenses borne by specified business in the electricity sector) as financial resources: 1) it shall be taken into account the balance between benefits and burdens of citizens, 2) the investment decision is difficult for the private sector while considering the benefits and burdens perspectives and 3) it shall be prioritized to the investment area which will contribute to realize both emission reduction and industrial competitiveness strengthening and economic development of Japan.

The GX2040 Vision contains the Sector-specific Investment Strategies for 16 industries, which the public and private sectors formulated as sector-specific initiatives to accelerate GX. The Government of Japan describes the eligibility criteria for Japan Climate Transition Bonds (or Climate Transition Interest-Bearing Government Bonds (CT Government Bonds)), an individual issue of GX Economy Transition Bonds, in the Framework. The eligibility of each project will be assessed based on the industries and measures deemed necessary by the Sector-specific Investment Strategies and expert working groups. (Please refer to the Framework[10] published on June 27, 2025, and the JCR evaluation report (25-D-1419) [11]).

In the Framework, the Government of Japan states that the selection of the use of proceeds will be based on the "basic conditions" of investment promotion measures based on the basic concept of upfront investment support for GX Economy Transition Bonds shown in Table 1(eligible business).

Table 1: GX Economy Transition Bond “basic conditions” in the selection of the use of proceeds (overview) [12]

	Basic Conditions
I.	Efforts that are truly difficult to make investment decisions solely by the private sector
II.	Efforts that contribute to strengthening industrial competitiveness, economic growth and emission reduction, which are essential for achieving GX
III.	Integration with regulations and institutional measures that change corporate investment and demand-side behaviour
IV.	Efforts that contribute to the expansion of domestic investment including for human capital

10 Cabinet Secretariat, FSA, MOF, METI and MOE "Japan Climate Transition Bond Framework November 2023" (Revised June 2025)
https://www.mof.go.jp/english/policy/jgbs/topics/JapanClimateTransitionBonds/climate_transition_bond_framework_eng.pdf
11 JCR's Evaluation Report on Japan Climate Transition Bond Framework published on January 19, 2026
12 Source: Framework

The Government of Japan prioritizes projects that align with the types which meet each of the requirements from A to C for increasing industrial competitiveness/economic growth and the requirements from 1 to 3 for emission reduction as candidates subject to support in addition to the aforementioned principles.

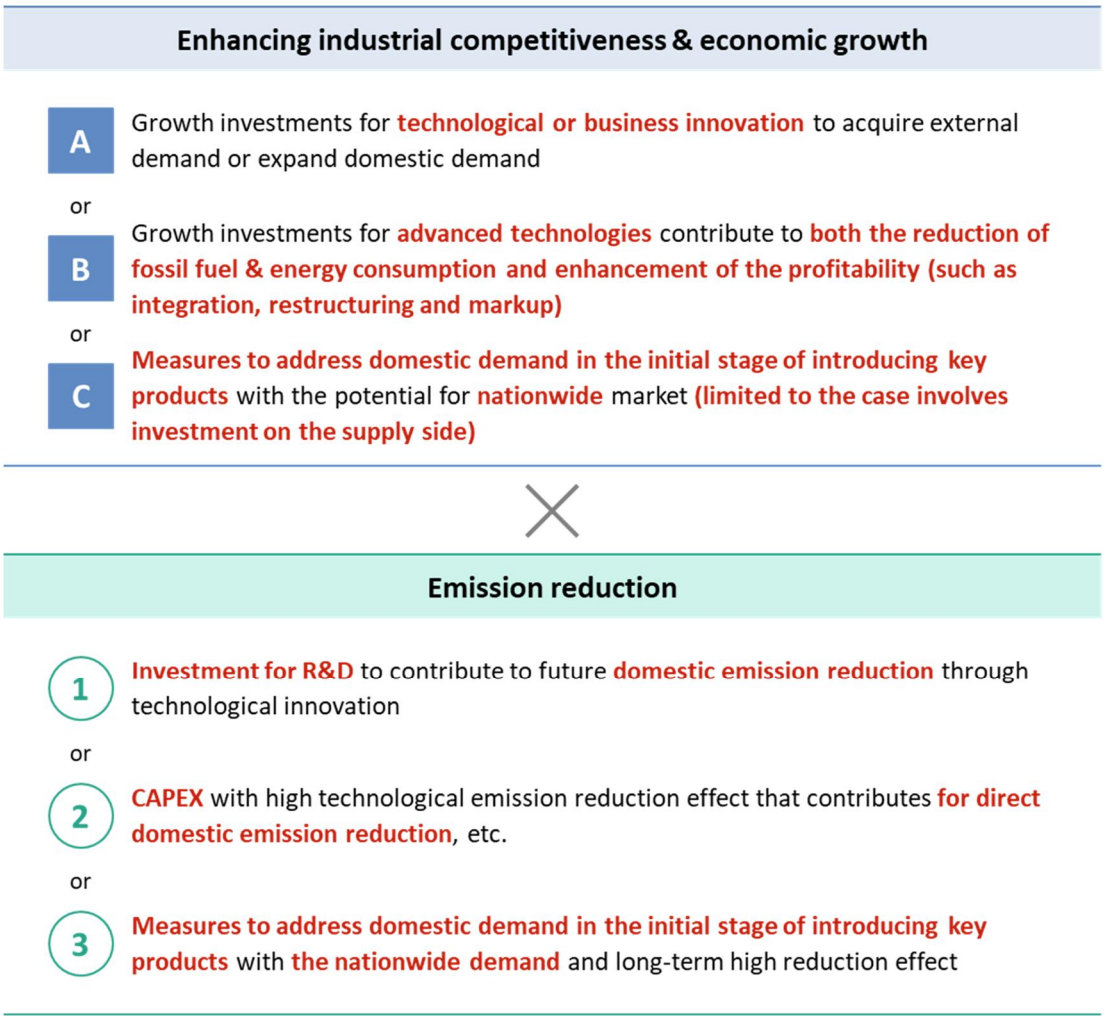


Figure 2: Requirements for Selecting Use of Proceeds for GX Economy Transition Bonds[13]

Based on the above, JCR evaluates the alignment of the Bonds with the Green Bond Principles, the Green Bond Guidelines of the Ministry of the Environment, and CTFH, etc., based on JCR Green Finance Evaluation Methodology in the next chapter in detail.

13 Source: Framework

Chapter 2: Alignment with Climate Transition Finance Handbook etc.

2-1. Japan's Economic Policy and Transition Strategy

<Outline/Political/Social Situations>

Japan is located off the coast of the Far East and East Asia at the eastern end of the Eurasian Continent and the coastal areas in northwestern part of the Pacific Ocean, and it is island arcs as a whole. The land area is roughly 378,000 km2, approximately 70 % of which is mountainous terrain that include roughly 67 % of forests and it ranks 62nd in the world.

Natural disasters, such as earthquakes or typhoons has hit Japan more often than the rest of the world. While Japan's land area accounts for only about 0.29 % in the world, 18.5 % of earthquakes with a magnitude of 6 or higher have occurred in Japan since 7.1 % of the world's active volcanoes are located in Japan where there are many active faults. Further measures from both mitigation/adaptation to climate change are urgent and the most important issues since many damage has recently occurred due to earthquakes and intensifying storms and floods disasters although the national government strives to make the country more resilient to climate change and earthquakes.

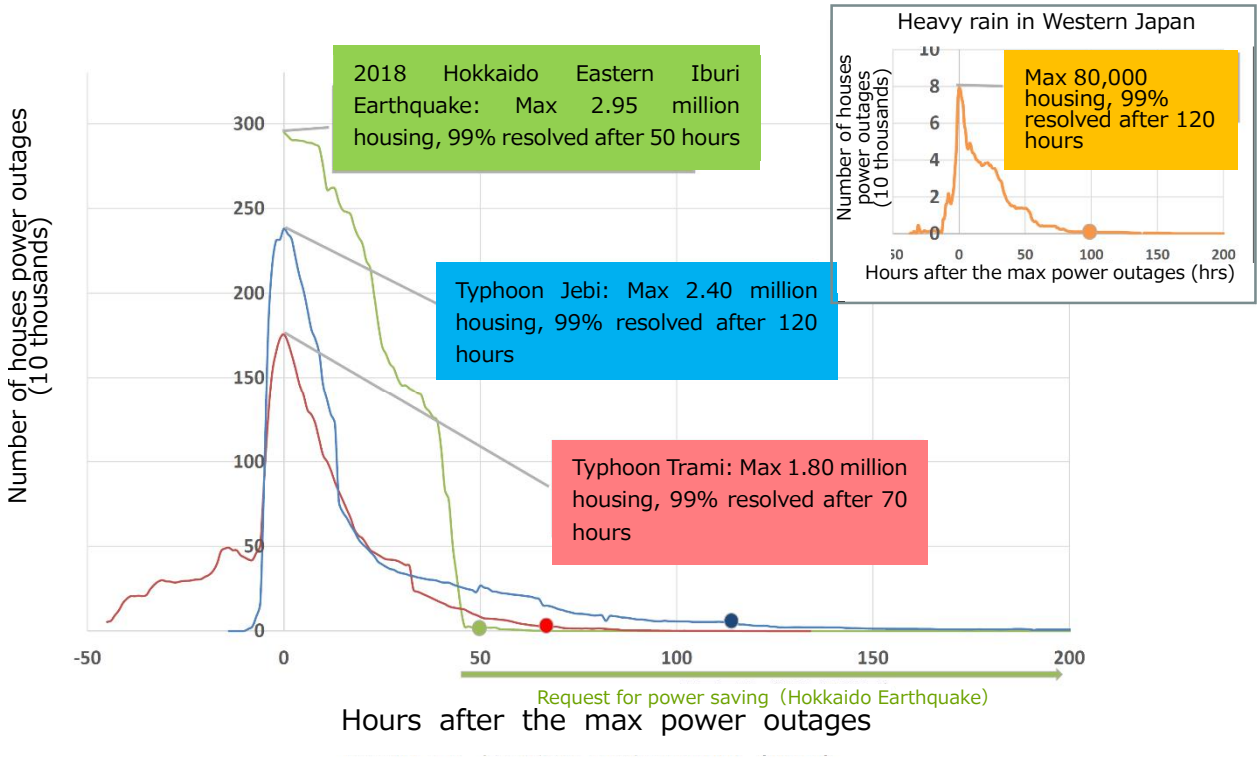


Figure 3: Number of Power Outages and Time Taken to Resolve in Each Disaster[14]

14 Source: Agency for Natural Resources and Energy
https://www.enecho.meti.go.jp/about/special/johoteikyo/blackout.html

The Japanese GDP in 2023 ranked forth after the United States, China and Germany thanks to a large number of internationally competitive manufacturing companies. According to the 2023 White Paper on Manufacturing Industries, Japan has 825 major manufacturing items in 2020 of which 220 items hold 60 % or more global market shares, a predominantly high number, compared to the United States (99 items,) Europe (50 items) and China (45 items.) Roughly 70 % of the items are parts/materials, including electronics or automobiles, which is the strength of the Japanese manufacturing industry.

The total amount of GHG emissions in Japan with the thriving manufacturing industry, was 1.071 billion tons-CO_{2e} as of FY2023, ranked the seventh[6] largest in the world; however, the actual amount in FY2023 was reduced by approximately 23.3 % from FY2013. Of which, the total CO_2 emissions amounted to 989 billion tons-CO_2, and 93.2 % of the emissions are resulting from energy use. The breakdown by sector is as follows: the energy transformation sector, 40.1 %; the industrial sector (the iron and steel, chemical and allied products and other industry), 24.7 %; the transportation sector, 18.5 %; the commercial industry, etc. sectors, 5.1 % and the residential sector, 4.7 % (Figure 2, before electricity and heat distribution.)

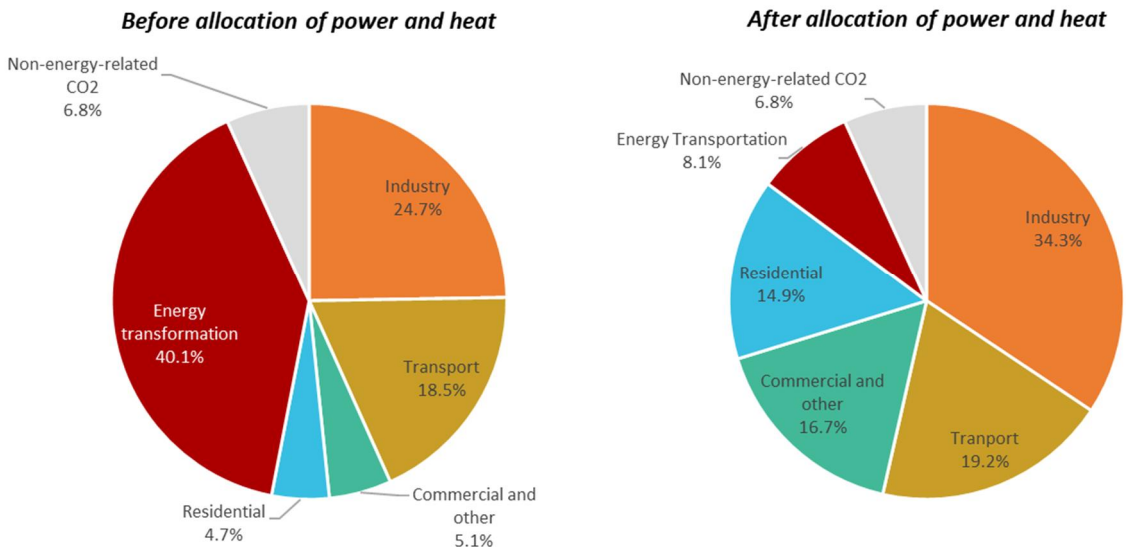


Figure 4: Breakdown of CO_2 emissions by sector (FY2023) [15]

The Government of Japan has aggressively led the decarbonization initiatives in the international community with ambitious developmental promotion of solid/new technologies by discussing over global promotion of GX that is a transformation of the entire economic and social system so as to shift to the clean energy-centered economy, society and industrial structure from the fossil fuel-centered since the Industrial Revolution, based on the spirit of the Paris Agreement and furthermore to integrate carbon neutral, a circular economy and nature revival by accelerating the measures against climate change in the whole world and by compiling an agreement, stating to aim to keep the global temperature rise below 1.5 °C in the "G7 Sapporo

[6] Emissions Database for Global Atmospheric Research (EDGAR) "Emissions Database for Global Atmospheric Research" data in 2022

15 Created by JCR based on MOE's "Japan's National Greenhouse Gas Emissions and Removals in FY 2023"

Climate, Energy and Environment Ministers' Meeting" as its host country in the G7 Hiroshima Summit in May 2023.

In addition, it has expressed the intention to deepen cooperation with Asia through the Asian Zero Emission Community (AZEC) for the spread of transition to other Asian countries with a high dependence on fossil fuels, similar to Japan. Particularly under the "Asia Energy Transition Initiative" (AETI), it aims to establish transition finance in Asia by accelerating the financing of transition technologies and projects. This is done through supporting the development of decarbonization roadmaps and creating a transition technology list, working to improve the investment environment led by the Asia Transition Finance Study Group (ATF SG) of private financial institutions, building cooperative systems with government authorities and international organizations based on cooperation memorandums concluded with Asian Development Bank (ADB) and Economic Research Institute for ASEAN and East Asia (ERIA) by the Ministry of Economy, Trade and Industry, and supporting the development of human resources in the energy transition sector.

<Plan for Global Warming Countermeasures>

The Government of Japan established goals set forth in the Paris Agreement (keep the global temperature rise well below 2 °C and to pursue efforts to limit the temperature increase even further to 1.5 °C) and set out the basic principles for promoting global warming countermeasures, such as realizing decarbonized society for net-zero by 2050, the integrated improvement of the environment, economy and society and the close cooperation with citizens and other parties concerned in the Act on Promotion of Global Warming Countermeasures revised in March 2021. The goal of reducing GHG by 46 % in FY2030 from FY2013 as an interim target was announced, adding its challenge continues to further reduce by 50 % in the Plan for Global Warming Countermeasures revised in October 2022, based on the revised Act on Promotion of Global Warming Countermeasures.

In February 2025, a revision of the aforementioned Global Warming Countermeasures Plan was carried out, setting targets for fiscal years 2035 and 2040. According to it, the targets are set to reduce GHG by 60% and 73% in the fiscal years of 2035 and 2040 respectively, compared to FY2013. Currently, the trend of Japan's GHG emissions is as shown in Figures 3 and 4. The total GHG emissions for the FY 2023 amounted to 1.071 billion tons-CO_{2e}, which is approximately a 23.3% reduction (324.40 million tons-CO_{2e}) compared to the total emissions of the FY2013 (1.395 billion tons-CO_{2e}).

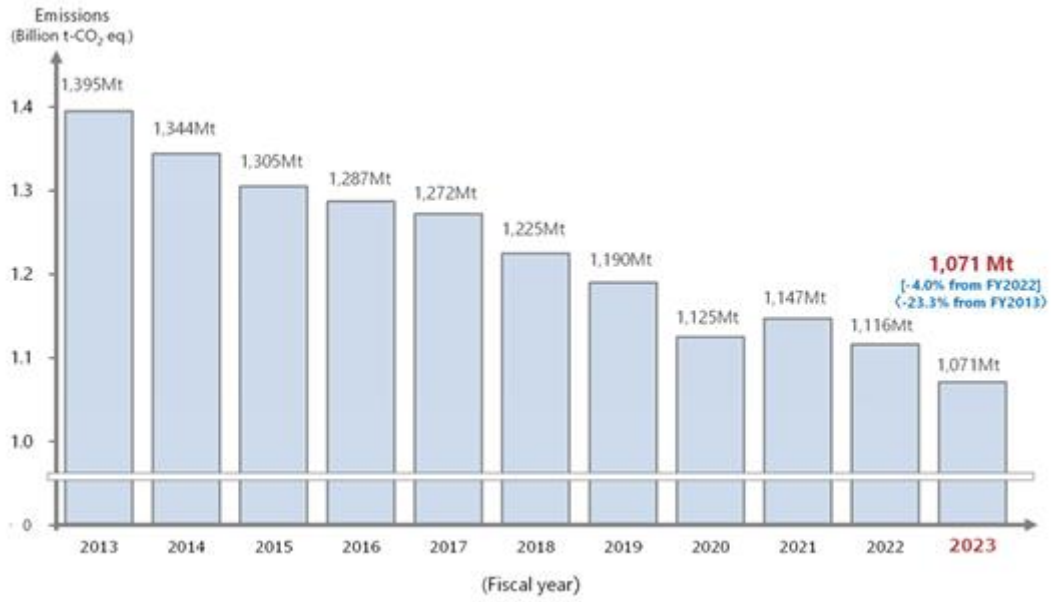


Figure 5: Changes in Japan's total GHG emissions [16]

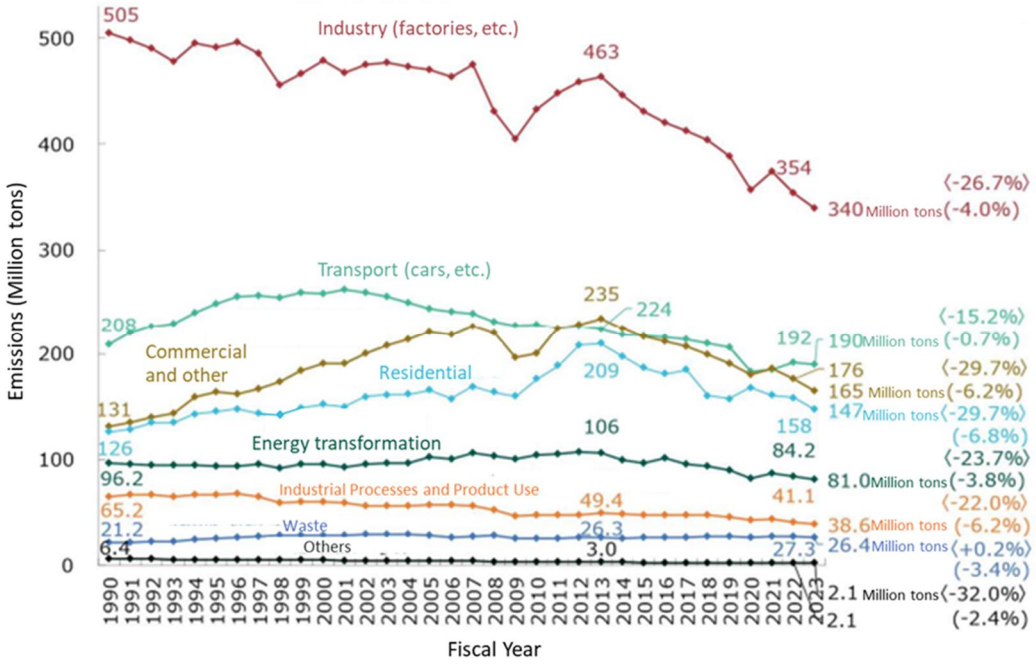


Figure 6: Trends in Japan's CO_2 Emissions by Sector[17]

The reduction targets were established for FY2030 and FY2040 by GHG and by division for energy-derived CO_2 in the Plan for Global Warming Countermeasures (see Figure 5, next page.) Some examples of measures that are expected to be taken by the national and local governments for respective emission sources or targets by division were also set forth with the specific reduction figures in this plan.

16 Source: MOE's "*Japan's National Greenhouse Gas Emissions and Removals in FY 2023*"
17 Source: MOE's "*Japan's National Greenhouse Gas Emissions and Removals in FY 2023*"

Unit: Million tons-CO_2

	FY2013 Actual	FY2030 (Compared to FY2013)	FY2040 (Compared to FY2013)
GHG emissions and removals	1,407	760 (▲46%)	380 (▲73%)
Energy-related CO_2	1,235	677 (▲45%)	About 360-370 (▲70-71%)
Industry	463	289 (▲38%)	About180-200 (▲57-61%)
Commercial and Other	235	115 (▲51%)	About40-50 (▲79-83%)
Residential	209	71 (▲66%)	About40-60 (▲71-81%)
Transport	224	146 (▲35%)	About40-80 (▲64-82%)
Energy Transformation	106	56 (▲47%)	About 10-20 (▲81-91%)
Non-Energy-related CO_2	82.2	70.0 (▲15%)	About 59 (▲29%)
Methane (CH_4)	32.7	29.1 (▲11%)	About 25 (▲25%)
Nitrous Oxide (N_2O)	19.9	16.5 (▲17%)	About 14 (▲31%)
Four gases incl. alternative CFC	37.2	20.9 (▲44%)	About11 (▲72%)
Hydrofluorocarbons (HFCs)	30.3	13.7 (▲60%)	About 6.9 (▲77%)
Perfluorocarbons (PFCs)	3.0	3.8 (+26%)	About1.9 (▲37%)
Sulfur Hexafluoride (SF_6)	2.3	3.0 (+27%)	About1.5 (▲35%)
Nitrogen trifluoride (NF_3)	1.5	0.4 (▲70%)	About0.2 (▲85%)
GHG removals	—	▲47.7	▲About84
International Credit Mechanism (JCM)	—	Through public-private partnerships, the goal is to achieve an accumulated international reduction and absorption of about 100 million tons of CO2 by FY2030. Japan will properly count the credits it has acquired toward achieving its NDC	Through public-private partnerships, the goal is to achieve an accumulated international reduction and absorption of about 200 million tons of CO2 by FY2040. Japan will properly count the credits it has acquired toward achieving its NDC.

Figure 7: Japan's GHG Emission Reduction Targets and Guidelines by GHG and Other Categories[18]

<GX2040 Vision (Revised Strategy for Promoting Transition to a Decarbonized Growth-Oriented Economic Structure)>

As shown in Figure 5, almost 90% of Japan's total GHG emissions originate from energy-related CO_2. From this, it is important to steadily implement specific decarbonization measures for the industrial, business, transportation, and household sectors, based on the national energy basic plan and energy mix, to achieve the targets set for each year. In the 6th Strategic Energy Plan decided by the Government of Japan in a cabinet meeting in October 2021, the government introduced the concept of "Green Transformation (GX)" which aims to shift the industrial and social structures centered on fossil energy since the Industrial Revolution to those centered on clean energy. Starting in 2022, the GX Implementation Council chaired by the Prime Minister and composed of experts from government, private sector, and academia was held, and in 2023, the "Basic Policy for Realizing GX" was compiled. Furthermore, the GX Promotion Act and the GX Decarbonized Power Act were enacted in the same year, establishing a framework for promoting initiatives toward the "Pro-Growth Carbon Pricing Concept." Also, as a concrete strategy for the implementation of a series of policies, the "GX Promotion Strategy" was approved by the Cabinet in July 2023 based on the GX Promotion Act.

18 Source: *Plan for Global Warming Countermeasures* adopted at a Cabinet meeting on February 18, 2025
https://www.env.go.jp/earth/ondanka/keikaku/250218.html

The 7th Strategic Energy Plan approved by the Cabinet in February 2025 highlights changes since the 6th Strategic Energy Plan, such as the Russian invasion of Ukraine, increased economic security demands due to tensions in the Middle East, and increased power consumption due to green transformation (GX) and digital transformation (DX). It emphasizes that securing decarbonized power sources at internationally competitive prices is directly linked to Japan's industrial competitiveness. The plan discusses aiming for a balanced power supply composition that avoids excessive dependence on specific sources or fuels, from the perspective of simultaneously ensuring a stable energy supply and decarbonization. It aims to maximize the use of renewable energy, nuclear power, and other power sources that contribute to energy security and have high decarbonization effects.

In addition, regarding the GX Promotion Act, a revised law that includes the legalization of the emissions trading system, the implementation of concrete measures for collecting fossil fuel surcharges, and the establishment of financial support for the GX field was enacted in May 2025. Furthermore, the GX Promotion Strategy has been revised in February 2025 as the "GX2040 Vision," taking into account the increased possibility of power demand in line with the intensification of international affairs and the progress of GX and DX.

Table 2: Overview of the GX2040 Vision[19]1

<table>
<tr><td colspan="2">1. Overall Picture of the GX2040 Vision</td></tr>
<tr><td colspan="2">With heightened uncertainty about future outlooks due to factors such as Russia's invasion of Ukraine, increased tensions in the Middle East, advances in digital transformation, and increased electricity demand from electrification, a longer-term direction is shown to enhance the foreseeability of investments towards Green Transformation (GX).</td></tr>
<tr><td>2. GX Industrial Structure</td><td>5. Initiatives in Individual Fields to Accelerate GX</td></tr>
<tr><td>・ ① New GX businesses leveraging innovative technologies are emerging one after another, and ② a full-set supply chain aims to realize an advanced industrial structure through the use of decarbonized energy and DX.
・ To achieve the above, we will promote the social implementation of innovation, market creation leading to the GX industry, and the GX of medium and small enterprises.</td><td>- Accelerate GX initiatives for individual sectors (energy, industry, living, etc.) based on sector-specific investment strategies and the Strategic Energy Plan.
- Demonstrate effectiveness in reducing emissions through the supply and utilization of recycled materials. Toward the establishment of a growth-oriented resource-autonomous economy, a bill to amend the Resource Promotion Act is scheduled to be submitted to the regular Diet session in 2025.</td></tr>
<tr><td>3. GX Industrial Location</td><td>6. Pro-Growth Carbon Pricing Concept</td></tr>
<tr><td>- In the future, the GX industry, which generates added value by utilizing clean energy such as decarbonized power, is expected to drive growth.
- Taking into account the regional disparity of clean energy, the goal is to efficiently and effectively promote the development of "new industrial sites" and "decarbonized energy sources" to connect with regional revitalization and economic growth.</td><td>A proposal to amend the GX Promotion Act is planned to be submitted at the ordinary session of the Diet in 2025.
- Full-scale operation of the Emission Trading System (from FY 2026)
➢ Companies with emissions above a certain scale (direct emissions of 100,000 tons) are uniformly required to participate, regardless of industry, etc.
➢ Emission allowances are allocated free of charge to target businesses, considering industry characteristics, etc.
➢ Setting upper and lower price limits for emission allowances to ensure predictability.
- Introduction of a fossil fuel levy (from FY 2028)
➢ Establish necessary measures for smooth and reliable introduction and execution.</td></tr>
<tr><td>4. Importance of a realistic transition and contribution to global decarbonization.</td><td>7. Just Transition</td></tr>
<tr><td>Just transition ・While proceeding with coordinated efforts towards CN 2050 across nations, it's necessary to pursue a realistic transition.</td><td>- In advancing GX, from the perspective of a fair transition, necessary efforts such as labor mobility to new emerging industries will be promoted.</td></tr>
</table>

19 Created by JCR based on the publications by METI

・Contribute to the global decarbonization of countries through initiatives such as AZEC.	
8. On the progress and review of the implementation status of policies related to GX	
- Progress reports will continue to be made at appropriate venues, including future sessions of the GX Implementation Council, and revisions will be conducted effectively as needed.	

The revised GX2040 Vision mentions presenting a more long-term direction to enhance the predictability of investments towards GX, considering the increased uncertainty regarding future prospects, taking into account the 7th Strategic Energy Plan. Also, the revised GX2040 Vision sets a chapter which indicate how to address the concept of a "just transition."

The GX2040 vision includes the full-fledged system design of carbon pricing, such as the concretization of emissions trading, as well as the system design of the "circular economy" market that contributes to security, such as securing rare resources. In addition, the document highlights industrial sector initiatives focusing on creating new GX businesses utilizing innovative technologies through investments in the GX field, and establishing a supply chain from materials to products through the advanced use of decarbonized energy and digital transformation (DX). In addition, the efforts aim to link regional revitalization and economic growth by focusing on the utilization of decarbonization energy, such as renewable energy and nuclear power, which are regionally concentrated in terms of industrial location. The GX2040 vision calls for a transition to the GX industry at an opportune time, efficiently and effectively with a sense of urgency, advancing the development of new industrial sites and decarbonized power sources, aiming for future regional revitalization and economic growth.

Furthermore, it is also stated that by promoting GX among medium-sized and small enterprises, there is a need to advance GX throughout society while supporting the growth of these businesses. Support includes assistance with easily calculating and visualizing energy consumption and emissions, support for introducing energy-saving equipment, support for developing innovative products and services contributing to GX, and promoting the establishment of a push-type regional support system where financial institutions and support organizations collaborate to provide assistance. Additionally, in order to contribute to rule formation from an Asian perspective and to the world's decarbonization, it is specifically mentioned that efforts will be made to expand the dissemination of transition finance in Asia, for example.

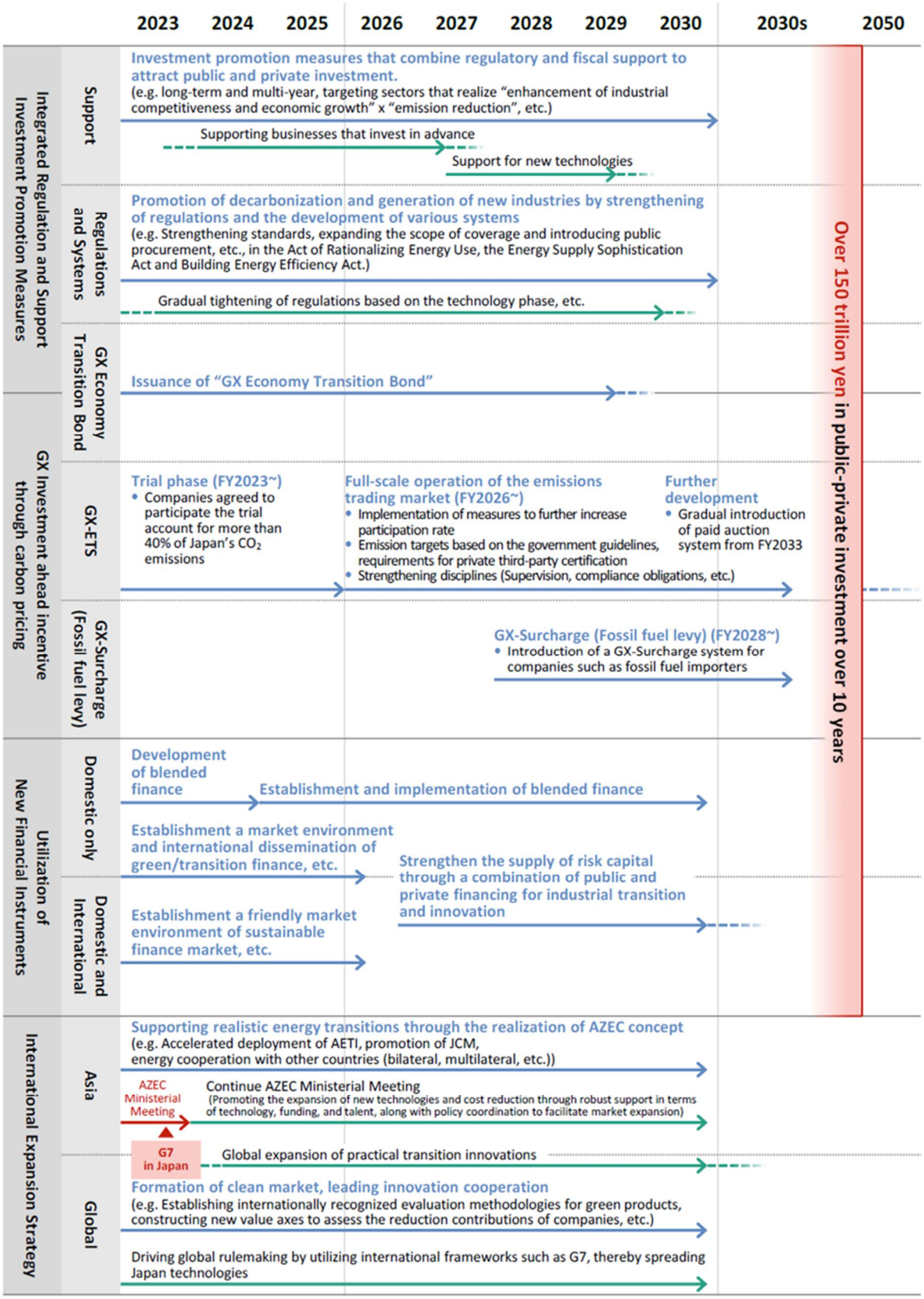


Figure 8: Overview of GX Policy Roadmap[20]

20 Source: Framework

Furthermore, initiatives that were described in the GX Promotion Strategy, such as the thorough promotion of energy conservation, the use of renewable energy, and nuclear power, will continue to be pursued. It is emphasized that it is important to make the most of both renewable energy and nuclear energy as decarbonization energy. Furthermore, strategies to tackle aspects lacking for realizing a decarbonized society include utilizing nuclear energy, commercializing next-generation clean energies such as hydrogen, ammonia, synthetic fuels, and synthetic methane, resource circulation, and other important matters. These are all measures based on technical evidence, and the combinations of technologies expected for each cross-section in 2023, 2030, 2040, and 2050 have been compiled as "Future milestones" into 22 categories. Furthermore, regarding the "Future milestones," the Government of Japan conducted major classifications in December 2023 and compiled the directions for GX and investment promotion measures utilizing GX economy transition bonds, which were released as a "Sector-specific Investment Strategies." In the "Sector-specific Investment Strategies," specific projects and a leading five-year action plan regarding the measures stipulated in the "Future milestones" are compiled with the aim of establishing a GX market domestically and innovating the supply chain to a GX model. Furthermore, the "Sector-specific Investment Strategies" are formulated at the GX Implementation Council, chaired by the Prime Minister, after being discussed in detail over CO_2 reduction effects, economic rationality, and the feasibility of social implementation by a working group of experts.

Moreover, the "Future milestones" and the broad outlines of the roadmap set in the "Sector-specific Investment Strategies" align with the sector-specific roadmap for transition finance ("Technology Roadmap") developed by Japan. Technology Roadmaps by sector have been formulated sequentially starting from the FY 2021, targeting industries with relatively large CO_2 emissions, such as steel, chemicals, electric power, gas, oil, paper & pulp, cement, and automobiles, across 10 sectors. The document outlines the low-carbon and decarbonization technologies that each sector aims to integrate by 2050 for achieving carbon neutrality. it covers both existing technologies and those under development, targeted for social implementation. Through the combination of these technologies, a path is presented to align with the 1.5 to 2°C target of 2030 and to achieve carbon neutrality by 2050.

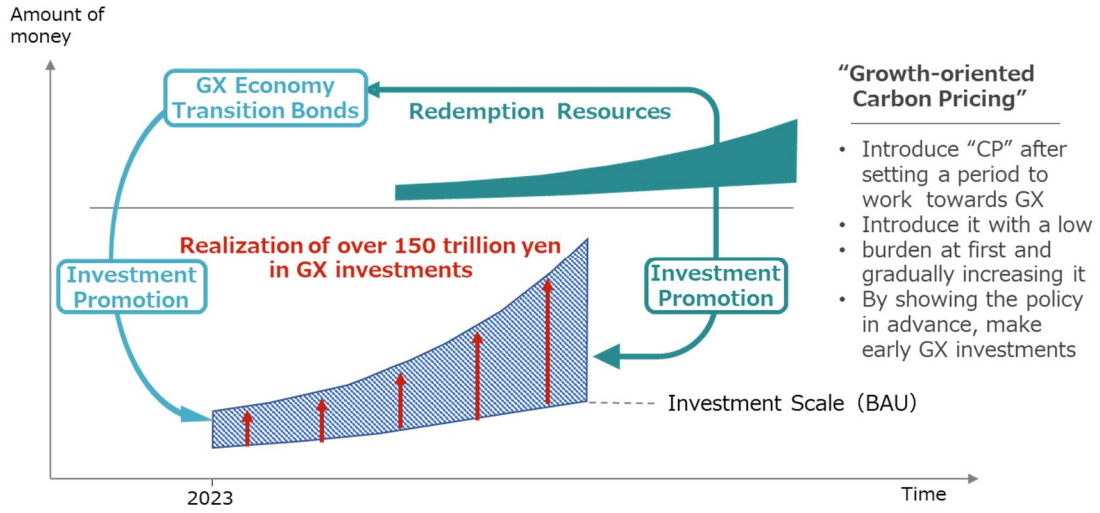


Figure 9: GX2040 Vision's 150 trillion-yen Investment[21]

[21] Source: Materials provided by METI

<The Importance of a Decarbonization Transition Strategy in Japan (Materiality)>

The Government of Japan positions the GX initiative as a critical policy for reinforcing Japan's industrial competitiveness by securing a stable energy supply through the transformation of the fossil energy-centric industrial and social structures, established since the Industrial Revolution, into ones centered on clean energy. At the same time, it aims to create new demand and markets in the decarbonization field. "Basic Policy on Economic and Fiscal Management and Reform 2024" and "Grand Design and Action Plan for a New Form of Capitalism" position "GX and Energy Security" as one of the five initiatives to address social challenges through the expansion of investment and the societal implementation of innovative technologies, aiming for sustainable economic growth through addressing social issues.

Table 3: Summary of Basic Policy on Economic and Fiscal Management and Reform 2024[22]

<table>
<tr><td colspan="2">I. Transition to a New Growth-oriented Economic Stage
In the face of historical and structural changes and challenges, both domestic and international, which can be said to be the "turning point of the era" for Japan, we will advance bold reforms.</td></tr>
<tr><td>II (1) "Income growth" and wage increases that can be felt richly</td><td>II (2) Revitalization of small and medium-sized enterprises (SMEs) that support richness</td></tr>
<tr><td>II (3) Responding to social issues through the expansion of investment and social implementation of innovative technologies
(1) DX
(2) GX and Energy Security
- Formulation of the "GX National Strategy" and revision of the "Strategic Energy Plan", etc., aiming for completion by FY 2024
- Promotion of energy-saving support, expansion of renewable energy introduction, utilization of nuclear energy, social implementation of low-carbon hydrogen, etc.
- Realization and execution of the growth-oriented carbon pricing concept, realization of the AZEC concept, and technological development of domestic marine resources
(3) Exploration of Frontiers
(4) Promotion of Science and Technology, and Innovation
(5) Asset Management Nation</td><td>II(4) Addressing Social Challenges through Formation of Startup Networks and Improved Connectivity with Overseas Economies</td></tr>
<tr><td>II(5) Regional Revitalization and Addressing Social Challenges in Local Areas</td><td>II(6) Realization of an Inclusive Society Where Happiness is Felt</td></tr>
<tr><td>II(7) Responding to International Environmental Changes as a Foundation for Sustainable Economic Growth</td><td>II(8) Promotion of Disaster Prevention, Mitigation, and Strengthening National Resilience</td></tr>
<tr><td colspan="2">III. Realization of a Sustainable Economic Society in the Mid to Long Term ~ "Economic and FY Revitalization Plan" ~</td></tr>
</table>

<Governance>

The execution of GX in Japan is discussed in the GX Implementation Council, chaired by the Prime Minister and attended by relevant ministers and experts, after which the policy directions are determined. The members of the GX Implementation Council include experts from the industrial and financial sectors. Additionally, the Cabinet Secretariat is overseeing the

22 Created by JCR based on the Cabinet Office's website on Basic Policy on Economic and Fiscal Management and Reform

coordination in the operation of the GX Implementation Council. In addition, the details of the "investment promotion measures" utilizing GX Economy Transition Bonds have been discussed and developed by the GX Expert Working Group. Furthermore, under the GX Implementation Council, a separate conference for liaison among relevant government offices concerning the GX Economy Transition Bonds has been established.

Regarding Japan's GHG emissions and absorption, follow-up is carried out every year in accordance with the "Plan for Global Warming Countermeasures" over various sectors such as energy conversion, industry, transportation, households, etc. The plan is then endorsed at the Headquarters for Promoting Global Warming Countermeasures, participated in by all cabinet ministers, and is being promoted.

In addition, various strategies related to promoting GX will be reviewed as necessary and appropriately, considering the necessity and changes in the external environment.

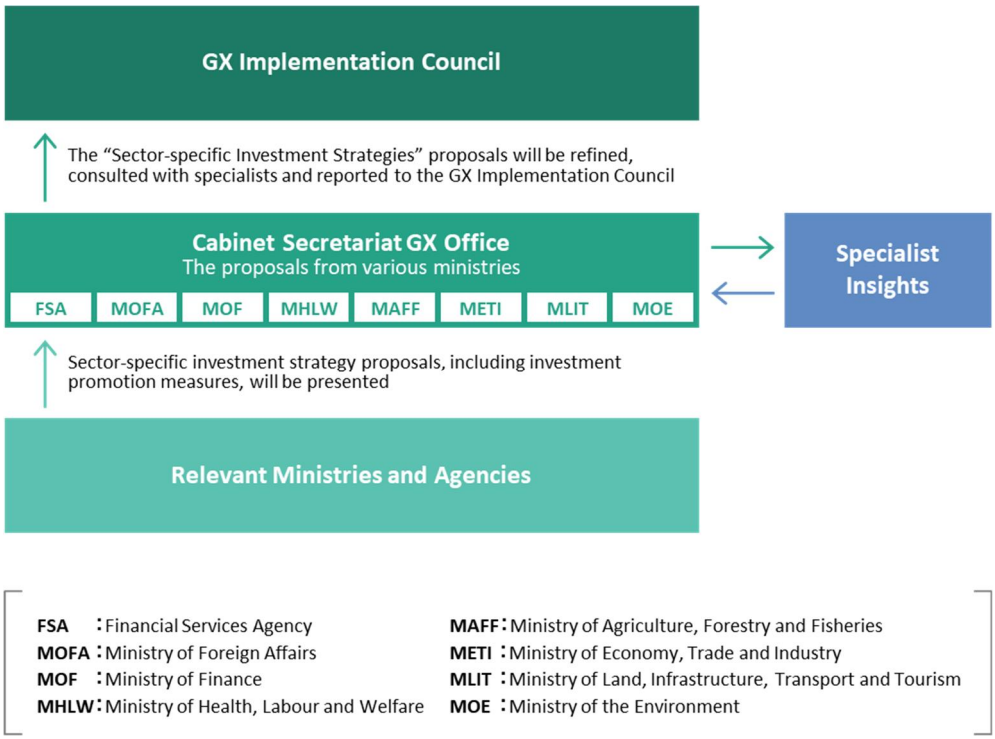


Figure 10: Governance Structure[23]

23 Source: Framework

2-2. Alignment with Items Required in the Climate Transition Finance Handbook etc.

Element 1: Issuer's climate transition strategy and governance

(1) Does the issuer have a transition strategy for climate change mitigation?

The Government of Japan has made clear in the Act on Promotion of Global Warming Countermeasures its aim to achieve carbon neutrality by 2050, and to implement the necessary measures to achieve this. Additionally, in the Global Warming Countermeasure Plan revised in 2021, it has set a 2030 target, consistent with the goals agreed upon in the Paris Agreement, to reduce by 46% compared to the FY2013, and has established reduction targets for each source of emissions for FY2030 compared to FY2013. Also, in February 2025, a revision of the aforementioned global warming countermeasure plan will be conducted, setting reduction targets for FY2035 and FY2040 at 60% and 73% compared to the levels in the FY 2013, respectively. For the FY2040, reduction targets by emission source are being established in the same manner as for the FY 2030.

Concrete measures to achieve the realization of GX towards these aforementioned targets are outlined as the GX2040 Vision (see Table 3 above). In the GX2040 Vision, the Government of Japan is focusing on providing a longer-term direction than the existing GX promotion strategies, to enhance the foreseeability of investment towards GX amidst increasing uncertainties about future prospects. This includes policies on the GX industrial structure and GX industrial location. In addition to initiatives in individual sectors towards GX, which were already indicated in the traditional GX promotion strategies, they are formulating policies with an emphasis on industrial policy. In addition, in efforts toward GX in specific sectors, it is indicated that investment promotion measures should be advanced based on not only the "Sector-specific Investment Strategies" but also the Global Warming Countermeasures Plan and the 7th Strategic Energy Plan.

Therefore, it can be said that the Government of Japan has a strategy for the transition for climate change mitigation.

(2) Is the use of the "transition" label in financing intended to contribute to realizing a strategy for transitioning to a business model in which issuers can effectively address climate-related risks and contribute to achieving the goals of the Paris Agreement?

Japan's government-led GX aims to transform the economy, society, and industrial structure, which have centered on fossil fuels since the Industrial Revolution, to one focused on clean energy. It seeks to achieve a simultaneous stable energy supply, economic growth, and reduced emissions in order to reform the entire socioeconomic system.

The Japanese government intends to utilize funding raised through "transition"-labeled bonds and use these as a source for concrete support programs, thereby demonstrating to domestic businesses and citizens the significance and direction of GX.

In December 2020, immediately after the first edition of the CTFH was published by ICMA in May 2021, the Government of Japan released the "Basic Guidelines on Climate Transition Finance." This basic guideline is intended to promote efforts toward steady low-carbon energy saving in sectors where emission reductions are difficult, and to accelerate innovation contributing to transitions such as long-term research and development for decarbonization. Additionally, it was

formulated with the purpose of popularizing climate transition finance, which is in its nascent stage, and ensuring the credibility when raising funds under the name of transition finance. This will establish the position of transition finance as a means of funding transition, particularly in sectors where emission reductions are difficult, and contribute to realizing Japan's 2050 carbon neutrality and the goals of the Paris Agreement through the introduction of more funds.

The basic guidelines are revised in a timely manner, taking into account international movements related to transition finance, and the most recent revision was made in March 2025.

The Framework is formulated in accordance with the CTFH and the same basic guidelines, and aims to contribute to the realization of a strategy to transition to a business model that allows Japan as a whole to contribute to achieving the goals of the Paris Agreement.

(3) Has a governance system been established to ensure the effectiveness of the transition strategy?

As previously mentioned, the Government of Japan recruits relevant ministries and agencies, external experts, and specialists required for GX, and after necessary discussions, the transition strategy is ultimately formulated at the GX Implementation Council chaired by the Prime Minister. Progress is then reported to this conference, where revisions are made as necessary.

Therefore, JCR evaluates that the Government of Japan is establishing a system to steadily implement its transition strategy.

Element 2: Business model environmental materiality

Japan ranks seventh in the world in terms of GHG emissions, and in order to keep the global temperature rise at the level set by the Paris Agreement, it is expected to take the lead in reducing them while leading the international community. Considering that the introduction of carbon pricing will begin domestically and internationally in the future, for many manufacturing industries with international competitiveness to maintain good performance while achieving a carbon-neutral society, it is urgent to implement various decarbonization measures and structural transformations for each industry type as stipulated in the GX Promotion Act. In this context, in June 2023, the Government of Japan presented the " Grand Design and Action Plan for a New Form of Capitalism," and the revised version of the above plan was issued in June 2024 and June 2025. Within this, it is anticipated that in Japan, GX (Green Transformation) will contribute to enhancing the industrial competitiveness of the country by maximizing the utilization of expertise in fields where Japanese companies have technical strengths in decarbonization-related technology research, thus accelerating the nation's transition to decarbonization.

Based on the above, JCR evaluates that the Government of Japan's efforts toward achieving carbon neutrality, known as GX initiatives, are one of the most crucial challenges for Japan.

Element 3: Climate transition strategy and targets to be science-based

Does the transition roadmap meet the followings?

(1) The roadmap is quantitatively measurable and the target covers Scope 1 and Scope 2, respectively (it is desirable that the Scope 3 target be set to the extent feasible.)

As indicated in the Global Warming Countermeasures Plan, Japan's GHG emissions reduction target is consistent with the goal set by the scientifically based objectives agreed upon by the international community in the Paris Agreement (keeping the increase well below 2°C and limiting it to 1.5°C compared to pre-industrial levels). In Japan, since the government does not adopt the concept of Scope 1, Scope 2, and Scope 3 emissions, this section has been considered by JCR in accordance with the definitions established by the PCAF[24]. If the direct business activities of the country are defined as Scope 1 and Scope 2, the target setting and specific measures are planned in the administration and business edition. As for the emissions for the whole of Japan, which fall under Scope 3, the total emissions by source or sector are disclosed in the Global Warming Countermeasure Plan as mentioned above. Moreover, the targets and measures for FY2030, FY2035, and FY2040 have been meticulously set into planning based on specific technical examinations.

Therefore, JCR evaluates the Government of Japan's plan as having an appropriately covered scope, and high transparency in both disclosed achievements and goals.

(2) Whether the GHG emission reduction target aligns with globally recognized science based target or not

Japan's GHG emissions reduction target for 2030 was set assuming alignment with the Paris Agreement in 2021. Furthermore, the sectoral technology roadmaps, particularly for high-emission industries, are formulated to align as much as possible with the IEA[25]'s NZE scenario[26] and SDS scenario[27], provided there is a current or future technical basis for such alignment, with the achievement of the respective goals as a premise.

Moreover, the Government of Japan has set a target (-2.7% reduction per year *JCR conversion) that aligns with the goal of limiting global warming to 1.5°C as indicated in the IPCC[728] Special Report[829]on Global Warming of 1.5°C (approximately 45% reduction from the 2010 level by 2030; -2.25% reduction per year), which JCR evaluates as consistent with the scientifically-based goal setting under the Paris Agreement aiming for 1.5°C[930].

24 MOE "Decarbonization Practice Guidance Starting from Portfolio Carbon Analysis for Financial Institutions" https://www.env.go.jp/content/000125696.pdf
25 International Energy Agency (IEA)
26 Net Zero Emissions by 2050 Scenario by IEA
27 Sustainable Development Scenario, which is the path to fully achieve the sustainable development goals by the IEA
28 Intergovernmental Panel on Climate Change (IPCC)
29 IPCC "Global Warming of 1.5°C," an IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development and efforts to eradicate poverty https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_Full_Report_HR.pdf
30 The IPCC Special Report on Impacts of Global Warming of 1.5°C was updated in the IPCC's 6th Assessment Report (AR6). The target of 1.5 °C therein will reduce the CO_2 emissions by roughly 36% to 69% from the FY2019 level by FY2030 (Reduction Rate: 3.3% to 3.6% per year)

For reference, the relative ambition levels of targets compared to other countries are shown in the following figure.

Country	Emission Reduction Target by 2030 (Base Year 2013)
United Kingdom	-54.6%
Switerland	-49.4%
Brazil	-48.7%
Japan	**-46.0%**
United States	-45.6%
Saudi Arabia	-43.3%
EU27	-41.6%
Canada	-40.4%
South Africa	-33.3%
South Korea	-23.7%
Ukraine	-23.0%
Australia	-18.4%
Mexico	-0.4%
Thailand	7.0%
Kazakhstan	8.6%
China	14.1%
Malaysia	23.1%
Russia	51.8%
India	99.2%
Indonesia	131.0%
Pakistan	234.6%

Figure 11: GHG Emission Reduction Rate Target for 2030 (Comparison with FY2013 Standard-based Target Figures Replaced by Countries)[31]

(3) Details must be publicly disclosed (including intermediate milestones)

The Government of Japan's goal of achieving carbon neutrality by 2050 is clearly stated in the Act on Promotion of Global Warming Countermeasures. Additionally, interim targets have been declared in the Global Warming Countermeasures Plan, aiming to reduce the total GHG emissions by 46% in FY2030, 60% in FY2035, and 73% in FY2040, compared to the FY 2013. Moreover, specific targets for FY2030 and 2040, categorized by emission sources, are disclosed in the same plan, ensuring high transparency.

(4) Certified/verified by an independent third party

Regarding GHG emissions, due to their unique nature, they have not received third-party certification or verification that general companies would undergo. However, given the fact that the Global Warming Prevention Headquarters , where the Prime Minister serves as chairperson and all the cabinet members participate, approves the status of the progress after the deliberation

31 Source: Materials of a joint meeting for a clean energy strategy "Materialize political initiatives for realizing GX"

of relevant councils on an annual basis, the process is well-managed by internal and external experts. Accordingly, JCR considers that the status of the progress of the plan is virtually monitored by a third party.

From the above, JCR evaluates that the Government of Japan's efforts toward achieving carbon neutrality by 2050 are based on scientific evidence and meet the necessary requirements in Element 3.

Element 4: Implementation transparency

The Government of Japan, in its GX Promotion Strategy and GX2040 Vision, has decided on a total investment of 150 trillion yen by both the public and private sectors over the decade. Furthermore, the specific breakdown has been announced as follows according to the energy supply sector and the demand sector.

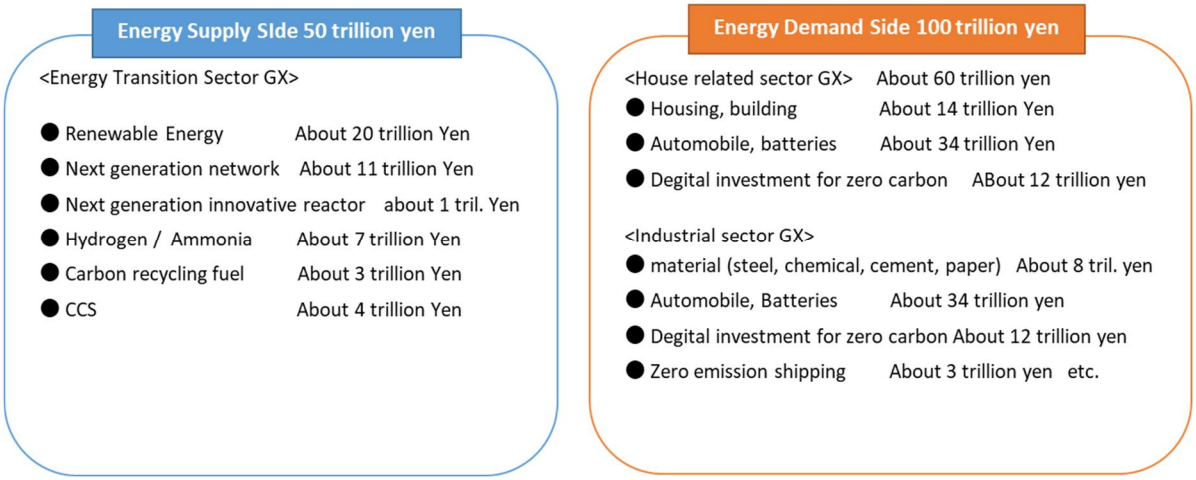


Figure12: Breakdown of Public/Private Investments for 10 years[32]

Out of the total investment of 150 trillion yen, 20 trillion yen is expected to be executed as an investment promotion measure through GX economy transition bonds. Regarding this investment promotion measure, to enhance predictability for companies and strongly stimulate GX investment, the Government of Japan is compiling a "Sector-specific Investment Strategies[33]" as a means to present concrete investment promotion measures and a "Five-Year Action Plan" for the next ten years in the FY 2023. Incidentally, approximately 1.6 trillion yen of CT Bonds have already been issued in the FY2023 (Reiwa 5), and about 1.4 trillion yen is issued in the FY 2024 (Reiwa 6). Furthermore, at the GX Implementation Council held in May 2024, the breakdown of the government's investment plans for the next 3-10 years as part of the main implementation status of the GX Investment Support Measures was presented as follows, and at the GX Implementation Council held in December 2024, the budget amount for each item was indicated.

32 Source: "Toward the achievement of GX in Japan," a material for the GX Implementation Conference
33 "Sector-specific Investment Strategies" published on December 22, 2023
https://www.meti.go.jp/english/press/2023/1222_002.html

Innovative technology development	**Already allocated 1 trillion yen**	・Representative examples from the Green Innovation Fund, which supports innovative technology development with high decarbonization effects: (i) Promoting development of next-generation solar cells (perovskite), to be launched on the market in 2025 (ii) Demonstration equipment for hydrogen reduction steelmaking to be introduced in 2026 (iii) Successfully developed ammonia combustion, to be commercialized in Malaysia in 2026 (MOU signed), etc. *Support for R&D of ammonia ships (plus support for production equipment for zero-emission ships, etc.) ・Support for basic research and human resource development at universities, etc. through the Green Technologies for Excellence (GteX) Program ・Support for development of semiconductor technology (photonics-electronics fusion) to drastically reduce electricity consumption, etc.
Structural transformation of high-emission industries	**1.3 trillion yen or more (for 10 years)**	・"Innovative electric furnaces" that cut emissions by more than half, chemical recycling, biorefineries, CCUS, etc.
Household GX	**2 trillion yen or more (for 3 years)**	・Renovating homes to insulated windows (strengthening the insulation of windows, which account for 70% of heat entering and leaving homes) ・Introduction of high-efficiency water heaters (heat pumps, etc.) ・Support for the introduction of electric vehicles/storage batteries, etc.
Hydrogen, etc.	**3 trillion yen or more (for 15 years)**	・Support measures focusing on the price difference of hydrogen, etc.
Next-generation renewable energy	**1 trillion yen or more (for 10 years)**	In addition to renewable energy introduction support measures (FIT system) on the scale of several trillion yen per year, ・Support for building supply chains for perovskite, floating offshore wind, water electrolysis equipment, etc., and consideration of support for the introduction of perovskite (in addition to the GI fund, 1 trillion yen will be provided over 10 years)
Small and medium-sized enterprises, startups, etc.	**1 trillion yen or more (for 3-5 years)**	・Support for energy conservation for small and medium-sized enterprises, etc. (700 billion yen will be provided over 3 years) ・Support for GX startups (200 billion yen will be provided over 5 years) etc.
Tax measures		- Establish new tax credits based on the production and sales volume of green steel, green chemicals, SAF, EVs, etc.

Figure 13: Implementation Status of GX Investment Support Measures[34]

Regarding the investment details for each fiscal years, as the government's budget is executed on an annual basis, they plan to announce it after the annual budget is passed.

Based on the above, JCR evaluates the Government of Japan's investment plan as having high transparency, as the government discloses information such as planned government expenditures, the scale of public-private investment expected to be promoted by these expenditures, and the 10-year roadmap.

34 Source: "Toward Accelerating Japan's GX," a material for GX Implementation Council
https://www.cas.go.jp/jp/seisaku/gx_jikkou_kaigi/dai11/siryou1.pdf

The Ministry of Economy, Trade and Industry in Japan has pointed out in its sector-specific roadmap that there are multiple areas requiring business transformation and employment shifts that accompany the execution of transition strategies. Since most of the expenditures from GX Economy Transition Bonds are directed towards research and development or grant programs for multiple companies, they do not inherently require the direct consideration of a just transition as business transition strategies do. On the other hand, the Government of Japan recognizes that achieving a fair transition is an important issue, considering Japan's characteristics of having a high proportion of manufacturing industries and low labor mobility. Based on the above, the GX2040 Vision includes additions regarding a "just transition," detailing support for the facilitation of labor mobility to growth sectors, transfer support, and reskilling assistance for career upgrades of current employees. It also describes efforts to support the acquisition of new skills necessary to respond to the advancement of supply chains through the use of DX such as robotics and AI, taking into account ensuring that workers can continue to thrive in an advanced supply chain as the transition to a GX industrial structure occurs.

Regarding the possibility of being locked into fossil fuels, both the sector-specific roadmap and the GX2040 Vision formulated by the Government of Japan are designed to achieve carbon neutrality by 2050. They are aimed at achieving carbon neutrality through next-generation technological innovation rather than relying heavily on carbon credits, thus assessing the risk as low. In addition, it is a prerequisite that the target projects for the support measures funded by the Bonds are aligned with Japan's transition strategy, such as sector-specific technology roadmaps, and it is evaluated that the risk of locking in fossil fuels is low.

Regarding the perspective of DNSH (Do No Significant Harm), the use of proceeds from the Bonds will be for research and development expenses or subsidy programs. When selecting subjects for research and development, environmental impacts and resilience are considered in evaluations, and the establishment of clear criteria in the grant program for benchmarking subsidies, work to avoid serious negative impacts on the environment.

Accordingly, JCR has evaluated that the Bonds satisfy the four elements required in the Climate Transition Finance Handbook etc.

I. Use of Proceeds

JCR's Key Consideration on This Factor

In this section, JCR will firstly confirm whether the proceeds financed are allocated to green/transition projects that bring about clear environmental benefits. Then, in case where negative impacts on the environment and society is expected with the use of proceeds, the impacts will be fully examined by an in-house specialized division or external third parties and will confirm that necessary workarounds and mitigation measures are taken. Lastly, JCR will confirm alignment with the Sustainable Development Goals (hereinafter referred to as "SDGs".)

▶▶▶ Current Status of Evaluation Targets and JCR's Evaluation

JCR evaluated the Framework revised by the Government of Japan and published an evaluation report on June 27, 2025. In this evaluation report, JCR confirmed how each criterion of the Japan Climate Transition Bond Framework contributes to the realization of a decarbonized society in Japan. All of the uses of proceeds determined by the Government of Japan for the Bonds fall under the categories whose eligibility and environmental improvement effects were confirmed in the framework evaluation. Therefore, JCR evaluates that all of the planned uses of the proceeds from the Bonds are important projects for achieving carbon neutrality by 2050 and Japan's transition to a decarbonized society.

1. Overview of Use of Proceeds

In the Framework, the Government of Japan determines the use of proceeds from the areas specified in the GX Promotion Strategy as measures that contribute to Japan's GX, and the basic conditions specified in the strategy (see Chapter 1). Established as research and development funds and/or subsidy programs for projects that meet the requirements. Table 4 shows the use of proceeds for the Bonds, which is organized according to the use of proceeds classification in the Framework. In addition, As with the FY2024 CT bonds, "Deep Tech Startup Support Program in the Green Transformation field," which provides necessary support for social implementation for startup companies in the GX sector, and "Capital for GX Acceleration Agency," in which the GX Acceleration Agency provides financial support services such as debt guarantees to supplement risks that private financial institutions cannot fully address mainly in the GX sector, are businesses that target all categories, so they are described as cross-sectoral in Table4. Please see below for details of the businesses.

Table 4: Use of proceeds for the Bonds in the classification of the Framework[35]

Main Category (Green category)		Sub-category Eligibility criteria	Use of proceeds for the Bonds
1	Energy efficiency	Promotion of thorough energy efficiency improvement	- Subsidy for energy saving investments/demand structure conversion - Support for installing CO_2-saving facilities to reduce Scope 3 emissions through collaboration among companies - Subsidy for promoting energy savings in households through installing high-efficiency water heaters
		Houses and buildings	- Accelerating energy/emissions savings of housing through promoting renovations for insulated windows - Accelerating decarbonizing renovations for commercial buildings - Support for the Introduction of GX-Oriented Housing
		Digital investment aimed at decarbonization	- Research and Development Project of the Enhanced Infrastructures for Post-5G Information and Communication Systems - Research and Development of AI foundation models and advanced semiconductor technologies and related projects - Research and Development Program for Next-generation Edge AI semiconductor
		Battery industry	- Support for strengthening manufacturing supply chains of batteries - Installation support for electricity storage systems such as grid-scale batteries to expand renewable energy usage
2	Renewable energy	Making renewable energy a major power source	- Support for building GX supply chains - Promotion of implementation for creating social implementation models of perovskite solar cells ("Installation support for electricity storage systems such as grid-scale batteries to expand renewable energy usage" also meet this criterion.)
		Infrastructure	- Regional decarbonization promotion grant
3	Low-carbon and decarbonized energy	Utilization of nuclear power	- Development of Next-Generation Advanced Reactors and support for industry basis strengthening
		Establishing electricity and gas markets to achieve carbon neutrality	(No applicable projects in the Bonds.)
4	Clean transportation	GX in transport sector	- Next-generation aircraft development and related areas - Support project for Sustainable Aviation Fuel (SAF) production and supply chain development - Promotion of the construction of zero-emission ships etc. - Subsidy for introducing clean energy vehicles - Promotion project for the electrification of commercial vehicles

35 Created by JCR based on Framework and materials provided by METI

		Infrastructure (repeat)	(No applicable projects in the Bonds)
5	Circular economy adapted products, production technologies and processes	Restructuring the manufacturing industry (fuel and feedstocks transition)	- Support for energy/manufacturing process conversion for hard-to-abate industries
		Facilitating introduction of hydrogen and ammonia	- Hydrogen Hub Development Program - Support focused on the price difference to build supply chains for hydrogen and its derivatives ("Support for building GX supply chains" also meets this criterion)
		Carbon Recycling and CCS	(No applicable project in the Bonds)
6	Environmentally sustainable management of living natural resources and land use, Circular economy	Food, agriculture, forestry, and fisheries industry	(No applicable projects in the Bonds)
		Resource circulation	- Support for enhancing the resilience and autonomy of circular economy systems through industry-government-academia collaboration - Investment promotion for advanced resource circulation
Cross-sectoral (applies to all green categories)			- Deep Tech Startups Support Program in the Green Transformation field - Capital for GX Acceleration Agency

The planned use of proceeds from the Bonds and classification by target area are as shown in the figure and the table below.

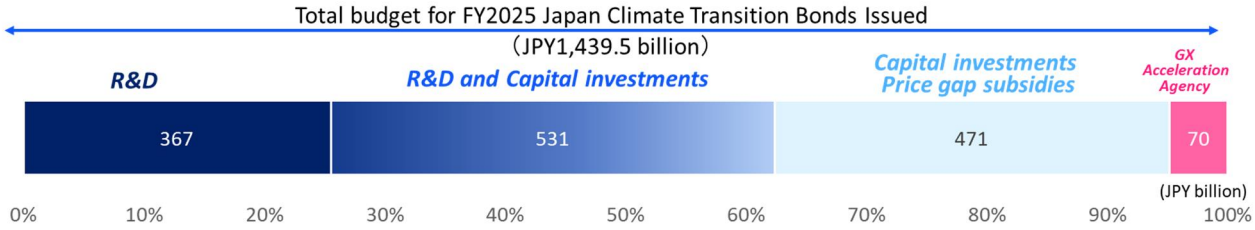


Figure 14: Budget for Projects to Receive Proceeds from CT Bonds (FY2025) (by Project)[36]

36 Created by JCR based on materials provided by METI

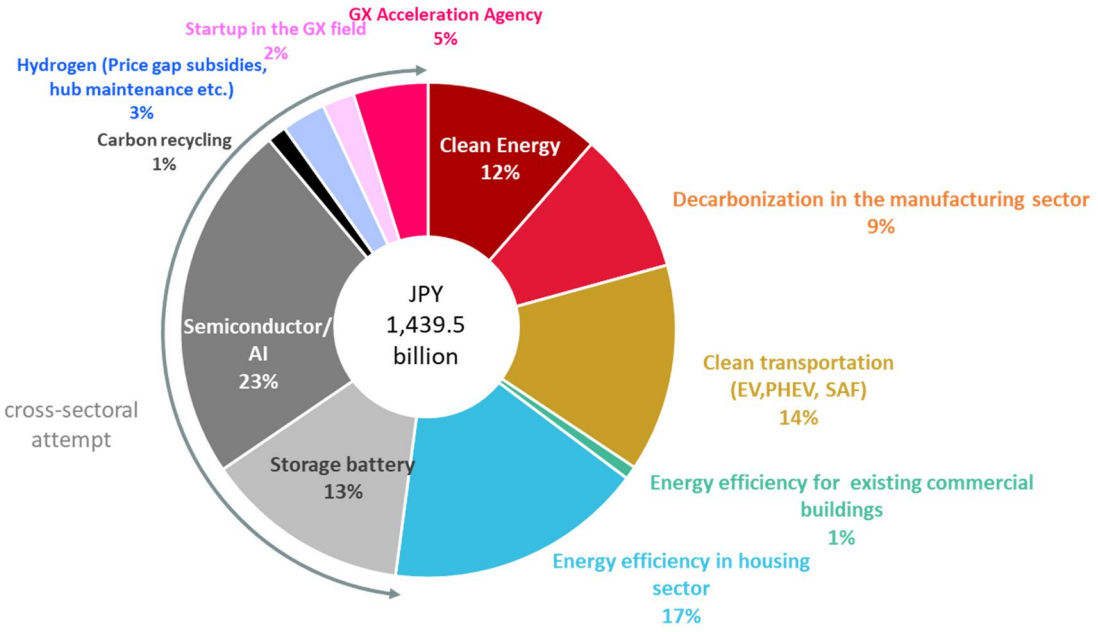


Figure 15: Budget for Projects to Receive Proceeds from CT Bonds (FY2025) (by Use)

*Figures 12 and 13 show the total budget amount for the projects covered by the Bonds, and the total amount of the Bonds issuance is planned to be 1.2 trillion yen. The actual amount allocated will be reported in the funds allocation report.

Table 2: Projects allocated to the Bonds[37]

	Budget Year	New/ continuation	Appropriated projects (including some potential projects)	Target Area	Project budget (JPY billion)
(1) Research and Development	**2025**	Continuation	1. Deep-Tech Startups Support Program in the Green Transformation field	Startup in the GX field	30.0
	2025	Continuation	2. Research and Development Project of the Enhanced Infrastructures for Post-5G Information and Communication Systems	Semiconductor/AI	150.2
	2024	Continuation	3. Research and Development of AI foundation models and advanced semiconductor technologies and related projects	Semiconductor/AI	157.6
	2025	New	4. Research and Development Program for Next-generation Edge AI semiconductor	Semiconductor/AI	29.5
					367.3
(2) Support for capital investment	2024	Continuation	5. Support project for strengthening manufacturing supply chains of batteries (*1)	Storage Battery	177.8
	2025	New	6. Development of Next-Generation Advanced Reactors and support for industry basis strengthening (*1)	Clean Energy	88.9
	2025	New	7. Next-generation aircraft development and related areas (*1)	Clean Transportation	8.1
	2025	Continuation	8. Support for energy/manufacturing process conversion for hard-to-abate industries	Decarbonization in the manufacturing sector	25.6

37 Created by JCR based on materials provided by METI

	2025	Continuation	9. Support Project for Sustainable Aviation Fuel (SAF) Production and Supply Chain Development	Clean Transportation	27.8
	2025	Continuation	10. Support for enhancing the resilience and autonomy of circular economy systems through industry-government-academia collaboration	Carbon Recycling	3.0
	2025	Continuation	11. Support for building GX supply chains	Clean Energy	61.0
	2025	Continuation	12. Investment promotion for advanced resource circulation	Carbon Recycling	15.0
	2025	Continuation	13. Promotion of the construction of zero-emission ships etc.	Clean Transportation	10.2
	2024/2025	Continuation	14. Subsidy for energy saving investments/demand structure conversion	Decarbonization of manufacturing sector	106.0
	2025	New	15. Support for installing CO_2-saving facilities to reduce Scope 3 emissions through collaboration among companies	Decarbonization of manufacturing sector	2.0
	2025	New	16. Hydrogen Hub Development Program	Hydrogen (Price gap subsidies, hub maintenance etc.)	5.7
					531.1
(3) Introduction Support	**2025**	Continuation	17. Installation support for electricity storage systems such as grid-scale batteries to expand renewable energy usage	Storage Battery	15.0
	2025	New	18. Promotion of implementation for creating social implementation models of perovskite solar cells	Clean Energy	5.0
	2024/2025	Continuation	19. Regional decarbonization promotion grant	Clean Energy	10.0
	2024	Continuation	20. Subsidy for promoting energy savings in households through installing high-efficiency water heaters	Energy conservation in the residential sector	58.0
	2024	Continuation	21. Subsidy for introducing clean energy vehicles	Clean Transportation	110.0
	2024	Continuation	22. Accelerating energy/emissions savings of housing through promoting renovations for insulated windows	Energy conservation in the residential sector	135.0
	2024/2025	Continuation	23. Accelerating decarbonizing renovations for buildings	Energy efficiency for existing commercial buildings	12.4
	2024	New	24. Support for the Introduction of GX-Oriented Housing	Energy conservation in the residential sector	50.0
	2024	Continuation	25. Electrification promotion project for commercial vehicles etc.	Clean Transportation	40.0
	2025	Continuation	26. Support focused on the price difference to build supply chains for hydrogen and its derivatives	Hydrogen (Price gap subsidies, hub maintenance etc.)	35.7
					471.1
(4) Capital contributions to the Agency	**2025**	Continuation	27. Capital for GX Acceleration Agency	GX Acceleration Agency	70.0
					70.0
Total					**1,439.5**

*1 Both research and development and capital investment are included as eligible uses of funds for items 5–7.
*2 Table 5 shows the breakdown of the budget amounts for the projects covered by the Bonds, and the total amount of the Bonds is expected to be 1.4 trillion yen. The actual amount allocated will be reported in the funds allocation report.

In Table 5, projects that were newly added as a use of proceeds from the Bonds (issued in FY2025) are indicated as "New," while projects that were included in the use of proceeds from the first/second series of Japanese Climate Transition Bonds (issued in FY2023 and/or FY2024) and will continue in the Bonds (issued in FY2025) are indicated as “Continuation.” The ratio of new projects to continuing projects is as follows. In terms of the total budget amount, new projects: JPY189.2 billion, continuing projects: JPY1,250 billion, with continuing projects accounting for more than 80%. Please note that specific targets or requirements were changed in some ongoing projects.

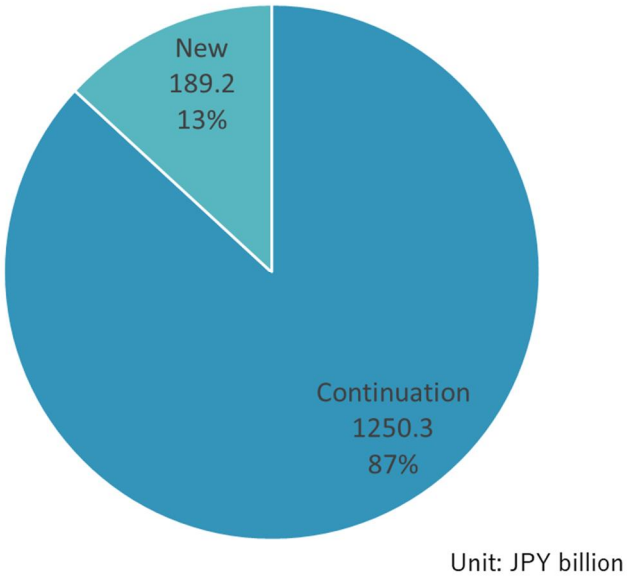


Figure 16: Budget-based Proportion of New and Existing Projects to Receive Proceeds from Bonds[38]

38 Created by JCR based on materials provided by METI

2. Project Overview and Impact (Environmental Improvement Effect)

The proceeds from the Bonds will be used for (1) research and development support, (2) subsidy programs to support capital investment, (3) subsidy programs for introduction support, and (4) capital contributions to the GX Acceleration Agency. In the light of the policy intent, the projects are classified into the following four themes: (A) Innovative R&D to gain new markets, (B) Capital investment that contributes to both emissions reduction and economic growth, (C) Creating demand at a national level for economic growth, and (D) Cross-cutting efforts to realize GX. The outline of each project and its environmental benefits are detailed below. JCR has confirmed that the use of proceeds from the Bonds meet the eligibility criteria, which have been confirmed in the framework evaluation for both eligibility and environmental benefits. JCR has confirmed that all the subsidy program recipients are obliged to submit, in advance, their direct or indirect GHG emissions and GHG emissions reduction targets and initiatives toward carbon neutrality, such as joining the GX League, in a predetermined format. Accordingly, JCR considers that all the projects to receive the proceeds from the Bonds are important for achieving NZE by 2050 and milestone interim targets set for each fiscal year.

(1) Research and Development Support Projects

Use of Proceeds 1: Support for Deep Tech Startups in the Green Transformation Field (Ongoing projects from the second series of Japanese CT Bonds Issued in FY2024)

ICMA GBP Classification	"Renewable energy," "Energy efficiency," "Clean transportation," "Circular economy adapted products, production technologies and processes and/or certified eco-efficient products" and "Environmentally sustainable management of living natural resources and land use"
GB Guidelines	"Projects for renewable energy," "Projects for energy efficiency," "Projects for clean transportation," "Projects concerning production technologies and processes and environmentally friendly products for the circular economy," and "Projects for the sustainable management of living natural resources and land use."
Policy Intention	(A) Innovative R&D to gain new markets
Background/ Objective	In order to promote the technological innovation necessary to achieve net-zero and to promote market growth in the GX industry and corporate GX, it is necessary to accelerate the growth of startups in the GX field. In Japan, the Five-Year Startup Development Plan[39] outlines a policy to create an ecosystem in Japan that produces and nurtures startups and realize a second startup boom, with the aim of transforming social issues into engines of growth and realizing a sustainable economic society. To achieve this, goals have been set such as increasing investment in startups by more than 10 times the current level in five years and creating 100 unicorns in the future. Among startups, so-called "deep tech startups" require long-term research and development and large amounts of capital before the technology can be established, and the risk of commercializing the business is high. However, as the international community faces diverse and difficult social challenges, the innovative technologies possessed by deep tech startups could help resolve these issues, and they also have the potential to realize growth for Japan's economy by creating new companies and industries backed by innovative technology. In particular, as shown in the figure below (next page), Japan has many internationally competitive technologies in the GX sector, but is lagging behind in international competition at

39 New Capitalism Realization Council "*Startup Development Five-Year Plan*" (November 28, 2022) https://www.cas.go.jp/jp/seisaku/atarashii_sihonsyugi/kaigi/dai13/shiryou1.pdf

the social implementation stage in the GX sector. Therefore, in order to quickly implement a wide range of technological seeds, we recognize the importance of utilizing startups in terms of flexible research and development systems that take market trends into account, access to risk capital, etc.

Total patent asset 2010-2019[10]

	Cars/ Storage batterie	Hydroge n	Semico nductor /IT	House/ building s solar panel	Offshor e wind power	Carbon recyclin g	Ships	Nuclear	Fuel Ammoni a	Logistic s/ infrastr ucture	aircraft	Circular econom y
Japan	**41,031**	**10,408**	**8,374**	253	487	1,137	208	66	111	645	24	442
China	19,664	7,189	7,799	108	1,418	1,730	205	221	133	4,146	37	3,563
Korea	16,488	4,084	2,238	130	302	490	331	27	11	923	5	457
U.S.	17,888	4,447	8,126	140	402	1,727	231	339	188	1,772	155	1,636
Germa ny	7,399	1,851	1,899	12	70	334	196	15	103	355	6	158
France	2,999	1,133	731	20	16	387	32	28	8	171	69	173
U.K.	493	770	243	13	5	69	52	66	21	65	9	79

In the GX sector, there are many businesses that utilize the aforementioned deep tech, but there are significant barriers in terms of demand and fundraising between the time when startups are created based on technological seeds, the time when these startups conduct research and development, and the time when they can realize social implementation.
The purpose of this project is to support the efforts of each company in order to resolve these issues and strongly encourage startups to implement GX-related technologies as soon as possible, so as to avoid “winning in technology but losing in business.”

Project Overview

This program will target projects that meet the following three criteria: (i) there is a specific technology seed and it is expected that there will be an R&D element; (ii) it will be possible to create innovations that will strengthen competitiveness; and (iii) it will be possible to create innovations that will achieve carbon neutrality on a global scale and strengthen Japan’s industrial competitiveness, for example by setting ambitious targets for reducing CO_2 emissions based on the GX Promotion Strategy. The target areas cover all the uses of proceeds eligible under the Framework except "utilization of nuclear power."

This program has three options:
[1] STS Phase (Seed-stage Technology-based Startups, practical research and development (first half))
In addition to research and development of core technologies and development of prototypes, government will support the implementation of feasibility studies to determine the direction of technological development toward commercialization.
・Subsidy amount: up to 300 million yen or up to 500 million yen (※) / Project period: Approximately 1.5 to 2 years (however, up to 4 years within the same phase) ※When collaborating with operating companies or conducting overseas technology demonstrations
[2] PCA Phase (Product Commercialization Alliance, practical application research and development (later stage))
In addition to developing prototypes and initial production technology, the company will also support the implementation of feasibility studies aimed at capturing major markets.
・Subsidy amount: up to 500 million yen or up to 1 billion yen (※) / Project period: Approximately 1.5 to 2 years (however, up to 4 years within the same phase) ※When collaborating with operating companies or conducting overseas technology demonstrations
[3] DMP Phase (Demonstration development for Mass Production)
It will support the implementation of demonstrations necessary for commercialization through research and development on mass production technology, as well as the design, manufacture,

[10] Created by JCR based on the Ministry of Economy, Trade and Industry's "Guidance for creating and growing GX startups ~Securing initial demand and diversifying financing~"
https://www.meti.go.jp/policy/energy_environment/global_warming/gx_startup/gx_guidance.pdf

	purchase, introduction, and operation of production and inspection equipment for mass production. ・Subsidy amount: Up to 2.5 billion yen / Project period ・Project period: Approximately 1.5 to 2 years (however, up to 4 years within the same phase) The upper limit for subsidy amount per project during the duration is set at 3 billion yen even when a project moves on to the next phase after stage-gate screening.
Development Goals	[1] STS phase: The product or service solves a problem for intended customers in the initial market. [2] PCA phase: The product or service solves problems for target audiences in the initial market and beyond in the mainstream market, and meets the requirements to generate ongoing revenue. [3] DMP Phase: The products and services are targeted to the main market (mainstream) Necessary to solve the problems and build a business model that can start commercial production and secure continuous income Once the requirements are met, the next round of funding will see the company move into actual mass production.
Technology Maturity Targets	TRL5 (STS phase), TRL6 (PCA phase), TRL7 (DMP phase) * Please note that the TRL assumed for each phase varies depending on the characteristics of the technical field and business domain, so it is a guideline.
Impact	The goal is to accelerate the business growth of startups in the GX field. In the short term, the program is aimed to have 50% of those who have raised funds for the next round of funding within one year of the end of support. In the medium term, it is aimed to start large-scale commercial production, etc., and in the long term, it is aimed to promote GX and create and develop a GX startup ecosystem
Subsidy rate	[1] STS Phase: Grant rate: 2/3 or less [2] PCA Phase: Grant rate: 2/3 or less [3] DMP Phase: Grant rate: 2/3 or less
Related URL	https://www.nedo.go.jp/activities/ZZJP_100250.html https://www.nedo.go.jp/content/800020606.pdf (Reference) Ministry of Economy, Trade and Industry “Guidance for the creation and growth of GX startups: Securing initial demand and diversifying financing” https://www.meti.go.jp/policy/energy_environment/global_warming/gx_startup/gx_guidance.pdf

Use of Proceeds 2: Support for Research and Development of the Enhanced Infrastructures for Post-5G Information and Communication Systems
(Continued projects from the first/second series of Japanese Climate Transition Bonds (issued in FY2023 and FY2024))

ICMA GBP Classification	"Energy efficiency"
GB Guidelines	“Projects for energy efficiency”
Policy Intention	(A) Innovative R&D to gain new markets
Background/ Objective	To achieve carbon neutrality by 2050, electrification across various sectors through the maximum introduction of renewable energy is planned. Additionally, due to the expected increase in electricity demand related to IT and communications, driven by the promotion of digital transformation (DX), innovation to improve energy efficiency is essential in each field. In the GX2040 vision, it is mentioned that the acceleration of DX through the utilization of AI, such as the optimization of supply and demand of renewable energy using AI, and the development of efficient new materials with high CO2 reduction effects, holds the potential to maximize the effect of GX, which aims to simultaneously achieve growth and decarbonization. Fifth-generation mobile communication systems (5G) are more advanced than fourth-generation mobile communication systems (4G), and feature enhanced functions such as ultra-low latency and multiple simultaneous connections. By developing core technologies for new information and communications systems that are compatible with 5G (post-5G), we aim to strengthen

	Japan's development and manufacturing base for 5G information and communications systems and to achieve both a digital society and decarbonization. With the proliferation and advancement of AI, changes are occurring not only in the performance enhancement of each product but also in the design philosophy of semiconductor products. For example, SoCs (System on a chip), which further integrate components of integrated circuits onto a single chip, have been used, but a chiplet integration design method has also emerged, where the chips are manufactured separately and then combined. Furthermore, it is anticipated that not only AI learning in data centers, but also AI applications such as inference will rapidly progress in edge devices, which are used by consumers such as home appliances, smartphones, cameras, and automobiles. Therefore, while a variety of general-purpose semiconductors have been used in different applications so far, it is said that developing dedicated semiconductors tailored to specific applications is crucial for achieving high performance and low power consumption.
Project Overview	The eligible projects are those designated or to be designated as development themes for GX under the Post-5G Information and Communication System Infrastructure Enhancement R&D Project R&D Plan. The following are projects selected so far: (d2) Development of implementation technology for photonics-electronics convergence technology and base technology for deterministic latency computing (p.32) (e1) Development of manufacturing technology for next-generation wide-bandwidth and low-power HBM (p.35) (e2) Development of manufacturing technology for innovative memory (p.35) (e3) Development of design and manufacturing technology for AI memory for edge computing (p.35) (f3) Development of AI semiconductor design technology for communications (p.37) (f4) Development of technology for building a chiplet design platform (p.37) (f4-1) Development of secure element chip and implementation technology for building a platform (p.37) (g1) In-vehicle semiconductor data transmission technology (p.37) The projects covered by the initial budget for FY2025 will be added to the R&D Plan at the public offering. Cross-sectional R&D projects as above including not only those focusing on improving the efficiency of products but also those for technologies to connect devices will be selected. Plus, projects to develop human resources, which is important for promoting these projects, and research on business strategies related to next-generation semiconductors will be implemented.
Development Goals	The target is set for each theme. For example, power consumption must be reduced by at least 30% compared to equivalent technologies or products commonly used at the start of R&D. Please refer to p.30 to p.32 of the JCR review evaluation report for the Framework published on June 27, 2025.[40]
Technology Maturity Targets	Social implementation in the early 2030s (TRL 7-8)
Impact	More than 50% of technologies developed in the project will be put to practical use
Related URL	Post-5G Information and Communication System Infrastructure Enhancement R&D Project R&D Plan https://www.meti.go.jp/policy/mono_info_service/joho/post5g/pdf/20250325_kenkyukaihatsukeikaku.pdf

Use of Proceeds 3: Support for Research and Development for AI Foundation Models and Advanced Semiconductor Technologies and Related Projects
(Continued projects from the first/second series of Japanese Climate Transition Bonds (issued in FY2023 and FY2024))

ICMA GBP Classification	"Energy efficiency"

40 JCR evaluation report on Japan Climate Transition Bonds (25-D-0388) published on June 27, 2025

GB guidelines	"Projects for energy efficiency"
Policy Intention	(A)Innovative R&D to gain new markets
Background/ Objective Business summary	The use of proceeds falls under Post-5G Information and Communication System Infrastructure Enhancement R&D Project. Please refer to Use of Proceeds 2 for the background, objective and project overview.
Development Goals	The target is set for each theme. For example, power consumption must be reduced by at least 30% compared to equivalent technologies or products commonly used at the start of R&D. Please refer to p.30 to p.32 of the JCR review evaluation report for the Framework published on June 27, 2025[41]
Technology Maturity Targets	Social implementation in the early 2030s (TRL 7-8)
Impact	More than 50% of technologies developed in the project will be put to practical use
Related URLs	Post-5G Information and Communication System Infrastructure Enhancement R&D Project R&D Plan https://www.meti.go.jp/policy/mono_info_service/joho/post5g/pdf/20250325_kenkyukaihatsukeikaku.pdf

Use of Proceeds 4: Support for Research and Development for Next-Generation Edge AI Semiconductor

ICMA GBP Classification	"Energy efficiency"
GB Guidelines	"Projects for Energy Efficiency"
Policy Intention	(A)Innovative R&D to gain new markets
Background/ Objective	As described in Use of Proceeds 2, the Government of Japan aims to accelerate growth and solve social issues at the same time through the dual drivers of GX and DX. As a significant rise in cloud power consumption due to the rapid increase in the volume of data processing has become a major challenge in recent years, a dramatic improvement in the performance of AI semiconductors that enable advanced edge computing has become necessary. This project contributes to realizing innovative next-generation edge AI semiconductors with features, such as once impossible ultra-low power consumption, by leveraging academia's seeds.
Project Overview	Technologies, such as design, production and materials, necessary for innovative next-generation edge AI semiconductors with ultra-low power consumption were backcasted from existing industries or new industries expected to emerge in/after the mid-2030s. Among these technologies, the project researches and develops those that academia should take on, considering swiftly transferring the project to industries. In this project, high-efficiency system design, ultra-low power AI circuits, new materials, devices, processes, and integration technologies for beyond 1-nanometer generation chips and environmentally friendly manufacturing technologies will be integrally researched and developed. METI and MEXT work together in selecting specific themes within FY2025. The target energy consumption reduction for each R&D theme will be estimated.
Development Goals	Targets to mitigate environmental impact, such as contribution to realizing innovative next-generation edge AI semiconductors with ultra-low power consumption and CO_2 reduction, will be set. (The numerical targets and measurement targets will be more quantitative and appropriate after the review based on opinions exchanged with experts, etc.)
Technology Maturity Goals	TRL5 or so in the first half of the 2030s
Impact	Percentage of R&D achievements leading to commercialization and industrialization through this project transferred to businesses: 20%
Related URL	Next Generation Edge AI Semiconductor R&D Project https://www.jst.go.jp/program/edge-ai-semicon/index.html

41 JCR evaluation report on Japan Climate Transition Bonds (25-D-0388) published on June 27, 2025

(2) Capital Investment Support Projects

Use of Proceeds 5: Support for Strengthening Manufacturing Supply Chains of Batteries (Continued Projects from the First/Second Series of Japanese Climate Transition Bonds (issued in FY2023 and FY2024))

ICMA GBP Classification	"Energy efficiency," "Renewable energy," and "Clean transportation"
GB Guidelines	"Projects for energy efficiency," "Projects for renewable energy," and "Projects for clean transportation"
Policy Intention	(A) Innovative R&D to gain new markets, (B) Capital investment that contributes to both emissions reduction and economic growth
Background/ Objective	Batteries are essential for maintaining the foundation of the electrified and digitalized society of the future, for example, for the electrification of automobiles and other forms of mobility, for adjusting supply and demand to make renewable energy the primary power source, and as backup power sources for 5G communication base stations and other facilities. Given this background, this project aims to strengthen the domestic battery manufacturing supply chain, including SMEs, by supporting capital investment and technological development in batteries, and materials, and manufacturing equipment.
Project Overview	In order to strengthen the manufacturing supply chain of batteries and ensure a stable supply, the following measures will be taken. (1) Support for capital investment in batteries, materials, and manufacturing equipment. In order to strengthen the domestic manufacturing base for batteries, materials and manufacturing equipment subsidies will be provided to businesses that develop large-scale manufacturing bases, manufacturing bases for parts and materials whose production in Japan is currently limited, and manufacturing bases that use unique technologies. (2) Support for technological development of batteries, materials and manufacturing equipment. Subsidies will be provided to businesses that develop technologies to establish the superiority and indispensability of batteries, materials, and manufacturing equipment technologies to decarbonize the manufacturing process, and digital technologies to manage data in the manufacturing process and improve productivity.
Subsidy Rate	(1) Upper limit is 1/3 *However, the upper limit for capital investment by SMEs related to the development of manufacturing infrastructure for battery manufacturing equipment is 1/2. (2) Upper limit is 1/2
Related URLs	Economic Security Policy/Battery https://www.meti.go.jp/policy/economy/economic_security/battery/ Subsidy Regulations for Stable Supply https://www.nedo.go.jp/itaku-gyomu/secure_stable_supply_koufukitei_yoshiki.html

Use of Proceeds 6: Support for Developing Next-Generation Advanced Reactors and Strengthening Industrial Infrastructure

ICMA GBP Classification	"Low carbon/decarbonized energy"
GB Guidelines	N.A.
Policy Intention	(A) Innovative R&D to gain new markets
Background/ Objective	The Framework includes "utilization of nuclear power" as an eligible criterion. "Utilization of nuclear power" is one of the decarbonization initiatives for GX, premised on ensuring stable energy supply" in the "Basic Policy for Achieving GX – A Roadmap for the Next Decade" announced by the Government of Japan in February 2023. Nuclear power has advantages in that it is decarbonized power that enables large and stable supply, more than 90% of nuclear power facilities in Japan are domestically produced, and expertise including technology is built within the country.

	Newclear power technology must be developed based primarily on safety and in line with further improvements in the safety of light water reactors and R&D toward nuclear power innovations with innovative technologies. The goal of this project is to improve resource cycling etc. by the reduction of high-level radioactive waste volume and hazardousness and to the effective use of resources, primarily considering safety as well as stable supply, economy, and environmental compatibility, i.e. "S+3E" principles. Given all this, industries are expected to develop next-generation innovative reactors. Such projects are included in the use of proceeds 6.
Project Overview	（1） Fast Reactor Demonstration Reactor Development Project. A fast reactor is a nuclear reactor in which the fission chain reaction is sustained by high-energy neutrons (fast neutrons). Since fast neutrons cause nuclear fission of the fuel, in order to avoid deceleration of fast neutrons as much as possible, moderators like those in light water reactors are not required, and fuel with increased fuel density in the fuel assembly is used. Fast reactors utilize fast neutrons to further enhance the effectiveness of the nuclear fuel cycle, which contributes to the reduction of high-level radioactive waste volume and hazardousness and to the effective use of resources. Fast reactors do not require moderators, but use liquid metals, mainly sodium, as coolants for fuel assemblies. Furthermore, after a light water reactor finishes generating electricity, the spent fuel contains resources that can be recycled, such as uranium and plutonium. Fast reactor has a characteristic that it can utilize more efficiently compared to the light-water reactor (light-water nuclear fuel cycle). It is expected that the effectiveness of nuclear fuel cycle will be further enhanced for volume reduction, potential hazardousness and effective utilization of resources of radioactive wastes by collecting and recycling used nuclear fuel to utilize as fuel for fast reactor. Based on the above, the. use of proceeds will be allocated for research and development to realize a demonstration fast reactor using liquid metal sodium as a coolant. In the fast reactor strategic roadmap revised in December 2022, a fast reactor technology evaluation committee was established under the strategic working group established by the government, manufacturers, electric energy companies, and research institutions. As a result of the committee's consideration of sodium-cooled reactors, light water-cooled fast reactors, and molten salt fast reactors as candidates, sodium was selected as the coolant that should be prioritized for development. Based on this, METI publicly solicited the concept of a demonstration reactor and core participation companies. On July 12, 2023, METI selected Mitsubishi Heavy Industries, Ltd. as the core company and "sodium-cooled-tank fast reactor" proposed by Mitsubishi FBR Systems Co., Ltd. as the concept of a demonstration reactor. In addition, Japan plans to challenge to the conceptual design and research and development of a demonstration reactor by FY2028, Based on the results of the research and development, it is planned to judge the transition to the basic design and licensing procedures of a demonstration reactor around FY2028. （2） High Temperature Gas-cooled Reactor (HTGR) Demonstration Reactor Development Project. A high temperature gas-cooled reactor (HTGR) is a nuclear reactor that uses ceramic materials, mainly graphite, as the main constituent material of the reactor core, and uses helium gas as a coolant to extract the heat generated by nuclear fission. The gas-cooled reactor with an outlet coolant temperature of 700°C to 950°C is called HTGR. In Japan, the High Temperature Engineering Test Reactor (HTTR) is owned by the Japan Atomic Energy Agency. The HTTR, which is a high-temperature gas-cooled reactor, has a track record of continuous high-temperature operation for 50 days at the world's highest temperature of 950 °C, and in addition, in March 2024, it was the first time in the world to demonstrate that even if the forced

cooling function is lost by stopping the coolant circulation machine, and the reactor cannot be stopped by the control rods, the output of the reactor decreases only by physical phenomena and a stable state is maintained. In order to achieve the government's goal of net-zero by 2050, it is essential to reduce emissions from the industrial sector, including steel and chemicals, which account for approximately 25% of total domestic emissions. As mentioned above, HTGRs is expected to be used for high-temperature heat utilization of 800°C or higher, which is higher than conventional light water reactors, and for industrial applications such as hydrogen production. In Japan, the aforementioned HTTR has been restarted, and it are now at the stage where it can develop a demonstration reactor with the aim of commercialization as a means of decarbonizing heat demand and hydrogen production. Through this project, it aims to provide a stable supply of large amounts of hydrogen at approximately 12 yen/Nm^3 by 2050 using decarbonized high-temperature heat over800°C and carbon-free hydrogen production methods. The ultimate goal is to connect it to industrial use.
This project will conduct a feasibility study of carbon-free hydrogen production methods that utilize high temperatures of800°C or higher (IS method, methane pyrolysis method, high-temperature steam electrolysis, etc.) by 2030. The goal is to establish connection technology and evaluation methods that achieve high safety using a decarbonized high-temperature heat source and hydrogen production technology using the commercially available methane steam reforming method. To develop hydrogen production evaluation technology, hydrogen production tests will be conducted using the HTTR, which has achieved the world's highest temperature of 950°C as a high-temperature heat source. In addition, studies will be carried out on the design and construction of a high-temperature gas-cooled reactor demonstration plant, the development of key technologies, and the supply chain, including fuel fabrication.

（3） Subsidy Program for Supporting Technology Development and Supply Chain Establishment toward the Development and Construction of Next-Generation Advanced Reactors

The primary purpose of the use of proceeds 6 is to develop technology for advanced light water reactors and small modular reactors among the next-generation advanced reactors that further enhance safety.
Advanced light water reactors refer to new model light water reactors incorporating new technologies based on current light water reactors. Innovative light water reactors seek to improve resilience to natural disasters such as earthquakes and tsunamis and enhance safety such as counter-terrorism, considering lessons learned from the accident at TEPCO's Fukushima Daiichi Nuclear Power Station. They are designed to strengthen the function to avert and control the release of radioactive material in case of accident.
On the other hand, small light water reactors, which are a type of small modular reactor (SMR), refer to nuclear power facilities with lower output compared to conventional nuclear power plants. The International Atomic Energy Agency (IAEA) defines small light water reactors as light water reactors with an electric output of 300MW or less. For their small reactor core, small light water reactors are relatively easy to incorporate natural principles, such as a cooling mechanism using natural circulation into safety equipment, thereby avoiding shutdowns caused by human error or equipment failure. It is also proposed that the reliability of the safety system can be enhanced by simplifying the system.

The use of proceeds will be projects to develop technology for advanced light water reactors, for example, the main equipment including steam generators with a new mechanism, core catchers to contain nuclear fuel in the reactor in case of a core meltdown accident (meltdown) and a double-cylinder containment vessel for emergency venting.

It also includes projects to develop technology for integrated isolation valves to prevent radioactive materials from flowing from the reactor to the turbine in case of an accident and cooling systems that can transfer heat within the reactor by natural water circulation even during power loss.

Under the theme of Subsidy Program for Supporting Technology Development and Supply Chain Establishment toward the Development and Construction of Next-Generation Advanced Reactors, proceeds will be allocated to support programs for R&D, development of manufacturing technology and demonstration of manufacturing to advance the supply chain for equipment,

	components and materials related to technologies necessary for the development and construction of particularly aforementioned advanced light water reactors and small light water reactors. .The timelines for rolling out advanced light water reactors and small light water reactors are relatively closer compared to other reactors because these are based on existing light-water reactor technology. Accordingly, there will be many projects closer to commercialization.
Subsidy rate	(3) Support for R&D and Building Supply Chains for the Development and Construction of Next-Generation Reactors: 1/2 No subsidy rate for consignment projects (1) and (2)
Related URLs	Current Status and Future of Next-Generation Innovative Reactors: https://www.meti.go.jp/shingikai/enecho/denryoku_gas/genshiryoku/kakushinro_wg/pdf/008_01_00.pdf

Use of Proceeds 7: Support for Developing Next-Generation Aircraft

ICMA GBP classification	“Clean transportation”
GB guidelines	"Projects for Clean Transportation "
Policy Intention	(A) Innovative R&D to gain new markets
Background/ Objective	Japan's aircraft industry has grown through international joint development mainly as a supplier of airframe structures. Now that the added value of airframe structures and components is limited, the industry needs to make inroads into the development realm at whole-aircraft and system level in order to achieve further growth. METI formulated a new "Aircraft Industry Strategy" in April 2024 to outline the following four directions for transforming the industry structure toward autonomous growth: (1) Set a goal of entering into the complete aircraft business, which is indispensable for achieving autonomous and sustained growth; (2) Break away from the existing industrial structure by honing its integrated business implementation capacity (integration capacity), which is core competence in the civil aviation industry, and securing areas where it can take the lead in the complete aircraft business; (3) Elevate its position as complete aircraft business in phases by leveraging Japan's strengths, identifying capabilities that the industry must acquire for the future, and transform the industrial structure into one to autonomously create added value; and (4) Go further than ever before in building an international structure in tandem with existing complete aircraft businesses, considering that aircrafts are intrinsically developed and manufactured on a global scale. Based on the above directions, the Government of Japan intends to encourage the aircraft industry to achieve parallel growth in the largest market segment and the emerging market such as CN and build integration capacity, looking to complete aircraft business. It aims to strengthen the industrial infrastructure by strategically executing multiple policies, covering the entire value chain of the aircraft lifecycle from the upstream such as design to the downstream such as strengthened supply chain as a manufacturing infrastructure and MRO. That is the use of proceeds from the GX Economy Transition Bonds. The goal of the Government of Japan is that the use of proceeds 7 allows the Japan's aircraft industry to maintain a competitive edge in lightweight and efficiency technologies in the project for developing a next-generation aircraft to be rolled out around 2035 and build its integration

	capacity by participating in the upper stream of the project. It also aims to build the revenue base in the industry by revamping MRO sites, introduce more SAF to the industry and replace to new aircrafts by the industry.
Project Overview	(1) Development of major structures and demonstration of high-rate production technologies for the next-generation aircrafts (FY2025 to FY2027) The purpose of the use of proceeds is for demonstration tests on the application of composite materials for lightweight aircrafts and high-efficiency production demonstration tests for high-rate production so that domestic aircraft businesses can build integration capacity by participating in the upper stream of the next-generation aircraft development project. The use of proceeds 7 also includes capital investment for increasing productivity of aircraft businesses and process certifications to be obtained by aircraft companies. The project is expected to reduce CO_2 emissions by decreasing the weight of an aircraft for the use of composite materials and extend its flight range for the practical use of hydrogen- and electric-powered aircrafts. The target Technology Readiness Level (TRL) of the demonstration test will be TRL 5 to 6. (2) Next-Generation Engine Architecture Technology Demonstration (FY2025 to FY2027) The use of proceeds will be a project to support the demonstration of element technologies necessary for developing engines with higher efficiency than current models, i.e. those necessary for improving fuel efficiency, and prototype studies that combine these element technologies. This enables Japan's aircraft businesses to participate in the upstream processes of the project for next-generation engine projects for aircrafts to be developed in the future after the demonstration of technologies for developing a next-generation fuel efficient engine and thereby building integration capacity. The target TRL of the project will be TRL 5 to 6. (3) Support for Strengthening Domestic Engine MRO Sites (FY2025 to FY2029) The use of the proceeds will be a project to make capital investments for strengthening domestic engine Maintenance, Repair, and Overhaul (MRO) sites. More specifically, the studies on the demonstration of technologies for automating component repair processes at engine MRO sites and the establishment of test operation facilities after repair and maintenance work are underway. Not all the MRO sites for major engines installed in commercial aircraft are located in Japan. Overseas MRO sites must be used for some engines. Establishing test operation facilities after repair and maintenance work will facilitate building an end-to-end maintenance process. The support program for enhancing MRO sites is expected to eliminate the process of shipping engines or parts to overseas MRO sites by cargo aircraft and thereby reducing CO_2 emissions and contribute to the development and penetration of next-generation fuel-efficient engines described in the above (2) by building knowledge and sharing it among businesses through MRO sites. It is also expected to contribute to raising the upper limit of SAF blending ratio (from 50% to 100%) by enhancing the recognition and penetration of large-scale test run cells by providing them to SAF manufacturers and conducting compatibility tests on engines for practical use. These projects are expected to contribute to the accumulated reduction of CO_2 emissions toward NZE by 2050 through the efforts to eliminate the overseas shipping process and thereby reducing CO_2 emissions, starting around 2029, develop next-generation fuel-efficient engines, starting in/after 2035 and raise the upper limit of SAF blending ratio, starting around 2040.
Subsidy rate	1/2 and 1/3
Related URLs	Implementation Status of the "Aircraft Industry Strategy" https://www.meti.go.jp/shingikai/sankoshin/seizo_sangyo/kokuki_uchu/pdf/2024_001_03_00.pdf Study Group on MRO for Civil Aircraft Engines

	https://www.meti.go.jp/shingikai/sankoshin/seizo_sangyo/kokuki_uchu/pdf/2024_001_08_00.pdf

Use of proceeds 8: Support for energy/manufacturing process conversion for hard-to-abate industries

(Continued projects from the second series of Japanese Climate Transition Bonds (issued in FY2024))

ICMA GBP Classification	"Energy efficiency", "Circular economy adapted products, production technologies and processes"
GB Guidelines	"Projects for energy efficiency," "Projects concerning production technologies and processes and environmentally friendly products"
Policy Intention	(B) Capital investment that contributes to both emissions reduction and economic growth
Background/ Objective	Aiming for carbon neutrality by 2050, to reduce emissions from energy and manufacturing processes of hard-to abate sectors, such as steel, chemicals, and pulp and paper, and to strengthen industrial competitiveness are inevitable. For the characteristics of each industry and their efforts toward decarbonization, please refer to pages 42-46 of the JCR Evaluation Report on the Japan Climate Transition Bond Framework published on November 7, 2023. [42]
Project Overview	(1) Manufacturing process conversion project It will support capital investment to transition from conventional manufacturing processes that involve large amounts of CO_2 emissions to new low-emission manufacturing processes. a. Steel Conversion from blast furnaces and converters to innovative electric furnaces, and introduction of a steelmaking process that utilizes hydrogen. For example, (i). Hydrogen reduction by blast furnace method; Reduce iron ore using hydrogen instead of carbon. CO_2 is used for CCUS or methanation. (ii). Direct hydrogen reduction; Reducing low-grade iron ore using only hydrogen without using coal. Steel is produced by melting the manufactured pellets in an electric furnace. (iii). Switching from blast furnace to electric furnace; Reduced iron and iron scrap are melted in an electric furnace to manufacture steel products. It is developing technology to remove impurities (phosphorus, copper, etc.) at that time. b. Chemical Switching to chemical recycling processes that utilize waste plastics and reduce the amount of naphtha used, and switching to bio-based raw materials produced from plants and other sources that have low emissions throughout their life cycle. In order for realizing carbon neutrality in chemical sector, (i). Fuel conversion: replace the coal to ammonia, etc., in the naphtha cracking process (ii). Process conversion: replace naphtha oriented raw materials to bio-ethanol, waste plastic, etc. to make chemical products. Overseas company, like BASF, started to calculate CFP of chemical products to seek for lower CF products. Considering the introduction of CBAM, it is necessary to enlarge the supply of lower carbon chemical products, in addition to high quality, which is the base of Japan's high competitiveness. c. Paper and pulp Shift to a bio-refinery business that utilizes wood pulp, which has the potential to be an alternative material to fossil fuel-derived products In order for realizing carbon neutrality in paper and pulp sector,

[42] JCR evaluation report on Japan Climate Transition Bonds (25-D-0388) published on November 7, 2023

	(i). Fuel conversion: replace coal to black liquor, which is generated during the chemical breakdown and separation of wood pulp production. (ii). Process conversion: to develop new business such as bio-refinery (cellulose, CNF, bio-ethanol, etc.) It is necessary to transform from paper and pulp industry to become bio-refinery industry, which lead this industry survive. In order to do so, collaboration with different industries to enjoy the scale merits. d. Cement Expanding the production of carbon recycled cement through fuel conversion in the firing process and coal-fired boilers, and implementing technology to capture CO_2 generated during cement manufacturing (conversion of raw materials). In order for realizing carbon neutrality in cement industry, (i) Fuel conversion: replace calcination process and coal fired power plants to waste and biomass fuel. (ii) Raw material conversion: Recycling waste concrete, which enables CO_2 collection a recycling in the process of producing cements with net zero emission (2) Fuel conversion for in-house power generation facilities, etc. Converting to fossil fuels to low carbon fuel that contribute to significant emission reductions in coal-fired in-house power generation facilities, boilers, etc. in the hard to abate sectors. Regarding the fuel conversion measures from coal set out in the Sector-specific Investment Strategies, the main ones cited are ammonia for chemicals, black liquor and biomass for paper and pulp, and waste-to-energy and biomass for cement. In the cement sector, according to the carbon neutral strategies published by major Japanese cement companies, waste, hydrogen, ammonia combustion, synthetic methane, etc. are envisaged as fuels for conversion.
Subsidy rate	Subsidize one-third of capital investment plans.
Related URLs	Steel https://www.meti.go.jp/press/2024/12/20241227006/20241227006-2.pdf Chemical https://www.meti.go.jp/press/2024/12/20241227006/20241227006-3.pdf Paper and pulp https://www.meti.go.jp/press/2024/12/20241227006/20241227006-4.pdf Cement https://www.meti.go.jp/press/2024/12/20241227006/20241227006-5.pdf

Support Project for Sustainable Aviation Fuel (SAF) Production and Supply Chain Development (Continued projects from the second series of Japanese Climate Transition Bonds (issued in FY2024))

ICMA GBP Classification	"Clean Transportation"
GB Guidelines	"Projects for Clean Transportation "
Policy Intention	(B) Capital investment that contributes to both emissions reduction and economic growth
Background/ Objective	Sustainable Aviation Fuel (SAF) is attracting attention as a decarbonized fuel that will play an important role in enabling decarbonization in large aircraft, where electrification and hydrogenation are difficult. SAF is aviation fuel produced from sustainable sources other than fossil fuels, such as used cooking oil and animal and vegetable oils, and is said to be able to reduce CO_2 emissions by about 60% to 80% compared to conventional fossil fuels. [43] According to the Sector-specific Investment Strategies compiled by the Japanese government,

[43] The values depend on emissions throughout the life cycle (including emissions during processes such as raw material cultivation and harvesting, processing and shipping. The actual CO_2 emission reductions are lower than the above values for the upper limit on SAF blending ratio set by ASTM International standards.

<table>
<tr><td></td><td>the global supply of SAF in 2022 is estimated to be approximately 300,000 kl (approximately 0.1% of the global jet fuel supply).
Meanwhile, IATA, an industry association made up of airlines around the world, has announced a goal of achieving net-zero total CO_2 emissions from the air transport sector by 2050.The amount of SAF needed to achieve net-zero emissions in 2050 is estimated to be 449 billion liters (= 450 million kl), which is 1.5 times the world's jet fuel supply as of 2022.
The Clean Skies for Tomorrow Coalition, a World Economic Forum group that aims to promote the introduction of SAF, has declared that it will increase the proportion of SAF in the fuel used in the global aviation industry to 10% by 2030. In addition, Oneworld has declared that all of its member companies, and each airline, will replace 10% of the fuel they use with SAF.

As demand for SAF increases internationally, the aim of this initiative is to build domestic supply capacity for SAF, thereby aiming to supply domestically and to Asian countries where aviation demand is expanding, as well as to ensure security by producing aviation fuel in-house.
In particular, with an eye towards a decarbonized society, oil refiners are moving away from traditional oil refining and sales and toward the green chemical industry by applying fuel production technologies such as SAF, which is expected to help support the oil industry's transition to a decarbonized business.</td></tr>
<tr><td>Project Overview</td><td>Types of SAF by raw materials and technologies
<table><tr><td>Manufacturing technology</td><td>Major raw materials</td></tr><tr><td>HEFA (Hydroprocessed Esters and Fatty Acids)</td><td>Used cooking oil, Ghee, Pongamia, Microalgae, etc.</td></tr><tr><td>ATJ (Alcohol to Jet)</td><td>1st generation bioethanol (Sugar cane, Corns, etc.)
2nd generation bioethanol (non-edible plants、waste paper、other wastes)</td></tr><tr><td>gasification、FT synthesis</td><td>Garbage (waste plastics, etc.)</td></tr><tr><td>Synthesis fuel</td><td>CO_2、Hydrogen</td></tr></table>
Support for capital investment etc. in large-scale domestic SAF manufacturing.
Eligible projects are required to use only HEFA and AtJ, almost established technologies, and reduce GHG emissions by 5% or higher, as in the previous year. This is based on the target agreed upon at the ICAO meeting (CAAF3) in November 2023, which aims for a 5% carbon reduction by 2030, using SAF, etc.</td></tr>
<tr><td>Subsidy rate</td><td>1/3 or 1/2</td></tr>
<tr><td>Related URLs</td><td>Sector-specific Investment Strategies (Sustainable Aviation Fuel or SAF)
https://www.meti.go.jp/press/2024/12/20241227006/20241227006-9.pdf</td></tr>
</table>

Use of Proceeds 10: Support for Enhancing the Resilience and Autonomy of Circular Economy Systems through Industry-Government-Academia Collaboration
(Continued projects from the second series of Japanese Climate Transition Bonds (issued in FY2024))

ICMA GBP Classification	"Pollution prevention and control", "Circular economy adapted products, production technologies and processes"
GB Guidelines	"Projects for pollution prevention and control," "Projects concerning production technologies and processes and environmentally friendly products for the circular economy"
Policy Intention	(B) Capital investment that contributes to both emissions reduction and economic growth

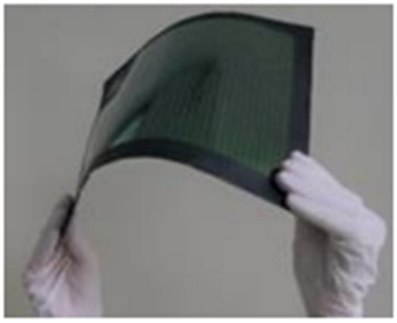
Background/ Objective	METI formulated the Growth-Oriented Resource Autonomous Economic Strategy in March 2023 to transition to a circular economy toward achieving GX. The strategy provided a comprehensive policy package for sustainable and steady growth through the autonomy and enhancement of the economy and international competitiveness. This project, which is based on the strategy, supports projects for the early launch of projects to achieve both decarbonization and economic growth toward the creation of the emerging resource circulation market, utilizing the framework of the "Industry-Academia-Government Partnership for Circular Economy" entered into in September 2023. Of the GHG emissions in Japan, emissions from sectors where there is room for contributing to reduction through resource circulation amounted to 413 million t-CO_{2e} (approximately 36% of total emissions) in FY2020. Approximately 80% of GHG emissions from Japan's waste sector come from waste incineration (simple incineration, heat recovery, and use of raw materials and fuels) and other processes. In order to reduce GHG emissions associated with incineration, etc., it is important to increase the use of recycled resources (recycled materials, renewable resources, etc.). The effect of reducing CO_2 emissions by using recycled materials from each material is quite significant; e.g. recycled aluminum cans reduce 66%, recycled steel reduce 79% of emission, compared to virgin material. (Please refer page 12 in "Reference to the Sector-specific Investment Strategies (Resource Circulation)" (Japanese, the related URL below). In order to promote more resource recycling, METI formulated the "Growth-oriented Resource Autonomous Economy Strategy" in March 2023.[11] This strategy aims to control the risk of international supply disruptions, including for general-purpose industrial and consumer goods, as much as possible by restructuring resource circulation economy policies, and to make the domestic resource circulation system more autonomous and resilient, while achieving sustainable and steady growth through the acquisition of international competitiveness. In addition, based on this strategy, in order to strengthen industry-government-academia collaboration toward the realization of a circular economy, the industry-government-academia partnership "Circular Partners: CPs" on the circular economy was launched in September 2023. Through organic collaboration among related entities such as related organizations and organizations, the transition to a circular economy will be accelerated.
Project Overview	Utilizing the framework of the " Circular Partners: CPs," it will support the following capital investments, etc., in order to realize initiatives that achieve both decarbonization and economic growth at an early stage toward the creation of a new resource recycling market. (1) Development and demonstration of technologies related to resource circulation through arterial and venous linkages for automobiles and batteries, electrical and electronic products, packaging, plastics, textiles, etc. Conceptual image of a "resource circulation market through collaboration between arteriovenous and venous industries" (2) Development, demonstration, and commercialization of technologies for "recycling-conscious manufacturing" that contributes to ensuring longer life and easier recycling for automobiles and batteries, electrical and electronic products, packaging, plastics, textiles, etc. Any of the following resource circulation targets (1) to (3) must be met as a subsidy requirement:

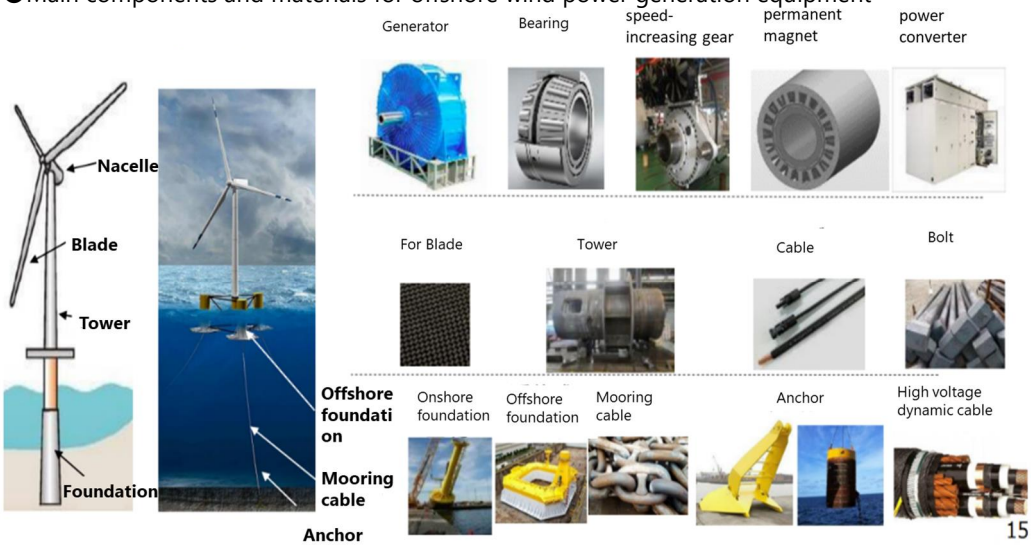
Requirement	Target
(1) Promote the use of recycled materials	The products to be produced in this project contain at least 10% recycled materials.

[11]Ministry of Economy, Trade and Industry, "Growth-oriented Resource Independent Economic Strategy" (March 2023) https://www.meti.go.jp/press/2022/03/20230331010/20230331010.html

	(2) Expand the CE commerce market: At least 50% of the procured waste become reusable as products through reuse, refurbishment, repurposing, etc. (3) Promote sustainable manufacturing: Sustainable products are rolled out within two years after the closure of the project. Subsidized projects are selected after examining how much they reduce CO_2 emissions. In the process, how much the eligible products produced under the projects will reduce CO_2 emission throughout their entire life cycle, from raw material procurement to manufacturing and disposal.
Subsidy rate	1/3 or 1/2
Related URLs	Sector-specific Investment Strategies (Resource Circulation) https://www.meti.go.jp/press/2024/12/20241227006/20241227006-12r.pdf FY2024 Support for enhancing the resilience and autonomy of circular economy systems through industry-government-academia collaboration https://www.teitanso.or.jp/skgshigen/

Use of Proceeds 11: Support for Building GX Supply Chains
(Continued projects from the second series of Japanese Climate Transition Bonds (issued in FY2024))

ICMA GBP Classification	"Renewable energy"
GB Guidelines	"Projects for renewable energy "
Policy Intention	(B) Capital investment that contributes to both emissions reduction and economic growth
Background/ Objective	As an increasing number of countries and regions declare carbon neutrality, long-term and large-scale investment competition is intensifying toward GX, which will achieve both emission reductions and enhanced industrial competitiveness and economic growth. Against this background, the aim is to make maximum use of the strengths of Japan's manufacturing supply chains, including those of SMEs, and technological infrastructure, and to build the domestic manufacturing supply chain of water electrolyzers, floating offshore wind power equipment, perovskite solar cells, fuel cells, High Voltage Direct Current (HVDC) cables, etc., which are essential for realizing GX, in the GX sector.
Business summary	Support will be provided for capital investment by manufacturers planning large-scale investments in electrolyzer, floating offshore wind power generation equipment, perovskite solar cells, fuel cells, HVDC cables, etc., as well as related components, materials, and manufacturing equipment, for manufacturers that currently have components, materials, or unique technologies with limited domestic production. ● Perovskite solar cells This is a new type of solar cell that uses a crystalline material called perovskite, and is a next-generation solar cell that can be installed on the walls of buildings, etc. <insert a figure>  

	●Main components and materials for offshore wind power generation equipment  ●HVDC Cables (added to the projects supported by Bonds issued in FY2025) Submarine cables to be used for undersea direct current power transmission, for example between Hokkaido and Honshu (Tohoku/Tokyo)
Subsidy rate	1/3 (large enterprises) 1/2 (SMEs)
Related URLs	Sector-specific Investment Strategies (Next-Generation Renewable Energy) https://www.meti.go.jp/press/2024/12/20241227006/20241227006-15.pdf Support for Building GX Supply Chains https://gx-supplychain.jp/

Use of proceeds 12: Investment promotion for advanced resource circulation

(Continued projects from the second series of Japanese Climate Transition Bonds (issued in FY2024))

ICMA GBP Classification	"Pollution prevention and control", "Circular economy adapted products, production technologies and processes"
GB Guidelines	"Projects for pollution prevention and control," " Projects concerning production technologies and processes and environmentally friendly products for the circular economy"
Policy Intention	(B) Capital investment that contributes to both emissions reduction and economic growth
Background/ Objective	The purpose of this project is to promote both the transition to a circular economy and the decarbonization of the resource circulation sector by investing in (1) resource circulation facilities that will make a significant contribution to reducing emissions in industries where it is difficult to reduce CO_2 emissions (hard-to-abate sectors), and (2) recycling facilities that will supply high-quality regenerated products that are essential for the refinery of innovative GX products.
Project Overview	**(1) Project to Contribute to Emissions Reductions in Hard-to-Abate Sectors** This project contributes to the GX transition and CO_2 emissions reductions of the hard-to-abate sectors by supporting them in demonstrating and introducing advanced resource circulation technologies and facilities for recycling and thermal recovery and by supplying recycled materials, fuels and energy to them. More specifically, this project provides the manufacturing and resource circulation industries with demonstration and introduction support for large-scale and advanced separation and collection facilities and recycling facilities for waste plastics, metals, etc. in order to achieve resource circulation under the collaboration between manufacturers and the resource circulation industry through the participation in public-private-academic partnerships for the circular economy. **(2) Project to Supply High-Quality Recycled Products for Innovative GX Products** This project contributes to consistent production activities by securing domestic resources through

	support for resource recycling initiatives to supply raw materials for innovative products necessary ("GX Products"), such as batteries, for the shift to the GX economy. This project also provides manufacturers with international competitiveness by adding value to GX products using recycled materials. More specifically, this project aims to establish resource circulation where manufacturers and the resource recycling industries work together through their participation in industry-government-academia partnerships related to the circular economy. To that end, necessary demonstrations and support for the introduction of facilities will be implemented for a recycling system that contributes to securing non-ferrous metal resources from waste lithium-ion batteries (LiBs) and scraps in Japan. **<Requirements for Facility Performance>** **Material** / **Minimum Standards for Annual Processing Capacity after Social implementation** Waste Plastics / 10,000 tons in principle Metals (e-scraps, etc.) and Batteries / More than double the processing volume in 2030 compared to 2020 Application to subsidies requires the submission of an investment plan. The plan should provide concrete processes, material flows, CO_2 emissions and who implements each phase across the supply chain (collection and processing of raw materials, production of recycled materials, manufacturing using the recycled materials), for each FY over the five-year period after facility installation, planned sales units of recycled materials and other related matters.
Subsidy rate	1/2 (SMEs) and 1/3 (Enterprises excluding SMEs)
Related URLs	MOE Budget Projects https://www.env.go.jp/content/000181430.pdf FY2024 Investment Promotion for Advanced Resource Circulation https://www.jwrf.or.jp/individual/prj_001792.html

Use of Proceeds 13: Promotion of Construction of Zero-Emission Ships, etc.
(Continued projects from the second series of Japanese Climate Transition Bonds (issued in FY2024))

ICMA GBP Classification	"Clean Transportation"
GB Guidelines	"Clean Transportation Projects"
Policy Intention	(B) Capital investment that contributes to both emissions reduction and economic growth
Background/ Objective	Of the CO_2 emissions from Japan's transportation sector, ships account for the second largest proportion after automobiles, and in order to achieve net-zero by 2050, the widespread use of zero-emission ships that use hydrogen and ammonia fuels (see below) is essential. In Japan, there are a variety of companies in the supply chain for marine business operators, including manufacturers of producing important marine equipment such as zero-emission ships etc., and the shipbuilders that construct them. By providing this support, the aim is to strengthen the international competitiveness of the shipping industry. 1) Ammonia fuel Ammonia fuel, as the name suggests, uses ammonia as a marine fuel. Ammonia fuel is expected to have a cruising range that makes it usable not only for domestic shipping but also for oceangoing shipping. Although ammonia has a relatively low risk of being flammable or explosive, it is toxic and corrosive, and care must be taken when handling it. In addition, since ammonia (NH_3) itself does not contain carbon atoms, it does not produce CO_2 when burned. Instead, it produces nitrous oxide (N_2O), which has a greenhouse effect about 300 times that of CO_2. Therefore, research and development is underway on countermeasures by combustion control and treatment equipment etc. Currently, several domestic companies have obtained Approval in Principle (AiP) for ammonia-fueled ships from Class NK, an organization that sets standards for ship hulls, outfitting, and engines, as well as rules for class registration and conducts inspections of such standards. Additionally, research and development is underway on ammonia-fueled tugboats and ammonia-

	fueled ammonia gas carriers. After demonstration experiments, it is expected that the tugboats will be in commercial operation as soon as possible, by 2024, and the ammonia gas carriers by 2028. 2) Hydrogen fuel Hydrogen fuel is fuel that obtains its energy by directly burning hydrogen. As for hydrogen fuel, liquefied hydrogen is stored in a tank and vaporized before being burned. The challenge is to develop the technology to properly store and burn hydrogen, an extremely light element, and research and development is currently underway toward a demonstration experiment. A domestic company is currently conducting research into engine technology that runs on a mixture of hydrogen and low-sulfur fuel oil, and has obtained AiP from Class NK for hydrogen-fueled ships. The engine is scheduled to be installed on a hydrogen carrier scheduled to enter service in the late 2020s.
Project Overview	The government will support capital investment required for the development and expansion of production facilities for engines, fuel tanks, fuel supply systems, etc., which are necessary for the construction of zero-emission ships, etc., as well as the development and expansion of facilities for installing the above-mentioned marine equipment on ships. 
Subsidy rate	1/3 or 1/2
Related URLs	Sector-specific Investment Strategies (Ships) https://www.meti.go.jp/press/2024/12/20241227006/20241227006-10.pdf

Use of Proceeds 14: Subsidy for Energy Saving Investments/Demand Structure Conversion (Continued projects from the first/second series of Japanese Climate Transition Bonds (issued in FY2023 and FY2024))

ICMA GBP Classification	"Energy efficiency"
GB Guidelines	"Projects for energy efficiency"
Policy Intention	(B) Capital investment that contributes to both emissions reduction and economic growth
Background/ Objective	The 6th Strategic Energy Plan set a goal of reducing energy consumption by approximately 62 million kl by 2030 through energy conservation. The 7th Strategic Energy Plan also clearly states that the importance of thorough energy efficiency improvement remains unchanged and emphasizes the need to improve energy efficiency without reducing economic activity. The purpose of this project is to contribute to the achievement of thorough energy conservation by supporting efforts to achieve significant energy conservation throughout factories and workplaces through the introduction of equipment that involves mechanical design, equipment designed and manufactured according to the purpose and application of the business operator, and advanced equipment, etc., as well as equipment renewal that involves electrification and fuel conversion that will lead to decarbonization. Provide support in response to companies' multi-year investment plans and cultivate demand for energy-saving investments, especially among SMEs. Furthermore, by promoting the upgrading of facilities and equipment with high energy-saving performance in factories, etc., it will both reduce greenhouse gas emissions and strengthen Japan's industrial competitiveness.

	As a goal, it plans to promote the implementation of measures centered on energy-saving equipment investment among the energy-saving measures (approximately 27 million kl) in the industrial and business sectors based on the energy supply and demand outlook for FY2030, and will include the effects of this budget project, aiming to achieve energy savings of 21.55 million kl.
Project Overview	Support for the introduction of facilities to conserve energy or convert to non-fossil fuels continues to be provided. New requirements specifically for SMEs were set for further promoting energy efficiency among SMEs. JCR has verified that projects for facilities using coal or oil will not be considered to be CT government use-of-proceeds even if such facilities to conserve energy and convert to non-fossil fuels meet energy-saving rate requirements below: (I) Factory/Workplace Type Advanced Category Support to the introduction of advanced equipment that can achieve significant energy savings in factories and workplaces. The target equipment, design, and construction costs for projects that meet any of the following requirements on a crude oil equivalent basis at the application unit are covered. a) Introduction of advanced facilities and systems (1) Energy conservation rate + non-fossil fuel ratio increase rate: 30% or more (2) Energy saving amount + non-fossil fuel consumption: 1,000 kl or more (3) Improvement rate of energy consumption per unit of production: 15% or more General Category/SME Investment Promotion Category b) Custom-order facilities or high-efficiency facilities with excellent energy-saving effects ((c) designated facilities) This project provides support for updates to energy efficient facilities, including the introduction of "Custom-Order Facilities" requiring individual design or process improvements or for updates to "Designated Facilities." Designated facilities meet the energy efficiency standards set by and registered and announced as high-efficiency facilities by the Sustainable open Innovation Initiative (SII). Application to the SME invest promotion category requires the creation and the publication of the project plan in the format designated by SII that meets the requirements for the general category. General Category (1) Energy conservation rate + non-fossil fuel ratio increase rate: 10% or more (2) Energy saving amount + non-fossil fuel consumption: 700kl or more (3) Improvement rate of energy consumption per unit: 7% or more SME Investment Promotion Category (1) Energy efficiency rate + Percentage increase in the proportion of non-fossil fuels: 7% or more (2) Energy saving amount + non-fossil fuel consumption: 500kl or more (3) Percentage improvement in energy consumption intensity: 5% or more (II) Electrification/decarbonization type Fuel conversion for the purpose of electrification and decarbonization, such as conversion from fossil fuels to electricity and conversion to lower carbon fuels. It will support the introduction of accompanying equipment, etc. [Target business] Businesses that fall under electrification and fuel conversion for the purpose of decarbonization [Supported equipment] The following equipment* which meet energy standards set by the Sustainable open Innovation Initiative (SII); ・Industrial heat pump

	・Of commercial water heaters, commercial heat pump water heaters ・Low carbon industrial furnace ・High efficiency cogeneration ・High performance boiler (IV) Energy Management System (EMS) Type This project provides support for projects that effectively reduce energy consumption and optimize energy demand, using an EMS designated as it is highly effective. Applicants are required to create a medium- to long-term energy efficiency plan (over two years) utilizing EMS and to disclose the benefits from the improvements. (The target is a 2% improvement on an oil-equivalent basis.)
Subsidy Rate	(I) Factory/ Workplace type Advanced Category a) Introduction of advanced facilities and systems SMEs and other eligible entities: up to 2/3, large enterprises and others: up to 1/2 [Subsidy limit] Upper limit (energy saving) 1.5 billion yen (non-fossil conversion: 2 billion yen) *For multi-year projects: 3 billion yen (4 billion yen in the case of non-fossil conversion) * For collaborative projects: 3 billion yen (4 billion yen for non-fossil conversion) Lower limit: 1 million yen General Category b) Custom-order facilities or high-efficiency facilities with excellent energy-saving effects ((c) designated facilities) SMEs and other eligible entities: up to 1/2, large enterprises and others: up to 1/3 [Subsidy limit] Upper limit (energy saving) 1.5 billion yen (non-fossil conversion) 2 billion yen *For multi-year projects: 2 billion yen (3 billion yen in the case of non-fossil conversion) *For collaborative projects: 3 billion yen (4 billion yen in the case of non-fossil conversion) Lower limit: 1 million yen SME Investment Promotion Category b) Custom-order facilities or high-efficiency facilities with excellent energy-saving effects ((c) designated facilities) SMEs and other eligible entities: up to 1/2, large enterprises and others: inapplicable [Subsidy limit] Same as General Category (II) Electrification/decarbonization type up to 1/2 [Subsidy limit] Upper limit 300 million yen (electrification: 500 million yen) Lower limit: 300,000 yen (IV) EMS Type SMEs: up to 1/2, large enterprises and others: up to 1/3 [Subsidy limit] Upper limit: 100 million yen Lower limit: 300,000 yen
Related URLs	https://sii.or.jp/koujou06r/overview2.html

Use of Proceeds 15: Support for Installing CO_2-saving Facilities to Reduce Scope 3 Emissions through Collaboration among Companies

ICMA GBP Classification	"Energy Efficiency"
GB Guidelines	"Projects for energy efficiency"
Policy Intention	(B) Capital investment that contributes to both emissions reduction and economic growth
Background/ Objective	In light of the international trend toward decarbonized management, reducing CO_2 emissions (Scope 3) from business partners has become increasingly important for major corporations. This project strongly promotes CO_2 emission reduction across the value chain and aims to strengthen industrial competitiveness and create the GX market through collaboration with multiple SMEs comprising the value chain, which promotes investment in energy-efficient facilities to reduce Scope 3 emissions. Generally, SMEs tend to lag behind large corporations in their efforts toward decarbonization due to a shortage in labor and capital resources. On the other hand, SMEs account for 10% to slightly lower than 20% of Japan's total GHG emissions. Accordingly, SMEs' efforts are also essential for achieving carbon neutrality. Against this background, this project aims for decarbonization across the entire value chain through collaboration between SMEs losing ground to major corporations in decarbonization efforts and leading companies rather than simply reducing Scope 3 emissions.
Project Overview	Multiple companies will cooperate to support the introduction of facilities to reduce CO_2 emissions. Facilities to be introduced should reduce CO_2 emissions by 30% or more compared to the current facility set. Only equipment capable of achieving this reduction will be eligible for introduction. * Electrification, fuel conversion, efficiency improvement, heat recovery, etc. (Solar power generation facilities are inapplicable.) * Projects must meet the cost-effectiveness requirement of 100,000 yen per t-CO_2. * The payback period must be three years or longer.
Subsidy Rate	• Subsidy Rate: - SMEs: 1/2 - Large Enterprises: 1/3 (The subsidy rate is 1/2 if the company has "declared to become a leading GX company" and takes measures for reducing CO_2 emissions by 3,000 t-CO_2 or more per year.) • Maximum subsidy: 1.5 billion yen
Related URLs	https://rcespa.jp/r07-scope3/r07-scope3-no1

Use of Proceeds 16: Hydrogen Hub Development Program

ICMA GBP Classification	"Low Carbon/Decarbonized Energy"
GB Guidelines	"Projects for production technologies and processes and sustainable products for the circular economy"
Policy Intention	(D) Cross-sectional efforts to realize GX
Background/ Objective	The Hydrogen Society Promotion Act enacted in 2024 presents the challenge of realizing stable energy supply, decarbonization and economic growth at the same time by promoting GX in hard-to-abate industries toward carbon neutrality by 2050 and states that it is essential to promote the use of low-carbon hydrogen as a source of energy and raw materials while ensuring safety. The Government of Japan takes the lead in advancing efforts to promote the early supply and utilization of low-carbon hydrogen. As part of these efforts, it provides support based on the standards set for creating and expanding advanced and autonomous supply chains.
Project Overview	Japan's industrial clusters including complexes are faced with a significant challenge of achieving carbon neutrality while maintaining international competitiveness. Hydrogen is expected to be applied to various uses. Accordingly, they consider that it is important to build bases for supplying carbon-neutral fuels that enable the creation of both large-scale demand and efficient supply chains, to stably and affordably store a large volume of hydrogen to be necessary in the future.

	This project, which is primarily based on S+3E, provides support to create shared facilities to realize GX, build an independent pilot supply chain by FY2030, lead to significant expansion in the use of low-carbon hydrogen and provide various businesses with broad benefits. S+3E stands for Safety, Energy Security, Environment and Economic Efficiency. S+3E also requires projects to be based on the realization of GX policies aimed at achieving both decarbonization and economic growth. In addition, it requires the use of hydrogen with relatively low intensity of carbon to be emitted during production and transportation and efforts by target businesses to reduce their CO_2 emissions.
Subsidy Rate	1/2
Related URLs	Hydrogen Society Promotion Act https://www.meti.go.jp/shingikai/enecho/shoene_shinene/suiso_seisaku/pdf/014_01_00.pdf Sector-specific Investment Strategies (Hydrogen, etc.) https://www.meti.go.jp/shingikai/enecho/shigen_nenryo/nenryo_seisaku/pdf/017_08_00.pdf

(3) Subsidy Program for Introducing Support

Use of Proceeds 17: Installation Support for Electricity Storage Systems Such as Grid-Scale Batteries to Expand Renewable Energy Usage
(Continued projects from the second series of Japanese Climate Transition Bonds (issued in FY2024))

ICMA GBP Classification	"Energy Efficiency," "Renewable Energy," and "Clean Transportation"
GB Guidelines	"Projects for Energy Efficiency," "Projects for Renewable Energy," and "Projects for Clean Transportation"
Policy Intention	(C) Creating demand at a national level for economic growth (Subsidies)
Background/ Objective	In order to achieve net-zero by 2050, it is necessary to accelerate the introduction of renewable energy. On the other hand, the amount of electricity generated by renewable energy sources such as solar and wind power fluctuates greatly depending on the weather, time of day, etc., which can result in power surpluses at certain times of the day and lead to output controls. In addition, if their introduction becomes widespread, it could have an impact on the stability of the power grid. For this reason, it is necessary to secure decarbonized adjustment capacity that can respond to these fluctuations, and further introduction and utilization of large-scale power storage systems such as grid batteries is expected. This project aims to develop the necessary capacity to introduce a large volume of renewable energy by providing subsidies to cover part of the cost assumed by businesses that introduce large-scale power storage systems, such as grid storage batteries directly connected to the power grid. Grid storage batteries have been widely introduced very quickly in a matter of a few years. Connection applications stood at circa 9.5 million kW as of the end of December 2024 (circa 3.5 times compared with the level at the end of December 2023). Connection contracts stood at circa 8 million kW (2.7 times compared to the level at the end of December 2023)[45]. The Government of Japan expects the cumulative introduction of grid storage batteries to be circa 14.1GWh to 23.8 GWh by 2030.

[45] Agency for Natural Resources and Energy, 2nd Next-Generation Power Grid Working Group Materials (March 17, 2025)
https://www.meti.go.jp/shingikai/enecho/denryoku_gas/saisei_kano/smart_power_grid_wg/pdf/002_02_00.pdf

Project Overview	The government will subsidize the introduction costs of power storage systems, such as grid batteries and electrolyzer, which will contribute to the expansion of renewable energy adoption. The purpose of this project is to secure the necessary adjustment capacity for the large-scale introduction of renewable energy by subsidizing part of the installation costs to introduce large-scale power storage systems, such as grid-connected batteries that are directly connected to the power grid. **<Subsidized Projects>** 1) Power Storage System The power storage system should meet all the following (i) to (ii): (i) The system is directly connected to the power grid. (ii) The system contributes to the effective utilization and expansion of renewable energy and the improvement of power balance through transactions in various power markets (for example, by charging power when there is possible excess electricity in the power grid, discharging power when there is a shortage of electricity, or providing adjustment capability to the power grid, etc.). 2) Water Electrolyzer Water Electrolyzer should contribute to effective utilization and expanded adoption of renewable energy through demand response ("DR") to absorb the surplus to produce hydrogen (upward DR) and through the adjustment of the output of the water electrolyzers to provide power markets with power adjustment capability, when excess power in the power grid is expected.
Subsidy rate	1/3-2/3 subsidy limit of 1 billion yen to 4 billion yen
Related URLs	Sector-specific Investment Strategies (Batteries) https://www.meti.go.jp/press/2023/12/20231222005/20231222005-06.pdf FY 2024 Subsidy for Support for the Expansion of the Introduction of Renewable Energy and the Introduction of Power Storage Systems Such as Grid Batteries https://sii.or.jp/chikudenchi06/public.html

Use of Proceeds 18: Promotion of Implementation for Creating Social Implementation Models of Perovskite Solar Cells

ICMA GBP Classification	"Renewable Energy"
GB Guidelines	"Projects for Renewable Energy"
Policy Intention	(C) Creating demand at a national level for economic growth (Subsidies)
Background/ Objective	Perovskite solar cells characterized by lightweight and flexibility can be set up in places where solar cells were once difficult to install. Japan accounts for circa 30% of the global share in the market of iodine, the main raw material of perovskite solar cells. As such, perovskite solar cells are a next-generation technology that enables wider adoption of renewable energy and the establishment of a robust energy supply structure. This project supports the adoption of perovskite solar cells to create the domestic market. By doing so, it aims to build a social implementation model that contributes to the reduction of the initial stage cost and continued expansion of demand.
Project Overview	This project contributes to the creation of social implementation models by supporting the installation to highly scalable locations, eyeing the expansion phase into the future, based on the expertise gained through demonstration projects supported by the GI Fund, for the purpose of reducing power generation cost during the initial phase of adopting perovskite solar cells (locations with the high possibility of horizontal expansion to similar types of buildings, locations close to where demand exists, locations with a high self-consumption rate and locations where emergency power generation is valued) [Eligible Entity] ・Local governments, private businesses, and instititions

	<Eligible Project> ・Set up perovskite solar cells in places where traditional solar cells were once difficult to install and meet certain requirements. <Main Requirements> ・The film-type perovskite solar cells to be installed meet performance standards. ・There is a high possibility of horizontal expansion to buildings with similar roofs. ・There are the minimum limit of the adoption scale and the maximum limit of the subsidy. ・Subsidized businesses submit data related to application after construction and installation.
Subsidy rate	2/3 and 3/4* *Meet certain requirements, such as contributing to the enhancement of disaster prevention capabilities.
Related URLs	https://www.env.go.jp/content/000278971.pdf

Use of proceeds 19: Regional decarbonization promotion grant
(Continued projects from the first/second series of Japanese Climate Transition Bonds (issued in FY2023 and FY2024))

ICMA GBP Classification	"Renewable energy"
GB Guidelines	"Projects for renewable energy "
Policy Intention	(C) Creating demand at a national level for economic growth (Subsidies)
Background/ Objective	This project aims to support the introduction of key decarbonization products and technologies with a high emission reduction effect in areas etc. designated by the Ministry of the Environment as Decarbonization leading areas based on the Regional Decarbonization Roadmap[46], the Plan for Global Warming Countermeasures, and the Basic Policy for Realization of GX, where private businesses will build self-operated microgrids through public-private partnerships. A microgrid is a small-scale energy network that aims to achieve local production and consumption by having energy supply sources and consumption facilities within a community, rather than relying on electricity supply from large-scale power plants. Renewable energy sources such as solar power, wind power, and biomass power will be used as energy sources, but since the supply of renewable energy is intermittent, it is said to be difficult to match it to energy demand. To stabilize this energy, the microgrid will be managed and operated using information and communications technology. Normally, electricity is transmitted to the end consumer via a substation, and the longer the distance, the more power loss and energy usage occurs for transmission. However, by installing small-scale power generation facilities near the end consumer and supplying electricity from there, power loss can be reduced. Furthermore, even when a natural disaster occurs, if the power generation facilities in the area are not damaged, the time from disaster to recovery can be shortened by switching only to local production and consumption. In light of the above, the Regional Decarbonization Roadmap gives examples of decarbonization efforts that utilize digital technologies tailored to regional characteristics, such as the use of microgrids.
Project Overview	Subsidies are available to local governments in areas etc. that are Decarbonization leading areas and have built self-operated microgrids that benefit private businesses.
Subsidy Rate	2/3 in principle
Related URLs	https://policies.env.go.jp/policy/roadmap/assets/grants/chiiki-datsutanso-kofukin-R7.pdf

46 National and Local Council for the Achievement of Decarbonization "Regional Decarbonization Roadmap: Transition Strategy for the Next Era Starting from Local Communities" (June 9, 2021)
https://www.cas.go.jp/jp/seisaku/datsutanso/pdf/20210609_chiiki_roadmap.pdf

Use of Proceeds 20: Subsidy for Promoting Energy Savings in Households through Installing High-Efficiency Water Heaters

(Continued projects from the second series of Japanese Climate Transition Bonds (issued in FY2024))

ICMA GBP Classification	"Energy efficiency"
GB Guidelines	"Energy conservation projects"
Policy Intention	(C) Creating demand at a national level for economic growth (Subsidies)
Background/ Objective	Approximately 14.9% of Japan's GHG emissions come from the residential sector, with emissions from hot water supply accounting for approximately 25% of these emissions. This project aims to contribute to achieving the "Energy Supply and Demand Outlook for FY2030" by supporting the introduction of highly efficient water heaters such as heat pump water heaters and household fuel cells and expanding their use.
Project Overview	The program provides subsidies for the costs of installing high-efficiency water heaters, which are necessary for consumers to reduce energy consumption at home. The following high-efficiency water heaters are eligible: - Heat pump water heater: This system uses the principle of a heat pump, which transfers heat by utilizing the properties of gas - the temperature rises when it is compressed and falls when it expands - to boil water and store it in a tank. - Domestic fuel cells: Generate electricity through a chemical reaction between hydrogen made from city gas, LP gas, etc. and oxygen in the air, and also use the waste heat from the power generation process to boil water and store it in a tank. - Hybrid water heater: A system that combines a heat pump water heater and a gas water heater to produce hot water and store it in a tank. By using two heat sources, hot water can be supplied more efficiently. ●Energy consumption efficiency of high-efficiency water heaters This subsidy project sets the following performance requirements for the highly efficient water heaters that are eligible. ・ Heat pump water heater The EcoCute is a Top Runner System-eligible device that meets the 2025 target standard value (standard energy consumption efficiency) under the Energy Conservation Act. Heaters must be heat pump water heaters (Ohisama EcoCute) that utilize excess electricity from solar power generated. ・ Hybrid water heater The system uses both an electric heat pump and a gas auxiliary heat source as heat source equipment, and is equipped with a hot water storage tank. The annual hot water efficiency must be 108% or higher according to the standard (JGKAS A705) set by the Japan Gas and Kerosene Appliances Industry Association. ・ Domestic fuel cells The product must be registered on the list of registered devices published by the Fuel Cell Promotion Association (FCA). Please refer to the following URL (Japanese) for product requirements. FCA: http://fca-enefarm.org/registration_apply.html
Subsidy Rate	Fixed amount for each device/performance (a) Heat pump water heater: 60,000 to 130,000 yen/unit (b) Hybrid water heater: 80,000 to 150,000 yen/unit (c) Home fuel cell: 160,000 to 200,000 yen/unit
Related URLs	Sector-specific Investment Strategies (Life-related Industry) https://www.meti.go.jp/press/2024/12/20241227006/20241227006-11.pdf

Use of Proceeds 21: Subsidy for Introducing Clean Energy Vehicles
(Continued projects from the first/second series of Japanese Climate Transition Bonds (issued in FY2023 and FY2024))

ICMA GBP Classification	"Clean Transportation"
GB Guidelines	"Projects for Clean Transportation "
Policy Intention	(C) Creating demand at a national level for economic growth (Subsidies)
Background/ Objective	The transportation sector accounts for about 20% of Japan's carbon dioxide emissions. The automotive sector accounts for approximately 90% of the transportation sector, and in order to achieve net-zero by 2050, the spread of clean energy vehicles with excellent environmental performance is important. It is also important to leverage the spread of electric vehicles in the domestic market while strengthening the competitiveness of the automobile industry to capture overseas markets. The purpose is to strengthen industrial competitiveness and reduce carbon dioxide emissions by supporting the costs of introducing electric vehicles and other vehicles.
Project Overview	Based on the purpose of GX support, from the perspective of promoting the creation of an environment in which electrified vehicles can be used sustainably, the amount of subsidies for each company's vehicles is determined by comprehensively evaluating not only the performance of the vehicle, but also the efforts of the automakers, such as the development of charging infrastructure, the securing of an after-sales service system, and the sustainability of the entire life cycle. － In order to encourage price reductions, for high-priced vehicles (over 8.4 million yen excluding tax), the calculated subsidy amount is multiplied by a price coefficient of 0.8. This project evaluate targets related to the introduction of cleaner steel and the adoption of steel for promoting GX and future plans for the purpose of stimulating demand for steel products produced by innovative electric furnaces. Emissions from subsidized PHEVs to directly emit CO_2 are mostly less than 50g-CO_2/km/unit/person, besed on tank-to-wheel emissions. JCR has confirmed that emissions from the overall PHEVs are in the range of circa 10g to 80g-CO_2/km/unit/person. Japan's Technology Roadmap for Transition Finance in the Automobile Sector presents the parallel development of various technologies, such as the transition to battery electric vehicles (BEVs) and the decarbonization of internal combustion engines using synthetic fuels and biofuels, for reducing CO_2 emissions from automobiles in use. JCR has confirmed that the project is not locked in fossil fuels as it aims to decarbonize PHEVs by introducing synthetic fuels and biofuels.
Subsidy rate	Subsidies are provided to individuals, corporations, local governments, etc. who purchase eligible vehicles, according to the following criteria. *Note: The amounts in parentheses ( ) indicate the maximum subsidy amounts applicable to vehicles newly registered as new cars on or after January 1, 2026. EV upper limit: 900,000 yen (1,300,000 yen) Light EV upper limit: 580,000 yen (580,000 yen) PHEV upper limit: 600,000 yen (850,000 yen) FCV upper limit: 2,550,000 yen (1,500,000 yen)
Related URLs	https://www.meti.go.jp/policy/mono_info_service/mono/automobile/cev/r6hosei_cev.html

Use of Proceeds 22: Support program for accelerating energy efficiency and CO2 reduction in the household sector through retrofitting to insulated windows, etc
(Continued projects from the first/second series of Japanese Climate Transition Bonds (issued in FY2023 and FY2024))

ICMA GBP Classification	"Energy efficiency"
GB Guidelines	"Projects for energy efficiency"
Policy Intention	(C) Creating demand at a national level for economic growth (Subsidies)
Background/	The Plan for Global Warming Countermeasures sets the targets of reducing GHG emissions from

<table>
<tr><td>Objective</td><td>the residential sector by 66% by FY2030 and by 71-81% by FY2040, compared to the FY2013 level, but approximately 80% (circa 44.46 million) of existing houses do not meet current energy conservation standards[47], making energy conservation measures for houses an urgent priority. In particular, energy efficiency retrofit that reduces the transfer of heat between inside and outside the house directly leads to improved operating efficiency of heating and cooling systems, which account for a large source of CO_2 emissions in the residential sector, and greatly contribute to reducing energy consumption.

By improving the insulation performance of windows of existing houses, which are a major source of heat loss, the burden of heating and cooling costs can be reduced, andCO_2 emissions from households can be reduced. (Openings of houses, such as windows, account for 60% to 70% of the heat flows in an entire house.) This project will achieve the reduction of circa 70% in CO_2 emissions from the residential sector (compared to FY2013) and thereby contributing to the achievement of the 2050 Vision. (The 2050 Vision aims to ensure energy-saving performance at the level of ZEH*1 on average for the total housing stock.)

*1 Definition of ZEH
ZEH is a type of house that " aims for zero annual primary energy consumption by improving significantly the insulation performance of the building envelope, maintaining the quality of the indoor environment through the introduction of highly efficient equipment systems, achieving significant energy savings, and introducing renewable energy, etc. Newly built houses after 2030 will aim to ensure energy efficiency performance at the level of ZEH standards, and ZEH meets the following four conditions.
(i) ZEH reinforced building envelope standard (*2016 Energy Conservation Standards 1-8 Regions (attention must be paid to ensuring η_{AC} value, airtightness, and moisture-proofing performance, etc.)) and U_A value [W/m^{2}K] 1.2 Region: 0.40, 3 Region: 0.50 or less, 4-7 Region: 0.60 or less)
(ii) Reduce primary energy consumption, excluding renewable energy, by more than 20% from the standard primary energy consumption.
(iii) Introduction of renewable energy (regardless of capacity)
(iv) Reduce primary energy consumption by 100% or more from standard primary energy consumption including renewable energy sources, etc.

* ZEH reinforced building envelope standard

<table>
<tr><td></td><td>Area 1 (Asahikawa City)</td><td>Area 2 (Sapporo City)</td><td>Area 3 (Morioka City)</td><td>Area 4 (Sendai City)</td><td>Area 5 (Niigata City)</td><td>Area 6 (Tokyo)</td><td>Area 7 (Miyazaki City)</td></tr>
<tr><td>Average heat transfer coefficient of the building envelope</td><td>0.4</td><td>0,4</td><td>0.5</td><td>0.6</td><td>0.6</td><td>0.6</td><td>0.6</td></tr>
</table>
</td></tr>
<tr><td>Project Overview</td><td>Renovation of insulated windows in existing houses
・Subsidy amount: Fixed amount according to the performance of the windows, etc.
・Target: Window (glass/sash) retrofit
(Windows should meet certain standards, such as having a thermal transmission coefficient (Uw value) of 1.9 or less, which exceeding satisfies the target standard value of the Top Runner System for Building Materials 2030.*2

<table>
<tr><td></td><td>Glass</td><td>Inner window</td><td>Outside window (Cover type)</td><td>Outside window (Chisel method)</td></tr>
</table>
</td></tr>
</table>

47 The figure represents the number of housings that do not meet the 2016 standards for insulation performance based on the Sector-specific Investment Strategies (Life-related Industry) for Insulation Performance of Housing Stock (2022).

	Detached houses and low-rise apartment buildings	Uw1.9 or less	Uw1.9 or less	Uw1.9 or less	Uw1.9 or less
	Mid-to-high rise apartments	Uw1.9 or less	Uw1.9 or less	Uw1.9 or less	Uw1.9 or less
	*2 Insulation performance standards for this support program				
Subsidy Rate	Individuals will receive approximately half the amount of costs for retrofitting (up to 2 million yen)				
Related URLs	https://window-renovation2025.env.go.jp/about/				

Use of Proceeds 23: Accelerating Decarbonizing Renovations for Commercial Buildings (Continued projects from the second series of Japanese Climate Transition Bonds (issued in FY2024))

ICMA GBP Classification	"Energy efficiency"
GB Guidelines	"Projects for energy efficiency"
Policy Intention	(C) Creating demand at a national level for economic growth (Subsidies)
Background/ Objective	In the buildings sector, it is essential to take measures for existing buildings that have a large potential for CO_2 reduction to achieve 2050 goal, which is to ensure the energy efficient performance at the level of ZEB standard as the average for all of the existing buildings in 2050. By supporting the acceleration of the introduction of high-insulation exterior and high-efficiency air conditioning equipment, the goal is to achieve both strengthening industrial competitiveness and economic growth by reducing prices of the products, and reducing greenhouse gas emissions from buildings, such as commercial and educational facilities, as well as improving the quality of life, including health and comfort.
Business summary	(1) Support for accelerating decarbonization renovation of commercial buildings Subsidies for equipment to promote high insulation of the exterior envelope of existing buildings and the introduction of high-efficiency air conditioning equipment, etc. ● Main requirement: Envelope performance after renovation is BPI 1.0 or less. And primary energy consumption is reduced by 30% or 40% or more depending on the use from the energy conservation standard (hotels, hospitals, department stores, restaurants, etc.: 30%, offices, schools, etc.: 40%). Plus, eligible projects should introduce the Building Energy Management System (BEMS) to monitor buildings' energy use. ● Main target equipment: insulated windows, insulation materials, high-efficiency air conditioning equipment, high-efficiency lighting (equipment that meets certain standards, such as exceeding the Top Runner System target value). (2) Introduction of Advanced Model for Decarbonization Renovation of Commercial Buildings This project supports model demonstrations incorporating technologies and building materials to reduce CO_2 emissions over the entire life cycle of buildings, starting from the FY2025 initial budget projects, as well as decarbonation renovation. 1. Main requirements: Introduce one or more of (A) advanced technologies or building materials highly effective in reducing CO_2 emissions or (B) technologies or building materials that contribute to CO_2 emissions reductions over the entire life cycle of building in addition to (1) above. (A) Examples of advanced technologies and building materials highly effective in reducing CO_2 emissions Natural ventilation systems, hybrid hot water supply systems, ultra-high-efficiency transformers, biomass energy utilization systems, energy-saving systems controlled by AI, etc. (B) Examples of technologies and building materials that contribute to CO_2 emissions

	reductions throughout the entire lifecycle of buildings. Building materials with EPD certification, products with calculated CFP, and the use of low-CO_2, CCU-type concrete, etc. 2. Main target equipment: (i) and advanced technologies and building materials, etc.
Subsidy rate	Insulated windows and insulation materials: Subsidy rate of 1/2 for the total cost of equipment and installation, etc. High-efficiency HVAC systems, LED lightings with control functions, commercial water heaters and BEMS: Subsidy rate of 1/3 ,etc. Advanced technologies and building materials, etc.: Subsidy rate of 2/3
Related URLs	https://bl-renos.jp/

Use of Proceeds 24: Support for Introduction of GX-Oriented Housing

ICMA GBP Classification	"Energy Efficiency"
GB Guidelines	"Projects for Energy Efficiency"
Policy Intention	(C) Creating demand at a national level for economic growth (Subsidies)
Background/ Objective	It is critical to reduce CO_2 emissions through the renovation of existing houses as in Use of Proceeds 24 and to improve the energy-saving performance of houses newly built in/after April 2025, in order to the 2050 Vision (aiming to ensure energy-saving performance at the level of ZEH on average for the total housing stock). New housings built in/after April 2025 have become obliged to meet the energy efficiency standards. New housings to be built in/after 2030 will be obliged to meet the ZEH standards. Efforts to decarbonize new housings have been advancing. As part of efforts toward the decarbonization of new housings, this project aims for early penetration of energy efficient housings with great energy-saving performance largely exceeding the ZEH standards. Japan is faced with dwindling housing starts and decreasing population. Japan has seen the advancement in the renovation of existing housings, however, such opportunities are limited. Under such circumstances, some housings will not meet the ZEH standards in 2050. This project aims to achieve the ZEH level on average for the total housing stock by penetrating GX-oriented housings with energy-saving performance far exceeding the ZEH standards.
Project Overview	As above, this project supports the introduction of GX-oriented housing as a driving force toward achieving energy-saving performance at the ZEH standard level on average for the total housing stock by 2050. Target: Newly built detached houses and newly built apartment buildings Main requirements:

	Newly Built Detached House			Newly Built Apartment Buildings		
	Location			Number of Floors for Residential Use		
	General Locations (excluding those listed on the right)	Cold Regions or Low Solar Radiation Areas	Heavy Snowfall Areas or Narrow Urban Sites, etc.	3 Stories or lower	4 or 5 Stories	6 Stories or Higher
Insulation Performance	Grade 6 or above					
Building Energy-Efficiency Index (BEI)	0.65 or less					
Primary Energy Consumption Reduction Rate Including	100% or more	75% or more	NA	75% or more	50% or more	NA

	renewable Energy						
	Introduction of Advanced Energy Management	Install products on the website of the ECHONET Consortium as "controllers" meeting the "ECHONET Lite AIF specifications."					
Subsidy Rate	1.6 million yen/housing						
Related URL	https://kosodate-green.mlit.go.jp/about/						

Use of proceeds 25: Promotion of electrifying commercial vehicles
(Continued projects from the first/second series of Japanese Climate Transition Bonds (issued in FY2023 and FY2024))

ICMA GBP Classification	"Clean Transportation"
GB Guidelines	"Projects for clean transportation"
Policy Intention	(C) Creating demand at a national level for economic growth (Subsidies)
Background/ Objective	The transportation sector accounts for approximately 20% of Japan's total CO_2 emissions, of which approximately 40% comes from commercial vehicles such as trucks. In order to achieve net-zero by 2050 and the GHG reduction target for FY2030 (a 46% reduction compared to FY2013), the electrification of commercial vehicles (BEVs, PHEVs, FCVs, etc.) is essential. To this end, this project will provide subsidies for the electrification of commercial vehicles (trucks, taxis, and buses) and support the acceleration of their adoption in the early stages of widespread use, thereby achieving both enhanced industrial competitiveness and economic growth through lower prices, as well as reduced GHG emissions. CO_2 emissions from the entire industrial sector account for circa 35.1% of Japan's total CO_2 emissions, out of which construction machinery makes up circa1.7%. Thus, electrification of construction machinery is also essential. This project will provide subsidies for electrification of commercial vehicles (trucks, taxis, buses) and construction machinery and the introduction of charging equipment, and thereby attracting domestic investment over the next 10 years and achieving the 2030 targets for commercial vehicles of 8 tons or less: a 20-30% ratio of electric vehicles in new car sales, and for vehicles over 8 tons: an advance introduction of a cumulative 5,000 electric vehicles. Combined with separate support for the introduction of passenger cars, this will promote decarbonization of the entire transportation sector. Additionally, price competitiveness will be improved by reducing vehicle prices and accelerating innovation.
Project Overview	Subsidies will be provided to the following businesses that have plans to introduce non-fossil energy vehicles for the introduction of vehicles (BEVs, PHEVs, FCVs, etc.) and charging equipment for electrifying commercial vehicles (trucks, taxis, buses) and to businesses to introduce GX construction machinery and charging equipment for their installation in the light of the progress in the adoption of such machinery. *Businesses eligible for subsidies [Trucks] (i) Freight truck transportation business operators (ii) Persons who use private commercial vehicles (trucks, etc.) for business purposes (limited to vehicles with a gross vehicle weight of over 2.5 tons) (iii) Persons whose business is to rent commercial vehicles (trucks, etc.) (limited to those who rent commercial vehicles to (i), (ii), (iv),and (vii).) (iv) Local government (v) Those who lease their trucks to 50% owned trucking business subsidiaries created through spin-offs (vi) Those who own charging facilities introduced together with trucks (including lessees) (limited

	to cases where charging facilities are introduced together with trucks from (i) to (v) and (vii) (vii) Any other person deemed appropriate by the executive body with the approval of the Minister of the Environment. [Taxis and Buses] (i) Persons who uses vehicles such as taxis for business purposes (ii) Persons whose business is leasing vehicles such as taxis or buses. (Limited to those who lend to (i), (iii), and (vi).) (iii) Educational corporations or companies that lend taxis, etc., or bus vehicles that they own or use to specified passenger motor vehicle transportation business operators, and entrust them with passenger transportation. (iv) Persons who lend his or her own taxi, etc. or bus vehicle to a passenger vehicle transportation business that is a subsidiary company established by the company with an investment ratio of more than 50%, such as by spinning off a passenger vehicle transportation business. (v) Those who own charging facilities introduced together with vehicles such as taxis or buses (limited to cases where charging facilities are introduced together with vehicles such as taxis or buses from (i) to (iv) and (vi)) (vi) Local government (vii) Any other person deemed appropriate by the subsidy body with the approval of the Minister of the Environment. [GX Construction Machinery] (i) Private companies (ii) Independent administrative institutions (iii) General incorporated associations and general incorporated foundations and public interest incorporated associations and public interest incorporated foundations (iv) Other entities recognized by the association with the approval of MOE Emissions from subsidized PHEVs to directly emit CO_2 are mostly less than 50g-CO_2/km/unit/person, besed on tank-to-wheel emissions. JCR has confirmed that emissions from the overall PHEVs are in the range of circa 10g to 65g-CO_2/km/unit/person. Japan's Technology Roadmap for Transition Finance in the Automobile Sector presents the parallel development of various technologies, such as the transition to battery electric vehicles (BEVs) and the decarbonization of internal combustion engines using synthetic fuels and biofuels, for reducing CO_2 emissions from automobiles in use. JCR has confirmed that the project is not locked in fossil fuels as it aims to decarbonize PHEVs by introducing synthetic fuels and biofuels.
Subsidy Rate	[Trucks] EV trucks/van, FCV trucks Subsidy rate: 2/3 of the difference with standard fuel efficiency vehicles, etc. [Taxis] EV taxi/FCV taxi/PHEV taxi Subsidy rate: 1/4 of the vehicle price, etc. [Buses] EV bus/FCV bus etc. Subsidy rate: 2/3 of the difference with standard fuel efficiency vehicles, etc. [Construction Machinery (New)] GX construction machinery Subsidy rate: 2/3 of the price difference with standard fuel efficiency vehicles. [Charging equipment] Subsidy rate: 1/2 etc. *In principle, this is limited to those introduced together with the above vehicles.
Related URLs	(Trucks) https://www.levo.or.jp/subsidy/hoseiyosan-6/ (Taxis and buses) https://ataj.or.jp/subsidy/efv-f_taxibus_r6/ (GX construction machinery) https://jcmanet.or.jp/hojojigyo-top/hojojigyo_r6_hosei/

Use of Proceeds 26: Support Focused on Price Gap to Build Supply Chains for Hydrogen and Its Derivatives

(Continued projects from the second series of Japanese Climate Transition Bonds (issued in FY2024))

<table>
<tr><td>ICMA GBP Classification</td><td>"Circular Economy Adapted Products, Production Technologies and Processes"</td></tr>
<tr><td>GB Guidelines</td><td>"Projects for Production Technologies and Processes and Environmentally Friendly Products for the Circular Economy"</td></tr>
<tr><td>Policy Intention</td><td>(D) Cross-cutting efforts to realize GX</td></tr>
<tr><td>Background/ Objective</td><td>Hydrogen is expected to be utilized in hard-to-abate sectors such as steel and chemicals, where there are few alternative technologies and transition is difficult, as well as in the mobility field and power generation. Japan's Basic Hydrogen Strategy, revised in June 2023, outlines the following four points:
(i)In addition to the 2030 target of 3 million tons of hydrogen, etc., the target is set at 12 million tons for 2040 and around 20 million tons for 2050 (cost targets will be reduced from the current 100 yen/Nm^3 to 30 yen/Nm^3 in 2030 and 20 yen/Nm^3 in 2050).
(ii) A target for the introduction of electroryzer by Japanese-related companies both domestically and overseas is set at around 15 GW by 2030.
(iii) A support system will be established for building supply chains and developing supply infrastructure.
(iv) The G7 has agreed on carbon intensity, aiming to transition to low-carbon hydrogen, etc.
The target costs for 2030 and 2050 under (i) are set at levels that are fully competitive with fossil fuels. The purpose of this project is to promote the social implementation of hydrogen by providing price differential support to reduce the cost of hydrogen supply to the same level as existing raw fuels.

In addition, in May 2024, in order to promote the supply and use of low-carbon hydrogen at an early stage, and for the government to will take the lead in formulating a basic policy, by establishing a plan certification system, and taking special measures to support businesses that have received plan approval (such as "support focusing on price gaps" and "support for base development") and regulations, the Diet passed the . The Act on Promotion of the Supply and Utilization of Low-Carbon Hydrogen and its Derivatives for Smooth Transition to a Decarbonized, Growth-Oriented Economic Structure (Hydrogen Society Promotion Act) was enacted. After the enactment, standards for low-carbon hydrogen, etc., have been set as follows.

<table>
<tr><th>Low-carbon hydrogen</th><th>Boundary</th><th>Basis for setting threshold</th><th>Threshold</th></tr>
<tr><td>Hydrogen</td><td>Well to Gate</td><td>Approx. 70% reduction from fossil fuel-derived gray hydrogen</td><td>3.4kg-CO2e/kg-H2</td></tr>
<tr><td>Ammonia</td><td>Well to Gate</td><td>Approx. 70% reduction from fossil fuel-derived gray ammonia</td><td>0.87kg-CO2e/kg-NH3</td></tr>
<tr><td>e-fuels</td><td>Lifecycle</td><td rowspan="2">Hydrogen production part: Approx. 70% reduction from fossil fuel-derived gray hydrogen. Additionally, energy related to synthesis, transport, etc. is added.</td><td>39.9g-CO2e/MJ</td></tr>
<tr><td>e-methane</td><td>Lifecycle</td><td>49.3g-CO2e/MJ</td></tr>
</table>
</td></tr>
<tr><td>Project Overview</td><td>This project will support all or part of the difference between the "reference price calculated from the cost required for the production and supply of low-carbon hydrogen" and the "reference price that takes into account environmental value and other factors in addition to the existing raw material and fuel price to be substituted."
JOGMEC, an eligible subsidized entity, provides a calculation formula with the following three core requirements.

1) Energy policy (S+3E) perspective</td></tr>
</table>

	The business must satisfy all of the S+3E criteria, namely, it must be a business that contributes to stable supply (use), is low-cost, contributes to decarbonization, and utilizes decarbonized resources in an economically rational and efficient manner, with safety as the fundamental premise. 2) Perspective on realizing GX •The GX policy is based on the "Basic Principles of Investment Promotion Measures Using Japan Climate Transition Bonds," and prioritizes projects that "contribute to the realization of strengthening industrial competitiveness, economic growth, and emission reductions" while "taking into consideration factors such as the need for domestic supply, which is essential to achieving GX, and will support projects with the highest priority." •Taking this into consideration, the government requires the following three items to be included in business plans seeking support that focuses on price gaps. (1) In areas and applications where there are few alternative technologies, such as steel and chemicals, and where transition is difficult, it will also lead the way in raw material and fuel conversion, involving new capital investment and business innovation. (2) As a result of (1), it is deemed that the project will contribute significantly to strengthening the international competitiveness of industries related to the supply and utilization of low-carbon hydrogen, etc. (3) Based on a concept consistent with international accounting rules, it is expected to contribute to reducing domestic emissions and keep carbon intensity below a certain level. * In order to confirm (1), a unified business plan must be prepared jointly by both the supplier and the user seeking support. 3) Building a self-reliant pilot supply chain •For support focusing on price differentials, projects that are expected to start supply by fiscal year 2030 should be selected, provided that they are pioneering and expected to be self-reliant, leading to the establishment of subsequent supply chains thereafter. •Therefore, in order to ensure economic independence, it is requested that supply be continued for a certain period (10 years) after the 15-year support period ends. •In addition, in order to appropriately return the knowledge gained from support focusing on price gaps, the applicant shall also confirm whether there are plans to utilize the know-how of the supported businesses to implement new related businesses both domestically and overseas in order to develop new industries and new markets.
Related URLs	Hydrogen Society Promotion Act https://www.meti.go.jp/shingikai/enecho/shoene_shinene/suiso_seisaku/pdf/014_01_00.pdf Support Program for Building Supply Chain for Low-Carbon Hydrogen, etc. (Support Focused on Price Gap) (JOGMEC) https://www.jogmec.go.jp/hydrogen/hydrogen_10_00001.html

(4) Capital investment in the GX Acceleration Agency

Use of proceeds 27: Capital investment in the Agency for Promoting the Transition to a Carbon-Free Economy (GX Acceleration Agency)

(Continued projects from the second series of Japanese Climate Transition Bonds (issued in FY2024))

ICMA GBP Classification	"Renewable energy", "Energy efficiency", "Clean transportation", "Low carbon/decarbonized energy," "Circular economy adapted products, production technologies and processes and/or certified eco-efficient products", "Environmentally sustainable management of living natural resources and land use".
GB Guidelines	"Projects for renewable energy," "Projects for energy efficiency," "Projects for clean transportation," "Projects concerning production technologies and processes and environmentally friendly products for the circular economy," and " Projects for the sustainable management of living natural resources and land use."

Policy Intention	(D) Cross-cutting efforts to realize GX
Background/ Objective	As mentioned above, as the investment race to realize GX accelerates on a global scale, Japan will need to invest more than 150 trillion yen in GX from both the public and private sectors over the next 10 years in order to simultaneously achieve international commitments such as net-zero by 2050 while strengthening industrial competitiveness and achieving economic growth. The GX Promotion Act was enacted based on the "Basic Policies for Realizing GX" compiled by the GX Implementation Council in December 2023. The law codifies (1) the formulation and implementation of a GX promotion strategy, (2) the issuance of GX economy transition bonds, (3)the introduction of growth-oriented carbon pricing, (4) the establishment of a GX Acceleration Agency, and (5) progress evaluation and necessary review. Amid these developments, the GX Acceleration Agency, an authorized corporation under the GX Promotion Act, should provide financial support such as debt guarantees, the collection of levies on fossil fuels, the management of emissions trading schemes.
Project Overview	The GX Acceleration Agency commenced operations on July 1, 2024. It will perform the following tasks. After the inception: financial support (such as debt guarantees and equity investments) From 2026: CP operations to be added From 2028: Fossil fuel surcharge collection From 2033: Paid auctions + specified business contributions *The agency also performs projects, research and study in collaboration with businesses for promoting GX. The proceeds from the Bonds will be allocated mainly to financial support provided by the GX Acceleration Agency. Through the financial support,, the agency basically identifies risks that private financial institutions are unable to completely get rid of and provides risk coverage against them when there is strong uncertainty over technology, completion and demand risks at the time of social implementation. The agency also provides risk coverage, considering that its financial support financed by the GX Economy Transition Bonds, which can be utilized as budgets. The Government of Japan requires the agency to follow the criteria below when it selects projects that it provides financial support. Overview of Support Criteria (1) Criteria that the agency should follow in providing financial support 1. Alignment with government policies: Business activities are aligned with government policies, such as the GX Promotion Strategy and the Climate Transition Bond Framework. 2. Promotion of the social implementation of or business of technologies to contribute to GX Projects should contribute to the social implementation of new technologies owned by Japanese companies and beneficial to GX or to the advancement of businesses utilizing such technologies. 3. Coverage against Risks that the private sector is unable to completely get rid of There are risks that the private financial institutions are unable to completely get rid of, and coverage against those risks is necessary. 4. Comprehensive assessment on the going concern of subsidized companies, etc. Financial support is required in full consideration of contribution to GX initiatives, the catalytic effect on private financing, contribution to the evolution into new financial instruments such as transition finance and blended finance and impact leading to quality employment as well as the going concern of subsidized companies. 5. Appropriate business management and promotion There is a framework for efficiently and effectively carrying out the support program without fail, and the management team commits the activity.

	(2) Matters that the agency should focus on when operating the overall financial support program 1. Basic approach to financial support The agency provides financial support, taking an unbending stance that it will never avoid taking risks that it should so as not to prevent GX promotion from advancing by not taking such risks while considering whether the private sector is able to take such risks. 2. Promotion of financial support The agency actively develops projects to support, seeks opinions from external experts and employs specialists. 3. Alignment with overall government policies Financial support the agency provides should align with the overall government policies including GX initiatives. 4. Development of human resources for promoting GX The agency actively exchanges personnel with the private sector and provides opportunities for learning about GX promotion. 5. Collaboration with stakeholders The agency works with various stakeholders, relevant ministries and agencies and other governmental institutions. 6. Information disclosure The agency ensures transparency of financial support through information disclosure.
Related URL	https://www.meti.go.jp/press/2024/08/20240813001/20240813001-1r.pdf

3-1. Negative Impacts on the Environment

Among the uses of funds covered by the Bonds, for research and development funds, it will check for potential negative impacts on the environment and society during the project selection and evaluation process at the time of review when contributing to each R&D expense. It will also confirm mitigation measures as necessary. In addition, when implementing subsidy programs, individual business operators identify negative impacts on the environment and society based on laws and regulations such as environmental impact assessment, and ensure that necessary mitigation measures are taken.

As stated in Chapter 2 of this report, avoidance of lock-in to fossil fuels, consideration for a fair transition, and consideration of DNSH will be appropriately considered, and additional measures and mitigation measures will be considered as necessary.

In consideration of the impact on the environment and society, the Framework has established the following exclusion criteria. JCR has confirmed that the use of proceeds from the Bonds does not fall under these exclusion criteria.

- Businesses aimed at manufacturing, selling, or distributing weapons of mass destruction such as nuclear weapons, chemical weapons, or biological weapons, or inhumane weapons such as anti-personnel landmines; Businesses that manufacture products and provide services that support the manufacture or sale of non-human weapons
- Businesses related to coal mining, refining, and transportation
- Business related to owning or operating gambling facilities/businesses

- Businesses related to forced labor that do not comply with the laws and regulations of the country where the business is located and involve inappropriate relationships such as bribery, corruption, extortion, embezzlement, etc.
- Businesses related to transactions that may cause social issues such as human rights and the environment

Based on the above, JCR evaluates that the negative impact on the environment and society has been taken into account and appropriate measures have been taken regarding the use of the proceeds of the Bonds.

3-2. Alignment with the safeguard requirements set out in the Climate Transition Bond Guidelines

Under the Climate Transition Bond Guidelines (CTBG) published by ICMA in November 2025, four assessment components are established for evaluating use-of-proceeds bonds:

1. Use of Proceeds
2. Process for Project Evaluation and Selection
3. Management of Proceeds
4. Reporting

This section presents the results of our review of the degree to which the safeguards that should be considered for climate transition projects, as set out in CTBG "1. Use of Proceeds," are satisfied, as well as the policies adopted to achieve such compliance.
In addition, the Bonds' alignment with each of the CTBG components listed above is described in detail in "V. Alignment with the Items Required under the Climate Transition Bond Guidelines."

(1) Existence of an issuer-level sustainability and/or climate transition strategy to which the CT Projects contribute and incorporating disclosures which align on a best-efforts basis with the four key elements of the Climate Transition Finance Handbook

The Government of Japan has made clear in the Act on Promotion of Global Warming Countermeasures that it aims to achieve carbon neutrality by 2050 and will implement the measures necessary to do so. In addition, the Plan for Global Warming Countermeasures revised in 2021 set a FY2030 target (a 46% reduction compared with FY2013) in a manner consistent with the goals agreed under the Paris Agreement, and established FY2030 reduction targets by emissions source relative to FY2013. Furthermore, in February 2025, the government revised the above Plan for Global Warming Countermeasures and formulated reduction targets for 2035 and 2040 of 60% and 73%, respectively, compared with FY2013; for FY2040, as with FY2030, it also set reduction targets by emissions source.

The government has compiled concrete measures to realize GX (Green Transformation) toward

these targets as the "GX2040 Vision." In the GX2040 Vision, the government states that, amid increasing uncertainty in future outlooks, it will present a longer-term direction than that set out in the GX Promotion Strategy in order to enhance the predictability of investment toward GX. The Vision sets out policies on GX industrial structure and GX industrial location, and, in addition to GX initiatives in individual sectors that were also indicated in the conventional GX Promotion Strategy, it establishes policies that place greater emphasis on industrial policy as well. With regard to GX initiatives in individual sectors, it indicates that, in addition to what is described in the " Sector-specific Investment Strategies," investment-promotion measures will be advanced based on the Plan for Global Warming Countermeasures, the Seventh Strategic Energy Plan, and related policies.

Accordingly, JCR evaluates that the Government of Japan has a strategy for transition to mitigate climate change.

(2) Analysis supporting the technological and/or economic unfeasibility of low-carbon alternatives for the issuer considering also the local context. For practical purposes, this assessment can be made by referencing existing official sector or other authoritative third-party resources and issuers' cost-benefit analyses.

Within this Framework, which sets out the use of proceeds for the Bonds, the Government of Japan's initiatives toward achieving carbon neutrality by 2050 are described. The Government of Japan has developed "Roadmaps for Promoting Transition Finance" (sectoral technology roadmaps) for ten high–greenhouse gas–emitting industrial sectors. As noted above, these sectoral technology roadmaps have been formulated sequentially since FY2021 for industries with relatively large CO_2 emissions, such as steel, chemicals, electric power, gas, oil, pulp and paper, cement, and automobiles. They comprehensively cover, for each sector, the low-carbon and decarbonization technologies that will be used to achieve carbon neutrality by 2050, including both existing technologies and technologies that will be further developed and deployed in society going forward, and they set out pathways—through combinations of these technologies—to align with the 1.5–2°C goal for 2030 and to achieve carbon neutrality by 2050.

In addition, as noted above, the content of the "Sector-specific Investment Strategies" is consistent with the "sectoral technology roadmaps." With the aim of establishing a GX (Green Transformation) market domestically and transforming supply chains into GX-oriented ones, the "Sector-specific Investment Strategies" compiles, as described above, concrete projects for the measures defined in the "Michiyuki (Pathway)," as well as the initial five-year action plan.

The use of proceeds under this Framework has been formulated based on the "sectoral technology roadmaps," the " Sector-specific Investment Strategies," and related materials, and the roadmaps present low-carbon and decarbonization technologies that are technically and

economically feasible by time period toward achieving carbon neutrality by 2050. Therefore, JCR assesses that low-carbon and decarbonization technologies that are not technically and/or economically viable by time period do not appear in the "sectoral technology roadmaps" or the "Sector-specific Investment Strategies."

Accordingly, JCR evaluates that the Bonds satisfies the description required under this safeguard.

(3) Alignment or compatibility with official sector and market-based taxonomies, decarbonisation pathways and roadmaps, and/or other international and national decarbonisation policy frameworks, where available and relevant. Annex 1 provides a non-exhaustive list and an overview of existing official sector and market-based taxonomies and pathways and roadmaps to help issuers identify the relevant resources.

In this Framework, which sets forth the eligible criteria for the use of proceeds of the Bonds, as noted above, the eligible projects are those that are consistent with the projects described in the "sectoral technology roadmaps" and the initiatives set out in the " Sector-specific Investment Strategies." Accordingly, JCR assesses that the requirements described under this safeguard are satisfied.

(4) **Mitigation of substantial and quantifiable GHG emissions beyond business-as-usual (BAU),** considering sector standards, practices, proxies and best available technologies (BAT), where available and feasible.

As stated above, the Government of Japan presents the best available technologies (BAT) available to each sector through the "sectoral technology roadmaps" in order to mitigate greenhouse gas emissions.

With respect to the use of proceeds for the Bonds, the eligible projects and R&D initiatives are those premised on achieving greenhouse gas emission reductions that exceed a business-as-usual (BAU) scenario for the relevant entities. Every eligible project has targeted the Best Available Technology considering conditions such as technical and economic situations. Accordingly, JCR assesses that the requirements described under this safeguard are satisfied.

(5) **Identification, analysis, best-efforts mitigation, and disclosure of carbon-lock in risks.** In this respect, sunset provisions and/or the restriction of interim performance categories (also known as the "amber" category) primarily for existing assets and activities in some taxonomies should be noted. The lock-in assessment may consider, where relevant, factors

such as a project's lifetime and amortisation period, utilisation rate, emission profile over time, rebound effects, potential barriers to low(er)-carbon substitutes (e.g. contractual, labour, or supply chain constraints), readiness for future incorporation of lower-carbon feedstock or change in end-use, reversibility (e.g. retrofitting, repurposing, or repowering), and displaceability, and monitoring of a project's end-use emissions. Annex 2 provides a non-exhaustive overview of existing resources for evaluating and avoiding carbon lock-in risks.

With respect to the use of proceeds for the Bonds, eligible expenditures are those that contribute to achieving (i) the technology roadmaps toward carbon neutrality for high–greenhouse gas–emitting sectors as set out in the aforementioned "sectoral technology roadmaps," and (ii) the GX-related investment projects described in the " Sector-specific Investment Strategies." These "sectoral technology roadmaps" and the "Sector-specific Investment Strategies" were formulated on the basis of the Seventh Strategic Energy Plan, the Plan for Global Warming Countermeasures, and the GX2040 Vision, all of which are premised on achieving carbon neutrality by 2050. Accordingly, JCR assesses that they minimize, to the greatest extent possible, risks related to carbon lock-in in light of the 2050 carbon neutrality goal.

With regard to the risk of carbon lock-in in cases where fossil fuels (coal, oil, natural gas, etc.) are used as part of the use of proceeds for the Bonds, projects are limited—consistent with the above 2050 carbon neutrality goal—to those that do not extend beyond 2050, taking into account factors such as the project's useful life and depreciation period. In addition, if the above-mentioned fossil fuels are used as fuel in the subsidy project, participation in the GX League and the setting of emission reduction targets for 2030 to achieve the 2050 carbon neutral targets, and similar implementations are required. Any use of fossil fuels is premised on a future transition to zero-emission fuels or carbon-neutral fuels, such as through the use of hydrogen/ammonia or biofuels. Moreover, the use of proceeds will be used for projects to build supply chains and other projects aimed at improving constraints in the transition to zero-emission fuels and carbon-neutral fuels.

Accordingly, JCR evaluates that the use of proceeds for the Bonds satisfies the safeguard requirements.

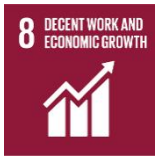
4. Consistency with SDGs

JCR evaluated the use of proceeds contributes to the following SDGs' goals and targets in reference to ICMA's SDGs mapping.

Goal 7: Affordable and clean energy

Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix

Target 7.3: By 2030, double the global rate of improvement in energy efficiency



Goal 8: Decent work and economic growth

Target 8.2: Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

Target 8.4: Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead

Goal 9: Industry, innovation and infrastructure

Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

Target 9.2: Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

Target 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

Target 9.5: Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending

Goal 11: Sustainable cities and communities

Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

Goal 12: Responsible consumption and production

Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

Goal 13: Climate action

Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

Goal 15: Life on land

Target 15.2: By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

Goal 17: Partnerships for the goals

Target 17.17: Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships

Evaluation Phase 2: Management, Operation and Transparency Evaluation

m1

I. Selection Criteria and Processes of the Use of Proceeds

JCR's Key Consideration in This Factor

In this section, JCR will confirm the objectives to be achieved through this evaluation target, the adequacy of the green project selection criteria and processes, and whether a series of processes will be appropriately disclosed to investors.

▶▶▶ Current Status of Evaluation Targets and JCR Evaluation

An organization was established with cross-ministerial expertise for the goals, green project selection criteria and processes in the Bonds and the GX Implementation Council, chaired by the Prime Minister under the leadership of the Cabinet Office is appropriately involved, and all disclosures were made about these conference bodies and their operations; therefore, JCR has evaluated that the transparency is also ensured.

1. Goal

Basic Policy for the Realization of GX[12]

The main plans and laws and regulations to achieve net-zero by 2050 and the respective GHG emission reduction targets are as follows:

- Plan for Global Warming Countermeasures
- The 7th Strategic Energy Plan
- Basic Policy for the Realization of GX (GX Implementation Council)
- Act for Promoting a Smooth Transition to a Decarbonized Growth-Oriented Industrial Structure (GX Promotion Act)
- Act for Partial Revision of the Electricity Business Act and Other Acts for Establishing Electricity Supply Systems for Realizing a Decarbonized Society (GX Decarbonized Power Act)
- GX2040 Vision (Sector-specific Investment Strategies)

It is important for the Government of Japan to reduce CO_2 emissions from energy sources, which account for roughly 90 % of GHG reductions. The Government of Japan discussed its specific reduction efforts in the GX Implementation Council, and the GX Promotion Act was enacted. The issuance of Japan Climate Transition Bonds, including the Bonds, is a measure stipulated in Article 7 of the GX Promotion Act, and is clearly positioned as part of the Government of Japan's policy toward the realization of decarbonized society.

[12]Created by JCR from the basic policy for the realization of GX

2. Selection Criteria

In the Framework evaluation published in the evaluation reports on November 7, 2023 and June 27, 2025, JCR confirmed that the selection criteria set by the Government of Japan in the Framework are consistent with the content stipulated in the GX 2040 Vision. The project is evaluated as being appropriate and has an environmental improvement effect.

The use of proceeds set out in the Bonds was included in the Sector-specific Investment Strategies (roadmaps) however, the individual eligibility criteria (environmental benefits) will be examined in the working group with experts invited hereafter. JCR has evaluated that the project selection criteria are appropriate.

3. Process

In selecting projects for which the proceeds of the Bonds, the alignment is to be confirmed in the liaison meeting with relevant ministries and agencies; therefore, JCR has evaluated that the process is appropriate.

The Government of Japan's goals, selection criteria and processes for the Bonds are disclosed in the Japan Climate Transition Framework and this evaluation report. The Government of Japan plans to disclose the target projects on its website when issuing the Bonds based on the Japan Climate Transition Framework. Therefore, JCR has evaluated that transparency to investors is ensured.

II. Management of proceeds

JCR's Key Consideration in This Factor

It is usually assumed that the method of managing the proceeds financed widely varies depending upon the finance raisers. JCR will confirm that the proceeds financed based on this evaluation target are surely allocated to green/transition projects, and that mechanisms and internal systems are in place so that the allocation can be easily tracked and managed.

JCR will emphasize whether the proceeds financed by this evaluation target are scheduled to be early used for green projects and it will also give importance to the evaluation of the management/operation methods of unallocated proceeds.

▶▶▶ Current Status of Evaluation Targets and JCR's Evaluation

JCR has evaluated that the Government of Japan's proceeds management system has been properly established and is highly transparent since the method of managing the proceeds financed will be disclosed in this evaluation report and the framework has been already disclosed on its website.

The proceeds financed by the Bonds will be entered into the energy supply and demand account of the special account for energy measures immediately after the issuance of the bonds, and will be executed from the Special Account for Energy Measures in accordance with the adoption of the R&D project and the finalization of the subsidy project. All management of the fund allocation status is carried out in the accounting system dedicated to GX Economy Transition bonds, and the execution status is carried out in the Cabinet GX Office established in the Cabinet Office.

The plan for proceeds allocation is, in principle, subject to projects whose operations will begin in and after the fiscal period concerned or proceeds was already allocated and all proceeds will be allocated in the fiscal period in question and in cases where unallocated proceeds are generated, they shall be managed in cash. Accordingly, JCR has evaluated the plan as adequate.

The management of proceeds will be inspected by the Audit Office, an independent body, in the same way as the normal budget process. The decision on the use of proceeds and the allocation will be confirmed in the liaison meeting with relevant ministries and agencies. The ledger on the management of proceeds financed will be retained until the repayment of the target Bonds and the retention period based on laws and regulations.

Consequently, JCR has evaluated that the Government of Japan's proceeds management system has been properly established, and that the management method of the proceeds financed will be disclosed in this evaluation report; therefore, it is highly transparent.

III. Reporting

JCR's Key Consideration in This Factor

JCR will evaluate whether the disclosure system to investors before and after financing based on this evaluation target is planned in a detailed and effective manner in this section.

▶▶▶ Current Status of Evaluation Targets and JCR Evaluation

The Government of Japan plans to report annually the allocation status and environmental benefits from the issuance year to the end of FY2027. JCR has evaluated that the Government of Japan's reporting will be appropriately disclosed for both the allocation of proceeds and the environmental benefits to investors.

Reporting on the allocation of proceeds

The Government of Japan will annually disclose the contents set out in the Framework regarding the allocation of proceeds financed by the Bonds on its website. In cases where any significant change is made in the financial situation after the full amount of the proceeds financed were allocated, the disclosure shall be made in a timely manner.

Reporting on environmental benefits

The Government of Japan plans to disclose the contents set forth in the Framework on its website as reporting on the environmental benefits of eligible projects by the end of FY2027. These disclosure items will quantity the progress and the expected CO_2 reduction effects for R & D and the environmental benefits, such as the expected CO_2 reduction effects by implementing the subsidy program for the program in refining the Sector-specific Investment Strategies and the disclosure will be made within the realm of possibility. The progress and environmental benefits for impact reporting will be updated at least until the end of the individual projects, and the information will be disclosed on the website for the repayment period.

Accordingly, JCR has evaluated that the reporting system by the Government of Japan is adequate.

IV. Efforts to Address Organizational Environmental Issues

JCR's Key Consideration in This Factor

JCR will evaluate whether the top finance raiser positions environmental issues as important issues with high management priority, or whether policies/processes/criteria for selecting eligible projects are clearly positioned by establishing divisions that specialize in environmental sectors or collaborating with external organizations in this section.

▶▶▶ Current Status of Evaluation Targets and JCR Evaluation

JCR has confirmed that the Government of Japan has positioned the realization of decarbonized society as one of Japan's important issues and has stipulated laws and regulations for the decarbonization of GX and energy sources, and is working on it as an important priority issue for the government. JCR has evaluated in practical that a liaison meeting with relevant ministries and agencies has been established under the initiative of the GX Implementation Council, headed by the Prime Minister, and the government as a whole is working on it, and the GX Implementation Council and the working group responsible for the concrete examination of Sector-specific Investment Strategies has invited experts from academic, financial and industrial sectors to build a system for repeated multifaceted examinations.

Please refer to Chapter 2 2.1 and 2.2 in this evaluation report for details on the current status of this evaluation target.

V. Alignment with the Items Required under the Climate Transition Bond Guidelines

JCR's Key Consideration in This Factor

In this section, JCR assesses whether the framework and the Bonds are aligned with each component of the Climate Transition Bond Guidelines, among other considerations.

Current Status of Evaluation Targets and JCR Evaluation

The CTBG launched by ICMA in November 2025 were developed to introduce a standalone "Climate Transition Bond" label in order to support fundraising by projects in high-emitting sectors and/or projects that involve high-emitting activities, with the aim of achieving the goals of the Paris Agreement.

For the evaluation of transition bonds as use-of-proceeds bonds, CTBG sets out the following four components. In this section, we verify the alignment between the items required by CTBG and this Framework.

1. Use of Proceeds

Alignment with the five safeguards and the additional safeguards related to fossil fuels.

2. Process for Project Evaluation and Selection

The extent of disclosure regarding eligibility as transition projects, safeguards, classification, and exclusion criteria.

3. Management of Proceeds

Whether the raised funds are allocated to green/transition projects with certainty, and whether there are mechanisms that enable easy tracking and management of such allocation, as well as the status of disclosure regarding those mechanisms.

4. Reporting

Whether the disclosure framework for investors and other stakeholders is planned in a detailed and effective manner.

1. Use of Proceeds

For details of the use of proceeds under the Bonds, please refer to this evaluation report, "Evaluation Phase 1: Green/Transition Evaluation– I. Use of Proceeds." JCR also assesses that the use of proceeds under this Framework and the Bonds satisfies the safeguards required by the CTBG. For a description of the safeguards and their eligibility, please refer to "3-2. Alignment with the safeguard requirements set out in the Climate Transition Bond Guidelines."

2. Process for Project Evaluation and Selection

For the criteria and process for selecting the use of proceeds under this Framework and the Bonds, please refer to this evaluation report, "Evaluation Phase 2: Management, Operation and Transparency Evaluation – I. Selecting Criteria and Processes of the Use of Proceeds."

Within this Framework, the Government of Japan clearly specifies information regarding project eligibility, safeguards, classification, and exclusion criteria. JCR assesses that the use of proceeds under this Framework and the Bonds is aligned with the Ministry of Economy, Trade and Industry (METI)'s "sectoral technology roadmaps" and "Sector-specific Investment Strategies" presented by the Government of Japan. In addition, JCR assesses that it is aligned with the objective of the Framework as a whole—namely, to keep the increase in the global average temperature well below 2°C above pre-industrial levels and to pursue efforts to limit it to 1.5°C—and with the Paris Agreement–based Japan's NDC and pathways toward achieving net-zero (carbon neutrality) greenhouse gas emissions in the second half of this century. Moreover, the individual eligibility criteria (environmental improvement effects) are to be reviewed based on the opinions of experts, etc., and the standards are reviewed annually or at appropriate times. The Framework is also scheduled to be revised at appropriate times, and it discloses the process for identifying and mitigating adverse environmental and social impacts.

Accordingly, JCR assesses that the criteria and process for selecting the use of proceeds under this Framework and the Bonds satisfy the requirements set out in the CTBG.

3. Management of Proceeds

For details regarding the management of proceeds for the Bonds, please refer to this Evaluation report, "Evaluation Phase 2: Management, Operation and Transparency Evaluation – II. Management of Proceeds."

JCR assesses that a system has been established to appropriately segregate and manage the proceeds, because the funds raised through the Bonds will be managed separately from other accounts within the Energy Supply and Demand Account of the Special Account for Energy Measures, and, even within that account, the projects to which funds are allocated are classified under a separate category as GX-related budget items.

As for the allocation plan, in principle it covers projects that commence operation or receive allocations in or after the relevant fiscal year, and all proceeds are expected to be allocated within that fiscal year. If any unallocated proceeds arise, they will be held and managed in cash. Based on the above, the allocation plan is considered appropriate.

With respect to the management of the raised funds, audits will be conducted by the Board of Audit of Japan, an independent institution, in the same manner as the regular budget process. In addition, the inter-ministerial liaison meeting will confirm matters such as decisions on the

use of proceeds and the status of allocations. Records relating to the management of the proceeds will be retained until redemption of the relevant bonds and through the statutory record-retention period.

JCR evaluates that the Government of Japan has established an appropriate proceeds management system and that, because the method of managing the proceeds will be disclosed in this assessment report, the level of transparency is high.

4. Reporting

For reporting related to the Bonds, please refer to this evaluation report, "Evaluation Phase 2: Management, Operation and Transparency Evaluation – III. Reporting."

<Reporting on the status of allocation of proceeds>

The Government of Japan plans to disclose annually on its website, in accordance with the contents stipulated in this Framework, information on the allocation status of funds raised through the Climate Transition Bonds. In addition, if any material change in circumstances occurs after all proceeds have been fully allocated, the government plans to disclose such information in a timely manner.

<Reporting on environmental improvement effects>

As reporting on the environmental improvement effects of eligible projects, the Government of Japan plans to disclose annually on its website the items stipulated in this Framework. Regarding these disclosure items, it plans to advance quantification—through the refinement of the Sector-specific Investment Strategy— for example, the progress of R&D and the expected CO_2 reduction effects, as well as the CO_2 reduction effects and other environmental improvement effects resulting from subsidy programs. Accordingly, quantitative disclosure is planned to the extent possible. In addition, with respect to impact reporting, progress and environmental improvement effects will be updated at least through the completion of each individual project, and such information is planned to be disclosed on the website and other channels through the bond redemption period.

Based on the above, JCR assesses that the reporting framework established by the Government of Japan satisfies the requirements set out in the CTBG.

Evaluation Phase 3: Evaluation Result (Conclusion)

Green 1(T)

JCR assigned "gt1" to the preliminary appraisal of "Greenness/Transition Evaluation (Use of Proceeds,)" "m1" to the preliminary appraisal of "Management, Operation and Transparency Evaluation" based on JCR Green Finance Evaluation Methodology. As a result, JCR assigned "Green 1(T)" to the "JCR Preliminary Climate Transition Bond Evaluation" for the Bonds. The Bonds meet the criteria for the items required in the Green Bond Principles, the Green Bond Guidelines, the Climate Transition Finance Handbook, the Basic Guidelines on Climate Transition Finance, and Climate Transition Bond Guidelines.

		Management/operation/transparency evaluation				
		m1	m2	m3	m4	m5
Greenness/ Transition Evaluation	gt1	**Green 1(T)**	Green 2(T)	Green 3(T)	Green 4(T)	Green 5(T)
	gt2	Green 2(T)	Green 2(T)	Green 3(T)	Green 4(T)	Green 5(T)
	gt3	Green 3(T)	Green 3(T)	Green 4(T)	Green 5(T)	N/A
	gt4	Green 4(T)	Green 4(T)	Green 5(T)	N/A	N/A
	gt5	Green 5(T)	Green 5(T)	N/A	N/A	N/A

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Important Explanation on this Evaluation

1. Assumptions, Significance, and Limitations of JCR Climate Transition Finance Evaluation

   JCR Climate Transition Finance Evaluation provided by Japan Credit Rating Agency (hereinafter referred to as "JCR") covers the policies set out in the JCR Climate Transition Finance Evaluation as an evaluation target and states JCR's comprehensive opinion on the extent to which allocation is made to the Green/Transition Project defined by JCR and on the degree to which the efforts to ensure the management, operation and transparency on the use of proceeds at present. It is therefore not intended to evaluate the specific environmental benefits and the management/operation system/transparency on the use of proceeds, such as individual bonds or borrowings implemented based on the policies. JCR, in principle, does not directly measure the environmental benefits of proceeds financed through the green/transition finance although JCR confirms that the environmental benefits are quantitatively and qualitatively measured by an issuer or borrower (hereinafter the issuer and borrower are collectively referred to as a "finance raiser") or the third parties requested by the finance raiser.

2. Methodology Used in this Evaluation

   The methodology used to make this evaluation is posted as JCR Green Finance Evaluation Methodology in the Sustainable Finance/ESG section on the JCR's website at https://www.jcr.co.jp/

3. Relation with Conduct for Credit Rating Business

   The conduct of assigning and providing JCR Green Finance evaluation is performed by JCR as its related business and is different from the conduct for the credit rating business.

4. Relation with Credit Rating

   This evaluation is different from a credit rating and does not commit to providing a predetermined credit rating or make available for inspection.

5. Impartiality when Evaluating JCR Green Finance

   There are no capital or personnel relationships that could create a conflict of interest between this evaluation target and JCR.

Points to Consider

The information contained in this document was obtained by JCR from finance raisers and accurate and reliable sources. Such information however may be mistaken for artificial, mechanical or other reasons. Therefore, JCR makes neither representation nor warranty, express or implied, as to the accuracy, result, eligibility, timeliness, completeness, merchantability, or fitness for any particular purpose of such information, and JCR assumes no responsibility for any errors, omissions or consequences of using such information. JCR shall not be liable for any loss of opportunity and extraordinary, indirect, incidental or consequential damage of any kind, including any loss of money, which result from any use of such information under any circumstances, whether contractual liability, tort liability, negligence or other causes of liability, and whether such damage is foreseeable or unforeseeable. JCR Green Finance Evaluation does not express any opinion on various risks (credit risk, price fluctuation risk or market liquidity risk) on the green finance that is the subject of evaluation. JCR Green Finance Evaluation is a comprehensive opinion of JCR at present and does neither represent facts nor make any recommendation regarding risk assessments or decisions on the purchase, sale or holding of individual bonds or commercial paper. JCR Green Finance Evaluation may be modified, suspended or withdrawn due to changes in information or lack of information. All rights pertaining to this document, including data from the JCR Green Finance Evaluation is prohibited from being reproduced, modified or otherwise altered without the permission of JCR.

Terminology

JCR Climate Transition Finance Evaluation: The assessment of the extent to which proceeds financed by the Climate Transition Finance are allocated to green/transition finance defined by JCR and the degree of management, operation and transparency related to the use of proceeds for the green/transition finance. The evaluation is made on a scale of five in the order from top to bottom with evaluation symbols, Green 1 (T), Green 2 (T), Green 3 (T), Green 4 (T), Green 5 (T)

Status of Registration as External Evaluator of Sustainability Finance

- Ministry of the Environment: Registered as External Reviewer of Green Finance
- ICMA (observer registration as an external evaluator with the International Capital Market Association)
- UNEP FI Positive Impact Financial Principles Working Group Member
- Climate Bonds Initiative Approved Verifier

Other Registration Status as Credit Rating Agency

- Credit Rating Agency: the Commissioner of the Financial Services Agency (Credit Rating) No. 1
- EU Certified Credit Rating Agency
- NRSRO: JCR registered with the following four of the five credit rating classes of the Nationally Recognized Statistical Rating Organization ("NRSRO") as defined by the U.S. Securities and Exchange Commission: (1) financial institutions, broker/dealers, (2) insurance companies, (3) general business corporations and (4) national/local governments. In cases where disclosure is required based on Rule 17g-7(a) of the Securities Exchange Act, such disclosure is attached to News Release on the JCR webpage at https://www.jcr.co.jp/en/.

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