Related document 3

List of Policies and Measures regarding Japan's Emission Reduction Target toward FY 2035 and FY 2040

This document is classified as a related document of the Plan for Global Warming Countermeasures (Cabinet decision on February 18, 2025). It provides table-format information, broken down by sector and category, of individual measures aimed at achieving the targets for FY 2035 and FY 2040, including specific goals for each greenhouse gas and other classifications, as well as guidelines for sector-specific emissions of energy-related CO_2. The document includes concrete data as the basis for these targets, such as national evaluation indicators for measures, expected emission reduction and absorption volumes, policies implemented by the national government to promote these measures, and examples of policies that local governments are expected to implement.

This table will be reviewed as necessary during the follow-up process conducted by Global Warming Prevention Headquarters, in accordance with Chapter 4, Section 1 of the Plan for Global Warming Countermeasures.

Number	1	Governing agencies	Ministry of Economy, Trade and Industry, etc.
Sector	Energy-related CO_2	Policies and measures	Efforts for further emission reduction in Industry sector

Number	1-1
Details of policies and measures	Toward 2040, in addition to promoting thorough energy conservation, it will be necessary to shift heat demand and manufacturing processes themselves, mainly in the manufacturing industry. Therefore, it is necessary to boldly promote fuel conversion, electrification, and shift to non-fossil energy, together with supply-side efforts for decarbonized power sources such as renewable energy and nuclear power, and decarbonized energy such as hydrogen and its derivatives. In particular, it is necessary for the public and private sectors to work together to strengthen Japan's industrial competitiveness, taking into account such factors as the high cost of production equipment associated with the conversion of manufacturing processes, the timing of equipment replacement taking into account the durability of existing equipment, the relative deterioration of the energy-saving performance of production equipment, including machine tools, which have been used for many years while energy-saving technologies are improving, and the need to develop infrastructure for decarbonization, including power receiving equipment and piping, in addition to production equipment. It is necessary to promote thorough energy conservation by upgrading to advanced facilities at factories, enhancing systems to support energy conservation at SMEs in local communities, and promoting the use of digital technologies based on the progress of DX and AI. In addition, it is necessary to boldly promote fuel conversion, electrification, and shift to non-fossil energy.
Policies implemented by the national government	- Promotion of investment in equipment replacement - Establishment of an advisory system for SMEs on energy conservation - Promotion of utilization of digital technology - Establishment of a regional system to support SMEs in energy conservation
Main policies expected to be implemented by local governments	Concretization of necessary measures based on Strategic Energy Plan, etc., building momentum toward energy conservation, shift to non-fossil energy, and decarbonization, expanding the base of human resources, etc.
Technologies and institutions required to promote policies and measures	- The Act on Rationalization of Energy Use and Shift to Non-fossil Energy (Energy Conservation Act) - GX-ETS, etc. - Based on Strategic Energy Plan, the necessary measures will be implemented.
Details of technologies and institutions required to promote policies and measures	The Top Runner Program in the Act on Rationalization of Energy Use and Shift to Non-fossil Energy (Energy Conservation Act) and the Benchmark System will be reviewed on an ongoing basis, taking into account the efforts of business operators. In addition, support for equipment renewal will be considered in order to support the introduction of high-efficiency equipment and drastic energy conservation, electrification, and shift to non-fossil energy at factories and other facilities as a whole. In addition, support will be provided for energy conservation diagnosis and technology development to identify potential needs for decarbonization. Furthermore, efforts will be made to support the optimization of operations using digital technology and to expand the number of companies that actively disclose information on periodic reports based on the Act on Rationalization of Energy Use and Shift to Non-fossil Energy (Energy Conservation Act). In the future, further energy conservation will require discontinuous technological development and strengthening of efforts, so we will promote innovation in high-efficiency devices and digital technologies. For SMEs, which account for 1 to 20% of Japan's greenhouse gas emissions, GX initiatives are expected to reduce utility and fuel costs, strengthen the brand of their own products, and expand their business partners. For SMEs, energy conservation is often the first step in decarbonization efforts, and the government will use energy conservation as an opportunity to promote decarbonization efforts.
Tagets for implementing policies and measures	Total energy-related CO_2 emissions are estimated at approximately 3.6 million ~370 million t-CO_2 in FY 2040.

Number	2	Governing agencies	Ministry of Economy, Trade and Industry, etc.
Sector	Energy-related CO_2	Policies and measures	Efforts for further emission reduction in Commercial and other sector

Number	2-1
Details of policies and measures	Because buildings become a long-term stock once they are built, it is necessary to promptly improve energy conservation performance and promote shift to non-fossil energy and DR. Aiming to secure energy conservation performance at the level of the ZEB standard on a stock average basis in 2050, and to secure energy conservation performance at the level of the ZEB standard for new buildings to be built in and after FY 2030, we will promote improvement of energy conservation performance, introduction of renewable energy, shift to non-fossil energy, and promotion of DR.
Policies implemented by the national government	- Improvement of energy-saving performance of buildings and expansion of introduction of renewable energy - Promotion of investment in equipment replacement - Establishment of an advisory system for SMEs on energy conservation - Promotion of utilization of digital technology - Establishment of a regional system to support SMEs in energy conservation
Main policies expected to be implemented by local governments	Concretization of necessary measures based on Strategic Energy Plan, etc., building momentum toward energy conservation, shift to non-fossil energy, and decarbonization, expanding the base of human resources, etc.
Technologies and institutions required to promote policies and measures	- The Act on Improving the Energy Consumption Performance of Buildings (Building Energy Efficiency Act) - The Act on Rationalization of Energy Use and Shift to Non-fossil Energy (Energy Conservation Act) , etc. - Concretizing other necessary measures based on Strategic Energy Plan
Details of technologies and institutions required to promote policies and measures	The Government will promote the improvement of energy-saving performance and the expansion of the introduction of renewable energy, while making integrated use of regulations and support measures such as the Act on Improving the Energy Consumption Performance of Buildings (Building Energy Efficiency Act). As for regulations and systems, the government will gradually raise the energy conservation standards for buildings by FY 2030 at the latest to ensure consistency with the targets. With regard to support measures, in addition to methods based on these regulations and systems, in order to promote energy conservation in existing buildings, support for energy-saving renovation of buildings including renovation of insulated windows and introduction of high-efficiency water heaters will be considered. In the future, further energy conservation will require discontinuous technological development and strengthening of efforts, so we will promote innovation in high-efficiency devices and digital technologies.
Tagets for implementing policies and measures	Total energy-related CO_2 emissions are estimated at approximately 3.6 million ~370 million t-CO_2 in FY 2040.

Number	3	Governing agencies	Ministry of Economy, Trade and Industry, etc.
Sector	Energy-related CO_2	Policies and measures	Efforts for further emission reduction in Residential sector

Number	3-1
Details of policies and measures	Because once a house is built, it becomes a long-term stock, it is necessary to promptly improve energy conservation performance and promote shift to non-fossil energy and DR. Aiming to secure energy conservation performance at the level of the ZEH standard on a stock average basis in 2050, and to secure energy conservation performance at the level of the ZEH standard for new houses built in and after FY 2030, we will promote improvement of energy conservation performance, introduction of renewable energy, shift to non-fossil energy, and promotion of DR.
Policies implemented by the national government	Improving energy conservation performance of housing through integrated use of regulations and support measures and expand the introduction of renewable energy.
Main policies expected to be implemented by local governments	Concretizing necessary measures based on Strategic Energy Plan, etc., building momentum toward energy conservation, shift to non-fossil energy, and decarbonization, etc.
Technologies and institutions required to promote policies and measures	- The Act on Improving the Energy Consumption Performance of Buildings (Building Energy Efficiency Act) - The Act on Rationalization of Energy Use and Shift to Non-fossil Energy (Energy Conservation Act) , etc. - Concretizing other necessary measures based on Strategic Energy Plan
Details of technologies and institutions required to promote policies and measures	As for regulations and systems, the government will gradually raise the energy conservation standards for housing by FY 2030 at the latest, so that they are consistent with the targets. With regard to "ZEH," which aims to achieve a net energy balance of zero, the government will drastically increase its energy-saving performance and review its definition to promote self-consumption photovoltaic power generation from the viewpoint of further achieving zero energy. In addition to such regulatory and institutional measures, the government will consider supporting the introduction of houses with high energy-saving performance, and supporting energy-saving renovation of houses, including renovation of insulated windows and introduction of high-efficiency water heaters, in order to promote energy-saving in existing houses and buildings. In the future, further energy conservation will require discontinuous technological development and strengthening of efforts, so we will promote innovation in high-efficiency devices and digital technologies.
Tagets for implementing policies and measures	Total energy-related CO_2 emissions are estimated at approximately 3.6 million ~370 million t-CO_2 in FY 2040.

Number	4	Governing agencies	Ministry of Economy, Trade and Industry, etc.
Sector	Energy-related CO_2	Policies and measures	Efforts for further emission reduction in Transport sector

Number	4-1
Details of policies and measures	For vehicles, we will pursue various options to achieve carbon neutrality and aim to achieve zero CO_2 emissions throughout the life cycle of vehicles by 2050. In addition, efforts will be made to improve energy efficiency in the field of logistics and to utilize next-generation fuels in the fields of ships, aviation, and ports.
Policies implemented by the national government	- It plans to expand the introduction of electric vehicles and develop charging infrastructure and hydrogen stations. - The government will secure domestic manufacturing bases for batteries and promote technological development. - To promote low-carbon and decarbonization of liquid fuels. - To improve fuel efficiency of vehicles. - A new modal shift and decarbonization of logistics facilities will be promoted. - Promote the use of next-generation fuels in the fields of ships, aviation, and ports.
Main policies expected to be implemented by local governments	Concretizing necessary measures based on Strategic Energy Plan, etc., building momentum toward energy conservation, shift to non-fossil energy, and decarbonization, etc.
Technologies and institutions required to promote policies and measures	- The Act on Rationalization of Energy Use and Shift to Non-fossil Energy (Energy Conservation Act) - GX-ETS, etc. - Concretize other necessary measures based on Strategic Energy Plan
Details of technologies and institutions required to promote policies and measures	- In the automotive sector, support for the introduction of electric vehicles, support for the development of charging infrastructure and hydrogen refueling facilities, support for the securing of domestic manufacturing bases for storage batteries and the development of technologies, the utilization of biofuels and synthetic fuels for low-carbon and decarbonization of fuels, and consideration of fuel efficiency standards to improve fuel efficiency - In the logistics sector, new modal shifts and decarbonization of logistics facilities - For ships, support for the development of domestic production systems for zero-emission ships, etc. - In the aviation field, promotion of the introduction of sustainable aviation fuel (SAF), improvement of operation methods through the advancement of air traffic control, and introduction of new technologies for aircraft and equipment - In the port sector, promoting the introduction of hydrogen-fueled cargo handling equipment and utilizing a certification system to objectively evaluate the status of decarbonization efforts - In the future, further energy conservation will require discontinuous technological development and strengthening of efforts, so we will promote innovation in high-efficiency devices and digital technologies.
Tagets for implementing policies and measures	Total energy-related CO_2 emissions are estimated at approximately 3.6 million ~370 million t-CO_2 in FY 2040.

Number	5	Governing agencies	Ministry of Economy, Trade and Industry, etc.
Sector	Energy-related CO_2	Policies and measures	Efforts for further emission reduction in Energy coversion sector

Number	5-1
Details of policies and measures	The Government will promote the maximum introduction of renewable energy, the use of nuclear energy with safety as a major premise, the expansion of decarbonized power sources through decarbonization of thermal power, and the construction of next-generation power networks, as well as the use of hydrogen and its derivatives and CCUS. At the same time, decarbonization of petroleum refining and other operations will be promoted.
Policies implemented by the national government	- Efforts will be made to improve the predictability of the return on investment in decarbonized power sources, and concrete measures will be taken to address issues specific to individual power sources. - The next generation electric power network will be constructed. - Research and development and social implementation of hydrogen and its derivatives and CCUS will be promoted. - Promote the realization of a low-carbon society in the petroleum industry.
Main policies expected to be implemented by local governments	Necessary measures will be implemented based on Strategic Energy Plan.
Technologies and institutions required to promote policies and measures	- FIT and FIP systems - The Act on Rationalization of Energy Use and Shift to Non-fossil Energy (Energy Conservation Act) and the Advancement Act of Non-fossil Energy Sources and the Effective Use of Fossil Energy Raw Materials by Energy Suppliers - Support focusing on the price gap for hydrogen - GX-ETS, etc. - Based on Strategic Energy Plan, the necessary measures will be implemented.
Details of technologies and institutions required to promote policies and measures	- In order to improve the predictability of the return on investment in decarbonized power sources, we will improve the business environment and finance. - Promote the maximum introduction of renewable energy while harmonizing with local communities and reducing the burden on citizens. - With regard to nuclear energy, in order to utilize the necessary scale of nuclear energy in a sustainable manner based on the basic premise of ensuring safety, we will play a leading role in the pursuit of continuous safety, coexistence with local communities and communication with citizens, acceleration of back-end processes, maximum utilization of existing reactors, development and installation of next-generation innovative reactors, improvement of environment for sustainable utilization, maintenance and strengthening of supply chain and human resources, and contribution to solving common international issues. - In addition to utilizing LNG thermal power as a transition measure, decarbonization of thermal power using hydrogen, ammonia, CCUS, etc. will be promoted to promote the fade-out of inefficient coal-fired power. - Promote the development of interregional interconnection lines and the reinforcement of regional core systems, while securing coordination capabilities and advancing the sophistication of systems and supply-demand operations. - We will promote the use of hydrogen and its derivatives and CCUS in areas where decarbonization is difficult. - The Government will further promote energy conservation measures and decarbonize refineries, such as the use of CO_2-free hydrogen, for clean oil refining processes.
Tagets for implementing policies and measures	Total energy-related CO_2 emissions are estimated at approximately 3.6 million ~370 million t-CQ in FY 2040.

Number	6	Governing agencies	Ministry of Economy, Trade and Industry, etc.
Sector	Non-energy-related CO_2	Policies and measures	Expansion of the use of blended cement

Number	6-1
Details of policies and measures	Increase the production rate and use of cement made by mixing blast-furnace slag with clinker, an intermediate product of cement. In addition, Act on Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Act No. 100 of 2000 hereinafter referred to as the "Green Purchasing Act".) The Government will promote the use of blended cement in public works conducted by the national government, etc. by promoting the use of blended cement as an initiative based on the Basic Law.
Policies implemented by the national government	- Promotion of use by the national government under the Green Purchasing Law (Where Mixed Cement is Designated as a Material whose Use Should be Promoted in Public Works) - Promotion of use under the Low Carbon City Act (Act No. 84 of 2012) (Provision for the use of blast furnace cement or fly ash cement as one of the optional items in the accreditation criteria for low-carbon buildings) - Additions to the J-Credit scheme - Implementation of survey project on measures for popularization and expansion of blended cement
Main policies expected to be implemented by local governments	- Expansion of use of blended cement through certification system for recycled products - Incorporation of blended cement into the environmental performance evaluation system of buildings and improvement of infrastructure contributing to the spread and expansion of blended cement
Technologies and institutions required to promote policies and measures	① Act on Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Green Purchasing Act) ② The Low Carbon City Act (Eco-Town Act) ③ J-Credit scheme
Details of technologies and institutions required to promote policies and measures	① Blended cement is designated as an environmental article whose use should be promoted in public works. ② The use of blast-furnace cement or fly ash cement, which are blended cements, is listed as an optional item in the accreditation criteria for low-carbon buildings. ③ "Placing concrete with low Portland cement content" was approved as a new methodology. Support for activities to reduce carbon dioxide emissions by placing concrete containing a higher proportion of industrial by-products (blast furnace slag, etc.) in buildings
Tagets for implementing policies and measures	Blended cement production/total cement production (%) is used as the measure evaluation index and 25.7% in FY 2040 is expected. This leads to 388,000 t-CO_2 in FY 2040 of emission reductions.

Number	7	Governing agencies	Ministry of the Environment
Sector	Non-energy-related CO_2	Policies and measures	Reduction of waste incineration

Number	7-1
Details of policies and measures	Promotion of recycling of waste plastics and dissemination of biomass plastics
Policies implemented by the national government	- Efforts to achieve the targets specified in the waste treatment facility development plan - Efforts to promote the 3Rs to achieve the targets set forth in the Basic Policy under the Waste Management Act - Implementation of measures based on the Individual Recycling Law - Efforts Based on Guidelines for Reducing Greenhouse Gas Emissions in the Waste Disposal Sector - Support for the development of municipal waste treatment facilities - Dissemination of guidelines for charging for municipal waste disposal and sorted collection in municipalities - Proactive purchase of goods and materials that contribute to the reduction of waste generation based on the Green Purchasing Act - Multifaceted support for implementation of low-carbon society action plans by industrial waste disposal businesses - Support for the introduction of recycling facilities by waste disposal businesses - Implementation of measures based on the Act on the Promotion of Resource Recycling Pertaining to Plastics - Study measures to promote the introduction of biomass plastics for plastic products that have to be incinerated due to difficulties in material recycling, etc., and promote and support their widespread use
Main policies expected to be implemented by local governments	- Reducing the amount of waste incinerated by controlling the discharge of waste plastic and other wastes and promoting the reuse of plastic containers and packaging through sorted collection and recycling based on the Containers and Packaging Recycling Law - Implementation of measures based on the Act on the Promotion of Resource Recycling Pertaining to Plastics - Promote measures to spread biomass plastics throughout the region - Preferentially introduce biomass plastic products when procuring goods
Technologies and institutions required to promote policies and measures	- Promotion of recycling of waste plastics - Popularization of biomass plastics
Details of technologies and institutions required to promote policies and measures	- Private businesses: Reduce incineration volume by reducing plastic containers and packaging and promoting recycling of waste plastics. use biomass plastics for products and packaging - Consumers: Prioritize products made from biomass plastic (certified products) when purchasing products - Local governments: Reduce the amount of waste incinerated by controlling emissions and promoting recycling of waste such as waste plastics. Promote measures to spread biomass plastics throughout the region
Tagets for implementing policies and measures	The amount of petroleum-derived waste plastics incinerated (on a dry basis) (unit: 10,000 tons) is used as the measure evaluation index and 4,077,000 t in FY 2035 2,718,000 t in FY 2040 is expected. This leads to 7,086,000 t-CO_2 in FY 2035 10,913,000 t-CO_2 in FY 2040 of emission reductions.

Number	7-2
Details of policies and measures	Promotion of recycling of waste oil
Policies implemented by the national government	Reduce the amount of waste solvents from industrial waste oil incinerated through the promotion of the 3Rs, thereby reducing non-energy-related carbon dioxide emissions.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	(1)Technology: Improve recycling rate by reducing VOCs (2)Institution: Certification system under the Act Concerning Sophistication of Recycling Business, etc. to Promote Resource Circulation
Details of technologies and institutions required to promote policies and measures	Relaxation of permits and permits and tax breaks will be introduced to encourage companies to realize advanced recycling.
Targets for implementing measures and policies	The amount of waste solvent material recycled (kt) is used as a measure evaluation index. 795 kt in FY 2035 838 kt in FY 2040 expect. This leads to 1,000,000 t-CO_2 in FY 2035 1,190,000 t-CO_2 in FY 2040 of emission reductions.

Number	7-3
Details of policies and measures	Promotion of horizontal recycling of waste lubricants
Policies implemented by the national government	Reduce the amount of waste lubricating oil incinerated by promoting the 3Rs of waste lubricating oil, which is industrial waste, and reduce non-energy-related carbon dioxide emissions associated with incineration.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	(1)Technology: Separation technology, hydrogenation technology (2)Institution: Subsidy program "Advanced Resource Circulation Investment Promotion Program"
Details of technologies and institutions required to promote policies and measures	Partial subsidies on equipment necessary for advanced horizontal recycling

Targets for implementing measures and policies	The amount of waste lubricant recycled (1000 kl) is used as the measure evaluation index and 175,000 kl in FY 2035 350,000 kl in FY 2040 is expected. This leads to 288,000 t-CO_2 in FY 2035 619,000 t-CO_2 in FY 2040 of emission reductions.

Number	8	Governing agencies	Ministry of Agriculture, Forestry and Fisheries
Sector	Methane	Policies and measures	Measures to reduce greenhouse gas emissions related to agricultural soil (reduction of methane emissions in paddy fields)

Number	8-1
Details of policies and measures	Reduce methane emissions from paddy rice cultivation by promoting measures such as prolonging mid-season drainage
Policies implemented by the national government	- Promotion of efforts to reduce methane emissions from paddy rice cultivation - Verification of effectiveness of new methane reduction technology
Main policies expected to be implemented by local governments	- Promotion of efforts to reduce methane emissions from paddy rice cultivation - Verification of effectiveness of new methane reduction technology
Technologies and institutions required to promote policies and measures	- Promotion of efforts to reduce methane emissions from paddy rice cultivation - Verification of effectiveness of new methane reduction technology
Details of technologies and institutions required to promote policies and measures	- Promotion of prolonging mid-season drainage while paying attention to yield reduction and biodiversity conservation - Examining the effects of methane reduction technologies other than prolonging mid-season drainage and expanding options for agricultural practices
Tagets for implementing policies and measures	Area ratio of paddy fields conducted prolonging mid-season drainage is used as a reference measure evaluation index and 34% in FY 2035 38% in FY 2040 is expected. This leads to 1.32 million t-CO_2 in FY 2035 1.47 million t-CO_2 in FY 2040 of emission reductions.

Number	9	Governing agencies	Ministry of Agriculture, Forestry and Fisheries
Sector	Methane	Policies and measures	Measures to reduce greenhouse gas emissions related to livestock (reduction of methane emissions)

Number	9-1
Details of policies and measures	Reduce methane emissions generated during fermentation in the digestive tract of livestock and in the process of managing livestock manure
Policies implemented by the national government	- Promotion of feeding of feed additives to control the generation of methane from fermentation in the digestive tract of cattle - Promotion of feeding bypass amino acids - Promotion of changes in livestock manure management methods
Main policies expected to be implemented by local governments	Spreading awareness
Technologies and institutions required to promote policies and measures	- Feeding of feed additives that can reduce greenhouse gas emissions - Feeding of bypass amino acids - Change in livestock manure management methods
Details of technologies and institutions required to promote policies and measures	- Feeding of feed additives that can reduce greenhouse gas emissions - Feeding of bypass amino acids - Change in livestock manure management methods
Tagets for implementing policies and measures	The ratio of changes in the supply of bypass amino acids and livestock manure management methods are used as the measure evaluation index and 6.3% in FY 2035, 15.8% in FY 2040 is expected. Through these and other initiatives, 570,000 t-CO_2 in FY 2035 1,540,000 t-CO_2 in FY 2040 of emissions will be reduced. (Emission reduction of 220,000 t-CO_2 is expected in FY 2030)

Number	10	Governing agencies	Ministry of the Environment
Sector	Methane	Policies and measures	Reduction of final waste disposal

Number	10-1
Details of policies and measures	Eliminate direct landfill of organic general waste and landfill after intermediate treatment other than incineration, in principle, to reduce landfill volume of organic general waste. Reduction of methane emissions associated with biodegradation of organic general waste at landfill sites. The government will continue to reduce the final disposal volume of industrial waste by promoting the 3Rs.
Policies implemented by the national government	- Efforts to achieve the targets specified in the waste treatment facility development plan - Efforts to promote the 3Rs to achieve the targets set forth in the Basic Policy under the Waste Management Act - Implementation of measures based on the Individual Recycling Law - Efforts Based on Guidelines for Reducing Greenhouse Gas Emissions in the Waste Disposal Sector - Support for the development of municipal waste treatment facilities - Dissemination of guidelines for charging for municipal waste disposal and sorted collection in municipalities - Multifaceted support for implementation of low-carbon society action plans by industrial waste disposal businesses
Main policies expected to be implemented by local governments	Promotion of reduction of direct landfill of organic waste
Technologies and institutions required to promote policies and measures	Reduction of final waste disposal
Details of technologies and institutions required to promote policies and measures	Promotion of reduction of direct landfill of organic waste
Tagets for implementing policies and measures	The final disposal volume of organic general waste (1000 tons) (dry weight basis) is used as the measure evaluation index and 0 tons in FY 2035 0 tons in FY 2040 is expectred. As a result, methane emissions from final disposal of organic municipal waste is expected to be reduced at 86,000 t-CO_2 in FY 2035 127,000 t-CO_2 in FY 2040.

Number	11	Governing agencies	Ministry of the Environment
Sector	Methane	Policies and measures	Adoption of semi-aerobic landfill structures in final waste disposal sites

Number	11-1
Details of policies and measures	When a new landfill site is constructed, a semi-aerobic landfill structure is adopted, and the end of the catchment pipe is managed in an open condition, thereby reducing methane generation associated with the biodegradation of organic waste compared with an anaerobic landfill structure.
Policies implemented by the national government	Promotion of semi-aerobic landfill by thoroughly establishing, maintaining and managing facilities based on technical standards for final disposal sites of general waste (stipulating the installation of water collection and drainage facilities and ventilation systems)
Main policies expected to be implemented by local governments	When a new landfill site is constructed, a semi-aerobic landfill structure is adopted, and the end of the catchment pipe is managed in an open condition, thereby reducing methane generation associated with the biodegradation of organic general waste compared with an anaerobic landfill structure.
Technologies and institutions required to promote policies and measures	Adoption of a semi-aerobic landfill structure at a municipal waste final disposal site
Details of technologies and institutions required to promote policies and measures	When a new landfill site is constructed, a semi-aerobic landfill structure is adopted, and the end of the catchment pipe is managed in an open condition, thereby reducing methane generation associated with the biodegradation of organic general waste compared with an anaerobic landfill structure.
Tagets for implementing policies and measures	The ratio of semi-aerobic landfill disposal volume (%) is used as the measure evaluation index and 72% in FY 2035, 72% in FY 2040 is expected. This leads to 80 t-CO_2 in FY 2035 110 t-CO_2 in FY 2040 of emission reductions.

Number	11-2
Details of policies and measures	*Same as 11-1
Policies implemented by the national government	Promotion of semi-aerobic landfill by thoroughly establishing, maintaining and managing facilities based on technical standards for final disposal sites of industrial waste (stipulating the installation of water collection and drainage facilities and ventilation systems)
Main policies expected to be implemented by local governments	When a new landfill site is constructed, a semi-aerobic landfill structure is adopted, and the end of the catchment pipe is managed in an open condition, thereby reducing methane generation associated with the biodegradation of organic industrial waste compared with an anaerobic landfill structure.
Technologies and institutions required to promote policies and measures	Adoption of a quasi-aerobic landfill structure at an industrial waste final disposal site
Details of technologies and institutions required to promote policies and measures	A semi-aerobic landfill structure was adopted at the time of construction of a controlled final disposal site, and methane generation due to biodegradation of organic industrial wastes was controlled in comparison with an anaerobic landfill structure by keeping the end of the catchment pipe open.

Targets for implementing measures and policies	The ratio of semi-aerobic landfill disposal volume (%) is used as the measure evaluation index and 69% in FY 2035 69% in FY 2040 is expected. This leads to 30,000 t-CO_2 in FY 2035 30,000 t-CO_2 in FY 2040 of emission reductions.

Number	12	Governing agencies	Ministry of Agriculture, Forestry and Fisheries
Sector	Nitrous oxide	Policies and measures	Measures to reduce greenhouse gas emissions related to agricultural soil (reduction of nitrous oxide associated with fertilization)

Number	12-1
Details of policies and measures	By promoting efficient fertilization using fertilization reduction technology such as a local fertilizer applicator, and proper fertilization by soil analysis and fertilization design utilizing sensing technology, excessive fertilization in farmland will be suppressed, and emissions of nitrous oxide generated from nitrogen derived from fertilizer components will be reduced.
Policies implemented by the national government	- Reduction of chemical fertilizer use (More efficient fertilization and the spread of smart agricultural technologies)
Main policies expected to be implemented by local governments	- Reduction of chemical fertilizer use (More efficient fertilization and the spread of smart agricultural technologies)
Technologies and institutions required to promote policies and measures	Promotion of efficient fertilization and smart fertilization
Details of technologies and institutions required to promote policies and measures	- Introduction and practice of fertilization reduction technology, expansion and establishment of appropriate fertilization based on soil diagnosis, and promotion of introduction and popularization of smart fertilization
Tagets for implementing policies and measures	Chemical fertilizer demand (1000 tons N) is used as the measure evaluation index and 338,000 tons N in FY 2035 327,000 tons N in FY 2040 is expected. This leads to 270,000 t-CO_2 in FY 2035 300,000 t-CO_2 in FY 2040 of emission reductions.

Number	13	Governing agencies	Ministry of Agriculture, Forestry and Fisheries
Sector	Nitrous oxide	Policies and measures	Measures to Reduce Greenhouse Gas Emissions Related to Livestock (reduction of nitrous oxide)

Number	13-1
Details of policies and measures	Reduce emissions of nitrous oxide generated in the process of managing livestock manure
Policies implemented by the national government	- Promotion of feeding diets to improve amino acid balance - Promotion of feeding bypass amino acids - Promotion of changes in livestock manure management methods
Main policies expected to be implemented by local governments	Spreading awareness
Technologies and institutions required to promote policies and measures	- Feeding of amino acid balance improving feed - Feeding of bypass amino acids - Change in livestock manure management methods
Details of technologies and institutions required to promote policies and measures	- Feeding of amino acid balance improving feed - feeding of bypass amino acids - Change in livestock manure management methods
Tagets for implementing policies and measures	The ratio of feeding amino acid balance improvement feed, feeding bypass amino acids, and changing livestock manure management methods are used as the measure evaluation index and 6.3% in FY 2035, 15.8% in FY 2040 is expected. Through these and other initiatives, 200,000 t-CO_2 in FY 2035 490,000 t-CO_2 in FY 2040 of emissions will be reduced. (Emission reduction of 70,000 t-CO_2 is expected in FY 2030)

Number	14	Governing agencies	Ministry of Land, Infrastructure, Transport and Tourism
Sector	Nitrous oxide	Policies and measures	Advancement of incineration at sewage sludge incineration facilities

Number	14-1
Details of policies and measures	Reduction of N_2O emissions during sludge incineration due to wastewater treatment through advanced combustion
Policies implemented by the national government	- Support for the development and dissemination of high-temperature combustion technology and sludge solid fuel technology - Support for the development of sewerage facilities by local governments
Main policies expected to be implemented by local governments	- Higher temperature of sludge combustion - Introduction of high-temperature combustion equipment and sludge solid fuel technology when upgrading sludge incineration facilities
Technologies and institutions required to promote policies and measures	Sophistication of Combustion at Sewage Sludge Incineration Facilities
Details of technologies and institutions required to promote policies and measures	Private companies: Development of high-efficiency, low-cost high-temperature combustion technology and sludge solid fuel technology
Tagets for implementing policies and measures	The high-temperature incineration rate (%) is used as the measure evaluation index and 100% in FY 2035 100% in FY 2040 is expected. In addition, the number of new reactors and solid fuel reactors installed (units/year) is used as the measure evaluation index and 2 units/year in FY 2035 2 units/year in FY 2040 expected. This leads to 1.03 million t-CO_2 in FY 2035 1.1 million t-CO_2 in FY 2040 of emission reductions.

Number	15	Governing agencies	Ministry of the Environment, Ministry of Economy, Trade and Industry
Sector	Fluorinated Gases (HFCs, PFCs, SF_6, NF_3)	Policies and measures	Policies and measures for Fluorinated Gases: (HFCs, PFCs, SF_6, NF_3)

Number	15-1
Details of policies and measures	Based on the "Direction of Future Initiatives to Achieve 2050 CN in the Fluorocarbon Alternative Field" (May 2021), we will steadily implement the Kigali Amendment to the Montreal Protocol, expand the use of green refrigerant equipment, take thorough measures against fluorocarbon leaks when equipment is in operation, and recover fluorocarbons from waste equipment.
Policies implemented by the national government	- Phasing out production and consumption of HFCs based on the Kigali Amendment to the Montreal Protocol - Steady implementation of the Kigali Amendment (85% reduction by 2036) - Promotion of low GWP of equipment through the designated product system - Development of low-GWP refrigerants and expansion of natural refrigerant equipment - Development of new refrigeration technology that does not use refrigerants - Conversion to low-GWP refrigerant in existing equipment by retrofit, assuming safety
Main policies expected to be implemented by local governments	Promotion of low GWP products and provision of information to consumers
Technologies and institutions required to promote policies and measures	(1)Reduction of production and import volumes of HFCs, conversion of refrigerants
Details of technologies and institutions required to promote policies and measures	- Phasing out production and consumption of HFCs based on the Kigali Amendment to the Montreal Protocol - Steady implementation of the Kigali Amendment (85% reduction by 2036) - Promotion of low GWP of equipment through the designated product system - Development of low-GWP refrigerants and expansion of natural refrigerant equipment - Development of new refrigeration technology that does not use refrigerants - Conversion to low-GWP refrigerant in existing equipment by retrofit, assuming safety
Tagets for implementing policies and measures	① - ③ below are used as measures evaluation indicators. ① Reduction rate of annual consumption (CO_2 equivalent) of HFCs (relative to the reference value in the Montreal Protocol) [%] ② Achievement rate of target GWP under the designated product system (based on the number of product categories) [%] ③ Cumulative Number of Natural Refrigerant Equipment Installed (10,000) ① for more information, 80% in 2035, 85% in 2040 ② for more information, 100% in FY 2035, 100% in FY 2040 ③ for more information, 450,000 in FY 2035, 600,000 in FY 2040 is expected. As a result, compared to 2013, Approx. 9.8 million t-CO_2 in FY 2035 Approx. 11.5 million t-CO_2 in FY 2040 of emissions are expected to be reduced.

Number	15-2
Details of policies and measures	*Same as 15-1

Policies implemented by the national government	- Promotion of efforts based on the voluntary action plan for emission control of four gases by industry
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	(2)Reduction of fluorinated gases at time of product manufacture
Details of technologies and institutions required to promote policies and measures	- Promotion of efforts based on the voluntary action plan for emission control of four gases by industry
Targets for implementing measures and policies	The target achievement rate of the voluntary action plan (based on the number of organizations) [%] is used as the measure evaluation index and 100% in 2035, 100% in 2040 is expected. As a result, all 4 gases will be reduced from 2013 levels at Approx. 1.6 million t-CO_2 in 2035, Approx. 3.4 million t-CO_2 in 2040.

Number	15-3
Details of policies and measures	*Same as 15-1
Policies implemented by the national government	- Effective operation of the calculated leakage volume reporting system - Appropriate implementation and operation of Fluorocarbons Emissions Control Act (inspection by equipment managers) - Efficiency and improvement of equipment inspection by managers using a continuous monitoring system - Improvement of construction technology to prevent leakage - Promotion of continuous monitoring systems - Strengthening of guidance and supervision for persons who leak large amounts of information or use old equipment
Main policies expected to be implemented by local governments	- Guidance and supervision of managers based on the Fluorocarbon Emission Control Law by prefectures - spreading awareness
Technologies and institutions required to promote policies and measures	(3)Reduction of volume of HFC leaks at time of product use
Details of technologies and institutions required to promote policies and measures	- Effective operation of the calculated leakage volume reporting system - Appropriate implementation and operation of Fluorocarbons Emissions Control Act (inspection by equipment managers) - Efficiency and improvement of equipment inspection by managers using a continuous monitoring system - Improvement of construction technology to prevent leakage - Promotion of continuous monitoring systems - Strengthening of guidance and supervision for persons who leak large amounts of information or use old equipment

Targets for implementing measures and policies	① and② below are used as measure evaluation indicators. ① Introduction rate of continuous monitoring systems at the time of new sales of commercial air conditioners and commercial refrigeration equipment (four major products) [%] ② Total amount of leaked HFCs reported by companies that leaked 1000 tons or more per year (converted to CO2) [10,000 tons] ① for more information, 20% in 2035, 40% in 2040 ② for more information, 1.5 million tons in FY 2035, 1 million tons in FY 2040 is expected. As a result, compared to 2013, Approx. 5 million t-CO_2 in 2035, Approx. 5.9 million t-CO_2 in 2040 of emissions are expeted to be reduced.

Number	15-4
Details of policies and measures	*Same as 15-1
Policies implemented by the national government	- Appropriate implementation and operation of Fluorocarbons Emissions Control Act (reliable collection of equipment at the time of disposal) - Identification and demonstration of issues to reduce leftover refrigerant in waste equipment - Appropriate implementation and operation of the Home Appliance Recycling Act - Strengthening measures for waste and recycling companies with low compliance awareness - Strengthening Guidance and Supervision for Large-Volume Waste Disposal - Promotion of device information management through RaMS registration
Main policies expected to be implemented by local governments	- Guidance and supervision by prefectures of waste disposal operators, primary contractors for specified dismantling works, collection operators, and filling and recovery operators based on the Fluorocarbon Emission Control Law - spreading awareness - Steady implementation of crackdown on illegal collectors based on the Waste Disposal and Public Cleansing Law - Establishment of collection routes for non-obligatory items - Spreading awareness of the Home Appliance Recycling Act
Technologies and institutions required to promote policies and measures	(4)Reduction of volume of HFC releases at time of product disposal
Details of technologies and institutions required to promote policies and measures	- Appropriate implementation and operation of Fluorocarbons Emissions Control Act (reliable collection of equipment at the time of disposal) - Identification and demonstration of issues to reduce leftover refrigerant in waste equipment - Appropriate implementation and operation of the Home Appliance Recycling Act - Strengthening measures for waste and recycling companies with low compliance awareness - Strengthening Guidance and Supervision for Large-Volume Waste Disposal - Promotion of device information management through RaMS registration
Targets for implementing measures and policies	The annual recovery volume of HFCs (converted to CO_2) [10,000 tons] at the time of disposal of commercial refrigeration and refrigeration equipment, commercial air conditioners, and household air conditioners is used as a measure index and 17.5 million t in 2035 13.2 million t in 2040 is expected. As a result, compared to 2013 Approx. 5 million t-CO_2 in 2035 Approx. 5.9 million t-CO_2 in 2040 of emissions are expected to be reduced.

Number	16	Governing agencies	Ministry of Agriculture, Forestry and Fisheries
Sector	Carbon Sink	Policies and measures	Policies and measures for forest carbon sinks

Number	16-1
Details of policies and measures	Based on the Basic Plan for Forest and Forestry, Japan aims to comprehensively pursue the forest and forestry sector's contribution toward achieving net-zero emissions by 2050. This will be achieved through securing medium- to long-term removals by forest carbon sinks by promoting appropriate management and conservation of forests, and encouraging the use of wood; and advancing the transition from other materials to wood.
Policies implemented by the national government	- Implementation of appropriate reforestation and thinning operations, measures against forest damage caused by deer, etc., and promotion of road network development by appropriately combining forest roads and forestry operation road - Labor-saving and lowering costs in afforestation work and expanding production of seeds and seedlings such as elite trees - Promotion of forest management based on the Law Concerning Special Measures against Thinning - Promotion of forest management by public entities
Main policies expected to be implemented by local governments	- Implementation of appropriate reforestation and thinning operations, measures against forest damage caused by deer, etc., and promotion of road network development by appropriately combining forest roads and forestry operation road - Labor-saving and lowering costs in afforestation work and expanding production of seeds and seedlings such as elite trees - Promotion of forest management based on the Law Concerning Special Measures against Thinning - Development of inadequately managed forests through the use of forest management systems and forest environment transfer taxes
Technologies and institutions required to promote policies and measures	- Forest planning system - Act on Special Measures concerning Advancement of Implementation of Forest Thinning, etc. - Forest management system
Details of technologies and institutions required to promote policies and measures	- The long-term objectives of forest management and conservation, the planned volume of timber harvested and the area of afforestation, and the standards of operation are indicated. - Prepare and approve plans for the promotion of specific thinning, planting of specific saplings, and multiplication of specific mother trees. - The right to manage inadequately managed forests is accumulated in municipalities, and management of forests suitable for forestry management is re-entrusted to forestry managers, while forests not suitable for forestry management are managed by municipalities.
Tagets for implementing policies and measures	Based on the Basic Plan for Forest and Forestry, using the area under forest management and the amount of building lumber used as countermeasure evaluation indicators, the average area under forest management from FY 2031 to FY 2040 is expected to be 590,000 hectares and 26 million m^3 of building materials used in 2040 is expected. This leads to 80 million t-CO_2 in FY 2035 72 million t-CO_2 in FY 2040 of carbon sink.

Number	16-2
Details of policies and measures	*Same as 16-1
Policies implemented by the national government	- Planned deployment of protection forests and appropriate operation of the protection forest system - Appropriate application of forest land development permit systems and regulations in natural parks and natural environment conservation areas - Appropriate management and conservation of national forests - Promotion of pest control and forest fire prevention - Promotion of planned forest conservation projects

Main policies expected to be implemented by local governments	- Planned deployment of protection forests and appropriate operation of the protection forest system - Appropriate application of forest land development permit systems and regulations in natural parks and natural environment conservation areas - Pest control and forest fire prevention - Promotion of planned forest conservation projects
Technologies and institutions required to promote policies and measures	- protection forest system - Forest land development permit system - forest conservation project
Details of technologies and institutions required to promote policies and measures	- Forests are designated as protection forests by the Minister of Agriculture, Forestry and Fisheries or prefectural governors in order to achieve specific public interest purposes such as water resource conservation, and the felling of standing trees and changes in land characteristics are regulated in order to ensure the function of forests in accordance with each purpose. - In order not to interfere with the public interest functions of forests, permission from prefectural governors is required for development activities exceeding a certain scale in forests other than protection forests. - Restoration and improvement of devastated mountains, improvement of afforestation facilities, etc.
Targets for implementing measures and policies	*Same as 16-1

Number	16-3
Details of policies and measures	*Same as 16-1
Policies implemented by the national government	- Promoting greater use of domestic timber in areas where the proportion of domestic timber in wooden houses is low - Promoting the conversion of non-residential buildings and mid-to-high-rise buildings to wood and wood in cities - Promotion of technological development and diffusion of lumber, CLT (Cross Laminated Timber), and fire-resistant wooden materials - Promoting understanding of emission reduction and carbon storage effects of wood use - Promotion of energy utilization of woody biomass and utilization of wood-based chemical materials such as
Main policies expected to be implemented by local governments	- Promoting greater use of domestic timber in areas where the proportion of domestic timber in wooden houses is low - Promoting the conversion of non-residential buildings and mid-to-high-rise buildings to wood and wood in cities - Promotion of technological development and diffusion of lumber, CLT (Cross Laminated Timber), and fire-resistant wooden materials - Promoting understanding of emission reduction and carbon storage effects of wood use - Promotion of energy utilization of woody biomass and utilization of wood-based chemical materials such as
Technologies and institutions required to promote policies and measures	- Act for Promoting Woodenization of Cities
Details of technologies and institutions required to promote policies and measures	- In order to promote the use of wood for medium- to high-rise, non-residential buildings, etc., the Government will promote the development and dissemination of technologies related to wood for buildings with excellent strength and fire resistance. - Contractors who are building owners and the national or local governments enter into an agreement to work on wood utilization.
Targets for implementing measures and policies	*Same as 16-1

Number	17	Governing agencies	Ministry of Agriculture, Forestry and Fisheries
Sector	Carbon Sink	Policies and measures	Policies and measures to increase carbon removals in agricultural soils

Number	17-1
Details of policies and measures	Contribute to carbon storage in farmland and grassland soils by promoting the continuous application of organic matter such as compost and green manure to soil and the application of biochar.
Policies implemented by the national government	- Promotion of continuous application of organic matter such as compost and green manure to soil - Promotion of application of biochar to soil
Main policies expected to be implemented by local governments	- Promotion of continuous application of organic matter such as compost and green manure to soil - Promotion of application of biochar to soil
Technologies and institutions required to promote policies and measures	- Promotion of continuous application of organic matter such as compost and green manure to soil - Promotion of application of biochar to soil
Details of technologies and institutions required to promote policies and measures	- Promotion of the use of organic matter such as compost and green manure - Promotion of the development of equipment necessary for compost production - Promotion of biochar utilization - Promotion of development of facilities necessary for biochar production
Tagets for implementing policies and measures	8.75 million t-CO_2 in FY 2035 9 million t-CO_2 in FY 2040 of carbon sinks is expected.

Number	18	Governing agencies	Ministry of Land, Infrastructure, Transport and Tourism
Sector	Carbon Sink	Policies and measures	Promotion of urban greening

Number	18-1
Details of policies and measures	Promote the conservation and greening of green spaces in cities.
Policies implemented by the national government	- Development of urban parks, greening of roads, rivers, erosion control, ports, sewage treatment facilities, public rental housing, government facilities, etc., creation of new greening spaces such as the rooftops of buildings, promotion of securing good quality green spaces by private businesses, etc., promotion of designation of special green space conservation areas, etc., based on the Green Basic Policy (Urban Green Conservation and Greening Promotion Basic Policy) (Public notice no. 1367 of Ministry of Land, Infrastructure and Transport, 2024), etc. - Detailed examination and examination of calculation methods for absorption in urban greening, etc. and development of reporting and verification systems - Spreading awareness on the creation of greenery and promotion of greening by a wide range of entities, including citizens, companies and NPOs
Main policies expected to be implemented by local governments	- Development of urban parks based on "wide-area plans for greenery" formulated by prefectures and "basic plans for greenery" formulated by municipalities, promotion of greening of roads, rivers, erosion control, ports, sewage treatment facilities, public rental housing, government facilities, etc., promotion of creation of new greening spaces, promotion of designation of special green space conservation areas, etc. - Provision of information that contributes to calculation, reporting, and verification of absorption in urban greening - Spreading awareness on the creation of greenery and promotion of greening by a wide range of entities, including citizens, companies and NPOs
Technologies and institutions required to promote policies and measures	Promotion of urban greening
Details of technologies and institutions required to promote policies and measures	Promotion of greening at public facilities, etc., spreading awareness on the creation of greenery, and promotion of greening by a wide range of entities
Tagets for implementing policies and measures	Using urban green space area (1000 ha) as a measure evaluation index and 85,000 ha in FY 2035 and FY 2040 is expected. This leads to 1.24 million t-CO_2 in FY 2035 and FY 2040 of carmon sinks.

Number	19	Governing agencies	*Described separately below
Sector	Carbon Sink	Policies and measures	Efforts on blue carbon and other sinks

Number	19-1
Details of policies and measures	Measures for blue carbon sinks
Policies implemented by the national government	The calculation methods for the amount of greenhouse gases sequestrated by blue carbon ecosystems have not been established, with some exceptions. Therefore, the GOJ will establish these calculation methods, reflect them in Japan's greenhouse gas emissions and removals inventory, and take the lead in international rule-making. In addition, the GOJ will promote effective conservation, regeneration, and creation of seagrass beds and tidal flats through satoumi development initiatives such as the "Reiwa Satoumi Development" model project, which aims to create a virtuous cycle of conservation, regeneration, and creation of seagrass beds and tidal flats in coastal areas and the utilization of local resources, and through the "Project to expand blue infrastructure in ports that contributes to biodiversity." With regard to offshore blue carbon, which is expected to be a source of absorption, consideration will be given to the possibility of absorbing greenhouse gases by producing and growing seaweed, storing and fixing them in the deep sea, and calculating and evaluating the amount of absorption, while also considering the use of these gases as bio-resources. In order to promote consideration of the possibility of utilizing sea areas in consideration of the actual conditions of fishery use, technological development such as the creation of large-scale seaweed beds and sedimentation in deep sea areas, and understanding of the impact on the marine environment through monitoring, a promotion system will be established through cooperation between relevant ministries and agencies and public-private partnerships. As for utilization as bio-resources, the Government will promote the development of new materials such as functional foods and biomass plastics made from aquatic plants and the creation of new industries using marine resources.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	① Promotion of seaweed beds in coastal areas ② Long-Term Plan for Development of Fishing Ports and Grounds ③ Efforts to create satoumi ④ Study of offshore seaweed beds
Details of technologies and institutions required to promote policies and measures	① Further expansion of the J-Blue credit scheme, continuous efforts to improve the marine environment (tidal flat and shallow land development) by effectively using dredged sediment, and the Project to expand blue infrastructure in ports that contributes to biodiversity (Continuous development of bio-symbiotic port structures, the implementation of trial construction to reduce CO_2 emissions (trial construction to promote carbon neutrality at ports), and the consideration of mechanism to encourage the participation of stakeholders in the conservation of seagrass beds and tidal flats). ② In order to preserve and create seagrass beds and tidal flats, based on the seagrass bed and tidal flats vision formulated for each sea area, we will promote integrated efforts of soft measures, such as the removal of harmful organisms, and hard measures, such as the installation of substrates on which seaweed can easily grow and the creation of tidal flats. ③ Satoumi development initiatives such as the "Reiwa Satoumi Development" model project, which aims to create a virtuous cycle of conservation, regeneration, and creation of seagrass beds, tidal flats, and the utilization of regional resources. ④ With regard to offshore blue carbon, which is expected to be a source of absorption, in order to examine the possibility of absorbing greenhouse gases and storing and fixing them in the deep sea by producing and growing seaweed, while also considering the use of such gases as bio-resources, a promotion system will be established through cooperation with relevant ministries and agencies and public-private partnerships to examine the ideal use of sea areas in consideration of the actual situation of fishery use, technological development such as the creation of large-scale seaweed beds and sedimentation in deep sea areas, and understanding of the impact of monitoring on the marine environment. As for utilization as bio-resources, the Government will promote the development of new materials such as functional foods and biomass plastics made from aquatic plants and the creation of new industries using marine resources.
Tagets for implementing policies and measures	The amount of CO_2 absorbed and fixed by blue carbon (t-CO_2) is used as the measure evaluation index and 1 million t-CO_2 in FY 2035 2 million t-CO_2 in FY 2040 of carbon sinks is expected. (*)

Governing agencies	Ministry of the Environment, Ministry of Economy, Trade and Industry, Ministry of Land, Infrastructure, Transport and Tourism, Ministry of Agriculture, Forestry and Fisheries

(*)Through future follow-ups the figures will be further refined.

branch number	19-2
Details of measures and measures	Supporting technology development for energy conservation and cost reduction in DAC
national policy	In order to create a DAC industry and realize decarbonization, (1) accelerate DAC technology development (Early demonstration using suitable land, development of highly innovative technologies, etc.), (2) create an environment where the value of DAC is evaluated (Development of an environment for credit creation, value transfer in overseas implementation, etc.), and (3) expand demand (Clarification of introduction targets, measures to expand private demand, etc.).
Examples of measures expected to be implemented by local governments	—
Names of technologies and systems required to promote measures and policies	DAC(Direct Air Capture)
Details of technologies and systems required to promote measures and policies	Promotion of technology development, demonstration and practical application of DAC
Targets for implementing measures and policies	Concretize through future follow-up
Governing agencies	Ministry of Economy, Trade and Industry

branch number	19-3
Details of measures and measures	Measures for absorption sources using CO2-absorbing concrete
national policy	We will establish a calculation method for the amount of greenhouse gases absorbed and fixed by CO_2-absorbing concrete and reflect it in Japan's greenhouse gas emissions and removals inventory. We will also develop technology and study J-Credit. Construction business operators and local governments will be notified through the New Technology Information System (NETIS), a database maintained by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) to encourage the use of new technologies in public works. In addition, with a view to making procurement mandatory for public works projects in the future, we will proceed with verification of productivity, safety and cost-effectiveness.
Examples of measures expected to be implemented by local governments	—
Names of technologies and systems required to promote measures and policies	- Calculation method of greenhouse gas absorption and fixation quantity by CO_2 absorption type concrete - Technology development of CO_2-absorbing concrete by the Green Innovation Fund and others - Use of J-Credit for CO_2-absorbing concrete - Dissemination of new technologies through NETIS

Details of technologies and systems required to promote measures and policies	The methods for calculating the amount of greenhouse gases absorbed and fixed by CO_2-absorbing concrete have not been established except for a few cases. The aim is to achieve the same price as existing concrete by 2030 by establishing a method for calculating the amount of greenhouse gases absorbed and fixed by CO_2-absorbing concrete and reflecting the method in Japan's greenhouse gas emissions and removals inventory, as well as by developing technologies, examining incorporating CO2-absorbing concrete to the J-Credit scheme, and expanding sales channels through public procurement based on the Act on Promotion of Global Warming Countermeasures (Cabinet decision on February 18, 2025; hereinafter referred to as the “Government Action Plan”). Aim to expand public procurement by the national and local governments by disseminating the New Technology Information System (NETIS), a database maintained by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) to encourage the use of new technologies in public works, to construction companies and local governments, and introducing them at the 2025 World Exposition, Aichi, Japan. In addition, with a view to making procurement mandatory for public works projects in the future, we will proceed with verification of productivity, safety and cost-effectiveness.
Targets for implementing measures and policies	Concretize through future follow-up
Governing agencies	Ministry of the Environment, Ministry of Land, Infrastructure, Transport and Tourism, Ministry of Economy, Trade and Industry

Number	20	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Activation of the J- Credit Scheme

Number	20-1
Details of policies and measures	The J-Credit scheme, which certifies the amount of greenhouse gas emissions reduction and absorption achieved through the introduction of energy-saving equipment and the use of renewable energy, the management water in rice paddies, the appropriate forest management, and the negative-emissions technology using engineering processes, as credits that can be used to achieve the goals of the Voluntary Action Plan and to offset carbon emissions, will be further activated.
Policies implemented by the national government	Operation and management of the J-Credit scheme
Main policies expected to be implemented by local governments	- Implementation of measures to reduce greenhouse gas emissions and sinks as a credit generator - Implementation of emission reduction and sink measures by credit generators through credit utilization - Administration and management of regional J-Credit programs
Technologies and institutions required to promote policies and measures	Revitalization of the J-Credit scheme
Details of technologies and institutions required to promote policies and measures	Operation and management of the J-Credit scheme
Tagets for implementing policies and measures	–

Number	21	Governing agencies	Ministry of Land, Infrastructure, Transport and Tourism
Sector	Cross-cutting measures	Policies and measures	Creation of urban/regional structures and socioeconomic systems contributing to decarbonization

Number	21-1
Details of policies and measures	In order to promote initiatives for the Compact Plus Network in line with regional characteristics, the government will consolidate urban functions and provide comprehensive support for measures and projects based on the Urban and Regional Comprehensive Transport Strategy, thereby creating vibrant regions capable of providing daily life services and higher-level urban functions on a sustainable basis, as well as reducing the carbon footprint of cities. In addition, the Government will formulate and review local government action plans (regional policies) in line with the global warming countermeasures plan and promote measures and measures based on the action plans. In addition, the Government will utilize systems for enabling the development of facilities that contribute to the local production/local consumption of renewable energy, utilizing land with an unknown owner. In addition, in order to solve issues such as "Environmental Model Cities" that can achieve both low carbon and sustainable development, and the environment and the super-aging population, we will promote the "Environmental Future Cities" concept, which consists of Environmental Future Cities that create new values, through the popularization and expansion of initiatives, and will lead to nationwide deployment. In addition, it will take over the role of "Environmental Model City" and "Environmental Future City" to create synergistic effects in the three dimensions of economy, society, and environment, and develop "SDGs Future City" that is linked to the 17 goals of SDGs, aiming at sustainable community development and low-carbon development.
Policies implemented by the national government	Because urban and regional structures and transportation systems will continue to affect carbon dioxide emissions over the medium to long term through increases and decreases in traffic volume and business floor space, it is necessary to continue promoting urban and regional development that contributes to decarbonization through initiatives such as the Compact Plus Network, people-centered "Machinaka" development, and efficient urban energy systems. For this purpose, the government will promote Compact Plus Network initiatives based on the Location Optimization Plan and the Low Carbon Town Development Plan, promote the formation of "comfortable and walkable" spaces by combining pedestrian convenience improvement roads (Hokomichi) with areas for improving comfort, etc., and promote measures and projects based on the Comprehensive Urban and Regional Transport Strategy. In addition, with regard to decarbonization of each area within cities, the government will strongly promote comprehensive initiatives including the utilization of private funds and the social implementation of smart cities, including the area-wide use of energy, the development of urban parks that serve as greenhouse gas sinks and the conservation and creation of green spaces, the utilization of digital technologies such as 3D city models (PLATEAU), and urban revitalization through support for environmentally friendly and superior private city development projects. The government will also promote the introduction of renewable energy in urban parks. Local governments action plans and regional climate change adaptation plans will be promoted in coordination with urban planning, location optimization plans, low-carbon town development plans, agricultural promotion area development plans, and other measures. In addition, the Government will utilize systems for enabling the development of facilities that contribute to the local production/local consumption of renewable energy, utilizing land with an unknown owner, promote the use of public transportation in conjunction with land use measures, and consider the optimization of the floor space of stores, etc. At the same time, energy conservation and CO2 reduction of houses and buildings will be promoted. In the existing infrastructure such as public facilities, transportation infrastructure, and energy infrastructure, including water supply and sewerage systems and waste treatment facilities, energy conservation and regional energy centers will be promoted along with regional expansion, consolidation, longevity, and improvement of disaster prevention functions. In addition, we will promote the social implementation of "green infrastructure" that utilizes the various functions of the natural environment through public-private partnerships and cross-sectoral efforts. Furthermore, through the SDGs Future Cities initiative, we will promote the creation of regions where the three aspects of the economy, society, and environment are in a sustainable virtuous cycle, and the knowledge and know-how acquired there will be spread across the country. In addition, in order to sustainably promote these initiatives, the Government will promote integrated initiatives that maximize the use of regional resources and create synergies in the three dimensions of economy, society and environment.
Main policies expected to be implemented by local governments	—

Technologies and institutions required to promote policies and measures	[Laws and Standards] ① Act on Special Measures concerning Urban Renaissance ② Act on Promotion of Low Carbon Cities ③ Act on Promotion of Global Warming Countermeasures ④ Act on Special Measures for Facilitating the Use of Land With an Unknown Owner [Tax system] ① Special measures for community welfare promotion project [Assistance] ① social infrastructure development general subsidy ② Intensive City Formation Support Project ③ Subsidy for concentrated support project for urban restructuring ④ Subsidy for Machinaka Walkable Promotion Project ⑤ Subsidy for urban and regional comprehensive transport strategy promotion project ⑥ Subsidy for measure to deal with land with an unknown owner [Spreading awareness] ① Promoting Future Cities and SDGs [Others] ① Project to support planning for maximum introduction of renewable energy to achieve regional decarbonization
Details of technologies and institutions required to promote policies and measures	[Laws and Standards] ① Promotion of site optimization planning system ② Formulation of low-carbon town planning ③ Facilitation of use of land of with an unknown owner, etc. [Tax system] ① Continue special measures for community welfare promotion projects [Assistance] ① Support for social infrastructure development and other initiatives undertaken by local governments ② Subsidy for part of expenses related to the formulation of municipal location optimization plans ③ Support for projects that contribute to the improvement of urban functions and the residential environment based on location optimization plans ④ Support for initiatives to promote the creation of "comfortable and walkable" towns, such as initiatives that contribute to the improvement of the living environment ⑤ Support for the comprehensive development of urban transportation systems consisting of public spaces and public transportation in which various modes of transportation are coordinated ⑥ Subsidy for part of expenses necessary for a municipality to conduct necessary measures, based on its plan concerning measures for dealing with land with an unknown owner [Spreading awareness] ① Organized international forums, contributed articles to magazines for local governments, operated websites, and prepared pamphlets to promote the "Future City" concept [Others] ① In order to promote the maximum introduction of regional renewable energy, support for local governments to set targets for the introduction of regional renewable energy and to formulate plans for ambitious decarbonization efforts, zoning for the establishment of renewable energy promotion areas, and support for the construction of a system for the implementation and management of regional renewable energy projects conducted through public-private partnerships
Tagets for implementing policies and measures	–

Number	22	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Decarbonization initiatives in national parks

Number	22-1
Details of policies and measures	In national parks, while giving consideration to the conservation of the natural environment, the Government will promote the development of sustainable tourist destinations that aim at decarbonization on the demand side, such as the introduction of self-consumption renewable energy facilities and energy-saving facilities to accommodation and user facilities, and the decarbonization of mobility, thereby creating a virtuous cycle of nature conservation and use while enhancing the attractiveness and resilience of the region.
Policies implemented by the national government	- Cooperation among local environmental offices to develop plans and visions for zero-carbon parks - Decarbonization of visitor centers and other facilities in national parks - Support for introduction of renewable energy and energy-saving facilities such as hot spring heat utilization facilities
Main policies expected to be implemented by local governments	- Formulation of plans and visions for zero-carbon parks in cooperation with the Ministry of the Environment Regional Environmental Office - Introduction of renewable and energy-saving equipment to facilities owned by local governments in national parks
Technologies and institutions required to promote policies and measures	Promotion of Zero Carbon Park
Details of technologies and institutions required to promote policies and measures	- Cooperation among local environmental offices to develop plans and visions for zero-carbon parks
Tagets for implementing policies and measures	The number of local governments registered with zero-carbon-parks is used as the measure evaluation index and 40 sites in FY 2035 60 sites in FY 2040 is expected.

Number	23	Governing agencies	Ministry of Land, Infrastructure, Transport and Tourism
Sector	Commercial and other sector	Policies and measures	Life Cycle Carbon reduction for houses and buildings

Number	23-1
Details of policies and measures	Decarbonization of buildings will be promoted by establishing a system to promote calculation and evaluation of CO_2, etc. (life cycle carbon) emitted not only during use but also throughout the life cycle of buildings from construction to demolition.
Policies implemented by the national government	- Support for efforts to calculate, assess and reduce life-cycle carbon of buildings - Establishment of a system to calculate and evaluate the life cycle carbon of buildings and promote efforts to reduce it
Main policies expected to be implemented by local governments	- Initiatives for calculation and reduction in public buildings
Technologies and institutions required to promote policies and measures	Life Cycle Carbon Reduction for Houses and Buildings
Details of technologies and institutions required to promote policies and measures	- J-CAT: A Life Cycle Carbon Calculation Tool Based on Construction Practices in Japan was officially released in October 2024. - Zero Carbon Building Promotion Conference: Study methods for calculating life-cycle carbon of buildings, development of CO_2 intensity data, and ensuring consistency with international standards under industry-government-academia collaboration. - Assistance Method: Subsidies
Tagets for implementing policies and measures	Concretize through future follow-up

Number	24	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Initiatives based on guidelines for controlling GHG emissions

Number	24-1
Details of policies and measures	Articles 23 and 24 of the Law on Global Warming Prevention Act oblige businesses to make two efforts: "reduction of greenhouse gas emissions from business activities" and "contribution to emission reduction in daily life." The Guidelines for Greenhouse Gas Emissions Reduction were established by the national government based on Article 25 of the Act on Promotion of Global Warming Countermeasures as guidelines (public notice) that concretely indicate measures to be taken by businesses in relation to these two obligations to make efforts.
Policies implemented by the national government	As for guidelines for GHG emissions reduction based on the Act on Promotion of Global Warming Countermeasures, the menu including countermeasures for emissions from upstream and downstream of businesses will be revised, taking into account technological trends such as BAT and market trends such as GX products, and we will formulate and publish policies in areas where no such policies have yet been formulated as soon as possible. With the goal of contributing to the decarbonization of individual lifestyles, the range of options for measures that businesses are expected to implement will be further expanded when procuring, manufacturing, importing, selling, or providing and disposing of raw materials of products and services consumed in people's daily lives. Voluntary and proactive efforts by businesses to engage in environmentally friendly business activities will also be promoted through offering various forms of assistance and information to implement the measures addressed in the guidelines.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	① Law Concerning the Promotion of Measures to Cope with Global Warming ② Guidelines for GHG Emissions Reduction ③ Dissemination of information on the guidelines through the website
Details of technologies and institutions required to promote policies and measures	① With regard to global warming countermeasures, the Government will promote global warming countermeasures by formulating Plans for Global Warming Countermeasures and taking measures to promote the reduction of greenhouse gas emissions from socioeconomic and other activities. ② Appropriate and effective implementation of measures to be taken by business operators concerning the reduction of greenhouse gas emissions associated with business activities and the contribution to the reduction of greenhouse gas emissions in daily life will be promoted. ③ Efforts related to the Guidelines will be promoted in an easy-to-understand manner for business operators by posting individual sheets that contain detailed information on each measure prescribed in the Guidelines and action guides for each entity.
Tagets for implementing policies and measures	—

Number	25	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	GHG emissions accounting, reporting, and disclosure program

Number	25-1
Details of policies and measures	Require those who emit more than a certain amount of greenhouse gases to calculate their emissions and report them to the government, and the government will compile and publish the reported data. There is no platform or common format for sharing emissions information, and it takes time to share emissions information among companies. To this end, we will develop a platform for emissions calculation, data sharing and reporting, and create an environment that facilitates emissions calculation, data sharing and reporting for both large and small enterprises.
Policies implemented by the national government	From the standpoint of establishing the foundation of voluntary emission reduction efforts by having the emitters calculate their emissions and promoting and creating opportunities of voluntary efforts by the citizens and businesses through visualization of emission data as outlined in the Act on Promotion of Global Warming Countermeasures, businesses that emit more than a certain amount of greenhouse gases are obliged to calculate their own emissions and report them every fiscal year to the national government, and the reported information is compiled and published by the national government. Information will be provided in user-friendly formats to enhance its usability, utilizing the Energy Efficiency and Global Warming Countermeasures Online Reporting System (EEGS). Additionally, the operation of the emissions data platform will be reviewed, taking into account the needs of businesses, investors and financial institutions, while also looking into policies and ways to improve functionality in order to improve the value of using the EEGS. To further encourage decarbonization efforts by businesses, the handling of measures such as removals by forest carbon sinks through forest promotion, carbon storage or CCUS through wood products will be considered. Moreover, to improve the usability of the reported information, active reporting of information on emissions, reducing efforts including the entire value chain will be encouraged along with emission data. Measures to evaluate businesses that have provided such information will be considered, incorporating opinions from businesses to further promote the reduction of greenhouse gas emissions by businesses. With moves progressing to form international rules aimed at reducing emissions across the entire value chain, active contributions will be made to the creation of such rules so that the various initiatives to reduce emissions by Japanese businesses are properly evaluated.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	Project to develop infrastructure for emission calculation and data sharing
Details of technologies and institutions required to promote policies and measures	① Maintain, operate, and respond to inquiries regarding the the Act on Rationalization of Energy Use and Shift to Non-fossil Energy (Energy Conservation Act) Electronic Reporting System (EEGS), which integrates reporting based on the warm weather law and information on greenhouse gas emissions. ② The following modifications will be made in light of increasing corporate needs for emissions calculation and data sharing. - Changes and additions to the algorithm based on a review of the "GHG emissions accounting, reporting, and disclosure program" (SHK system) (assuming changes in calculation methods based on national inventories, etc.) - Development of an environment where businesses not covered by the SHK system can easily calculate emissions and input information on reduction efforts using EEGS ③ Considering the needs of companies, investors, and financial institutions, we will consider the ideal form of an emissions information platform, and consider measures to increase the utility value of EEGS and the expansion of its functions.
Tagets for implementing policies and measures	—

Number	26	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Promotion of environmental considerations in business activities

Number	26-1
Details of policies and measures	Establish infrastructure to monitor and manage greenhouse gas emissions throughout the value chain. It is important to consider the Scope3 emission calculation method, which can reflect the emission reduction efforts of other companies in the value chain, and the emission calculation method for each product, and to disseminate information to promote decarbonization throughout the value chain. In addition, it is burdensome for companies to collect the data necessary for conducting scenario analysis in accordance with the TCFD recommendations. In response to these issues, the Government will support decarbonization of the value chain by providing support through the implementation of model projects and creating guidebooks based on the knowledge and examples of initiatives obtained from these projects. Through the dissemination of information, the Government will aim to decarbonize companies and strengthen their competitiveness, thereby broadening their base.
Policies implemented by the national government	- Efforts will be made to improve the comparability and reliability of information disclosure throughout the value chain. At the same time, in light of the growing efforts to disclose information other than climate change, such as biodiversity and the circular economy, we will consider ways to disclose information in an easy-to-understand and appropriate manner without imposing an excessive burden on companies. - In order to promote decarbonized management by SMEs, regional financial institutions, economic organizations such as chambers of commerce and industry, and local governments, which have regular contacts with SMEs, will cooperate to build a system to support them regionally. At the same time, decarbonization will be promoted according to the stage of action, such as gathering information on measures to achieve net zero, grasping (measuring) their own emissions, and reducing (reducing) emissions. - The national government provides technical advice on corporate information disclosure, reduction target setting and planning. In calculating and reducing emissions, we will promote the calculation and reduction of emissions throughout the value chain. It will also strengthen regional support for the decarbonization of SMEs. Furthermore, by promoting the visualization of greenhouse gas emissions during the life cycle of products and services, the government will create an environment in which decarbonized management is appreciated by consumers.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	① Support for Decarbonization Management Strategy Formulation and Information Disclosure ② A community-wide SME support system development project ③ Projects to support the formulation of emission reduction plans throughout the value chain
Details of technologies and institutions required to promote policies and measures	① In order to formulate corporate business strategies, promote information disclosure and enhance content in line with the ISSB, TNFD, etc., focusing on climate change measures, we will conduct domestic and overseas trends and case studies, model projects, and public awareness measures, and expand guidebooks based on the knowledge and results of these efforts. ② Regional financial institutions, chambers of commerce and industry, and other economic organizations that have regular contacts with SMEs, and local governments will work together to promote the development of human resources and the establishment of systems that will lead the decarbonization of SMEs in each region through demonstration of the establishment of a regionwide decarbonization management support system, the implementation of follow-up measures for regions that provided support in previous years, and the operation of a qualification system for decarbonization support, with the aim of spreading decarbonization management among SMEs in each region. ③ Through a model project on cooperative efforts (supplier engagement) between the company and its suppliers or industry organizations, support will be provided for the formulation of reduction plans, consideration of specific reduction efforts, and standardization of Scope3 calculation rules among industry organizations. Based on these efforts, the guidebook will be revised to provide technical points and examples for promoting emission reductions throughout the value chain.
Tagets for implementing policies and measures	—

Number	26-2
Details of policies and measures	As decarbonization is being demanded of SMEs as well, there are many SMEs that do not know the significance and merits of decarbonization or what specific measures they should take, and that do not know where to consult about their initiatives. For this reason, the Government will support support support organizations supporting SMEs through model projects and the creation of guidebooks, develop support human resources through the establishment of a regional support system for SMEs, and engage with enterprises and industry groups to decarbonize and strengthen their competitiveness in accordance with the three steps of "know," "measure," and "reduce."
Policies implemented by the national government	In order to reduce greenhouse gas emissions, we will appropriately incorporate environmental considerations into economic activities and promote investment and technological development in business activities. Specifically, the Government will promote the development of a foundation that enables environmentally conscious businesses to enjoy benefits through a series of initiatives: (1) the value of the environment is recognized in products and services and financial markets, and awareness of the need for environmental consideration is permeated among businesses; (2) suppliers conduct environmentally conscious business activities and provide easy-to-understand information to consumers; and (3) environmentally conscious businesses and products and services are evaluated and selected based on accurate information reaching consumers. Therefore, based on the guidelines for emission reduction, etc., businesses will be encouraged to voluntarily and proactively engage in business activities that consider the environment. In addition, the government will promote the use of environmental information by businesses and the public through the publication of environmental information by businesses based on the Act on the Promotion of Business Activities with Environmental Consideration by Specified Corporations, etc., and by Facilitating Access to Environmental Information and Other Measures (Act No. 77 of 2004), and will develop conditions for environmentally conscious business activities and environmentally conscious products to be highly valued by society and the market. To this end, efforts will be made to improve the comparability and reliability of information disclosure throughout the value chain. At the same time, in light of the growing efforts to disclose information other than climate change, such as biodiversity and the circular economy, we will consider ways to disclose information in an easy-to-understand and appropriate manner without imposing an excessive burden on companies. In addition, we will promote the spread of environmental management systems with a PDCA cycle, such as ISO14001 and Eco Action 21 for small and medium-sized companies, to enhance the effectiveness of environmental management, and promote further environmental consideration in business activities by encouraging employee education in companies. In particular, in order to promote decarbonized management of SMEs, regional financial institutions, economic organizations such as chambers of commerce and industry, and local governments, which have regular contacts with SMEs, will cooperate to build a system to support them regionally and promote decarbonization through the steps of "know," "measure," and "reduce." In addition, EEGS will be used to create an environment where small and medium-sized enterprises (SMEs), which are not required to report, can easily calculate and disclose their emissions, formulate reduction targets and plans, and promote decarbonization capital investment. In addition, as part of efforts related to business and human rights, in addition to conventional human rights due diligence, environmental due diligence, which is risk management for environmental issues, is important. In order to realize a responsible value chain, we will promote awareness and dissemination of environmental due diligence initiatives to companies.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	① A community-wide SME support system development project ② Projects to support the formulation of emission reduction plans throughout the value chain
Details of technologies and institutions required to promote policies and measures	① Regional financial institutions, chambers of commerce and industry, and other economic organizations that have regular contacts with SMEs, and local governments will work together to develop human resources to lead the decarbonization of SMEs in each region through demonstration of the establishment of a regional decarbonization management support system and the operation of a qualification system for decarbonization support, with the aim of promoting decarbonization management among SMEs in each region. The Government will create an environment in which it is easier for SMEs to calculate and disclose their emissions by expanding and enhancing the the Act on Rationalization of Energy Use and Shift to Non-fossil Energy (Energy Conservation Act), Act on Promotion of Global Warming Countermeasures, and CFC Law Electronic Reporting System (EEGS). ② In order to identify and reduce emissions not only by large enterprises but also by the entire value chain including small and medium-sized enterprises that make up the supply chain, engagement is regarded as a particularly important initiative, and an environment will be created so that initiatives related to GHG reduction can be promoted from awareness building.

Targets for implementing measures and policies	—

Number	27	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Pro-growth carbon pricing

Number	27-1
Details of policies and measures	Based on the GX Promotion Law and the GX Promotion Strategy, we will promote the realization and implementation of growth-oriented carbon pricing, including an emissions trading system and a carbon levy.
Policies implemented by the national government	In terms of economic methods that harness market mechanisms such as carbon pricing, the GX Promotion Act, enacted in May 2023, and the GX Promotion Strategy formulated under this act, set forth the realization and implementation of “pro-growth carbon pricing,” including an emissions trading system and fossil fuel surcharge. The emissions trading system, currently being trialed within the voluntary framework of the GX League, is scheduled for full implementation in FY2026. The system will target firms with emissions over a certain amount and see reduction targets be set based on government policies, taking into account industry characteristics and transitional measures, and companies will be called on to reduce emissions efficiently. For its part, the government is continuing to work to legislate the system and prepare relevant ordinances ahead of the system's full introduction. The phased introduction of an “emission allowance auction” system for high emission power producers, starting in FY2033, will remain under consideration. A fossil fuel surcharge will be introduced as a consistent carbon pricing mechanism for addressing carbon emissions, starting in FY2028 for importers of fossil fuels, etc., with a low initial burden, and will be gradually increased.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	Pro-growth carbon pricing
Details of technologies and institutions required to promote policies and measures	Carbon Pricing Survey Project
Tagets for implementing policies and measures	—

Number	28	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Greening of the tax system and effective use of tax for global warming mitigation

Number	28-1
Details of policies and measures	- We will comprehensively and systematically investigate and analyze the environmental effects of environment-related tax systems, including the situation in other countries, in order to take measures against global warming, including the promotion of decarbonization. - The government will steadily implement various measures to reduce energy-derived carbon dioxide emissions, such as energy-saving measures, the spread of renewable energy, and the cleanliness and efficiency of fossil fuels, by utilizing tax revenues from the special tax rate of the petroleum and coal tax, which has been in effect since October 2012 to combat global warming.
Policies implemented by the national government	Greening the environment-related tax system is an important policy for achieving net zero by 2050. We will investigate and analyze comprehensively and systematically the environmental effects of environment-related tax systems, including the situation in other countries, thus forming countermeasures for global warming. By using the revenue from the tax for climate change mitigation enforced since October 2012 regarding the special tax rate provisions for the petroleum and coal tax, we will steadily implement a wide range of policies to reduce energy- related CO2 emissions, such as energy-saving, deploying renewable energy, and making fossil fuels cleaner and more efficient. With the close cooperation between relevant ministries, we promote wise spending by focusing on cost-effective policies given the characteristics of each business.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	Greening the Tax System and Effective Use of Global Warming Countermeasures Tax
Details of technologies and institutions required to promote policies and measures	- Examination of the promotion of greening of the entire tax system - Effective use of the special tax rate provisions for the petroleum and coal tax
Tagets for implementing policies and measures	—

Number	29	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Promotion of sustainable finance

Number	29-1
Details of policies and measures	- Based on the “Climate Innovation Finance Strategy 2020 ” (formulated by the Ministry of Economy, Trade and Industry on September 16, 2020), under the cooperation of relevant ministries and agencies, in addition to renewable energy (green), the transition to decarbonization such as steady low-carbon initiatives such as energy conservation (transition) and innovative technologies toward decarbonization (innovation) will continue to be promoted in an integrated manner. - With regard to green, the Government will promote green finance, including green bonds, through promoting the capacity buidling for fund raising and developing markets such as subsidies. - Regarding transition finance, which provides funds for efforts to reduce greenhouse gas emissions based on a long-term strategy toward the realization of a decarbonized society, based on the Basic Guidelines on Climate Transition Finance (established on May 7, 2021 by the Financial Services Agency, Ministry of Economy, Trade and Industry, and Ministry of the Environment), the GOJ will promote investment in companies engaged in transition to decarbonization and innovation by formulating sector-specific roadmaps for industries with high emissions that cannot be decarbonized immediately, and will support transition in Asia toward the realization of net zero globally. - Promote and improve the quality of disclosure and dialogue through the formulation, revision, and dissemination of TCFD guidance, domestic guidelines on green finance, and scenario analysis guides, and support for scenario analysis by companies and financial institutions. - In order to link regional decarbonization to the creation of a virtuous cycle of economy and environment in the region, the government will promote ESG regional finance initiatives that emphasize the impact on the environment, economy, and society by promoting the development of models by advanced regional financial institutions for building businesses that utilize regional resources and solving regional issues. - Efforts will be made to create a positive impact on the environment and society through finance, such as creating momentum for ESG finance through the holding of the ESG Finance High Level Panel and ESG Finance Awards Japan.
Policies implemented by the national government	In order to realize the society envisioned in the Paris Agreement, it is necessary to further encourage private investment for companies engaging in climate change countermeasures and innovation; therefore, the role of finance is becoming more important. Across the world, sustainable finance, in particular ESG finance, which incorporates environmental, social, and governance factors into investment and loan decisions from the standpoint of reducing investment risk and improving returns over the medium and long-term, is widespread. Furthermore, taking climate change risk into account in investment decisions is becoming the standard in the international financial markets. In Japan, also the scale of ESG investment has expanded significantly in recent years. At the same time, there is also growing demand for climate-related financial disclosures, with growing moves centered mainly in Europe to mandate sustainability disclosures including regulations on the labeling of financial products and disclosure by institutions of greenhouse gas emissions from their financial activities (financed emissions). Given such developments, among other factors, it is becoming more important for financial institutions to advance climate change measures across their entire portfolios, including consideration of approaches to reduce emissions. Japan will promote sustainable finance such as ESG finance in consideration on international trends, in order to attract domestic and international environment-related investment for businesses that contribute to global warming countermeasures to realize a decarbonized society.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	Promotion of sustainable finance
Details of technologies and institutions required to promote policies and measures	- Green Finance Promotion Project - Supporting the Development of Market Infrastructure to Expand Green Finance - ESG Finance Promotion Program - Interest subsidy program for promoting decarbonization of the value chain through financial institutions - ESG Lease Promotion Project to Build a Decarbonized Society

Tagets for implementing policies and measures	—

Number	30	Governing agencies	Ministry of Economy, Trade and Industry
Sector	Cross-cutting measures	Policies and measures	Creation of a GX market

Number	30-1
Details of policies and measures	Sustained expectation of future demand is essential for sustained investment for future growth. It is, however, unlikely that we can expect demand to expand in terms of material resources driven by a population bonus, as was seen during the period of high growth. While demand born of aspirations to solve social problems will be essential for growth investment going forward, such demand would come with cost increases in the manufacturing sector, such as those coming from the conversion to decarbonized processes. As value matching those costs is yet to materialize, it is unlikely that a supply and demand cycle will emerge from market mechanisms alone. With uncertainty high around the scale, timing and costs associated with the introduction of new, decarbonized forms of energy or with the conversion to decarbonized energy, particularly when it comes to initiatives aimed at realized net zero by 2050, generating stable demand is difficult. For these reasons, government initiatives focused on demand will be essential for generating new industries in the GX domain.
Policies implemented by the national government	- The GOJ will promote studies on the utilization of CFP and emission reduction indicators (Amount of reduction results, amount of reduction contribution, etc.). For example, the GOJ will consider their utilization in the project selection process for investment promotion measures. In order to ensure that Japan's products and services that contribute to decarbonization are highly evaluated by the international community, the GOJ will actively participate in or cooperate with international rule-making such as the "Action Plan for the Next 10 Years" by the Asian 0 Emission Community (AZEC), as well as guidelines by GHG protocols, ISO, and international industry-specific initiatives, and promote their dissemination. - In order to create initial demand, it is important for not only private companies but also the public sector to take the initiative in procuring advanced environmental goods and services, including GX products such as green steel and green chemicals. Therefore, the government will promote proactively the procurement of GX products by enhancing evaluation indices such as CFP and emission reduction indicators (Amount of reduction results, amount of reduction contribution, etc.) by utilizing the two-stage judgment criteria of the Green Purchasing Law. In public works, the government will also consider measures to actively utilize green building materials such as low-carbon concrete and green steel. In addition to procurement based on the Green Purchasing Law, the government will promote GX initiatives while taking advantage of regional initiatives, such as by issuing the "Declaration of GX Initiatives" and giving priority to government support for GX promotion to local governments that are proactively pursuing initiatives. - In order to improve the evaluation of companies that intend to take the lead in procuring GX products and services, such as green steel and green chemicals, for which a supply-demand cycle is unlikely to occur through market mechanisms alone, and to increase the procurement incentives of such companies, the Government will promote proactive efforts by companies by utilizing the "Declaration of GX Initiatives" established in the GX League, giving priority to government support for the promotion of GX to companies that have declared their intention. - In addition to Scope1 and 2, the GX League will set emission reduction targets for Scope3 (especially upstream) for companies whose emissions in the entire supply chain are larger than their own. To achieve these targets, the GX League will consider mechanisms to promote emission reductions in the entire supply chain, such as encouraging active procurement of GX products and services and supporting the efforts of SMEs in the supply chain to reduce emissions, and will build momentum toward creating a market where GX products and services are actively selected.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	Market creation leading to new GX industries
Details of technologies and institutions required to promote policies and measures	- Visualization of GX value - Promotion of procurement by private companies

Targets for implementing measures and policies	—

Number	31	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Transition to a circular economy

Number	31-1
Details of policies and measures	- Promote resource recycling and expanded supply and use of recycled materials by strengthening cooperation between manufacturing and retail industries and waste treatment and recycling industries. - Based on the Recycling Business Sophistication Act, we will promote decarbonization and resource recycling initiatives such as securing the quality and quantity of recycled resources in an integrated manner. - Advance the advancement of resource recycling by promoting mechanization and introduction of AI. - Promote the development of resource recycling network bases in Japan and overseas and the selection and development of resource recycling base ports, which will lead to the expansion of the supply of recycled materials. - The Government will promote the construction of a wide variety of regional resource recycling systems by utilizing local renewable resources within the region.
Policies implemented by the national government	In order to expand resource circulation and the supply and use of recycled materials by strengthening cooperation between the manufacturing and retail industries and the waste treatment and recycling industries, we will promote resource circulation initiatives such as decarbonization and securing the quality and quantity of recycled resources in an integrated manner based on the Act on the Advancement of Recycling Business. In addition, the Government will advance the sophistication of resource recycling through the promotion of mechanization and the introduction of AI, as well as promote the development of resource recycling network bases in Japan and overseas, and the selection and development of resource recycling hub ports, which will lead to the expansion of the supply of recycled materials. Furthermore, the Government will promote the construction of a wide variety of regional resource recycling systems by utilizing local renewable resources within the region.
Main policies expected to be implemented by local governments	- Constructing a resource recycling system that utilizes local recyclable resources as a coordinator to promote cooperation and collaboration among local citizens, businesses, NPOs, NGOs, and other entities
Technologies and institutions required to promote policies and measures	- Recycling Law and Law for Enhancing Recycling Business, etc. - Introduction of advanced recycling facilities - Resource recycling network formation and base construction - Support for promoting regional resource recycling
Details of technologies and institutions required to promote policies and measures	- Promotion of recycling and resource recycling based on various recycling laws. Measures such as reporting and publication of the status of recycling by industrial waste disposal business operators with particularly large disposal volumes and establishment of an accreditation system for upgrading recycling business, etc. based on the Law for Enhancing Recycling Business, etc. - Support for the introduction of advanced recycling facilities to expand the supply of recycled materials such as metals and plastics - Development of an efficient recycling system in Japan through the formation of a resource recycling network and strategic establishment of sites - Support for local governments to develop core human resources to promote regional resource recycling and to promote resource recycling
Targets for implementing measures and policies	—

Number	32	Governing agencies	Ministry of the Environment
Sector	Basic policies	Policies and measures	Establishing a domestic system for calculating and disclosing greenhouse gas emissions and removals based on the UN Framework Convention on Climate Change

Number	32-1
Details of policies and measures	- Calculate greenhouse gas emissions and removals based on the United Nations Framework Convention on Climate Change, etc., and submit the prepared greenhouse gas emissions and removals inventory (inventory) to the United Nations. - We will further refine the calculation of greenhouse gas emissions and removals in order to more accurately grasp the actual status of greenhouse gas emissions and removals and to scrutinize the evaluation method of the implementation of measures. - Submission of national reports, biennial transparency reports, etc. regularly requested in light of COP24 decisions, etc., and international assessments and reviews. - In measuring, monitoring, and reporting the absorption (or emission) amount by sinks, we will continuously develop information on the amount of activities and land-use changes, and promote surveys and research on the absorption and emission mechanisms of greenhouse gases in forests, etc.
Policies implemented by the national government	To date, calculations of greenhouse gases emissions and removals have been performed based on the UN Framework Convention on Climate Change, and the inventory of emissions and removals have been created and submitted to the United Nations. While keeping an eye on reporting under the Paris Agreement's Transparency Framework and observing how it is implemented across the entire world (Global Stock Take), relevant government bodies led by Ministry of Environment will cooperate and work on preparing domestic structures to calculate and publish volumes of emissions and removals, ensuring and manage the quality of this work, and complying with inspections by specialist inspection teams dispatched under the UN Framework Convention on Climate Change . Additionally, in order to more accurately understand actual emissions and removals of greenhouse gases and better assess the methods for reviewing the implementation status of countermeasures, in cooperation with relevant government bodies, further refinements will be made in the calculation of greenhouse gas emissions and removals by preparing statistics of activities and by advancing research on the calculation of energy consumption intensity and greenhouse gas emission coefficients, and on methods for measuring greenhouse gas emissions, as well as on methods for measuring and accounting CCU and other cutting-edge technology-related emissions and removals. We will also work on examinations by technical experts and multi-lateral promotional examinations and submit the National Communication and Biennial Transparency Reports that are regularly requested based on UN Framework Convention on Climate Change, the Paris Agreement and related decisions. On the other hand, when measuring, monitoring, and reporting removals (or emission) by removals, emissions and removals of greenhouse gases are calculated and accounted based on IPCC guidelines and the supplementary methods guidance arising from the Kyoto Protocol. In order to improve the accuracy of the data, we will continuously compile information on the activities and land use changes required for MRV (Measurement, Reporting and Verification), as well as promote research on removal and emission mechanisms of greenhouse gas in forests.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	① Calculation of greenhouse gas emissions and preparation of inventories, preparation of national reports, etc., and international assessment and examination. ② Refinement of methods for calculating greenhouse gas emissions and removals
Details of technologies and institutions required to promote policies and measures	① Development of domestic systems ② Meeting to discuss methods for calculating greenhouse gas emissions
Targets for implementing measures and policies	—

Number	33	Governing agencies	Ministry of Agriculture, Forestry and Fisheries
Sector	Basic policies	Policies and measures	Improvement of the calculation methodology of forest carbon sink

Number	33-1
Details of policies and measures	With regards to the calculation of the amount of forest absorption, the amount changes in forest biomass accumulation are currently estimated by using a growth model. The transition to a new method is being considered, in which direct comparison of the results of the National Forest Inventory surveys conducted at different points in time.
Policies implemented by the national government	- Collection and analysis of necessary data - Establishment of a data scrutiny mechanism - Establishment of a calculation method using the results of the National Forest Inventory survey
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	① National Forest Inventory survey ② Forest sink inventory survey
Details of technologies and institutions required to promote policies and measures	① We will conduct vegetation surveys, tree surveys, etc. in the national fixed-point observation network, and maintain and improve survey accuracy through control surveys, etc. ② Collect and analyze necessary data on soil, etc., and work to improve the accuracy and efficiency of forest absorption calculation using①.
Targets for implementing measures and policies	—

Number	34	Governing agencies	Ministry of the Environment
Sector	Basic policies	Policies and measures	Technological development and social implementation of global warming countermeasures

Number	34-1
Details of policies and measures	Efforts will be made to develop and demonstrate technologies to reduce greenhouse gas emissions in the future by encouraging greater reductions in greenhouse gas emissions and reducing the cost of such reductions, and by promoting their widespread use in society.
Policies implemented by the national government	The development and demonstration of technology to combat global warming is an effort to achieve significant reductions in greenhouse gas emissions in the future by encouraging greater reductions in greenhouse gas emissions and reducing the cost of such reductions, and by spreading such technologies widely in society. Based on the Basic Plan for Science, Technology and Innovation and the Strategy to Promote Transition to a Decarbonized Growth Economic Structure, the Government will promote thorough energy conservation, the promotion of electrification, and the decarbonization of electricity (Accelerated diffusion of technologies for maximum introduction of renewable energy, use of nuclear energy with top priority on safety, and technology development for next-generation innovative reactors) with the participation of various entities including start-up companies, and strongly promote innovative innovations such as next-generation solar cells, next-generation semiconductors, innovative catalysts, tidal current power generation, CCUS/carbon recycling including artificial photosynthesis and methanation, and hydrogen and its derivatives. In doing so, the status of development, demonstration, and implementation of technologies necessary for realizing a decarbonized society will be grasped in the annual follow-up conducted by the Global Warming Prevention Headquarters, and the results will be publicized together with the results of the progress inspection to identify and develop technologies that are in short supply and promote the social implementation of existing technologies. In addition, in order to promote technology introduction and social implementation, the Government will promote large-scale demand generation for decarbonized products and services, behavioral change, and lifestyle change through the promotion of "Deco-katsu," accelerate regional decarbonization, and foster public understanding. The Government will also consider necessary systems and standards. Utilizing the Green Innovation Fund established in FY2020, we have been providing support in areas where long-term ongoing support is needed for social implementation and where the policy impact is particularly large, out of the focus areas where execution plans have been formulated under the Green Growth Strategy, or in the key areas where the path forward has been indicated based on the GX Basic Policy. We have been providing continuous support to companies and other organizations which are committed to taking on the challenge of ambitious targets shared by the public and private sectors, from R&D to demonstration and social implementation. In doing so, to “excel in technology, and also succeed in business,” we will promote such efforts toward the social implementation of developed technologies by comprehensively implementing policies such as regulatory reform, standardization, international coordination, and support for implementation. Having formed 20 projects to date and awarded over 2 trillion yen to support recipients, we have been driving world-leading technological development across fields including hydrogen-reduction ironmaking, which significantly reduces CO2 emissions, Perovskite solar cells, which are a next-generation solar cell originating from Japan, liquefied hydrogen carriers that transport hydrogen in massive volumes, ammonia mono-fuel combustion, which contributes significantly to decarbonization in Asia and elsewhere, and next-generation all-solid-state batteries. Furthermore, in order to materialize investment promotion measures for the realization of GX, based on sector-specific investment strategies, investment promotion measures using GX transition bonds will be taken for technologies that effectively and efficiently realize emission reductions, especially those that are highly effective in strengthening industrial competitiveness and economic growth. At this time, regulatory and institutional measures that will lead to a mechanism to change the behavior of corporate investment and demand will be implemented in an integrated manner. In addition, under the 3rd term Strategic Innovation Promotion Program (SIP) challenges ("Smart Energy Management Systems" and "Development of Circular Economy System"), which started in FY 2023, the GOJ will conduct research and development aimed at advancing energy management systems, which include heat and hydrogen derived from renewable energy, and establishing circular economic systems for plastics. Furthermore, in order to achieve the 2050 goals of the Moonshot Research and Development Program

	("Realization of sustainable resource circulation to recover the global environment" and "Creation of the industry that enables sustainable global food supply by exploiting unused biological resources"), the necessary R & D will be promoted, the international situation and technological trends will be sorted out, the portfolio will be reviewed flexibly, including challenging R & D, and initiatives for commercialization and social implementation will be accelerated. In addition, in order to continuously create innovative decarbonization technology seeds based on new ideas, the Government will steadily conduct basic research at universities and other institutions. At the same time, the Government will promote initiatives to accelerate the discovery and social implementation of innovations by awarding those who have innovation ideas that contribute to the construction of a decarbonized society and achievements that can be expected for their social implementation. In order to accelerate the national and local governments' response to decarbonization, we will mobilize the power of universities and other institutions with comprehensive knowledge and diverse networks and promote cross-disciplinary research to link the research results of universities and other institutions to the social implementation of specific national and local policies and technologies. We will also develop a system to strengthen collaboration among universities and other institutions as well as between industry, academia and government, and further strengthen the function of universities as "knowledge bases" in the region.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	(Cabinet Office) ① Strategic Innovation Promotion Program (SIP) "Smart Energy Management Systems" and "Development of Circular Economy System" (Ministry of Education, Culture, Sports, Science and Technology) ① R & D Project for Fundamental Technologies for Creating Innovative Power Electronics ② Next Generation X-nics Semiconductor Creation Base Project ③ JST-Mirai Program "Low Carbon Society" mission area. ④ Fundamental R & D for Accelerating Local Decarbonization through the Power of Universities ⑤ The Green Technologies of Excellence (GteX) ⑥ Strategic Research Program Advanced Technologies for Carbon-Neutral (ALCA-Next) (Ministry of Agriculture, Forestry and Fisheries) Promotion of Moonshot Target "By 2050, create a sustainable food supply industry on a global scale by fully utilizing unused biological functions" (Ministry of Economy, Trade and Industry) ① Green Innovation Fund ② Promotion of Moonshot Target "Achieving sustainable resource recycling for global environmental restoration by 2050" (Ministry of the Environment) ① Regional Co-Creation and Cross-Sectoral Carbon Neutral Technology Development and Demonstration Project (Part of Ministry of Land, Infrastructure, Transport and Tourism/Ministry of Agriculture, Forestry and Fisheries cooperation project) ② Project to Accelerate Social Implementation and Dissemination of Materials and Materials for Realizing Innovative CO2 Conservation ③ Development and Demonstration of Innovative Catalyst Technologies for Decarbonization through Regional Resource Recycling (Collaborative Project with Ministry of Education, Culture, Sports, Science and Technology) ④ Project to ensure environmental harmony and build a decarbonized and recycling-oriented society model for early social implementation of CCUS ⑤ Project to Promote Mainstreaming of Renewable Energy and Strengthening of Resilience by Private Companies (Projects to promote the introduction of floating offshore wind power) ⑥ Project to Promote Decarbonization of Industrial Vehicles (Support for the introduction of LNG and methanol fuel systems) (Ministry of Land, Infrastructure, Transport and Tourism Collaborative Project)

Details of technologies and institutions required to promote policies and measures	(Cabinet Office) ① By 2050, we will promote research that contributes to achieving carbon neutrality through research and development aimed at upgrading energy management systems that include heat and hydrogen derived from renewable energy and establishing a circular economy system for plastics. (Ministry of Education, Culture, Sports, Science and Technology) ① our country is promoting integrated R & D of total systems including circuit systems and passive elements toward the research and development of next-generation power semiconductors such as gallium nitride (GaN), of which Sony possesses strength, and the practical application of power electronics equipment that makes maximum use of the characteristics of these semiconductors. ② In order to promote R & D from new perspectives toward the creation of semiconductor integrated circuits, which will be required in society from 2035 to 2040, and to foster human resources who will drive the semiconductor industry in the future, we will promote the formation of a core base in academia. ③ Aiming for social implementation by 2050, we will promote the research and development of innovative technologies that contribute to significant reductions in greenhouse gas emissions and are not extensions of conventional technologies. ④ Accelerate regional efforts by promoting the basic research and development necessary to accelerate efforts to achieve carbon neutrality in the region, creating general-purpose knowledge that can be used in all regions, and building a collaboration system among universities and other institutions. ⑤ Aiming to contribute to the realization of carbon neutrality by 2050, we are conducting all-Japan team-oriented research and development with the aim of creating "innovative GX technologies" that bring about discontinuous innovation. ⑥ Aiming to contribute to the realization of carbon neutrality by 2050, we will solicit a wide range of challenging proposals and promote exploratory research and development to cultivate various technological seeds. (Ministry of Agriculture, Forestry and Fisheries) In order to achieve the Moonshot Targets, we conduct an external evaluation of our current projects every year and based on the results of the evaluation, we constantly review our portfolio and continue to promote them. (Ministry of Economy, Trade and Industry) ① Among the priority areas of the Green Growth Strategy or the key areas for which future directions are indicated based on the Basic Policy for Realizing GX, we will continue to provide support from R & D to social implementation of innovative technologies in areas where policy effects are particularly significant and long-term continuous support is required in anticipation of social implementation. ② In order to achieve the Moonshot target, we will continue to implement projects currently in progress while reviewing our portfolio. (Ministry of the Environment) ① Among the fields in which future measures need to be strengthened, the government will promote the establishment of effective technologies that will lead to future strengthening of global warming countermeasures, by indicating requirements such as the content and performance of technologies and systems for which current measures are insufficient or for which further measures can be developed, and by intensively supporting the development and demonstration of technologies aimed at early social implementation. ② Aiming at the practical application of GaN inverters utilizing high-quality gallium nitride (GaN) substrates, we will carry out development and demonstration of seed crystals, wafers, power devices, and inverter technologies throughout the project. We will also carry out technology development and demonstration to realize a drastic reduction in energy consumption by improving the efficiency of various devices embedded in lasers and servers by using high-quality GaN substrates. In addition, by providing CNF samples and supporting performance evaluation for businesses aiming to manufacture CNF products, efforts will be promoted for the social implementation of CNF by matching CNF materials according to the characteristics of each business. ③ In order to enable the utilization and recycling of regional resources and to realize a substantial reduction in CO2 emissions and a circular economy, support will be provided for the development and demonstration of high-performance and relatively inexpensive catalyst technologies that reduce dependence on rare metals, and promote their implementation in society. ④ In order to implement ICCUS in a full-scale society and ensure environmental harmony, we will study the establishment of CO2 separation and recovery and effective utilization technologies on a commercial scale, as well as the construction of demonstration bases and supply chains for practical deployment through the construction of a model for a decarbonized and recycling-oriented society. ⑤ In order to promote the introduction of floating offshore wind power generation in our country, which has a high introduction potential, the following measures will be taken to conduct field surveys necessary for formulating an introduction plan and to build the understanding of relevant parties, as well as to consider the establishment of business models and methods that contribute to building the understanding of local parties. - Planning projects for local production and consumption of energy - Demonstration Project of Marine Ecosystem Observation System Contributing to the Development of Understanding among Fishery-Related Parties ⑥ In order to further reduce CO2 emissions in the shipping sector, we will promote the spread of advanced systems that combine decarbonization promotion systems using LNG fuel and methanol fuel and the latest CO2-saving equipment.

Targets for implementing measures and policies	—

Number	35	Governing agencies	Ministry of the Environment
Sector	Basic policies	Policies and measures	Promoting climate change research and strengthening observation/monitoring systems

Number	35-1
Details of policies and measures	- Based on past efforts, we will strategically promote research on such topics as the elucidation of the mechanisms of climate change and the material cycle of greenhouse gases through the continuous development of climate models, the creation of more accurate climate prediction data mainly in Japan, the understanding and prediction of the current state of global warming using the event attribution method to quantitatively evaluate the contribution of global warming to extreme events, and the promotion of technological development necessary for this purpose, the assessment of the impact of global warming on the environment, society, and economy, and integrated approaches to greenhouse gas reduction and adaptation measures, with international cooperation. - Strengthen comprehensive monitoring and monitoring systems to understand greenhouse gases, climate change and their effects. - Global multi-point observations of greenhouse gases from space using the Greenhouse Gases Observing Satellite "Ibuki" (GOSAT) and "Ibuki 2" (GOSAT-2), which was launched in October 2018, comprehensive atmospheric observations in Asia and Oceania, construction of ecosystem monitoring systems at terrestrial carbon cycle observation bases in Asia, development of observation networks for carbon dioxide in the ocean, and monitoring of global warming impacts in areas vulnerable to climate change such as the cryosphere and coastal areas. In addition, accumulation and utilization of global environmental big data such as earth observation data and climate prediction data will be promoted through the Data Integration and Analysis System (DIAS) and other means. - Observations of water temperature, salinity, and carbon dioxide from the surface layer to the deep layer by marine meteorological observation vessels will continue. - The geostationary meteorological satellites "Himawari 8" and "Himawari 9," which began operation in July 2015, will observe and monitor the global environment by observing sea surface temperatures, the distribution of sea ice, and atmospheric particulates. - With the aim of launching the Greenhouse Gas and Water Cycle Observing Satellite (GOSAT-GW), a successor to GOSAT and GOSAT-2, we will develop a continuous observation and monitoring system and use observation data to compare and evaluate CO2 emissions at the scale of large cities and large-scale emission sources, thereby contributing to the improvement of the transparency of climate change measures. - In order to promote climate change countermeasures, including global environmental observation and monitoring and disaster prevention, the government will steadily advance the development of the next geostationary meteorological satellite "Himawari 10," which incorporates the latest observation technology, toward the commencement of operation in FY 2029. - We will contribute to the promotion of a decarbonized society in the Asia-Pacific region by supporting the activities of the International Collaborative Research Network on Global Warming.

Policies implemented by the national government	In order to promote global warming countermeasures from a long-term and global perspective, it is essential to continuously collect the latest scientific knowledge domestically and internationally, and research, observation and monitoring of climate change are extremely important measures to form the basis. With regard to research related to global warming, based on efforts which have been made, we will promote international cooperation based on preceding efforts, into topics such as: uncovering the mechanisms of the material cycle of climate change and greenhouse gases through continuous development of climate models, and generating more climate prediction data centered on the Japan region; improving our understanding of climate change and the accuracy of our predictions using event attribution methodologies that quantitatively evaluate the contribution of climate change to extreme weather events, and advancing the development of technologies needed for those ends; evaluating the impact of global warming on the environment, society and the economy; as well as reducing greenhouse gas emissions and integrating this with adaptation policies. As for observation and monitoring of climate change, we will strengthen the comprehensive observation and monitoring system to understand greenhouse gases, climate change and their impacts based on the “GEO Strategic Plan 2016-2025: Implementing GEOSS”, the “GEO Post-2025 Strategy”, the ”Implementation Policy of Earth Observations for 10 years” and the ”WMO Global Greenhouse Gas Watch Implementation Plan”. In particular, for Japan’s part, we will work to strengthen comprehensive atmospheric observations using aircraft, ships, and in-situ observations in Asia and Oceania, to establish an ecosystem monitoring system at terrestrial carbon circulation observation bases in Asia, to maintain the network for observing water temperatures, pH and CO_2, etc. in the ocean environment, and to monitor the global warming impact in areas vulnerable to climate change such as cryosphere and coastal areas, while also advancing the long-term stable operation of the Data Integration and Analysis System (DIAS), a platform for promoting the storage and use of global environment big data such as global observation data and climate prediction data, advancing the maintenance of a user-friendly environment for that system, and advancing research and development that contributes to climate change countermeasures using DIAS. In particular, global warming affects the Arctic region the most, such as rapid sea-ice retreat, and it has become a global issue that affects non-Arctic countries including Japan. Therefore, we will enhance scientific knowledge in the Arctic Circle where there has been no observational data, by deploying an Arctic research vessel, the Mirai II, to serve as an international research platform in the Arctic Circle. Oceans are also an important region for accurately understanding the effects of climate change, with them being reported to absorb some 90% of the heat stored in the climate system due to climate change and some 25% of the carbon dioxide coming from human-made sources. We will thus continue to observe water temperatures, salt levels and carbon dioxide from the surface to the depths of the ocean using oceanic climate observation ships. Additionally, the geostationary meteorological satellites Himawari 8 and Himawari 9, which became operational in July 2015, will observe and monitor the global environment by observing the sea surface temperature, the distribution of sea ice, the fine particles in the atmosphere, and so on. Furthermore, Japan has leading technologies for observing greenhouse gases from space using the GOSAT, launched in January 2009, the world’s first dedicated greenhouse gas observation satellite, and GOSAT-2, launched in October 2018. Thanks to GOSAT’s observational data, we are now able to estimate carbon dioxide and methane emissions for each country that emits the gas above a certain level. The observational outcome with such strength will contribute to refining climate change forecasts and will provide a highly transparent infrastructure for monitoring efforts to reduce greenhouse gases in Japan and the world. Moreover, in recent years, we have also conducted research to estimate emissions in large cities and carried out initiatives to make use of observational data from companies. Development is progressing toward the launch of the GOSAT-GW to promote initiatives by various countries and to measure the emissions reductions. Furthermore, with an eye on the future, studies on the concept of an international greenhouse gases observation mission will continue. GOSAT-GW will continue and develop the mission of GOSAT- 2, and will enable the assessment of the CO_2 emissions in metropolitan areas or large-scale emission sources, further enhance technology for estimating emissions on a per-country basis, which the GOSAT series has advanced thus far, and thus help further secure transparency in greenhouse gas inventory reporting. We are also steadily preparing for Himawari 10, Japan’s next geostationary meteorological satellite, which implements the latest observational technologies, to begin operations in FY2029, in order to advance climate change countermeasures beginning with observation and monitoring of the global environment and disaster risk reduction. By supporting international joint research network activities related to global warming, we will share information, knowledge, and experience in the Asia-Pacific region and contribute to the promotion of regional decarbonization.
Main policies expected to be implemented by local governments	—

Technologies and institutions required to promote policies and measures	(Ministry of Education, Culture, Sports, Science and Technology) ① Expenses required to promote the establishment of the Global Earth Observation System (including the Climate Change Adaptation Strategy Initiative) (Ministry of the Environment) ① Environmental Research Promotion Expenses ② Global Environmental Protection Test Research Expenses ③ Global Environment Observation Project under the GOSAT Series ④ Project to upgrade technology for emission verification using greenhouse gas observation technology satellites ⑤ International Research and Survey Project for Realizing a Decarbonized Society ⑥ Contributions to the Asia-Pacific Regional Joint Research and Observation Project on the Global Environment ⑦ Assistance for the preparation of an assessment report by the Intergovernmental Panel on Climate Change (IPCC) ⑧ Contributions to the Intergovernmental Panel on Climate Change (IPCC) ⑨ Contributions to the Project to Establish the Global Standard Calculation Method for Emissions and Absorptions
Details of technologies and systems required to promote measures and policies	(Ministry of Education, Culture, Sports, Science and Technology) ① In the Advanced Research Program for Climate Change Projection, we will develop climate models to elucidate the mechanisms of climate change and generate highly accurate climate projection data that will serve as the basis for all climate change countermeasures. In addition, under the Global Environmental Data Integration and Analysis Platform Project, we will accumulate, integrate, analyze, and provide global environmental big data such as earth observation data and climate projection data, and promote research and development that contributes to solving global issues such as climate change and disaster prevention by utilizing these data. (Ministry of the Environment) ② Promote comprehensive and continuous observation of the global environment, and conduct observations and monitoring of climate change from a long-term and international perspective. ③ Greenhouse gas observation information acquired through the GOSAT series will be disseminated on an ongoing basis, and support will be provided for the utilization of the data by various countries. The GOSAT-GW satellite observation system will be designed and manufactured. ④ We will proceed with the operation of GOSAT-2, the project to improve observation data processing technology for data verification and data utilization promotion, the production and maintenance of the Unit 3 satellite system (Observation sensors, satellite buses, and ground systems) with higher observation accuracy, and the launch of GOSAT-GW. ⑤ The Government will further promote research and surveys that contribute to the realization of a decarbonized society by strengthening collaboration with European research institutions using the Strategic Research Network for the Realization of a Climate Neutral Society (LCS-RNet) and collecting the latest research results and knowledge from overseas. It will also use its network to disseminate the results and knowledge of its domestic research. ⑥ The GOJ will support the Asia-Pacific Network for Global Change Research (APN) to promote international collaborative research on climate change, biodiversity, and other cross-sectoral research. The GOJ will also promote capacity building for young researchers and policymakers in the Asia-Pacific region.
Targets for implementing measures and policies	—

Number	36	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Proactive actions by the national government

Number	36-1
Details of policies and measures	- Implementation and inspection of the government action plan - Implementation and Inspection of Implementation Plans of Ministries and Agencies
Policies implemented by the national government	- Implementation and inspection of the government action plan - Implementation and Inspection of Implementation Plans of Ministries and Agencies
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	A plan that specifies the measures to be taken by the government in connection with its affairs and business to reduce greenhouse gas emissions, etc. (the national government action plan);
Details of technologies and institutions required to promote policies and measures	1 Efforts to maximize the use of renewable energy 2 Efforts in the construction and management of buildings 3 Efforts in purchasing and using goods and services 4 Consideration for Reducing Greenhouse Gas Emissions in Other Administrative and Business Operations 5 Ensuring Work-Life Balance and Training for Employees 6 Formulation of implementation plans for each government agency (vii) Initiatives Related to Planning by Incorporated Administrative Agencies, etc. 8 Development of the Promotion System for the Government Action Plan and Inspection of the Implementation Status
Targets for implementing measures and policies	- Greenhouse gas reduction target specified in the "a plan that specifies the measures that the government should take to reduce greenhouse gas emissions, etc. in connection with its administration and business;" (Cabinet decision on February 18, 2025) (50% reduction in FY 2030, 65% reduction in FY 2035 and 79% reduction in FY 2040 from FY 2013 levels)

Number	37	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Proactive actions by local governments and promotion by the national government

Number	37-1
Details of policies and measures	Reduce greenhouse gas emissions by formulating and reviewing the Local Government Action Plans for municipal operations and promoting measures and policies based on the action plans.
Policies implemented by the national government	Support will be provided for the formulation of manuals for the formulation and implementation of local government action plans, the collection and sharing of excellent examples of initiatives, training for local government employees, the dispatch of experts, the development of information infrastructure such as support systems for the formulation and management of local government action plans, and the development and introduction of facilities related to renewable energy and energy conservation.
Main policies expected to be implemented by local governments	With regard to its own affairs and projects (All administrative functions stipulated in the Local Autonomy Law, etc., including waste treatment projects, water and sewerage projects, etc.), it shall formulate and implement the local governments action plan administrative affairs section with reference to the formulation and implementation manual of the local governments action plan formulated by the national government.
Technologies and institutions required to promote policies and measures	Initiatives by local governments and promotion by the national government
Details of technologies and institutions required to promote policies and measures	Local government: Formulation and review of the Local Government Action Plans for municipal operations and promotion of measures based on the action plans
Targets for implementing measures and policies	In the inspections* conducted in light of the greenhouse gas emission reduction targets outlined in each local government's implementation plan (administrative affairs section), the achievement status of the emission reductions will be used as evaluation indicators for the measures, and the progress of the implementation of the measures and policies will be assessed.

*An inspection required for each local government to announce its emissions once a year in accordance with Article 21, Paragraph 15 of Act on Promotion of Global Warming Countermeasures.

Number	38	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Promotion of efforts based on local government's action plans for entire municipal jurisdictions

Number	38-1
Details of policies and measures	Reduce greenhouse gas emissions by formulating the Local Government Action Plans for entire municipal jurisdictions and promoting regional measures to combat global warming based on the plans.
Policies implemented by the national government	Formulation of manuals for the formulation and implementation of action plans by local governments; collection and sharing of excellent examples of initiatives; training for local government employees; dispatch of specialized personnel; development of information infrastructure, such as a support system for the formulation and management of action plans by local governments, a renewable energy information provision system, and a regional economic cycle analysis tool; and support for the development and introduction of facilities related to renewable energy and energy conservation.
Main policies expected to be implemented by local governments	In order to promote measures for the reduction of greenhouse gas emissions in accordance with the natural and social conditions of the region, the Local Government Action Plans for entire municipal jurisdictions shall be formulated and implemented with reference to the formulation and implementation manual of the local governments action plan formulated by the national government. In the case of small municipalities in particular, in view of the difficulties caused by the shortage of personnel and specialized human resources and the efficient introduction and use of renewable energy, etc., the government will promote prefectural governments to implement the plan based onthe Local Government Action Plans for entire municipal jurisdictions of the prefecture, and also promote municipal governments to formulate and implement the plan jointly with prefectures and cooperation central cities, etc.
Technologies and institutions required to promote policies and measures	Promotion of initiatives based on local government action plans (regional policies)
Details of technologies and institutions required to promote policies and measures	Formulation and review of the Local Government Action Plans for entire municipal jurisdictions and promotion of measures based on the action plans
Targets for implementing measures and policies	Greenhouse gas emissions specified by each local government in its local government action plan for entire municipal jurisdictions (Hereinafter referred to as "emissions".)[*1] The progress of the implementation of measures and measures will be evaluated based on the status of emission reductions achieved in the inspections[*2] conducted in light of the reduction targets set forth above as measures evaluation indicators.

*1 Prefectures, designated cities and core cities that are legally obliged to formulate (Including special cities at the time of enforcement.) plans developed by.
*2 Inspection necessary for each local government to announce its emission amount once a year in accordance with Article 21, Paragraph 15 of Act on Promotion of Global Warming Countermeasures.

Number	39	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Promotion of “Decokatsu” (a national campaign for a new, enriched decarbonized way of lifestyles)

Number	39-1
Details of policies and measures	Promotion of "Decokatsu"
Policies implemented by the national government	To achieve carbon neutrality by 2050 and reduction targets by 2030, we will strongly support people and consumers to change their behavior and lifestyle.
Main policies expected to be implemented by local governments	Promotion of "Decokatsu"
Technologies and institutions required to promote policies and measures	【Housing [outside]】 Energy saving and introduction of renewable energy (Thermal insulation, solar power generation, etc.)
Details of technologies and institutions required to promote policies and measures	Implementation of measures to eliminate bottlenecks to improve the rate of conforming to the energy-saving standards of housing stock indicated in the 【Housing [outside]】 field of the "Lifestyle Roadmap for 10" and to increase the installation rate of solar power generation facilities in new detached houses, etc.
Targets for implementing measures and policies	The items in the Consumer Questionnaire Survey on the Status of Implementation of Measures in the "10 Roadmap for Lifestyle" are used as measure evaluation indicators to evaluate the progress of the implementation of measures and policies.

Number	39-2
Details of policies and measures	*Same as 39-1
Policies implemented by the national government	*Same as 39-1
Main policies expected to be implemented by local governments	*Same as 39-1
Technologies and institutions required to promote policies and measures	【Housing [inside]】 Selection of eco-friendly goods (LED lighting, energy-saving home appliances, high-efficiency water heaters, water-saving equipment, HEMS, etc.)
Details of technologies and institutions required to promote policies and measures	Implementation of measures to replace old home appliances and products and eliminate bottlenecks for the wide spread of smart devices through the use of new eco-friendly products (eco-goods) indicated in【Housing [inside]】 of the "10 Year Road Map for Lifestyle"
Targets for implementing measures and policies	The items in the "Consumer Questionnaire Survey on the Status of Implementation of the "Lifestyle Roadmap for 10"" are used as measure evaluation indicators to evaluate the progress of the implementation of measures and policies.

Number	39-3
Details of policies and measures	*Same as 39-1
Policies implemented by the national government	*Same as 39-1
Main policies expected to be implemented by local governments	*Same as 39-1
Technologies and institutions required to promote policies and measures	【Clothing】 Cool Biz, Warm Biz, Sustainable Fashion
Details of technologies and institutions required to promote policies and measures	Implementation of measures to eliminate bottlenecks in order to spread sustainable fashion initiatives to the general public as indicated in 【Clothing】 of the "Lifestyle Roadmap for 10"
Targets for implementing measures and policies	The items in the "Consumer Questionnaire Survey on the Status of Implementation of the "Lifestyle Roadmap for 10"" are used as measure evaluation indicators to evaluate the progress of the implementation of measures and policies.

Number	39-4
Details of policies and measures	*Same as 39-1
Policies implemented by the national government	*Same as 39-1
Main policies expected to be implemented by local governments	*Same as 39-1
Technologies and institutions required to promote policies and measures	【Buying and eating】 Local production for local consumption and eating all (measures against food loss), waste reduction and sorting (resource recycling)
Details of technologies and institutions required to promote policies and measures	Implementation of measures to eliminate bottlenecks in order to promote sustainable eating habits and the reduction and separation of waste as a matter of course by citizens as indicated in Buying and Eating of the "10 Year Road Map for Lifestyle"
Targets for implementing measures and policies	The items in the "Consumer Questionnaire Survey on the Status of Implementation of the "Lifestyle Roadmap for 10"" are used as measure evaluation indicators to evaluate the progress of the implementation of measures and policies.

Number	39-5
Details of policies and measures	*Same as 39-1

Policies implemented by the national government	*Same as 39-1
Main policies expected to be implemented by local governments	*Same as 39-1
Technologies and institutions required to promote policies and measures	【Job】Practicing telework
Details of technologies and institutions required to promote policies and measures	Implementation of measures to eliminate the bottleneck indicated in【Job】of the "Lifestyle Roadmap for 10" so that telework can be selected at the most suitable place when desired.
Targets for implementing measures and policies	The items in the "Consumer Questionnaire Survey on the Status of Implementation of the "Lifestyle Roadmap for 10"" are used as measure evaluation indicators to evaluate the progress of the implementation of measures and policies.

Number	39-6
Details of policies and measures	*Same as 39-1
Policies implemented by the national government	*Same as 39-1
Main policies expected to be implemented by local governments	*Same as 39-1
Technologies and institutions required to promote policies and measures	【Transportation】Implementation of eco-driving, purchase of electric vehicles, and selection of transportation methods with less environmental impact
Details of technologies and institutions required to promote policies and measures	Implementation of measures to eliminate bottlenecks in order to promote the practice of eco-driving as indicated in 【Transportation】 of the "Lifestyle Roadmap for 10" and to make it common for people to consider electric vehicles as a priority when considering the purchase of a private car
Targets for implementing measures and policies	The items in the "Consumer Questionnaire Survey on the Status of Implementation of the "Lifestyle Roadmap for 10"" are used as measure evaluation indicators to evaluate the progress of the implementation of measures and policies.

Number	39-7
Details of policies and measures	*Same as 39-1
Policies implemented by the national government	*Same as 39-1

Main policies expected to be implemented by local governments	*Same as 39-1
Technologies and institutions required to promote policies and measures	【Foundation】 Information (education, nudges), information dissemination using incentives, etc.
Details of technologies and institutions required to promote policies and measures	Implementation of measures to eliminate bottlenecks in order to enable all citizens to obtain the necessary education and knowledge and receive effective information and incentives, such as nudges, that contribute to behavior change, as indicated in 【Foundation】 of the 10 Roadmap for Lifestyle
Targets for implementing measures and policies	The items in the "Consumer Questionnaire Survey on the Status of Implementation of the "Lifestyle Roadmap for 10"" are used as measure evaluation indicators to evaluate the progress of the implementation of measures and policies.

Number	39-8
Details of policies and measures	Promoting the Carbon Footprint of Products and Services
Policies implemented by the national government	Work to promote the carbon footprint of products and services to promote corporate emissions reduction and consumer behavior change.
Main policies expected to be implemented by local governments	-
Technologies and institutions required to promote policies and measures	Project to calculate and display greenhouse gas emissions throughout the life cycle of products and services
Details of technologies and institutions required to promote policies and measures	Support will be provided for the development of human resources to expand and disseminate the calculation and display of greenhouse gas emissions (carbon footprint) per product and service. In addition, in order to realize a society in which consumers can actively choose products and services that contribute to decarbonization, support will be provided for the creation of common rules for calculation methods, data sharing methods, and display methods for each industry.
Targets for implementing measures and policies	-

Number	40	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Promoting Environmental Education and Education for Sustainable Development (ESD)

Number	40-1
Details of policies and measures	"Act on Promotion of Environmental Conservation Activities through Environmental Education, etc. (Act No. 130 of 2003) (Hereinafter referred to as the "Environmental Education Promotion Act".) Based on the above, we will comprehensively promote environmental education initiatives so that citizens can deepen their understanding and interest in environmental conservation through all opportunities from childhood, according to their developmental stages. We will also promote Education for Sustainable Development (ESD) based on the ESD National Implementation Plan.
Policies implemented by the national government	To solve the problem of climate change, it is extremely important that each citizen takes action in his or her daily life. Transforming lifestyles involves advancing environmental education that spurs transformation in society and organizations and changes in a joined-up way for all adults and children across homes, schools, workplaces, regions and all other places. To promote this, it is not enough to simply impart knowledge, but it is important to advance education that seeks to help learners understand the current situation of global warming and its relationship to human activities, and to take action themselves to address the problem, starting with those in their immediate environment. With regard to Education for Sustainable Development (ESD), proposed by Japan, the international framework ESD for 2030, which indicates that ESD contributes to the achievement of all the goals of the SDGs through fostering creators of a sustainable society, was adopted at the UN General Assembly in December 2019. Domestically, the Second ESD Implementation Plan was formulated in May 2021 and is being advanced to promote ESD across the whole country, based on the principles of ESD for 2030. In the National Curriculum Standards for kindergartens, elementary, junior high and high schools, fostering competencies needed to be “the builders of a sustainable society” is being advanced. At the same time, under the Fourth Basic Plan for the Promotion of Education (June 16, 2023), “fostering creators of a sustainable society” is put forward as a comprehensive basic policy for educational policy overall, and advancing ESD is mentioned. Furthermore, we are advancing the promotion of exchange using the UNESCO associated schools network and promotes the establishment of environmentally friendly educational facilities (Eco-schools). At the same time, we are driving environmental education efforts by partnering with relevant agencies to provide teachers with opportunities of training and teaching materials. Additionally, in the Basic Policy for the Promotion of Environmental Conservation Activities, Motivating Participation in Environmental Conservation, Environmental Education, and Collaborative Efforts (Cabinet Decision on May 14, 2024) based on the Act on the Promotion of Environmental Conservation Activities through Environmental Education (Act No. 130 of July 2003; hereinafter referred to as the “Environmental Education Act”), which was fully amended by Cabinet decision in May 2024, it is stated that it is important to promote all possible opportunities for experiential learning, dialogue and cooperation with diverse actors, and learning through the use of ICT, with a view to promoting behavior aimed at comprehensively improving the environment, the economy and society and at transforming those things in specific ways, based on the ESD approach. Based on this, we will not only seek to offer greater sites for high-quality environmental education and promoting it across a wider range of sites through a Certification of Place for Nature-Based Experiences System and a Services of Human Resource Certification System, based on the Environmental Education Promotion Act, it will also promote autonomous efforts by all possible actors through awards systems, the provision of opportunities for training and through the active dissemination of positive case studies on websites. Intermediary support functions, such as ESD activity support centers, will be enhanced and utilized to advance such efforts through sustainable means, while partnering with social education facilities, private bodies and businesses. Additionally, environmental partnerships will be leveraged to further form regional joint action and support bodies to promote activities in local communities, and support parties performing environmental conservation activities.
Main policies expected to be implemented by local governments	—

Technologies and institutions required to promote policies and measures	① Provision of teaching materials and programs according to various target audiences, objectives, and themes, and sharing information on teaching materials, programs, and learning facilities via the Internet ② Training program for fostering actors in environmental education ③ Promoting the active use of the designation system for environmental education support groups, the registration system for human resources certification, and the certification system for "places for hands-on experience" under the Environmental Education Promotion Act ④ Collection, Dissemination, and Award of Good Practices ⑤ Further promotion of environmental education in schools based on a whole-school approach through the dissemination of UNESCO Associated Schools *, which are bases for promoting ESD, including environmental education, and the promotion of Eco-Schools Plus (* UNESCO Associated School: Accredited by UNESCO as a school for the practice of peace and international cooperation to realize the ideals of UNESCO) ⑥ Enhancement of environmental education and collaborative efforts and development of human resources by utilizing intermediate support functions centered on the ESD Activity Support Center, GEOC, and Regional Environmental Partnership Offices
Details of technologies and systems required to promote measures and policies	① Provision of "Environmental Learning STATION," "Decarbonization Teaching Materials," "Learning Maps," etc. - Providing information by the official website for the UNESCO Associated Schools Network in Japan - Promoting the Dissemination of the Human Resources Certification Business Registration System (Development and Provision of Educational Materials) ② Implementation of environmental education and learning promotion leader training for teachers, etc. - Implementation of environmental counselor training ③ Operation of the system for designating environmental education support groups - Dissemination and promotion of the Human Resources Certification Business Registration System (Training business, certification business, development and provision of teaching materials) - Promoting the Dissemination of the Certification System for Experience Opportunities ④ Dissemination of best practices such as various awards at national youth environmental activity presentations, environmental education, and 100 ESD videos ⑤ - Dissemination of UNESCO Associated Schools - Promotion of Eco-School Plus ⑥ Enhance environmental education and develop human resources by utilizing the intermediate support function of the ESD Support Center - Formation of collaborative efforts and support for persons engaged in environmental conservation activities in local communities, utilizing local environmental partnership offices, etc.
Targets for implementing measures and policies	—

Number	41	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Promotion of regional decarbonization including nationwide implementation of Decarbonization Leading Areas and priority countermeasures that serve as the foundation for decarbonization (scaling up locally driven initiatives across the country)

Number	41-1
Details of policies and measures	At least 100 "Decarbonization Leading Areas" will be selected by FY 2025 and implemented by FY 2030 to show how regional decarbonization contributes to regional revitalization. In addition, "priority measures" such as rooftop photovoltaic power generation and zero-carbon drive, which should be tackled in every corner of the country, will be implemented. Furthermore, we will accelerate regional decarbonization and expand it nationwide through the horizontal expansion of these initiatives. In addition, new technologies such as perovskite solar cells will be introduced in the region.
Policies implemented by the national government	At least 100 "Decarbonization Leading Area" will be selected by FY 2025 and implemented by FY 2030 to show how regional decarbonization contributes to regional revitalization. In addition, "priority measures" such as rooftop photovoltaic power generation and zero-carbon drive, which should be tackled in every corner of the country, will be implemented. Furthermore, we will accelerate regional decarbonization and expand it nationwide through the horizontal expansion of these initiatives. In addition, new technologies such as perovskite solar cells will be introduced in the region.
Main policies expected to be implemented by local governments	Efforts will also be made with reference to excellent examples and creative ideas from Decarbonization Leading Areas and Priority Measures Acceleration Projects.
Technologies and institutions required to promote policies and measures	Regional decarbonization promotion grant, etc.
Details of technologies and institutions required to promote policies and measures	At least 100 "Decarbonization Leading Areas" will be selected by FY 2025 and implemented by FY 2030 to show how regional decarbonization contributes to regional revitalization. In addition, "priority measures" such as rooftop photovoltaic power generation and zero-carbon drive, which should be tackled in every corner of the country, will be implemented. At the same time, the government will further actively disseminate information on the categorization of the advanced features and models of Decarbonization Leading Areas, as well as information on good practices and examples of overcoming issues. In addition, the government will actively disseminate more practical and concrete know-how, such as knowledge on business feasibility and efficiency obtained from Decarbonization Leading Areas and Priority Measures Acceleration Projects, as well as KPI improvements of good practices that contribute to regional revitalization, in order to accelerate regional decarbonization and expand it nationwide. In addition, new technologies such as perovskite solar cells will be introduced in the region.
Targets for implementing measures and policies	-

Number	42	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Establishment of local administrative framework and mechanisms for active support by the national government

Number	42-1
Details of policies and measures	The government will establish a scheme to provide continuous and comprehensive support to regional decarbonization efforts from the perspectives of human resources, information and technology, and financial resources, and will actively provide support in cooperation with local branches.
Policies implemented by the national government	The government will establish a scheme to provide continuous and comprehensive support to regional decarbonization efforts from the perspectives of human resources, information and technology, and financial resources, and will actively provide support in cooperation with local branches.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	(Human Resources) Decarbonization town planning advisor system, regional revitalization human resource support system, GX advisor, etc. (Information and Technology) Regional economic cycle analysis tools, regional index analysis tools, municipal emission charts, etc. (Financial Resources) Regional decarbonization promotion subsidy, etc.
Details of technologies and institutions required to promote policies and measures	(Human Resources) With regard to the scheme for supporting the dispatch of experts to local governments (Decarbonized Town Planning Advisor System and Regional Revitalization Human Resource Support System (Green Specialists)), etc., the necessary pool of experts will be expanded and implemented. Training on decarbonization for employees of local governments and networking with companies will be implemented in cooperation with relevant organizations, experts, and companies, while improving the content to be more practical. Regional financial institutions will promote the acquisition of certification qualifications based on the "Decarbonization Advisor Certification System," which certifies private-sector qualifications that meet the requirements so that human resources with appropriate knowledge for the promotion of decarbonization can exercise their functions inside and outside companies. (Information and Technology) We will enhance information and technical support tools, such as a tool for inventorying and estimating greenhouse gas emissions at the regional level, a system for providing information on renewable energy, and a tool for analyzing regional economic cycles. We will also actively disseminate information, including its effectiveness and usefulness. In order to address the shortage of information on the amount of renewable energy consumed by local businesses and residents, the government will consider actively providing information on the amount of greenhouse gas reduction by subsidized projects on a regional basis. (Financial Resources) Support will be provided through regional decarbonization promotion grants, major support tools and frameworks compiled by relevant ministries and agencies for regional decarbonization efforts, GX transition bonds, local financial measures contributing to regional decarbonization, and the use of financial instruments to further promote private investment. The Decarbonization Support Organization, Inc. (JICN) will actively provide funding to businesses engaged in projects that contribute to regional decarbonization, as well as advice on business activities that are eligible for support. In accordance with support criteria that emphasize regional coexistence, support will be provided for projects that contribute to regional revitalization in cooperation with local entities, starting with local governments.
Targets for implementing measures and policies	—

Number	43	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Initiatives to transition to a decarbonized lifestyle in regional areas

Number	43-1
Details of policies and measures	In order to promote behavior change among local citizens and businesses towards decarbonization, as the national government, we will work with local governments to promote initiatives that clearly visualize the details of such efforts and their co-benefits, such as the economic and time-saving advantages, and will advance measures to promote specific behavioral changes.
Policies implemented by the national government	In order to promote behavior change among local citizens and businesses towards decarbonization, as the national government, we will work with local governments to promote initiatives that clearly visualize the details of such efforts and their co-benefits, such as the economic and time-saving advantages, and will advance measures to promote specific behavioral changes.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	Efforts to convert local communities to decarbonized lifestyles
Details of technologies and institutions required to promote policies and measures	In cooperation with local decarbonization initiatives led by local governments, the government will promote "Decokatsu" (a national movement to create a new, affluent lifestyle leading to decarbonization) to support affluent lifestyles leading to decarbonization. Promote consumer-oriented measures in cooperation with relevant departments of local governments (environmental departments, consumer administration departments, etc.). Utilize school facilities as teaching materials for environmental education through the promotion of Eco-Schools. In order to promote understanding and behavioral change among local residents and businesses, forums and other events involving various entities will be held in the regional blocks of each regional environmental office. In addition, we will take advantage of the 2025 World Exposition in Japan and other opportunities to disseminate the benefits of regional decarbonization initiatives for local communities and residents both in Japan and overseas.
Targets for implementing measures and policies	—

Number	44	Governing agencies	Ministry of the Environment
Sector	Cross-cutting measures	Policies and measures	Rule innovation (institutional measures, etc.)

Number	44-1
Details of policies and measures	In promoting the development of renewable energy and the renovation of homes, buildings, and infrastructures, which take time to introduce and involve various actors, institutional reforms and other measures will ensure effectiveness in addition to support measures.
Policies implemented by the national government	In promoting the development of renewable energy and the renovation of homes, buildings, and infrastructures, which take time to introduce and involve various actors, institutional reforms and other measures will ensure effectiveness in addition to support measures.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	Regional decarbonization promotion program system, environmental impact assessment system, promotion of geothermal development in harmony with the local community, the Act on Rationalization of Energy Use and Shift to Non-fossil Energy (Energy Conservation Act) of buildings, system for proper reuse, recycling and disposal of solar power generation facilities, Green Purchasing Law
Details of technologies and institutions required to promote policies and measures	(Institutional measures to accelerate regional decarbonization that coexists with and benefits local communities) The government is considering further measures to advance regional decarbonization that contributes to regional revitalization such as establishing promotion areas and incentivization measures related to the use of Local Decarbonization Promotion Programs based on the Act on Promotion of Global Warming Countermeasures. We are also considering the promotion of local production for local consumption and of greater introduction of renewable energy that contributes to regional revitalization in a way that coexists with and benefits the local community, which is led by regional energy companies. (Promoting wind power generation by optimizing the environmental impact assessment suited to wind power characteristics) For offshore wind power generation projects, the government will conduct surveys from the perspective of conserving the marine environment, etc. and designate promotion zones. At the same time, the government will consider establishing a system that partially exempt projects equivalent to this from the environmental impact assessment procedures, thereby promoting the smooth project implementation, while ensuring appropriate environmental consideration. The government will also monitor projects during construction and operation under the division of roles between government and project proponent in order to address uncertainties in predicting environmental impacts. At the same time, the government will seek to consider further environmental conservation measures and to enhance its scientific knowledge and thus enabling more appropriate environmental considerations for subsequent projects. For onshore wind power projects as well, the government will also take necessary measures to ensure effective and efficient implementation of environmental impact assessments based on project characteristics. (Promotion of geothermal development that is symbiosis with local communities) To alleviate concerns among local stakeholders such as hot spring operators, the government will identify and collect scientific data in order to establish a system for data aggregation by serial hot spring monitoring, proper management and evaluation, and public disclosure. By thus promoting measures that synergize with conservation of the natural environment and that coexist with the local community, the government will accelerate the development of projects through smooth regional coordination. The “Geothermal Development Acceleration Plan” (announced by Ministry of Environment on 27 April 2021), which includes these efforts, aims to shorten the lead time for geothermal development from more than 10 years to 8 years by 2 years, and to double the number of geothermal power generation facilities (including those located outside of natural park areas) nationwide by 2030 from approximately 60 facilities (as of March 2021). Additionally, the government will seek to reduce development risks and costs for businesses by conducting its own geothermal resource surveys (including steam discharge tests) of geothermal resources, based on the Geothermal Development Acceleration Package. At the same time, relevant agencies such as Ministry of Economy, Trade and Industry and Ministry of Environment will also provide accompanying support to foster understanding in local communities, thereby promoting geothermal development with due consideration for the natural environment and hot spring operators. (Institutional measures to strengthen countermeasures in the residential buildings and other building sectors) Based on the Building Energy Efficiency Act, revised in 2022, the government will improve countermeasures such as reinforcement of regulatory measures such as the mandating of compliance with energy-efficiency standards, including for residential buildings. The government will also set targets related to the installation of solar power systems as part of the standards under the Top Runner Program for detached houses. Additionally, regarding the introduction of renewable energy systems such as solar power to residential and other buildings, the government will partner with relevant ministries and agencies to share knowledge about measures re

	buildings, the government will partner with relevant ministries and agencies to share knowledge about measure to promote the installation of solar power system in buildings, including initiatives such as ordinances by some local governments that mandate the installation of solar panels on new residential buildings. (Institutional measures to promote the recycling of solar panels) Regarding solar panels, a significant increase in waste is expected from the late 2030s onwards. In order to ensure appropriate reuse, recycle and disposal of them, the government proceeds with the examination of establishing a new system to ensure proper handover and collection of solar panels, including the use of a mandatory recycling system. (Creating demand for cutting-edge products and services through the framework of the Act on Promoting Green Procurement) A key agenda is expanding demand for products that are expected to further reduce the burden on the environment driven by development and diffusion of new technology, arising from the progress of GX. We have been promoting a higher level of environmental performance by establishing a two-tiered set of criteria for the application of the standards under the Act on Promoting Green Procurement. In the first place, we will appropriately position such cutting-edge products and services under the higher environmental performance standards (standard value 1). By indicating a policy to advance procurement of such products and services insofar as there is no impediment or restriction on supply in conducting procurement, we will promote expansion of demand in the domain of public procurement as well.
Targets for implementing measures and policies	—

Number	45	Governing agencies	Ministry of Foreign Affairs, Ministry of Economy, Trade and Industry, Ministry of the Environment, Ministry of Education, Culture, Sports, Science and Technology
Sector	International partnership	Policies and measures	Implementation of the Paris Agreement

Number	45-1
Details of policies and measures	- Steady responses will be made to the cycle of submission and updating of NDCs every five years, as incorporated in the Paris Agreement, and biennial transparency reports and reviews aimed at increasing transparency on progress in the implementation and achievement of the targets. Furthermore, Japan will actively contribute to the discussions at the Meetings of the Parties with a view to the implementation of the Paris Agreement. - The latest scientific data and knowledge of the Greenhouse gases Observing SATellite (GOSAT) series, Advanced Land Observing Satellite 2 "Daichi 2" (ALOS-2), and Advanced Radar Satellite "Daichi 4" (ALOS-4) will be provided to help countries implement and achieve their goals. - We will actively make contributions through participation in international reviews and participation and cooperation with Climate Technology Centers and Networks (CTCN).
Policies implemented by the national government	To achieve the targets set out in the Paris Agreement, all countries, including the major emitters, need to set ambitious targets, take action to reduce emissions, and ensure transparency in tracking their progress. Therefore, Japan will consistently submit updated Nationally Determined Contributions (NDCs) to the UNFCCC Secretariat every five years and report and review progress towards the NDC targets every two years, with the aim of improving transparency, in accordance with the provisions of the Paris Agreement. In this context, Japan will provide the latest scientific data and knowledge from the GOSAT series, the Advanced Land Observing Satellite-2 (ALOS-2, “Daichi-2”) and the advanced radar satellite “Daichi-4” (ALOS-4) to assist each country in implementing and achieving its target. Japan will also continue to actively contribute to discussions at Conferences of the Parties with the aim of carrying out the Paris Agreement. Japan will also continue to cooperate to facilitate the appropriate execution of the Paris Agreement by countries in the Global South, contribute to the international reviews and the Climate Technology Centre and Network (CTCN) with commitment and cooperation.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	① Implementation of the United Nations Framework Convention on Climate Change, the Kyoto Protocol, the Paris Agreement and related decisions ② Negotiations at the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP), the Conference of the Parties to the Kyoto Protocol (CMP), the Conference of the Parties to the Paris Agreement (CMA), etc. ③ Participation in informal meetings on climate change ④ Participation in international reviews under the UNFCCC and the Paris Agreement ⑤ Collaboration with the Climate Technology Centre and Network (CTCN) and the Technology Executive Committee (TEC) ⑥ Cooperation with the Adaptation Committee ⑦ Use of satellites to provide the latest scientific data and knowledge
Details of technologies and institutions required to promote policies and measures	① Five-year cycle of submission and update of NDCs, reporting and review of progress in implementing and achieving targets. ② Negotiations for global GHG reductions through participation in COP, CMP, CMA and subsidiary body meetings (SBs). ③ Participated in informal meetings related to climate change such as the Copenhagen Climate Ministerial Conference, the Petersburg Climate Dialogue, and the EU-China-Canada Ministerial Conference on Climate Action (MOCA). ④ Based on the UNFCCC, the Paris Agreement, and related decisions, we will participate in the review process of national GHG inventories, Biennial Transparency Report (BTR), Biennial Update Report (BUR), and National Communication. ⑤ Contributions will be made to the CTCN and TEC, which are technical mechanisms under the UNFCCC, to promote the transfer and diffusion of low-carbon technologies in developing countries. ⑥ Expert observer mission to the Adaptation Committee (AC) for discussions on adaptation under the UNFCCC and the Paris Agreement. It also contributes to the development of technical knowledge on adaptation through voluntary contributions to activities that contribute to the implementation of adaptation in ACs and developing countries. ⑦ Provide data on earth observation data from satellites to research institutions in Japan and overseas.

Targets for implementing measures and policies	–

Number	46	Governing agencies	Ministry of Economy, Trade and Industry, Ministry of the Environment, Ministry of Foreign Affairs
Sector	International partnership	Policies and measures	Actions to reduce global greenhouse gas emissions

Number	46-1
Details of policies and measures	In order to achieve the 1.5°C target, it is extremely important to promote efforts not only by one country but also by the whole world. Based on this concept, Japan will exercise international leadership to lead the global decarbonization and actively promote efforts to reduce global emissions in order to advance global warming countermeasures. At this time, based on the mutual trust we have built up to date and the framework of the Asian Zero Emissions Community (AZEC), we will promote business-led international development of technologies and products with high environmental performance, and contribute to international emission reductions and removals, especially in the Asian region, by promoting environmental development such as the creation of decarbonized markets, human resource development, and institutional building in each country.
Policies implemented by the national government	As contributions toward achieving the Paris Agreement's target of net zero are also expected in the development of policies and institutions and the promotion of decarbonization technology, Japan will demonstrate international leadership to drive global decarbonization on the basis of international cooperation. From this perspective, Japan will further leverage its strengths and support partner countries in developing policies for decarbonization, including proposing a full range of options that can contribute to reducing CO2 emissions and the long-term strategy for achieving the goals set out in the Paris Agreement, based on a deep understanding of partner countries' needs. In addition, it will work to further establish an enabling environment that enable the creation of decarbonization markets, human resources development and institutional development in each country, seek to deploy high environmental performance technologies and products through public-private partnerships, and make the greatest possible contribution to global emissions reductions, with frameworks such as the Asia Zero Emissions Community (AZEC) as a foundation. In doing so, Japan will treat the massive social transformations facing the world as a massive growth market and opportunity, more strategically and vigorously promote international deployment of environmental infrastructure including the use of JCM and contribute to sustainable growth for both Japan and the whole world. Through initiatives such as the Cleaner Energy Future Initiative for ASEAN (CEFIA), established within the ASEAN+3 Energy Ministerial Meeting process in 2019, Japan will promote the deployment of low-carbon technologies in the energy sector and the establishment of related institutions, and promote transition financing through public-private collaboration. In addition, the government will create opportunities for business matching and support access to financing for individual projects, also with public-private partnerships, through the Japan Platform for Redesign: Sustainable Infrastructure (JPRSI). We will seek to promote and expand synergistic projects that aspire to not only mitigate climate change, but also to simultaneously improve or solve other environmental and social challenges such as improving climate change resilience, waste management, air pollution and fluorinated gases. Keidanren has forwarded "Promoting contribution at the international level" as one of the pillars of the Keidanren Carbon Neutrality Action Plan, and has been promoting contributing to greenhouse gas emissions reduction throughout the entire global value chain from upstream to downstream as an active and proactive measure in all industries and firms. The industry sector will continue to actively contribute to global emissions reductions through the global deployment of decarbonization products and services of its industry subsector, promoting greenhouse gas emissions reduction across global value chains , and by indicating emissions reduction contributions through measures in line with the business field of each industry. In relation to the contributions to reducing global greenhouse gas emissions, which Japan brought about by proactively fulfilling its role through public-private partnerships, Japan is also promoting international understanding of the idea of "avoided emissions of product," which was first mentioned in the 2023 Sapporo G7 Climate, Energy and Environment Ministers' Communiqué. (Asia Zero Emissions Community (AZEC)) Japan is carrying out AZEC initiatives under the AZEC principles of "realizing decarbonization, economic growth an energy security together" and "realizing net zero through diverse pathways." Specifically, in line with the Action Plan for Next Decade adopted at the 2nd AZEC Leaders Meeting in October 2024, in addition to individual projects, participants will advance policy harmonization including rule formation using the Asia Zero Emission Center in the Economic Research Institute for ASEAN and East Asia (ERIA). Based on the Action Plan for the Next Decade, Japan also plans to: (1) drive "AZEC Solutions" such as development of rules that contributes to decarbonization, (2) launch initiatives such as formulating roadmaps for the decarbonization of sectors with high emissions such as electricity, transport and industry, and (3) further develop and implement individual projects. Through such efforts, we will seek to contribute to global decarbonization in Asia and around the world and to solving social challenges, while also following up on those efforts. (Promotion of the Joint Crediting Mechanism (JCM)) Reducing and removing greenhouse gas emissions through the deployment of leading decarbonization technologies with a deep understanding of the needs of partner countries can contribute to the transition to a decarbonized society and a virtuous circle for the economy and environment, not only for partner countries but also for Japan. For this reason, we will establish and implement the JCM in order to quantitatively evaluate its contributions t

	For this reason, we will establish and implement the JCM in order to quantitatively evaluate its contributions to greenhouse gas emission reductions and removals and apply utilize them toward the achievement of its NDC, which are achieved through the diffusion of, among others, leading decarbonizing technologies, products, systems, services, and infrastructures as well as through the implementation of measures. To promote mitigation measures through the use of JCM, firstly, we will work to expand the scope, scale and routes for project development sourcing. We will seek to extend into emissions reductions in new areas and fields such as non-energy sectors including agriculture and peatland management, CCS, and, furthermore, efforts beyond reductions such as greenhouse gas removals, on top of energy conservation, renewable energy and waste management, in which many project has been launched since the JCM's inception. At the same time, we will work to identify and develop projects with particularly high emissions reduction potential as a priority. To that end, in addition to project support through government funding, we will expand and accelerate JCM projects financed mainly by private funding, by working with a broad range of public and private sector institutions, which will be accompanied by the proactive technical support and support for MRVs by the government. We will also strategically expand its partner countries, taking into account factors such as emissions reduction potential. Secondly, the government will work to improve the capabilities of government officials and businesses who are responsible for such efforts. Specifically, the government will work to promote understanding in partner countries, support improvements to administrative capacity, and foster awareness of the intent of Article 6 of the Paris Agreement (market mechanisms) and its guidance (environmental integrity) by private Japanese firms through Paris Agreement Article 6 Implementation Partnership (A6IP), and share its knowledge and experience on carbon markets through international frameworks such as AZEC and the G7. Thirdly, we will work to improve operational efficiency and develop the necessary institutional framework and infrastructure. Specifically, we will set up designated executive organizations based on the revised Act on Promotion of Global Warming Countermeasures and improve the efficiency and effectiveness of operations related to crediting procedures through the improvement of project management, revision of various guidelines and rules with partner countries, and joint committees. Through such efforts, we will seek to improve JCM implementation structures and advance the further reduction and removal of greenhouse gas emissions across the world. In parallel, with anticipated increase in credit issuance and the number of account holders, we will work to develop a secure, resilient, and user-friendly registry system. Furthermore, as part of a collaborative approach in line with Article 6 of the Paris Agreement (market mechanisms), some partner countries have set their implementation period as being up to 2030. We are considering and coordinating how to continue and improve international collaboration approaches from 2031 onwards, so we aspire to offer a future outlook as soon as possible, in order to secure predictability for relevant businesses and other stakeholders.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	- CEFIA - AZEC - JCM

Details of technologies and systems required to promote measures and policies	(CEFIA) ① Based on ASEAN's needs, we will further promote public-private projects to introduce low-carbon technologies in the energy sector (flagship projects) and mobilize funds for low-carbon technologies in cooperation with international financial institutions and ASEAN regional banks. ② Through the CEFIA Public-Private Forum, we will further strengthen cooperation with ASEAN public and private stakeholders on cross-sectoral initiatives such as promotion of flagship projects, mobilizing funds for low-carbon technologies, and entrepreneurship development. (AZEC) ① Promotion of "AZEC Solutions" such as rule-making to promote activities contributing to decarbonization ② Launch of "sectoral initiatives" such as the development of roadmaps for decarbonization of emissions-intensive electricity, transportation, and industries ③ Further structuring of individual projects (JCM) ① We will work to expand the scope, scale and route of project development sourcing. ② Efforts will be made to improve the capabilities of government officials and businesses. ③ We will improve the efficiency of business operations and develop necessary systems and infrastructure.
Targets for implementing measures and policies	Japan aims to contribute to international emission reductions and removals at the level of a cumulative total of approximately 200 million t-CO2 by fiscal year 2040 through public-private collaborations. Japan will appropriately count the acquired credits to achieve its NDC.

Number	47	Governing agencies	Ministry of the Environment
Sector	International partnership	Policies and measures	Developing policies and institutions in partner countries

Number	47-1
Details of policies and measures	① Implementation of bilateral environmental policy dialogues ② Support for long-term strategy development and NDC revision using the Asia-Pacific Integrated Assessment Model (AIM) ③ Workshop on Development of Greenhouse Gas Inventories in Asia (WGIA) ④ Leveraging the Transparency Partnership for Co-Innovation (PaSTI) ⑤ Other Transparency Support
Policies implemented by the national government	Promoting emission reductions through the introduction of high environmental performance technologies and products in partner countries requires the formulation of policies and mechanisms for their implementation, frameworks for their proper assessment and improved transparency, while sharing a high level of ambition with partner countries. To that end, we will provide policy recommendations and share our experiences with partner countries. Additionally, we will offer support for the development of long-term strategy and NDC revision through the Asia-Pacific Integrated Model (AIM), support for the improvement of the accuracy of greenhouse gas inventories through the Workshop on Greenhouse Gas Inventories in Asia (WGIA) and the Partnership to Strengthen Transparency for Co-Innovation (PaSTI), support for the establishment of institutions related to greenhouse gas emissions accounting and reporting and climate disclosure, support for the drafting of Biennial Transparency Reports, and support for cooperation related to training necessary personnel. We will thus contribute to raising the level of ambition at partner countries and strengthening their measures for decarbonization.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	① bilateral environmental policy dialogue ② Support for long-term strategy development and NDC revision ③ Workshop on Greenhouse Gas Inventories in Asia (WGIA) ④ Transparency Partnership for Co-Innovation (PaSTI) ⑤ Other transparency support (BTR and inventory bilateral support)
Details of technologies and institutions required to promote policies and measures	① Environmental policy dialogues will be held with the aim of reducing greenhouse gases and improving the environment in emerging and developing countries. ② As part of support for the decarbonization transition to achieve the goals of the Paris Agreement, including the 1.5 degree target, Japan will continue to support the development of scenarios and long-term strategies using AIM, while expanding the target countries. ③ With the aim of promoting cooperation in Asia and improving the systems of GHG inventories in the countries of the region, the GOJ will continue to hold a workshop on GHG inventories in Asia (WGIA) to support the capacity building of participating countries on transparency and to further strengthen the network. ④ Through PaSTI initiatives, Japan will continue to provide assistance to the private sector in emerging and developing countries in calculating and reporting greenhouse gas emissions, in building systems for climate change information disclosure, and in developing necessary human resources. ⑤ Contribute to the enhancement of transparency based on Article 13 of the Paris Agreement by assisting in the preparation of BTRs and inventories.
Targets for implementing measures and policies	—

Number	48	Governing agencies	Ministry of the Environment
Sector	International partnership	Policies and measures	Leadership in international rulemaking

Number	48-1
Details of policies and measures	- Preparing data to promote visualization of energy consumption efficiency by industry in each country and region - International standardization of energy consumption assessment for steel - International standardization of energy conservation performance of green building materials - Establishment and implementation of appropriate international rules to utilize market mechanisms - Leading the development of an international framework in the International Maritime Organization (IMO) - Leading the discussion on reducing carbon emissions at the International Civil Aviation Organization (ICAO)
Policies implemented by the national government	Japan will take the lead in international rulemaking, such as the formulation of international standards, to promote the diffusion of decarbonization technologies and products around the world. For example, in order to accelerate energy conservation on a global scale, Japan will develop data to promote the "visualization" of the energy consumption efficiency of industries in each country and region and promote international standardization of evaluation methods such as the energy consumption evaluation of steel, the energy- saving performance of green building materials, and the general measurement of greenhouse gas emissions. With regard to the JCM, which Japan has taken the lead in establishing, we will ensure environmental integrity and avoid double counting consistent with international rules, including the Paris Agreement. Based on our experiences gained through building and executing the JCM, we will take part in international discussions on Article 6 of the Paris Agreement (market mechanisms) and lead the establishment of appropriate international rules for the use of the market mechanisms and improvements of the rules through its implementation. In addition, as a major shipping and shipbuilding country, Japan will contribute to the achievement of globally agreed GHG reduction targets for the international shipping sector at the International Maritime Organization (IMO) and the decarbonization of international shipping by promoting technology development in Japan and leading the formulation of an international framework at the IMO. Moreover, Japan will contribute to the reduction of emissions from international aviation by leading discussions on reducing carbon emissions at the International Civil Aviation Organization (ICAO).
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	① International standardization of energy consumption assessment for steel ② International standardization of energy conservation performance of green building materials ③ Paris Agreement Article 6 Implementation Partnership ④ Contributing to the Reduction of Emissions from International Transport through the IMO ⑤ Leading the discussion on reducing carbon emissions at the International Civil Aviation Organization (ICAO)
Details of technologies and institutions required to promote policies and measures	① Propose international standardization of guidelines for comprehensive energy conservation measures in steelworks and promote the development of international standards. ② - Promote discussions at the International Organization for Standardization toward the publication of international standards on physical property test methods for recycled wood/plastic composites. - Propose international standardization of thermal performance evaluation of thermal barrier coatings and promote the development of international standards. ④ Work with other countries and lead negotiations so that Japan's ambitious target of zero GHG emissions by 2050 can be agreed as a common global goal. ⑤ Japan will actively participate in ICAO's efforts to achieve the long-term goals adopted at the 41st ICAO Assembly, and coordinate with other countries, led by volunteer countries, to achieve ambitious results at the International Conference on Sustainable Aviation Fuels.
Targets for implementing measures and policies	—

Number	49	Governing agencies	Ministry of the Environment
Sector	International partnership	Policies and measures	Promoting cooperation among cities

Number	49-1
Details of policies and measures	① Promotion of City-to-City Collaboration for Zero Carbon Society Program ② Promotion of the Clean City Partnership Program (C2P2)
Policies implemented by the national government	In addition to the collaboration and co-creation among various actors including public agencies, private companies, research institutes and NGOs, international collaboration among urban stakeholders, including local governments that play an important role in promoting regional decarbonization in particular the implementation of efforts directly connected to local communities, represents an effective approach to building a global decarbonized society. We will support city-to-city cooperation between Japan and other countries by further expanding opportunities for international dialogue and communication by urban stakeholders through initiatives such as City-to-City Collaboration for Zero Carbon Society Program (C3P), JICA Clean City Initiative (JCCI) and Clean City Partnership Program (C2P2), which coordinate these related efforts. We will also work to share information among domestic stakeholders, to offer networking and to offer mutual learning, so that more cities can participate in city-to-city cooperation. Through these initiatives, we will expand leading actions of regional decarbonization globally, as model cases of cooperation between national and regional level, and expand the “Decarbonization domino effect” across the world.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	① -1 City-to-City Collaboration for Zero Carbon Society Program (C3P) ① -2 Seminar on Cty-to-City Collaboration for Zero Carbon Society ② Clean City Partnership Program (C2P2)
Details of technologies and institutions required to promote policies and measures	① -1: Japanese research institutes, private companies, universities, etc., work together with local governments in Japan and partner cities in developing countries to develop a package of cooperative projects, such as discovery and formative research of projects related to the formation of a decarbonized society, support for institution building, and human resource development. ① -2: Japanese local governments participating in city-to-city cooperation projects, partner cities in developing countries, etc. participate in sharing good practices and mutual learning. ② This program was launched by Ministry of the Environment and JICA in February 2023 with the aim of addressing today's challenges facing cities around the world from various angles. With the participation of local governments, private companies, and financial institutions in Japan, and in cooperation with Multilateral Development Banks (MDBs), Japan is providing comprehensive and synergistic support to partner cities to address urban issues including climate change, environmental pollution, circular economy, and natural restoration.
Targets for implementing measures and policies	—

Number	50	Governing agencies	Ministry of Economy, Trade and Industry
Sector	International partnership	Policies and measures	Overseas development of energy infrastructure that contributes to reducing carbon emissions

Number	50-1
Details of policies and measures	- In addition to renewable energy and hydrogen and its derivatives, it is essential to realize the innovations necessary for the decarbonization of fossil fuels, such as CCUS and carbon recycling. Japan will contribute to the world by taking the leadership in developing and disseminating technologies and the sharing of knowledge through international cooperation. - At the same time, in order to realize a decarbonized society, we will present all options that contribute to reducing CO2 emissions according to the needs of partner countries and actively work to disseminate the results of the innovation. - Promote the export of energy infrastructure to contribute to the global reduction of carbon dioxide emissions consistent with the long-term goals of the Paris Agreement. With regard to renewable energy in particular, in light of the growing demand for renewable energy in the world, the Government will promote the use of renewable energy that suits the situation of partner countries, and support the introduction and distribution of renewable energy hydrogen, to contribute to the improvement of the introduction potential of renewable energy in each country.
Policies implemented by the national government	In order to truly balance the two major global challenges of improving global energy access and achieving a decarbonized society, it is essential to realize the innovations needed to decarbonize fossil fuels, such as CCUS and carbon recycling, in addition to decarbonized power sources and hydrogen and its derivatives. Japan will contribute to the world by taking a leading role in the development and dissemination of technologies for this purpose and the sharing of knowledge through international cooperation. At the same time, we will present all options that contribute to reducing CO_2 emissions in response to the needs of partner countries and actively work to disseminate the results of its innovations with a view to achieving a decarbonized society. With this in mind, we will promote the export of energy infrastructure abroad in order to contribute to the global reduction of CO2 emissions in a manner consistent with the long-term objectives of the Paris Agreement. In particular, given the growing demand for decarbonized power sources across the world, Japan will seek to introduce decarbonized power sources that tailored to the circumstances of each partner countries, and further develop and implement projects that promote the introduction and distribution of hydrogen utilizing decarbonized power sources. This will contribute to enhancing the potential of each country for introducing decarbonized power sources. In line with the G7 Leaders' Communiqué agreed at the G7 Summit in Cornwall in June 2021, Japan ended new direct government support for unabated international thermal coal power generation by the end of 2021, including through Official Development Assistance, export finance, investment, and financial and trade promotion support.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	[Financing] (Ministry of Economy, Trade and Industry) Environmental Innovation Insurance, LEAD Initiative [Technology Development] (Ministry of Economy, Trade and Industry) Development of CCUS/Carbon Recycling Technology [Spreading awareness] Overseas Expansion of CCUS and Carbon Recycling

Details of technologies and institutions required to promote policies and measures	[Technology Development] (Ministry of Economy, Trade and Industry) Through overseas demonstrations of Japan's advanced energy technologies and systems, we will promote the spread of demonstration technologies and contribute to energy conversion and decarbonization in Japan and overseas. [Spreading awareness] While strengthening international cooperation, we will work on technology development and practical application for social implementation.
Targets for implementing measures and policies	—

Number	51	Governing agencies	Ministry of Foreign Affairs, Ministry of Economy, Trade and Industry, Ministry of the Environment
Sector	International partnership	Policies and measures	International development of lifecycle management for fluorocarbons

Number	51-1
Details of policies and measures	Provide financial and technical assistance through contributions to the Multilateral Fund of the Montreal Protocol.
Policies implemented by the national government	Provide financial and technical assistance through contributions to the Multilateral Fund of the Montreal Protocol.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	Financial and technical cooperation assistance through contributions to the Multilateral Fund of the Montreal Protocol
Details of technologies and institutions required to promote policies and measures	Provide financial and technical assistance through contributions to the Multilateral Fund of the Montreal Protocol.
Targets for implementing measures and policies	—

Number	52	Governing agencies	Ministry of Agriculture, Forestry and Fisheries
Sector	International partnership	Policies and measures	International deployment of climate actions in agriculture, forestry, and fisheries

Number	52-1
Details of policies and measures	Promote Japan's outstanding decarbonization technologies in agriculture, forestry and fisheries overseas through collaboration with international organizations and utilizing the JCM, thereby contributing to the reduction of greenhouse gas emissions worldwide.
Policies implemented by the national government	- Overseas deployment of decarbonization technologies such as farmland soil carbon sequestration technology - Disseminating overseas, such as measures against deforestation and forest degradation and promotion of afforestation activities
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	- Bilateral Credit System (JCM) - Bioenergy and By-product Utilization Cycle Potential Analysis Project
Details of technologies and institutions required to promote policies and measures	- In order to contribute to the realization of net zero in 2050, Japan will promote efforts for forest conservation and restoration and sustainable agriculture by private businesses by creating the necessary environment for private companies in Japan to participate in agricultural and forest projects in developing countries. - Accumulate information on the effective use of the world's diverse agricultural residues as resources and investigate the possibility of technologies that can contribute to achieving carbon neutrality.
Targets for implementing measures and policies	—

Number	53	Governing agencies	Ministry of Foreign Affairs, Ministry of Finance, Ministry of the Environment
Sector	International partnership	Policies and measures	Effective use of public funds and increased mobilization of private funds

Number	53-1
Details of policies and measures	In terms of finance, Japan will work on the expansion of finance for climate change related support (climate finance), not limited to Official Development Assistance (ODA), Other Official Flow (OOF). Aiming to drastically reduce the emission on a global scale, Japan, at the G7 Summit in Cornwall in June 2021, announced its intention to provide assistance in climate finance equivalent to 6.5 trillion yen from public and private sources over the five years from 2021 to 2025.On top of the commitment, additional support up to 10 billion dollars and doubling financial support for adaptation of approximately 14.8 billion dollars was announced by Primae Minister KISHIDA at COP26 in 2021. Through such financal commitments, Japan will continue to make a contribution to climate finance in light of the Paris Agreement. In addition, Japan will work on effective and efficient management of the Green Climate Fund (GCF) and the Global Environment Facility (GEF), help improve recipinet countries' access to financial resources and promote increased understanding of the financial mechanism and project cycle and networking with implementing agencies among the private sector in Japan and receipient countries by their participation in GCF and GEF projects.
Policies implemented by the national government	In terms of finance, Japan will work on the expansion of finance for climate change related support (climate finance), not limited to Official Development Assistance (ODA), Other Official Flow (OOF). Aiming to drastically reduce the emission on a global scale, Japan, at the G7 Summit in Cornwall in June 2021, announced its intention to provide assistance in climate finance equivalent to 6.5 trillion yen from public and private sources over the five years from 2021 to 2025. On top of the commitment, additional support up to 10 billion dollars and doubling financial support for adaptation of approximately 14.8 billion dollars was announced by Japan at COP26 in 2021. Through such financial commitments, Japan will continue to make a contribution to climate finance in light of the Paris Agreement. In the overseas deployment of infrastructure under the “Policy Program for Promotion of Overseas Infrastructure Systems”, Japanses government will further encourage infrastructure-related initiatives undertaken by Japanese companies, and promote public-private collaboration to take on challenges that would contribute to the growth of Japan and partner countries, contributing to global decarbonization. In carrying out JICA’s ODA projects, Japan aims to align all new projects with the targets of the Paris Agreement. Additionally, by realizing greenhouse gas emissions reductions by 2030 of 4 million tons per year, Japan will contribute to building a sustainable and resilient international society without easing its efforts even after 2030. In parallel, Japan will continue to assess the amount of greenhouse gas emissions and reductions in accordance with the JICA Guidelines for Environmental and Social Considerations. In addition, Japan will work on effective and efficient management of the Green Climate Fund (GCF) and the Global Environment Facility (GEF), help improve recipinet countries' access to financial resources and promote increased understanding of the financial mechanism and project cycle and networking with implementing agencies among the private sector in Japan and receipient countries by their participation in GCF and GEF projects. Furthermore, in addition to the Japan Bank for International Cooperation (JBIC) and the JICA, Japan will further strengthen collaboration with international development financial institutions such as the World Bank, the Asian Development Bank and the European Bank for Reconstruction and Development, and expand the scale of international support, advincing fund mobilization inside and outside the country for the development of decarbonization projects in partner countries. Japan will also encourage private sector investment by using these public finances effectively as leverage and by using risk mitigation finance and green bonds, such as Samurai bonds.
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	① Support for climate change measures through the Green Climate Fund (GCF) ② Support for climate change measures through the Global Environment Facility (GEF)
Details of technologies and institutions required to promote policies and measures	① Participate in three annual Board meetings of the Green Climate Fund (GCF) and continue to contribute to the approval of projects, formulation of related policies, and management of the Fund. ② Maintain its influence as a major contributor at the biannual Global Environment Facility (GEF) Council Meeting and the replenishment negotiations, and continue to contribute to trust fund management and policy formulation.
Targets for implementing measures and policies	—

Number	54	Governing agencies	Ministry of Agriculture, Forestry and Fisheries
Sector	International partnership	Policies and measures	Reducing emissions from deforestation and forest degradation

Number	54-1
Details of policies and measures	- Utilizing Japan's knowledge and technologies, Japan will actively promote the Reduction of Emissions from Deforestation and forest Degradation in developing countries (REDD+), including through public-private partnerships, and contribute to reducing emissions and enhancing carbon removals in the forest sector. - Support sustainable forest management in developing countries by deterring illegal logging and contribute to reducing deforestation. - Based on the Act on Promoting the Distribution and Use of Legally Harvested Wood and Wood Products, Japan will promote international cooperation on the distribution and use of legally harvested wood products and support efforts to promote sustainable forest management and wood use.
Policies implemented by the national government	- Active promotion of REDD+, including forest conservation, sustainable forest management, and enhancement of forest carbon stocks - Support for sustainable forest resource management in developing countries through the "JICA-JAXA Forest Early Warning System in the Tropics"service - Promotion of international cooperation on the distribution and use of legally harvested wood products - Supporting efforts to promote sustainable forest management and wood use
Main policies expected to be implemented by local governments	—
Technologies and institutions required to promote policies and measures	(Forestry Agency) - Joint Crediting Mechanism (JCM) Scheme of Forest Projects - Act on Promoting the Distribution and Use of Legally Harvested Wood and Wood Products - Implementing the projects and activities through the International Tropical Timber Organization (ITTO) and the Food and Agriculture Organization of the United Nations (FAO) (Ministry of the Environment) - Costs for domestic infrastructure development projects related to measures for forest sinks (Relevant Ministries and Agencies, etc.) - Japan Public-Private Platform for Forest-based Solutions - Provision of Earth observation data by satellites
Details of technologies and institutions required to promote policies and measures	(Forestry Agency) - In order to contribute to the realization of net zero in 2050, forest conservation and restoration efforts by private sector by creating the enabling environment for private companies in Japan to participate in forest projects in developing countries. - To contribute to the conservation of tropical forests and the realization of a decarbonized society, support will be provided through the ITTO to implement sustainable forest management practices that optimize global issues and local needs, and to establish a framework for promoting sustainable wood use. - To contribute to the conservation of the world's forests and the realization of a decarbonized society, Japan will support promoting sustainable forest management and wood use in partnership with the United Nations Forum on Forests (UNFF), the FAO, and like-minded countries. (Ministry of the Environment) - Compilation and analysis of information on international technological and policy developments in REDD+. In order to utilize such information in Japan's efforts and international negotiations in the future, a task force consisting of experts and relevant ministries and agencies was held to consider the contribution of Japan's REDD+ activities. (Relevant Ministries and Agencies, etc.) - The Japan International Cooperation Agency (JICA) and the Forestry and Forest Products Research Institute serve as the secretariat to promote forest conservation activities of developing countries and private companies by sharing information on forest events and holding seminars. - Support for sustainable forest management resources management in developing countries by providing satellite Earth observation data.

Targets for implementing measures and policies	–

Number	55	Governing agencies	Ministry of Foreign Affairs, Ministry of Economy, Trade and Industry, Ministry of Land, Infrastructure, Transport and Tourism, Ministry of the Environment
Sector	International partnership	Policies and measures	Policies coordinated with other countries and international organizations

Number	55-1
Details of policies and measures	- During the 5 years from 2021 to 2025, which Japan announced at the G7 Cornwall Summit, Japan will provide the same high level of assistance as until 2020, that is, the equivalent of 6.5 trillion yen in public and private assistance over 5 years, and will strengthen assistance in the adaptation sector. In addition, Japan subsequently announced at the COP26 World Leaders Summit in November 2021 its readiness to provide up to $10 billion in additional public and private assistance over the next 5 years. - For the Green Climate Fund (GCF), we will continue to make effective use of funds contributed. - We will further promote bilateral environmental cooperation based on the experience, knowledge, lessons learned, and countermeasure technologies that Japan has accumulated, including the conclusion of MOUs on environmental cooperation and the dispatch of experts, mainly in the Asia-Pacific region. - We will actively implement environmental cooperation through regional policy frameworks such as the ASEAN+3, the Tripartite Environment Ministers Meeting among Japan, Korea and China, and the East Asia Summit (EAS) Environment Ministers' Meeting. - Sponsor the Innovation for Cool Earth Forum (ICEF) bringing together industry, academia, and government from around the world to accelerate innovation that will contribute to solving the global warming problem. - Japan will contribute to the International Partnership on Short-lived Climate Pollutants (CCAC), which was established in February 2012 at the initiative of the United States and other countries. As a member country, Japan will actively contribute to measures to reduce SLCPs, which are expected to have co-benefits in combating climate change and air pollution. - Japan will actively promote international public opinion on climate change issues through multilateral discussions at the G7 and G20 Summits and implement the agreements in Japan. - Collaboration with international organizations will be further promoted. For example, the Organization for Economic Cooperation and Development (OECD) will consider measures against global warming; the International Renewable Energy Agency (IRENA) will contribute to the expansion of the introduction of renewable energy and the promotion of the utilization of hydrogen; and the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) will contribute to the reduction of emissions from international traffic; and, in the wake of the adoption of the Kunming-British Framework on Biodiversity at the Convention on Biological Diversity COP15, we will seek synergies between climate change measures and biodiversity conservation.
Policies implemented by the national government	Japan has been proactively engaged in coordination with countries across the world and international institutions, with a view to contributing to global emissions reduction to the greatest extent possible. Japan has also announced a new pledge of up to 165 billion yen in 2023 to the GCF, to which Japan has contributed over the years, bringing the total amount of Japan’s committed contributions to as much 4.2 billion dollars. We are continuing to seek to make effective use of such financial contributions. With regard to bilateral environmental cooperation, Japan will further promote it based on our accumulated experience, knowledge, lessons learned and countermeasure technologies, including the signing of memoranda of understanding on environmental cooperation and the dispatch of experts. We will proactively engage in environmental cooperation through regional policy frameworks such as the Tripartite Environment Ministers Meeting among Japan, Korea and China (TEMM), Japan -ASEAN, ASEAN+3 Environment Ministers Meeting, East Asia Summit Environment Ministers Meeting (EAS EMM) and the Small Island Developing Sates (SIDS) Decarbonization Forum. In addition, international networking across regional and other boundaries and multi- stakeholder collaboration involving international organizations are essential to reducing greenhouse gas emissions globally. As part of this effort, we will organize the Innovation for Cool Earth Forum (ICEF), which will bring together industry, national governments and academia from around the world to accelerate innovation to help solve the problems caused by climate change. Regarding short-lived climate pollutants (SCLPs) such as methane and fluorinated gases, the Climate and Air Cleanup Coalition for the Reduction of Short-Lived Climate Pollutants (CCAC) was launched in February 2012 at the initiative of the United States and others to reduce SCLPs. As a member country, Japan will actively contribute to measures to reduce SLCPs. Furthermore, as for methane, the Global Methane Pledge (GMP) was announced at COP26 in 2021 at the initiative of the US and the EU. This initiative aims to reduce methane emissions by 30% compared to 2020 levels by 2030 globally. Japan has taken part in this initiative since its inception in order to share its successful efforts to reduce methane emissions domestically as a best practice with other countries. Based on the G7 Transport Ministers' Meeting Agreement, in the maritime sector and ports, we will seek cooperation of both domestic and international stakeholders in these sectors, through the realization of Green Shipping Corridor, which are ocean routes where low and zero-emissions fuels and technologies have been introduced throughout the entire lifecycle, thereby accelerating decarbonization of these sectors. Additionally, in order to contribute to the decarbonization of not only Japanese ports but also ports across the world, we will promote the international deployment of measures such as Carbon Neutral Ports (CNPs), which seek to enhance port functions that consider decarbonization and to establish an environment for accepting fuels such as hydrogen and ammonia. Specifically, we will promote the development of CNPs in other countries through “Action Plan for

	Next Decade" under the collaboration framework of Asia Zero Emission Community (AZEC) as well as a projec to formulate "guidelines for the development of Carbon Neutral Ports (CNPs)" for ASEAN countries under the Japan-ASEAN transport cooperation. In addition, Japan will further promote collaboration with international organizations, including: raising international awareness about climate issues through multilateral discussions such as G7/G20 summits; actively promoting domestic implementation of agreed issues; considering measures to combat global warming at the Organisation for Economic Cooperation and Development (OECD); contributing to the deployment of renewable energy and promoting the use of hydrogen through the International Renewable Energy Agency (IRENA); contributing to the reduction of emissions from international transport through ICAO and IMO; addressing climate actions and biodiversity conservation in an integrated manner, based on the Kunming-Montreal Global Biodiversity Framework, adopted at the 15th Conference of the Parties to the Convention of Biological Diversity.
Main policies expected to be implemented by local governments	—
Targets for implementing measures and policies	① Support for climate change measures through the GCF ② Regional Policy Framework: ASEAN-Japan Strategic Program on Climate and Environment (SPACE) ③ Cooperation on Adaptation: Asia-Pacific Adaptation Network (APAN) ④ Innovation for Cool Earth Forum (ICEF) ⑤ Measures to reduce short-lived climate pollutants (SLCPs): CCAC ⑥ Cooperation through the G7 and G20 ⑦ Human resource development in cooperation with IRENA ⑧ Contributing to the Reduction of Emissions from International Transport through ICAO ⑨ Contributing to the Reduction of Emissions from International Transport through the IMO
Details of technologies and systems required to promote measures and policies	① Participate in the three annual GCF Board meetings and continue to contribute to the approval of projects, the formulation of related policies, and the management of the Fund. ② Through the ASEAN-Japan Climate and Environment Strategy Program (SPACE), Japan will work with ASEAN to address the three global crises of climate change, biodiversity loss, and pollution. ③ Through the Contribution for the Global Adaptation Network for Asia and the Pacific (ODA), Japan will contribute to a network that supports human resource development and adaptation responses in developing countries through the sharing of information and knowledge on adaptation in the region, thereby contributing to the enhancement of international adaptive capacity. ④ Based on the recognition that "innovation" is the key to solving the global warming problem, we held the ICEF Annual Meeting as an intellectual platform for discussion among leaders of industry, government and academia to promote innovation that contributes to solving the global warming problem. ⑤ Contributing through the United Nations Environment Programme (UNEP) to CCAC, an international partnership on SLCPs, and contributing to the realization of the co-benefits of climate change countermeasures and air pollution prevention through the activities of CCAC, particularly support for international efforts to reduce SLCPs in the refrigeration and air conditioning sector and the waste sector. ⑥ We will publicize Japan's efforts to combat climate change and actively contribute to advancing discussions on climate change in cooperation with other countries. ⑦ Technology was introduced and examined at seminars in cooperation with international organizations, policies, systems and case studies in Japan were introduced, and exercises were conducted to prepare project proposals. ⑧ Support will be provided through the ICAO capacity-building programme, as well as participating in relevant conferences and actively contributing to the advancement of discussions on aviation decarbonization in partnership with other countries. ⑨ Participate in IMO meetings and actively contribute to the advancement of discussions such as the formulation of rules for the reduction of greenhouse gas emissions from international shipping in cooperation with other countries.
Targets for implementing measures and policies	—