Progress of the Plan for Global Warming Countermeasures in FY2023

September 19, 2025

Global Warming Prevention Headquarters

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1. This Examination of Progress

This examination of the progress in FY2023 on policies and measures detailed in the Plan for Global Warming Countermeasures (approved by the Cabinet on February 18, 2025; hereafter referred to as "the Plan") has been conducted based on the progress management methodology in the Plan and is compiled here by the Global Warming Prevention Headquarters.

2. Progress of Countermeasures

(1) FY2023 Greenhouse Gas (GHG) Emissions and Removals in Japan

Japan's GHG emissions and removals totaled 1,017 million tons (CO_2 equivalent; same applies hereinafter) in FY2023, showing a decrease of 4.2% compared to the previous fiscal year and a decrease of 27.1% compared to the emissions in FY2013.

(2) FY2023 GHG Emissions in Japan

Japan's GHG emissions totaled 1,071 million tons in FY2023, showing a decrease of 4.0% compared to the previous fiscal year and a decrease of 23.3% compared to FY2013.

Factors that contributed to the decrease in emissions in FY2023 compared to the previous fiscal year include progress in the decarbonization of electricity, with the combined share of renewable energy and nuclear power exceeding 30% of the electricity mix, and a decrease in energy consumption due to a decline in domestic production activities in the manufacturing industry.

(3) FY2023 GHG Emissions in Japan by Gas and Sector

Japan's GHG emissions in FY2023 by gas and sector (after the allocation of emissions from electricity and heat generation) and the factors for their changes are explained below.

A. Energy-related CO_2

- Emissions in FY2023: 922 million tons
  (-4.1% compared to the previous fiscal year; -25.4% compared to FY2013)

[1] Industry Sector (Factories, etc.)

- Emissions in FY2023: 340 million tons
  (-4.0% compared to the previous fiscal year; -26.7% compared to FY2013)

[Primary factors of decrease from the previous fiscal year]

- Improved CO_2 emission intensity of electricity (CO_2 emissions per unit of electricity consumption) and reduced domestic production activities in the manufacturing industry, among other factors.

[Primary factors of decrease from FY2013]

- Improved CO_2 emission intensity of electricity (CO_2 emissions per unit of electricity consumption), progress in energy conservation, and reduced domestic production activities in the manufacturing industry, among other factors.

[2] Commercial and Other Sectors (Commerce, Services, Offices, etc.)

- Emissions in FY2023: 165 million tons
  (-6.2% compared to the previous fiscal year; -29.7% compared to FY2013)
  [Primary factors of decrease from the previous fiscal year]
  - Improved energy consumption intensity (energy consumption per Indices of Tertiary Industry Activity), which resulted in reduced energy consumption, and improved CO_2 emission intensity of electricity, among other factors.
  [Primary factors of decrease from FY2013]
  - Reduced emissions from electricity consumption due to an improvement in CO_2 emission intensity of electricity, and reduced energy consumption due to an improvement in energy consumption intensity resulting from progress in energy conservation, among other factors.

[3] Residential Sector

- Emissions in FY2023: 147 million tons
  (-6.8% compared to the previous fiscal year; -29.7% compared to FY2013)
  [Primary factors of decrease from the previous fiscal year]
  - Reduced energy consumption, due to a warmer winter than in FY2022, and improved CO_2 emission intensity of electricity, among other factors.
  [Primary factors of decrease from FY2013]
  - Lower energy consumption due to improvements in energy consumption intensity (energy consumption per household) due to improvement in energy conservation, etc., as well as improvements in CO_2 emission intensity of electricity, among other factors.

[4] Transport Sector (Automobiles, etc.)

- Emissions in FY2023: 190 million tons
  (-0.7% compared to the previous fiscal year; -15.2% compared to FY2013)
  [Primary factors of increase from the previous fiscal year]
  - Improvement in the energy consumption efficiency of passenger transport, decrease in the use of passenger automobiles, as well as decrease in the volume of freight transport, among other factors.
  [Primary factors of decrease from FY2013]
  - Reduced passenger and freight transport volumes, and reduced energy consumption in passenger transport due to improvements in automobile fuel efficiency, among other factors.

[5] Energy Conversion Sector (Power Plants, Oil Refineries, etc.) (Excl. statistical error from electricity and heat allocation)

- Emissions in FY2023: 81.0 million tons
  (-3.8% compared to the previous fiscal year; -23.7% compared to FY2013)
  [Primary factors of decrease from the previous fiscal year]
  - Decreased emissions from the manufacturing of coal products, among other factors.
  [Primary factors of decrease from FY2013]
  - Decreased emissions from the manufacturing of petroleum products and utility power generation, among other factors.

B. Non-energy-related CO_2

- Emissions in FY2023: 67.0 million tons
  (-5.0% compared to the previous fiscal year; -15.0% compared to FY2013)
  [Primary factors of decreases from the previous fiscal year and FY2013]
  - Decreased emissions in industrial processes and product usage due to decreased cement production, among other factors.

C. Methane (CH_4)

- Emissions in FY2023: 29.4 million tons
  (-1.3% compared to the previous fiscal year; -9.9% compared to FY2013)
  [Primary factors of decrease from the previous fiscal year]
  - Decreased emissions in the agriculture sector (livestock, etc.), among other factors.
  [Primary factors of decrease from FY2013]
  - Decreased emissions in the waste sector (landfills, etc.) and the agriculture sector (rice cultivation, etc.), among other factors.

D. Nitrous Oxide (N_2O)

- Emissions in FY2023: 15.8 million tons
  (-1.8% compared to the previous fiscal year; -19.7% compared to FY2013)
  [Primary factors of decreases from the previous fiscal year and FY2013]
  - Decreased emissions from fuel combustion and fugitive emissions, among other factors.

E. Fluorinated gases

- Emissions in FY2023: 37.0 million tons
  (-3.9% compared to the previous fiscal year; +28.2% compared to FY2013)
  [Primary factors of decrease from the previous fiscal year]
  - Decreased emissions from refrigerants due to a reduction in emissions during operation with a shift to low-GWP refrigerants in commercial refrigeration and air-conditioning equipment and an increase in HFCs recovered during disposal of equipment.
  [Primary factors of increase from FY2013]
  - Increased emissions from refrigerants due to the replacement of ozone-depleting substances of hydrochlorofluorocarbons (HCFCs) with HFCs as refrigerants in refrigerators and air conditioners, among other factors.

(4) GHG Removals in FY2023 in Japan

The amount of carbon sinks by Japan's forest and other removal measures in FY2023 is 53.7 million tons.

(5) Progress on Each Policy and Measure

In this examination, for the 'Steady implementation, evaluation, and verification of Voluntary Action Plans' among the policies and measures in the industry, commercial and other, transport, and energy conversion sectors, the actual figures of CO_2 emissions, etc. in FY2023 in each industry were identified, and the progress towards the target levels for FY2030 and other fiscal years was evaluated. With respect to policies and measures in other sectors, this examination identified the actual performance of these policies and measures based on the measure evaluation indicators, energy savings, and emission reductions in FY2023. Additionally, it looked at these performance figures and implementation status, etc., to evaluate progress towards FY2030 target levels[*1] based on

estimates and forecasts for measure evaluation indicators, etc., through FY2030.

To assess the progress toward Japan's GHG emission reduction targets, which are set against the base year of FY2013, an evaluation was conducted. This evaluation calculated a progress rate for the period from FY2013 to FY2023, assessing the extent to which the measures required to meet the FY2030 target have been implemented.

These are summarized in the attachment after the progress of the policies and measures was identified, as shown in the appendix.

*1: FY2030 measure evaluation indicators, energy savings forecasts, emission reductions forecasts, etc., contained in the Plan

3. Future Outlook

(1) Actions to Achieve Targets of the Plan

We will continue working to achieve the targets in the Plan by promoting the Plan's policies and measures based on annual GHG emissions and the results of this examination.

While a significant reduction in the activity level of the industry sector has also been a major factor, energy-related CO_2 emissions from the industry and commercial and other sectors continue a downward trend toward the FY2030 targets. On the other hand, for energy-related CO_2 emissions from the residential and transport sectors, as well as for GHGs other than energy-related CO_2, it is necessary to promote further efforts to achieve the FY2030 targets.

Regarding individual measures, it is necessary to further promote the following measures and strive to achieve the FY2030 targets, because while their expected emission reductions are large, their rate of progress has been low. These measures include "Expansion of chemical recycle of waste plastics at steel mills," "Implementation of thorough energy management using FEMS," and "Introduction of industrial heat pumps" in the Industry Sector, "Improvement of the energy efficiency of buildings (new buildings)" and "Promotion of fuel production and energy conservation measures in the waste management industry" in the Commercial and Other Sectors, "Implementation of thorough energy management through the use of HEMS and smart meters" in the Residential Sector, "Diffusion of next-generation vehicles, improvement of fuel efficiency," "Promotion of autonomous driving," and "Promotion of a modal shift to rail freight transportation" in the Transport Sector, and "Diffusion of biomass plastics" and "Reduction of volume of HFC releases at time of product disposal (Residential)" for GHGs other than energy-related CO_2.

(2) Examination of the Progress of the Plan

Based on the Plan for Global Warming Countermeasures, approved by the Cabinet Decision on February 18, 2025, progress on individual measures and policies related to the FY2030 targets will be managed based on the analysis of annual GHG emissions and the factors behind their increases and decreases, as well as the results of the current examination.

Furthermore, regarding the individual measures and policies for the FY2035 and FY2040 targets, we will strive to materialize these measures based on the status of the development, demonstration, and deployment of future decarbonization technologies, and will show the status of their materialization.

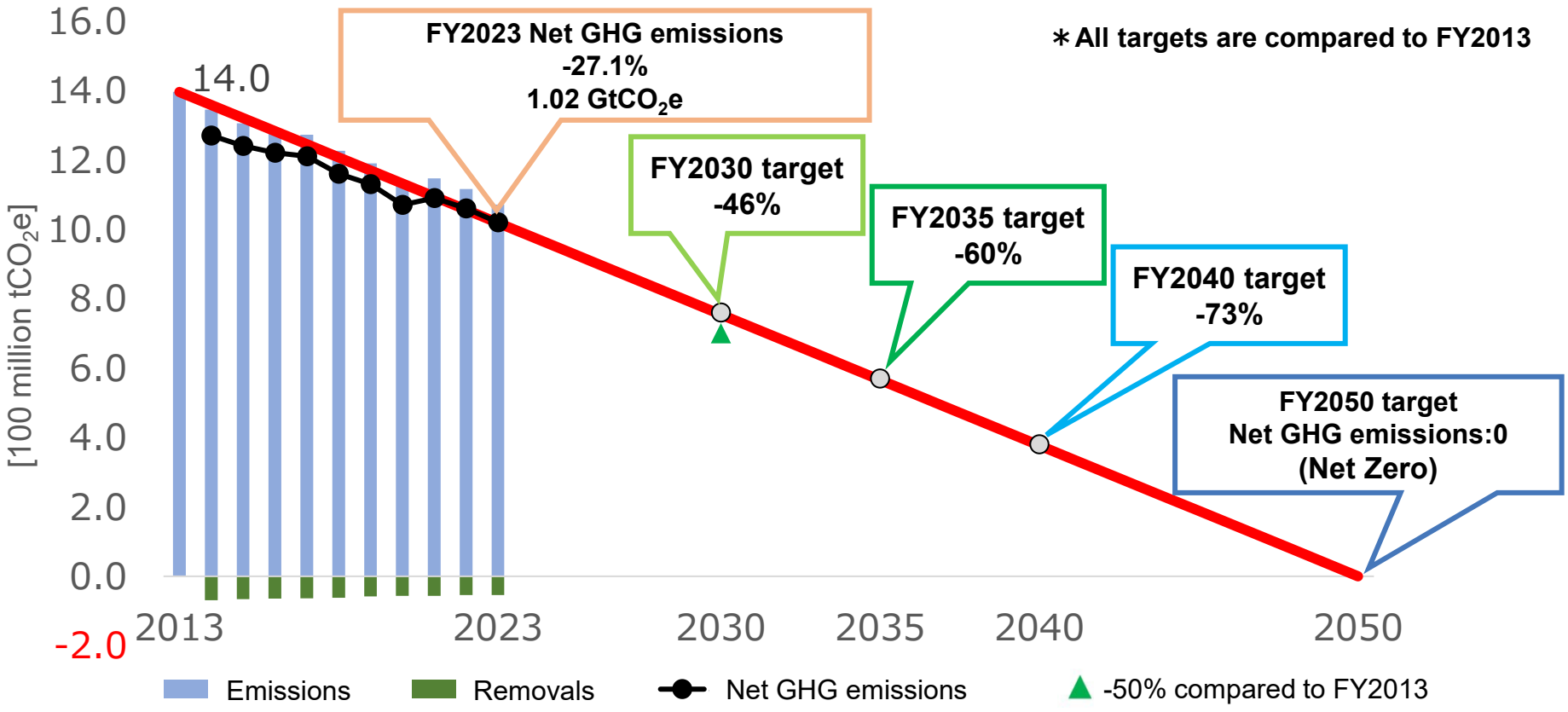
Also, we will continue to rigorously examine the status of the progress and further promote the measures and policies set forth in the Plan to achieve the targets of the Plan for Global Warming Countermeasures.

Progress of the Plan for Global Warming Countermeasures in FY2023 (Overview)

September 19, 2025
Global Warming Prevention Headquarters

Progress towards Net Zero by 2050

- In FY2023, Japan's GHG emissions and removals totaled approximately 1,017 $MtCO_2e$ (CO_2 equivalent), a 4.2% decrease compared to FY2022 (approx. -44.9 $MtCO_2e$) and a 27.1% decrease compared to FY2013 (approx. -378.1 $MtCO_2e$).
- Net GHG emissions hit a record low, continuing the steady progress toward achieving net zero by 2050.



FY2023 Progress towards achieving FY2030 targets

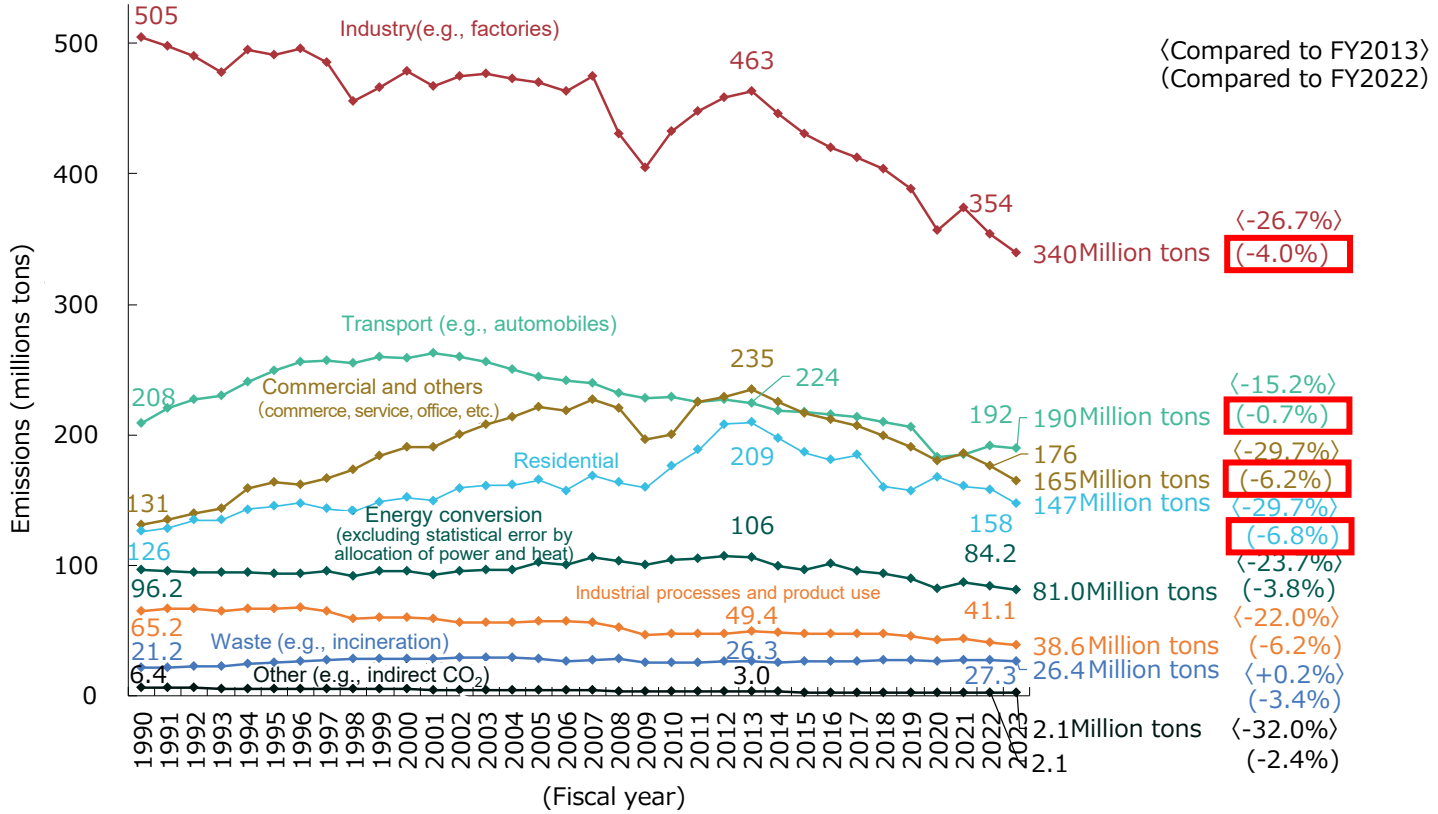
GHG emissions and removals [Unit: $MtCO_2e$]		FY2013 results[*1]	FY2023 results[*1]	FY2023 reduction rate [%]	FY2030 reduction targets and estimates[*2]
		1,395	1,017	-27%	-46%
Energy-related CO_2		1,235	922	-25%	-45%
Sector	Industry	463	340	-27%	-38%
Sector	Commercial and others	235	165	-30%	-51%
Sector	Residential	209	147	-30%	-66%
Sector	Transport	224	190	-15%	-35%
Sector	Energy conversion	104	79.6	-23%	-47%
Non-energy-related CO_2, CH_4, N_2O		131	112	-15%	-14%
Fluorinated gases		28.9	37.0	+28%	-44%
GHG removals		-	-53.7	-	-
Joint Crediting Mechanism (JCM)		Japan aims to contribute to international emission reductions and removals at the level of a cumulative total of approximately 100 Mt-CO_2 by FY2030 through public-private collaborations. Japan will appropriately count the acquired credits to achieve its NDC.			

*1. The reported values from the GHG inventory (FY2023), submitted to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) in April 2025.

*2. Figures for the energy-related CO_2 by sector are estimates.

Trends of CO_2 emissions by sector

- A breakdown of the changes in CO_2 emissions by sector compared to FY2022 shows that the industry sector decreased by 4.0% (approx.-14 $MtCO_2e$), the transport sector decreased by 0.7% (approx.-1.4 $MtCO_2e$), the commercial and other sectors decreased by 6.2% (approx.-10.9 $MtCO_2e$), and the residential sector decreased by 6.8% (approx.-10.8 $MtCO_2e$).
- Energy-related CO_2 emissions decreased across all sectors compared to FY2022.

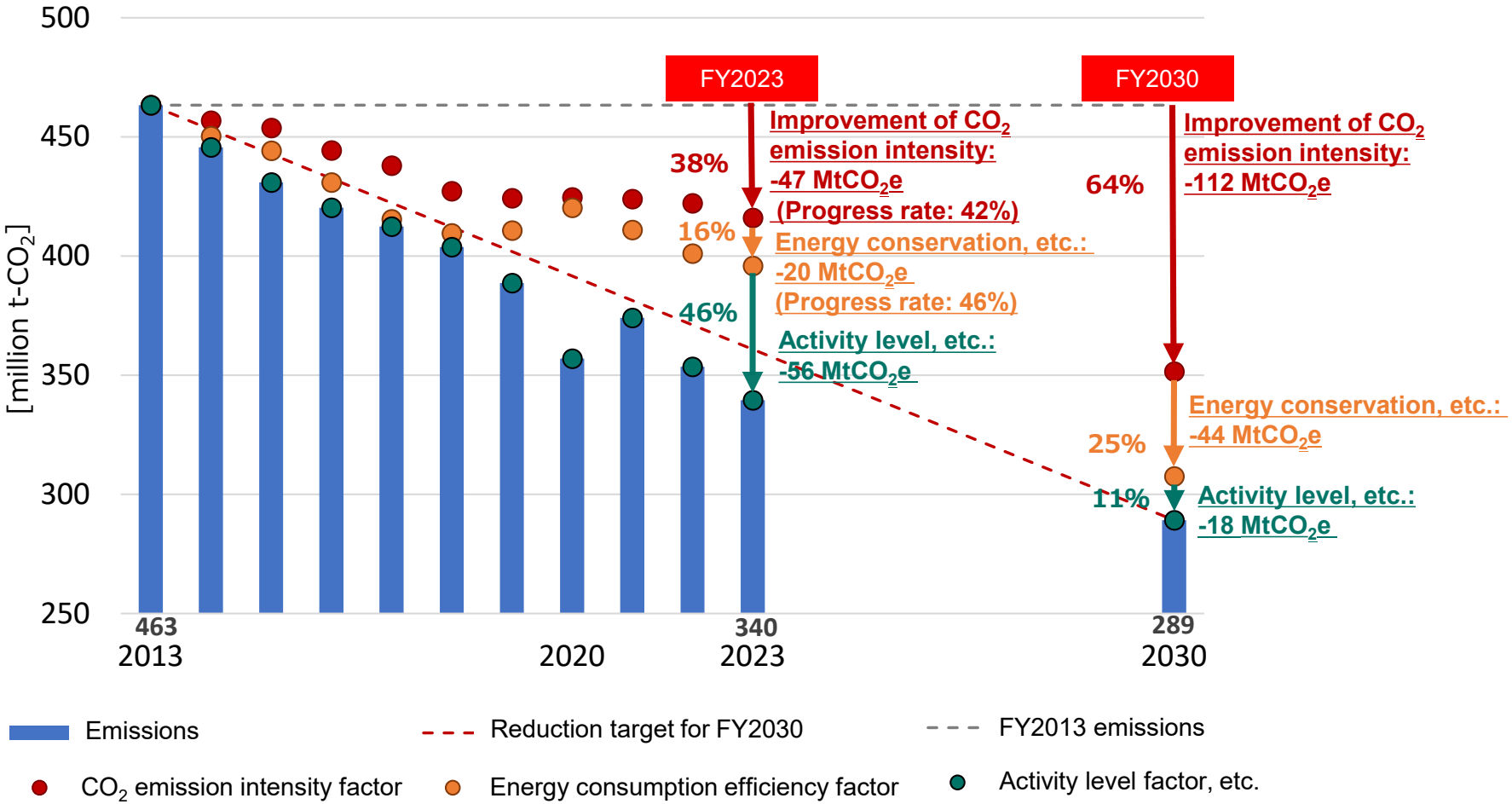


Factor Analysis of Progress in Energy-related CO_2 Emissions by Sector and Other Gases

Sector/Gas	Factor	FY2023	FY2030
Energy-related CO_2 from the Industry Sector (a total decrease of 123 $MtCO_2e$ in FY2023)	Improvement of CO_2 emission intensity	-47 $MtCO_2e$ (Progress rate: 42%)	-112 $MtCO_2e$
	Energy conservation, etc.	-20 $MtCO_2e$ (Progress rate: 46%)	-44 $MtCO_2e$
	Activity level, etc.	-56 $MtCO_2e$	-18 $MtCO_2e$
Energy-related CO_2 from the Commercial and Other Sectors (a total decrease of 70 $MtCO_2e$ in FY2023)	Improvement of CO_2 emission intensity	-38 $MtCO_2e$ (Progress rate: 42%)	-92 $MtCO_2e$
	Energy conservation, etc.	-38 $MtCO_2e$ (Progress rate: 105%)	-36 $MtCO_2e$
	Activity level, etc. (including climate factors)	+6 $MtCO_2e$	+8 $MtCO_2e$
Energy-related CO_2 from the Residential Sector (a total decrease of 62 $MtCO_2e$ in FY2023)	Improvement of CO_2 emission intensity	-32 $MtCO_2e$ (Progress rate: 49%)	-66 $MtCO_2e$
	Energy conservation, etc.	-39 $MtCO_2e$ (Progress rate: 52%)	-75 $MtCO_2e$
	Activity level, etc. (including climate factors)	+9 $MtCO_2e$	+2 $MtCO_2e$
Energy-related CO_2 from the Transport Sector (a total decrease of 34 $MtCO_2e$ in FY2023)	Improvement of CO_2 emission intensity	-3 $MtCO_2e$ (Progress rate: 16%)	-19 $MtCO_2e$
	Energy conservation, etc.	-13 $MtCO_2e$ (Progress rate: 30%)	-45 $MtCO_2e$
	Activity level, etc.	-18 $MtCO_2e$	-15 $MtCO_2e$
GHGs other than energy-related CO_2 (a total decrease of 10.8 $MtCO_2e$ in FY2023)	Factors other than activity levels (e.g., emission intensity)	-7.3 $MtCO_2e$ (Progress rate: 29%)	-25.1 $MtCO_2e$
	Activity level	-3.5 $MtCO_2e$	-6.0 $MtCO_2e$

* Progress rate: FY2023 reduction amount / FY2030 target reduction amount.
* Energy-related CO_2 from the Energy Conversion Sector are included in the " Improvement of CO_2 emission intensity" for energy-related CO_2 by sector.

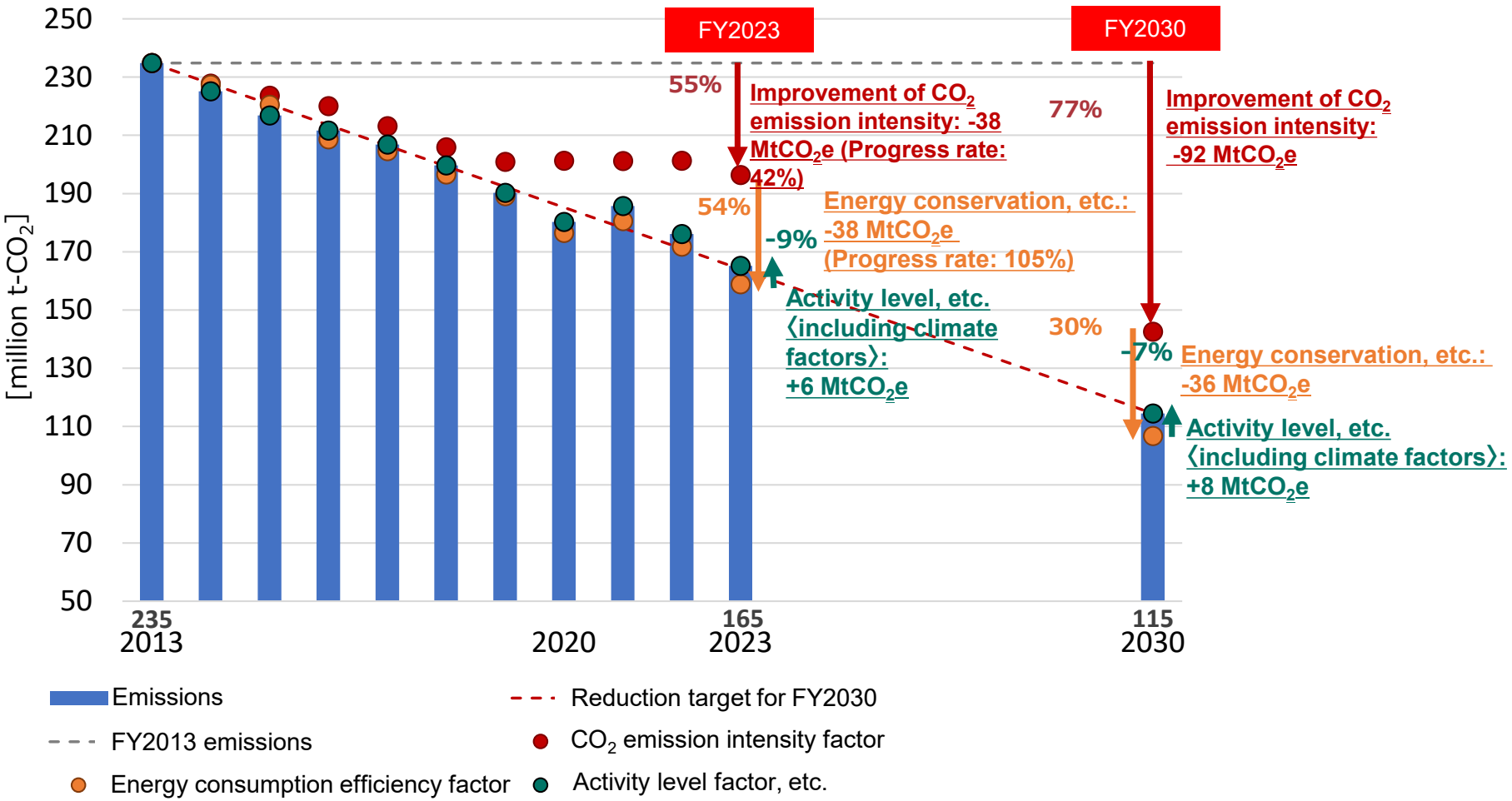
Factor Analysis of Progress in Energy-related CO_2 Emissions from the Industry Sector



*Progress rate: FY2023 reductions / FY2030 target reductions.
*Annual percentage: The share of reductions for each factor in the total reductions for each fiscal year.
*The progress rate for the improvement of the CO_2 emission intensity differs by sector because factors such as the ratio of electricity to fuel and the ratio of in-house power generation vary by sector.
*For the activity level in the factor decomposition, the Indices of Industrial Production are used for the manufacturing industry, and GDP by industry is used for non-manufacturing industries.
*The activity level factor also accounts for the transformation of the industrial structure of the manufacturing industry due to the structure of the factor decomposition formula.

Sources: Prepared based on the Greenhouse Gas Inventory, the Plan for Global Warming Countermeasures, and the Comprehensive Energy Statistics, and the Outlook for Energy Supply and Demand in FY2030 (Reference Materials) from the Agency for Natural Resources and Energy; the Indices of Industrial Production and the Current Survey of Production from the Ministry of Economy, Trade and Industry; and the System of National Accounts from the Cabinet Office.

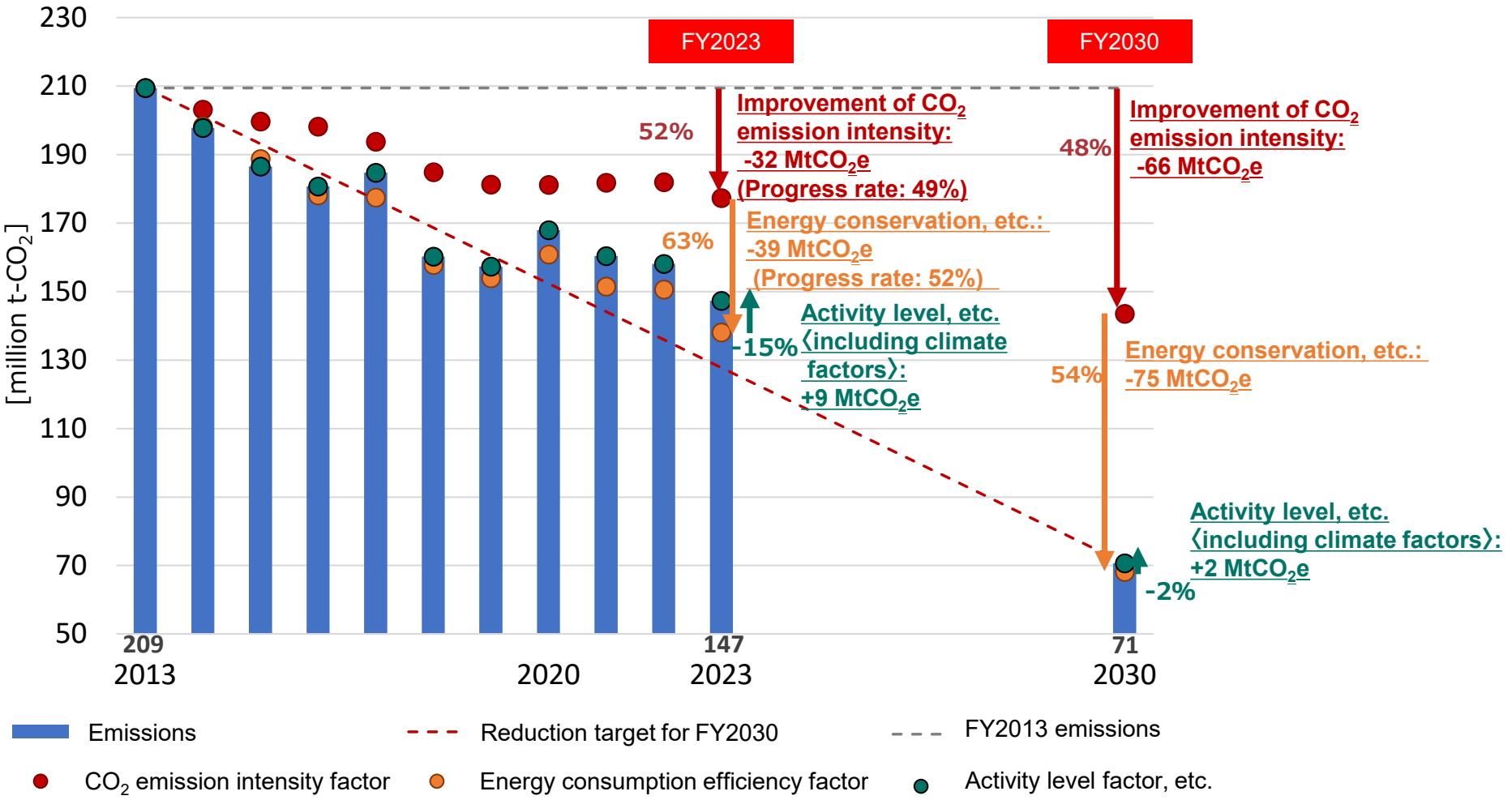
Factor Analysis of Progress in Energy-related CO_2 Emissions from the Commercial and Other Sectors



*Progress rate: FY2023 reductions / FY2030 target reductions.
*Annual percentage: The share of reductions for each factor in the total reductions for each fiscal year.
*The progress rate for the improvement of the CO_2 emission intensity differs by sector because factors such as the ratio of electricity to fuel and the ratio of in-house power generation vary by sector.
*Commercial floor area is used as the activity level in the factor decomposition.
*The activity level factor also accounts for climate factors due to the structure of the factor decomposition formula.

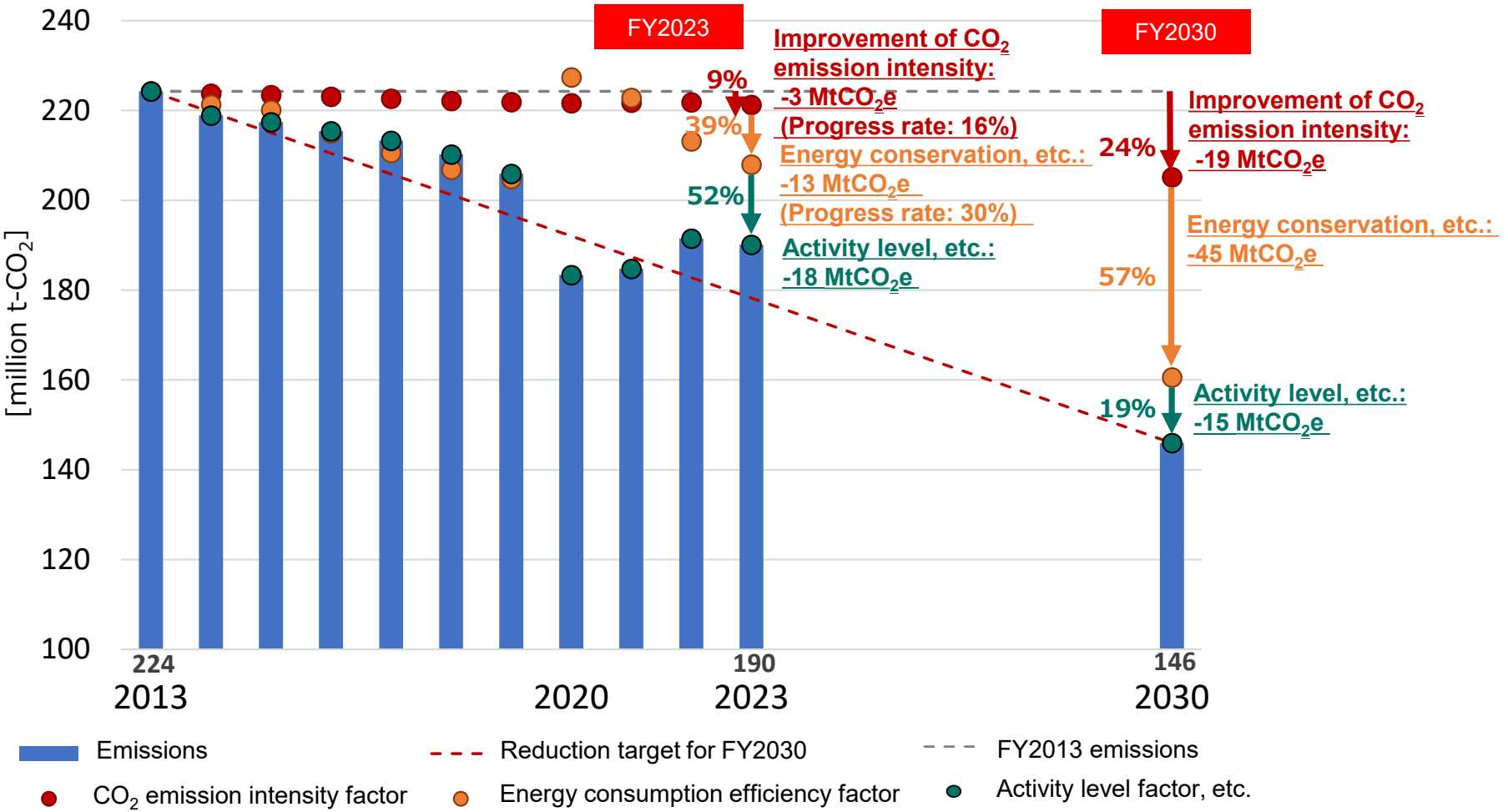
Sources: Prepared based on the Greenhouse Gas Inventory, the Plan for Global Warming Countermeasures, the Comprehensive Energy Statistics, and the Outlook for Energy Supply and Demand in FY2030 (Reference Materials) from the Agency for Natural Resources and Energy; and the EDMC Handbook of Japan's & World Energy & Economic Statistics from the Institute of Energy Economics, Japan.

Factor Analysis of Progress in Energy-related CO_2 Emissions from the Residential Sector



*Progress rate: FY2023 reductions / FY2030 target reductions.
*Annual percentage: The share of reductions for each factor in the total reductions for each fiscal year.
*The progress rate for the improvement of the CO_2 emission intensity differs by sector because factors such as the ratio of electricity to fuel and the ratio of in-house power generation vary by sector.
*The number of households is used as the activity level in the factor decomposition.
*The activity level factor also accounts for climate factors due to the structure of the factor decomposition formula.
Sources: Prepared based on the Greenhouse Gas Inventory, the Plan for Global Warming Countermeasures, the Comprehensive Energy Statistics, and the Outlook for Energy Supply and Demand in FY2030 (Reference Materials) from the Agency for Natural Resources and Energy; and the Population, Population Change and Number of Households based on the Basic Resident Registration from the Ministry of Internal Affairs and Communications.

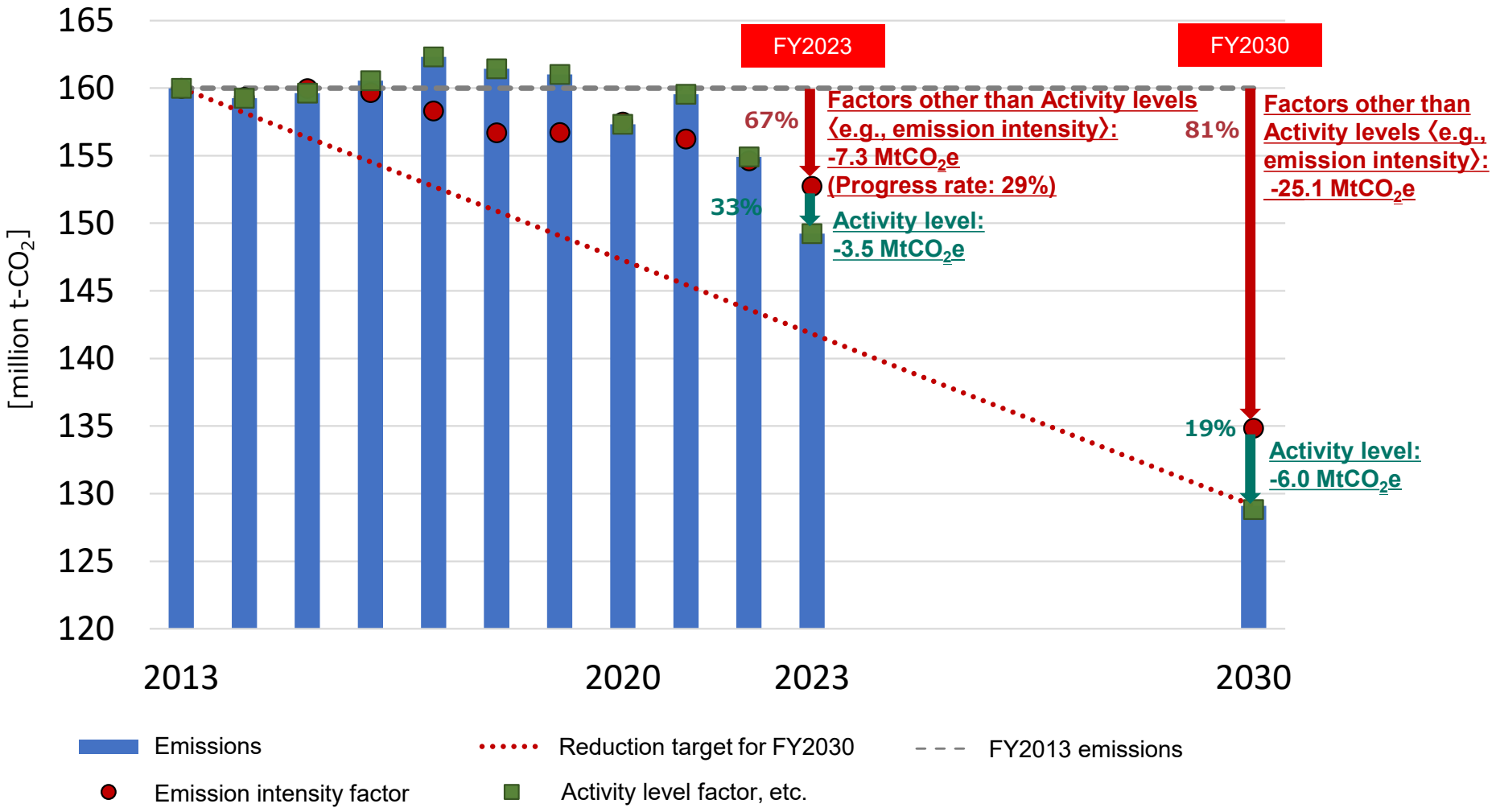
Factor Analysis of Progress in Energy-related CO_2 Emissions from the Transport Sector



*Progress rate: FY2023 reductions / FY2030 target reductions.
*Annual percentage: The share of reductions for each factor in the total reductions for each fiscal year.
*The progress rate for the improvement of the CO_2 emission intensity differs by sector because factors such as the ratio of electricity to fuel and the ratio of in-house power generation vary by sector.
*Transport volume is used as the activity level in the factor decomposition.
*The energy consumption efficiency factor also accounts for factors such as modal shifts due to the structure of the factor decomposition formula.
Sources: Prepared based on the Greenhouse Gas Inventory, the Plan for Global Warming Countermeasures, the Comprehensive Energy Statistics, and the Outlook for Energy Supply and Demand in FY2030 (Reference Materials) from the Agency for Natural Resources and Energy; the Statistics on Motor Vehicle Transport, the Statistics on Railway Transport, the Statistics on Air Transport, the Statistics on Coastwise Vessel Transport, and the Transportation-Related Statistics Compilation from the Ministry of Land, Infrastructure, Transport and Tourism; and the EDMC Handbook of Japan's & World Energy & Economic Statistics from The Institute of Energy Economics, Japan.

Factor Analysis of Progress in GHGs Other Than Energy-related CO_2*

*Non-energy-related CO_2, CH_4, N_2O, and four fluorinated gases

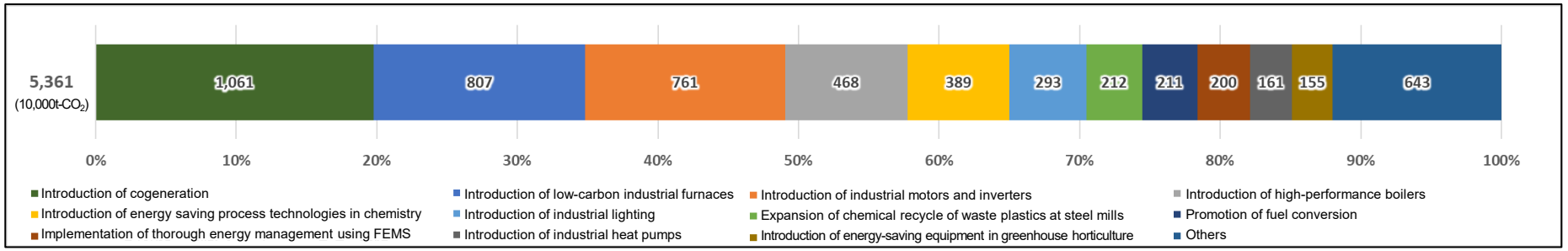


*Progress rate: FY2023 reductions / FY2030 target reductions.
*Annual percentage: The share of reductions for each factor in the total reductions for each fiscal year.

Sources: Prepared based on the Greenhouse Gas Inventory, the First Biennial Transparency Report from the Ministry of the Environment; the Outlook for Energy Supply and Demand in FY2030 (Reference Materials) from the Agency for Natural Resources and Energy; the Keidanren Carbon Neutrality Action Plan (FY2023 results) from Keidanren (Japan Business Federation); and the Plan for Global Warming Countermeasures.

Progress of Measures in the Industry Sector

Breakdown of Expected Emission Reductions for FY2030



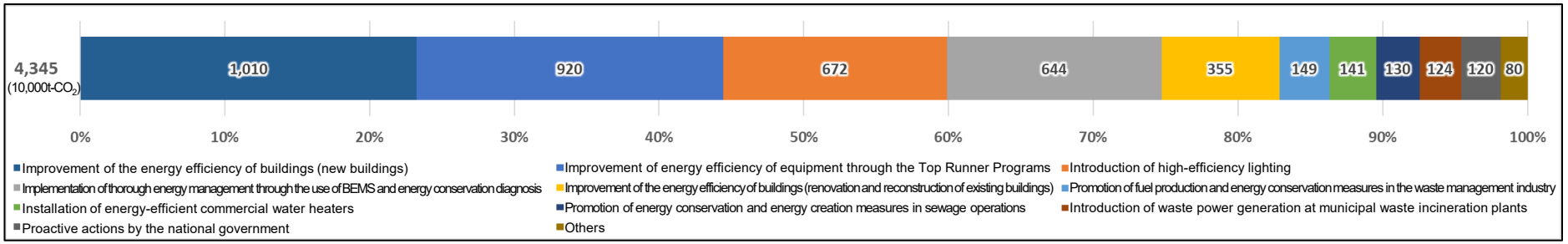
Progress Rate for Each Measure

Mitigation Actions Described in Related Document 2 of the Plan for Global Warming Countermeasures	Ministries and Agencies	Expected Emission Reductions for FY2030 (10,000 t-CO_2)	Progress Rate (%)	Measure No.
Expansion of chemical recycle of waste plastics at steel mills	Ministry of Economy, Trade and Industry	212	-11%	03
Introduction of industrial heat pumps	Ministry of Economy, Trade and Industry	161	11%	02
Implementation of thorough energy management using FEMS	Ministry of Economy, Trade and Industry	200	14%	11
Introduction of cogeneration	Ministry of Economy, Trade and Industry	1,061	42%	02
Introduction of industrial motors and inverters	Ministry of Economy, Trade and Industry	761	47%	02
Promotion of fuel conversion	Ministry of the Environment	211	60%	10
Introduction of energy-saving equipment in greenhouse horticulture	Ministry of Agriculture, Forestry and Fisheries	155	67%	08
Introduction of high-performance boilers	Ministry of Economy, Trade and Industry	468	70%	02
Introduction of low-carbon industrial furnaces	Ministry of Economy, Trade and Industry	807	73%	02
Introduction of energy saving process technologies in chemistry	Ministry of Economy, Trade and Industry	389	142%	04
Introduction of industrial lighting	Ministry of Economy, Trade and Industry	293	278%	02
Others	—	643	—	—

*1. Measure No. “62. Activation of the J-Credit Scheme", “63. Contributions to reducing global greenhouse gas emissions", “64. Decarbonization initiatives in national parks”, “66. Proactive actions by local governments and promotion by the national government", and “67. Promotion of initiatives based on the local government's action plan for entire municipal jurisdictions" are excluded from the aggregation as they are not included in the assessment of progress by gas and sector.
*2. The progress rate is based on the latest actual value for each individual profile. If the latest actual value is an estimate, it is based on the latest estimate. In addition, the latest actual value and the expected emission reductions for FY2030 are presented relative to FY2013 by subtracting the FY2013 value.

Progress of Measures in the Commercial and other sectors

Breakdown of Expected Emission Reductions for FY2030



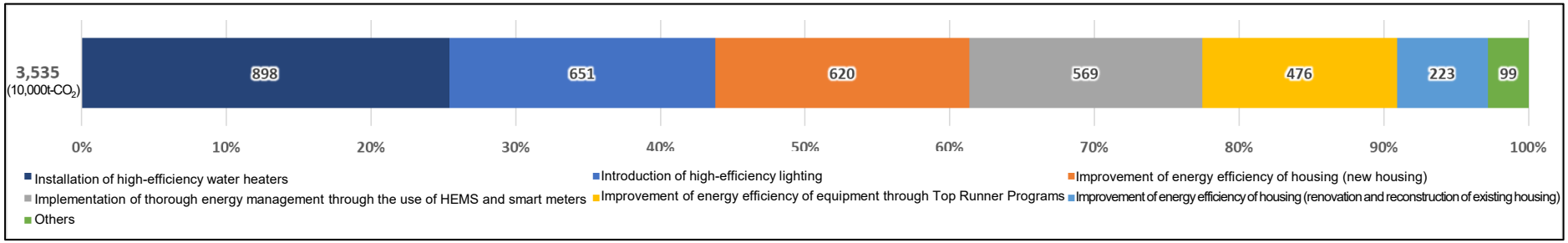
Progress Rate for Each Measure

Mitigation Actions Described in Related Document 2 of the Plan for Global Warming Countermeasures	Ministries and Agencies	Expected Emission Reductions for FY2030 (10,000 t-CO_2)	Progress Rate (%)	Measure No.
Promotion of fuel production and energy conservation measures in the waste management industry	Ministry of the Environment	149	21%	20
Improvement of the energy efficiency of buildings (new buildings)	Ministry of Land, Infrastructure, Transport and Tourism	1,010	33%	12
Proactive actions by the national government	Ministry of the Environment	120	42%	65
Promotion of energy conservation and energy creation measures in sewage operations	Ministry of Land, Infrastructure, Transport and Tourism	130	42%	19
Improvement of the energy efficiency of buildings (renovation and reconstruction of existing buildings)	Ministry of Land, Infrastructure, Transport and Tourism	355	52%	12
Implementation of thorough energy management through the use of BEMS and energy conservation diagnosis	Ministry of Economy, Trade and Industry	644	58%	15
Installation of energy-efficient commercial water heaters	Ministry of Economy, Trade and Industry	141	64%	13
Introduction of waste power generation at municipal waste incineration plants	Ministry of the Environment	124	74%	20
Improvement of energy efficiency of equipment through the Top Runner Programs	Ministry of Economy, Trade and Industry	920	75%	14
Introduction of high-efficiency lighting	Ministry of Economy, Trade and Industry	672	235%	13
Others	-	80	-	

*1. Measure No. “62. Activation of the J-Credit Scheme", “63. Contributions to reducing global greenhouse gas emissions", “64. Decarbonization initiatives in national parks”, “66. Proactive actions by local governments and promotion by the national government", and “67. Promotion of initiatives based on the local government's action plan for entire municipal jurisdictions" are excluded from the aggregation as they are not included in the assessment of progress by gas and sector.
*2. The progress rate is based on the latest actual value for each individual profile. If the latest actual value is an estimate, it is based on the latest estimate. In addition, the latest actual value and the expected emission reductions for FY2030 are presented relative to FY2013 by subtracting the FY2013 value.
*3. The individual profile of Measure No. "65. Proactive actions by the national government" shows the progress rate calculated using the adjusted emission factor.
*4. Under the mitigation action "Introduction of waste power generation at municipal waste incineration plants" within Measure No. "20. Initiatives in waste treatment“, the average of the progress rates for the upper and lower cases is calculated.

Progress of Measures in the Residential sector

Breakdown of Expected Emission Reductions for FY2030



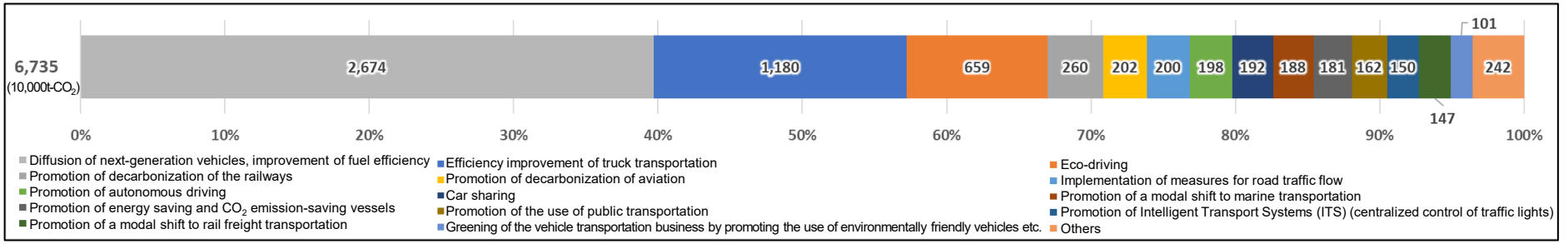
Progress Rate for Each Measure

Mitigation Actions Described in Related Document 2 of the Plan for Global Warming Countermeasures	Ministries and Agencies	Expected Emission Reductions for FY2030 (10,000 t-CO_2)	Progress Rate (%)	Measure No.
Implementation of thorough energy management through the use of HEMS and smart meters	Ministry of Economy, Trade and Industry	569	29%	25
Improvement of energy efficiency of housing (new housing)	Ministry of Land, Infrastructure, Transport and Tourism	620	43%	21
Installation of high-efficiency water heaters	Ministry of Economy, Trade and Industry	898	49%	22
Improvement of energy efficiency of equipment through Top Runner Programs	Ministry of Economy, Trade and Industry	476	53%	24
Improvement of energy efficiency of housing (renovation and reconstruction of existing housing)	Ministry of Land, Infrastructure, Transport and Tourism	223	67%	21
Introduction of high-efficiency lighting	Ministry of Economy, Trade and Industry	651	241%	22
Others	-	99	-	

*1. Measure No. “62. Activation of the J-Credit Scheme", “63. Contributions to reducing global greenhouse gas emissions", “64. Decarbonization initiatives in national parks”, “66. Proactive actions by local governments and promotion by the national government", and “67. Promotion of initiatives based on the local government's action plan for entire municipal jurisdictions" are excluded from the aggregation as they are not included in the assessment of progress by gas and sector.
*2. The progress rate is based on the latest actual value for each individual profile. If the latest actual value is an estimate, it is based on the latest estimate. In addition, the latest actual value and the expected emission reductions for FY2030 are presented relative to FY2013 by subtracting the FY2013 value.

Progress of Measures in the Transport sector

Breakdown of Expected Emission Reductions for FY2030



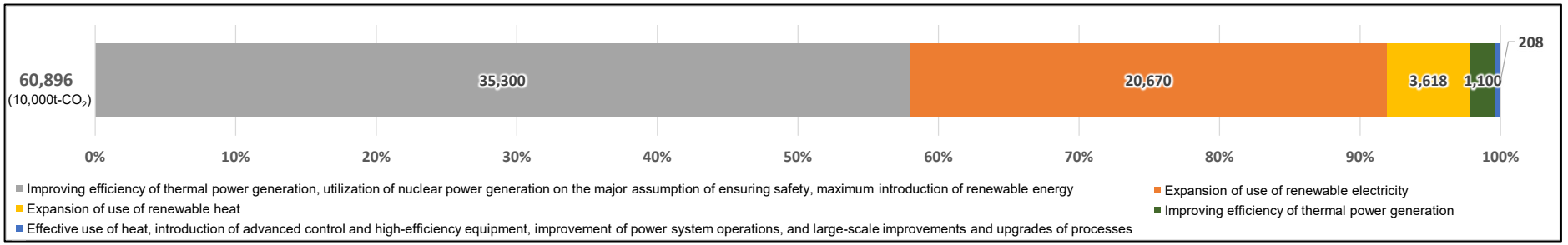
Progress Rate for Each Measure

Mitigation Actions Described in Related Document 2 of the Plan for Global Warming Countermeasures	Ministries and Agencies	Expected Emission Reductions for FY2030 (10,000 t-CO_2)	Progress Rate (%)	Measure No.
Promotion of a modal shift to rail freight transportation	Ministry of Land, Infrastructure, Transport and Tourism	147	-34%	42
Promotion of autonomous driving	Ministry of Economy, Trade and Industry	198	31%	32
Diffusion of next-generation vehicles, improvement of fuel efficiency	Ministry of Economy, Trade and Industry	2,674	39%	26
Promotion of a modal shift to marine transportation	Ministry of Land, Infrastructure, Transport and Tourism	188	45%	41
Promotion of energy saving and CO_2 emission-saving vessels	Ministry of Land, Infrastructure, Transport and Tourism	181	48%	37
Promotion of Intelligent Transport Systems (ITS) (centralized control of traffic lights)	National Police Agency	150	59%	29
Car sharing	Ministry of the Environment	192	59%	68
Efficiency improvement of truck transportation	Ministry of Land, Infrastructure, Transport and Tourism	1,180	70%	39
Greening of the vehicle transportation business by promoting the use of environmentally friendly vehicles etc.	Ministry of Land, Infrastructure, Transport and Tourism	101	76%	33
Promotion of decarbonization of aviation	Ministry of Land, Infrastructure, Transport and Tourism	202	81%	38
Eco-driving	Ministry of the Environment	659	83%	68
Implementation of measures for road traffic flow	Ministry of Land, Infrastructure, Transport and Tourism	200	99%	27
Promotion of decarbonization of the railways	Ministry of Land, Infrastructure, Transport and Tourism	260	127%	36
Promotion of the use of public transportation	Ministry of Land, Infrastructure, Transport and Tourism	162	-	34
Others	-	242	-	

*1. Measure No. “62. Activation of the J-Credit Scheme", “63. Contributions to reducing global greenhouse gas emissions", “64. Decarbonization initiatives in national parks”, “66. Proactive actions by local governments and promotion by the national government", and “67. Promotion of initiatives based on the local government's action plan for entire municipal jurisdictions" are excluded from the aggregation as they are not included in the assessment of progress by gas and sector.
*2. The progress rate is based on the latest actual value for each individual profile. If the latest actual value is an estimate, it is based on the latest estimate. In addition, the latest actual value and the expected emission reductions for FY2030 are presented relative to FY2013 by subtracting the FY2013 value.
*3. "Eco-driving" and "Car sharing" also include the effects of other policies and measures.
*4. As for "Promoting the use of public transportation", the estimation of the measure evaluation indicator and emission reductions has become difficult due to the impact of COVID-19. Consequently, the performance data and the progress rate of FY 2023 are not stated.

Progress of Measures in the Energy Conversion sector

Breakdown of Expected Emission Reductions for FY2030



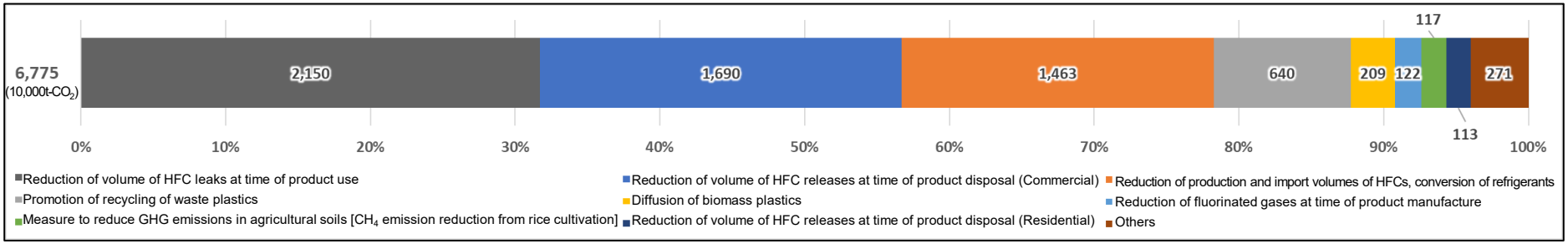
Progress Rate for Each Measure

Mitigation Actions Described in Related Document 2 of the Plan for Global Warming Countermeasures	Ministries and Agencies	Expected Emission Reductions for FY2030 (10,000 t-CO_2)	Progress Rate (%)	Measure No.
Expansion of use of renewable heat	Ministry of Economy, Trade and Industry	3,618	10%	48
Improving efficiency of thermal power generation, utilization of nuclear power generation on the major assumption of ensuring safety, maximum introduction of renewable energy	Ministry of Economy, Trade and Industry	35,300	42%	47
Expansion of use of renewable electricity	Ministry of Economy, Trade and Industry	20,670	52%	48
Effective use of heat, introduction of advanced control and high-efficiency equipment, improvement of power system operations, and large-scale improvements and upgrades of processes	Ministry of Economy, Trade and Industry	208	63%	49
Improving efficiency of thermal power generation	Ministry of Economy, Trade and Industry	1,100	118%	47

*1. Measure No. “62. Activation of the J-Credit Scheme", “63. Contributions to reducing global greenhouse gas emissions", “64. Decarbonization initiatives in national parks”, “66. Proactive actions by local governments and promotion by the national government", and “67. Promotion of initiatives based on the local government's action plan for entire municipal jurisdictions" are excluded from the aggregation as they are not included in the assessment of progress by gas and sector.
*2. The progress rate is based on the latest actual value for each individual profile. If the latest actual value is an estimate, it is based on the latest estimate. In addition, the latest actual value and the expected emission reductions for FY2030 are presented relative to FY2013 by subtracting the FY2013 value.
*3. Measure No. ″49.Effective use of heat, introduction of advanced control and high-efficiency equipment, improvement of power system operations, and large-scale improvements and upgrades of processes” is a measure in the petroleum product manufacturing sector.

Progress of Measures for GHGs Other Than Energy-related CO_2

Breakdown of Expected Emission Reductions for FY2030



Progress Rate for Each Measure

Mitigation Actions Described in Related Document 2 of the Plan for Global Warming Countermeasures	Ministries and Agencies	Expected Emission Reductions for FY2030 (10,000 t-CO_2)	Progress Rate (%)	Measure No.
Diffusion of biomass plastics	Ministry of the Environment	209	5%	51
Reduction of volume of HFC releases at time of product disposal (Residential)	Ministry of the Environment and Ministry of Economy, Trade and Industry	113	29%	58
Reduction of production and import volumes of HFCs, conversion of refrigerants	Ministry of the Environment and Ministry of Economy, Trade and Industry	1,463	49%	58
Measure to reduce GHG emissions in agricultural soils [CH_4 emission reduction from rice cultivation]	Ministry of Agriculture, Forestry and Fisheries	117	52%	53
Reduction of volume of HFC leaks at time of product use	Ministry of the Environment and Ministry of Economy, Trade and Industry	2,150	53%	58
Reduction of fluorinated gases at time of product manufacture	Ministry of the Environment and Ministry of Economy, Trade and Industry	122	64%	58
Reduction of volume of HFC releases at time of product disposal (Commercial)	Ministry of the Environment and Ministry of Economy, Trade and Industry	1,690	67%	58
Promotion of recycling of waste plastics	Ministry of the Environment	640	76%	52
Others	-	271	–	

*1. Measure No. “62. Activation of the J-Credit Scheme", “63. Contributions to reducing global greenhouse gas emissions", “64. Decarbonization initiatives in national parks”, “66. Proactive actions by local governments and promotion by the national government", and “67. Promotion of initiatives based on the local government's action plan for entire municipal jurisdictions" are excluded from the aggregation as they are not included in the assessment of progress by gas and sector.
*2. The progress rate is based on the latest actual value for each individual profile. If the latest actual value is an estimate, it is based on the latest estimate. In addition, the latest actual value and the expected emission reductions for FY2030 are presented relative to FY2013 by subtracting the FY2013 value.
*3. Under the mitigation action" Reduction of volume of HFC releases at time of product disposal" within Measure No. 20, " Initiatives in waste treatment" has been organized by dividing it into two separate categories: " Reduction of volume of HFC releases at time of product disposal (Commercial)" and " Reduction of volume of HFC releases at time of product disposal (Residential) "

Steady implementation, evaluation, and verification of Voluntary Action Plans

○Basic approach

- Assess the progress of each policy and measure **compared to the projected emissions and removals in FY2030 and the FY2030 target level**, taking into account **the performance of the measure evaluation indicator in FY2023 and the projected measure evaluation indicator from FY2023 to FY2030, etc.**
- **Apply multi-level assessment for policy and measure projected to meet or exceed the target level in FY2030** accordingly.

○Assessment method

Assess the policies and measures implemented in FY2023 **on the following A to E scale.**

Ａ． **Performance in FY2023 already exceeded the FY2030 target level** ・・・・・**49 industries**
Ｂ． **Performance in FY2023 exceeded the level of reference year/BAU, but fell below the FY2030 target level** ・・**60 industries**
Ｃ． **Performance in FY2023 fell below the FY2030 target level and increased compared to the reference year/BAU**・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・**2 industries**
Ｄ． Data not compiled (newly established / change in target levels / revisions to calculation methodology / etc.)・・・ **3 industries**
Ｅ． Targets not set・・ **Not Applicable**

List of the progress of policies and measures related to the reduction and removal of greenhouse gas emissions

Attachment

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
[energy-related CO_2]																								
○ Industrial sector (manufacturing plants, etc.)																								
	○Steady Implementation, evaluation and verification of Industry's Voluntary Action Plans (industrial sector)																							
	[Industry (Planning Body)]	CO_2 emissions	10^4 t-CO_2		Actual performance																			
		[Target Indicator]	[Base Year/BAU]		(Compared to the base year/BAU ratio)																			
	Industry under Ministry of Finance																							
	Brewers Association of Japan	CO_2 emissions	10^4 t-CO_2	Actual result	54.6	52.8	51.2	49.9	48.8	46.6	45.0	40.2	39.4	40.7	38.8								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 16%	▲ 17%	▲ 18%	▲ 19%	▲ 21%	▲ 23%	▲ 31%	▲ 31%	▲ 29%	▲ 32%									
				Target level																		▲46%		
	Japan Tobacco Inc.	CO_2 emissions	10^4 t-CO_2	Actual result	95.0	92.0	90.0	83.5	79.1	77.0	71.0	64.9	64.5	61.6	58.5								B	
		CO_2 emissions	FY2019	Actual result	-	-	-	-	-	-	-	▲ 11%	▲ 12%	▲ 16%	▲ 21%									
				Target level																		▲47%		
	Industry under Ministry of Health, Labor and Welfare																							
	The Federation of Pharmaceutical Manufacturers' Associations of Japan	CO_2 emissions	10^4 t-CO_2	Actual result	256.5	246.9	240.9	243.1	234.8	219.7	213.3	206.2	202.2	192.6	169.6								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 13%	▲ 15%	▲ 15%	▲ 18%	▲ 23%	▲ 25%	▲ 28%	▲ 22%	▲ 24%	▲ 27%									
				Target level																		▲46%		
	Industry under Ministry of Agriculture, Forestry and Fisheries																							
	Japan Starch & Sweeteners Industry Association	CO_2 emissions	10^4 t-CO_2	Actual result	114.8	118.0	125.5	113.9	112.2	107.8	108.1	98.4	95.9	94.4	94.8								B	
		CO_2 emissions	FY2013	Actual result	-	+3%	+9%	▲ 1%	▲ 2%	▲ 6%	▲ 6%	▲ 14%	▲ 16%	▲ 18%	▲ 17%									
				Target level																		▲30.3%		
	Japan Dairy Industry Association	CO_2 emissions	10^4 t-CO_2	Actual result	119.5	115.5	116.0	111.7	103.5	97.7	95.8	94.2	126.2	125.6	116.6								A	
		CO_2 emission intensity	FY2013	Actual result	-	▲ 3%	▲ 10%	▲ 13%	▲ 19%	▲ 22%	▲ 24%	▲ 23%	▲ 31%	▲ 32%	▲ 39%									
				Target level																		▲38%		
	Japan Soft Drink Association	CO_2 emissions	10^4 t-CO_2	Actual result	122.0	115.6	115.0	114.0	110.6	117.8	116.1	109.3	113.5	114.8	108.7								A	
		CO_2 emission intensity	FY2012	Actual result	+2%	▲ 3%	▲ 7%	▲ 10%	▲ 15%	▲ 12%	▲ 19%	▲ 15%	▲ 18%	▲ 19%	▲ 24%									
				Target level																		▲18%		
	Japan Baking Industry Association	CO_2 emissions	10^4 t-CO_2	Actual result	108.5	109.1	107.0	104.7	102.0	99.5	97.9	93.0	89.0	85.4	82.1								A	
		CO_2 emission intensity	FY2013	Actual result	-	▲ 6%	▲ 8%	▲ 11%	▲ 15%	▲ 16%	▲ 18%	▲ 20%	▲ 24%	▲ 31%	▲ 39%									
				Target level																		▲13%		
	Japan Canners Association	CO_2 emissions	10^4 t-CO_2	Actual result	75.5	67.9	63.4	78.8	106.2	61.6	62.8	64.0	58.5	72.9	77.4								B	
		Energy consumption intensity	FY2009	Actual result	▲ 5%	▲ 15%	▲ 9%	▲ 13%	▲ 7%	▲ 29%	▲ 26%	▲ 15%	▲ 19%	▲ 35%	▲ 16%									
				Target level																		▲19%		
	Japan Beet Sugar Association	CO_2 emissions	10^4 t-CO_2	Actual result	63.8	65.3	70.4	60.1	66.1	64.8	69.2	66.6	69.6	61.6	58.3								C	
		Energy consumption intensity	FY2010	Actual result	▲ 15%	▲ 19%	▲ 21%	▲ 12%	▲ 17%	▲ 25%	▲ 17%	▲ 18%	▲ 16%	▲ 21%	+6%									
				Target level																		▲15%		
	Japan Oilseed Processors Association	CO_2 emissions	10^4 t-CO_2	Actual result	61.0	60.7	61.2	62.4	63.5	61.6	59.3	58.5	57.3	55.1	50.4								A	
		CO_2 emissions	FY2013	Actual result	-	▲ 0%	+0%	+2%	+4%	+1%	▲ 3%	▲ 4%	▲ 6%	▲ 10%	▲ 17%									
				Target level																		▲6.5%		
		CO_2 emission intensity	FY2013	Actual result	-	0%	▲ 2%	▲ 2%	▲ 2%	▲ 0%	▲ 4%	▲ 7%	▲ 7%	▲ 9%	▲ 14%									
				Target level																		▲6.5%		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
	All Nippon Kashi Association	CO_2 emissions	10^4 t-CO_2	Actual result	97.4	97.3	96.0	91.6	94.3	86.3	83.0	86.0	87.5	85.0	81.2								A	
		CO_2 emissions	FY2013	Actual result	-	▲ 0.1%	▲ 1%	▲ 6%	▲ 3%	▲ 11%	▲ 15%	▲ 12%	▲ 10%	▲ 13%	▲ 17%									
				Target level																		▲17%		
		CO_2 emission intensity	FY2013	Actual result	-	▲ 7%	▲ 18%	▲ 25%	▲ 25%	▲ 32%	▲ 35%	▲ 33%	▲ 30%	▲ 26%	▲ 34%									
				Target level																		▲17%		
	Japan Sugar Refiners' Association	CO_2 emissions	10^4 t-CO_2	Actual result	39.0	37.6	36.5	35.8	34.5	32.4	30.3	27.8	28.9	28.9	28.8								A	
		CO_2 emissions	FY2013	Actual result	-	▲ 4%	▲ 6%	▲ 8%	▲ 12%	▲ 17%	▲ 22%	▲ 29%	▲ 26%	▲ 26%	▲ 26%									
				Target level																		▲22%		
	Japan Frozen Food Association	CO_2 emissions	10^4 t-CO_2	Actual result	43.7	40.3	41.9	51.4	49.9	52.8	66.2	65.6	59.1	58.7	57.6								B	
		Energy consumption intensity	FY2013	Actual result	-	▲ 3%	▲ 5%	▲ 6%	▲ 9%	▲ 8%	▲ 4%	▲ 6%	▲ 7%	▲ 7%	▲ 6%									
				Target level																		▲15.7%		
	Japan Ham & Sausage Processors Cooperative Association	CO_2 emissions	10^4 t-CO_2	Actual result	56.9	56.9	56.1	55.0	54.7	51.4	51.1	48.3	48.2	44.3	46.4								B	
		Energy consumption intensity	FY2011	Actual result	▲ 6%	▲ 4%	▲ 6%	▲ 6%	▲ 8%	▲ 4%	▲ 3%	▲ 7%	▲ 7%	▲ 0%	▲ 4%									
				Target level																		▲17%		
	Flour Millers Association	CO_2 emissions	10^4 t-CO_2	Actual result	30.5	30.3	28.6	27.5	26.8	24.2	23.2	22.7	22.2	21.9	21.1								B	
		CO_2 emission intensity	FY2013	Actual result	-	▲ 1%	▲ 7%	▲ 11%	▲ 14%	▲ 21%	▲ 24%	▲ 24%	▲ 25%	▲ 26%	▲ 29%									
				Target level																		▲32.1%		
	All Japan Coffee Association	CO_2 emissions	10^4 t-CO_2	Actual result	11.8	11.6	12.0	13.6	12.6	12.7	12.7	12.7	12.3	11.3	10.8								A	
		CO_2 emission intensity	FY2005	Actual result	▲ 33%	▲ 38%	▲ 41%	▲ 44%	▲ 49%	▲ 52%	▲ 53%	▲ 49%	▲ 51%	▲ 54%	▲ 56%									
				Target level																		▲25%		
	Japan Soy-sauce Association	CO_2 emissions	10^4 t-CO_2	Actual result	19.8	18.2	17.4	17.0	16.6	16.1	15.4	14.5	14.5	13.5	11.8								A	
		CO_2 emissions	FY2013	Actual result	-	▲ 8%	▲ 12%	▲ 14%	▲ 16%	▲ 19%	▲ 22%	▲ 27%	▲ 27%	▲ 32%	▲ 40%									
				Target level																		▲30%		
	Japan Convenience Foods Industry Association	CO_2 emissions	10^4 t-CO_2	Actual result	24.7	25.4	25.8	25.9	26.4	26.3	26.5	27.0	27.4	25.5	22.2								A	
		CO_2 emission intensity	FY2013	Actual result	-	▲ 2%	▲ 3%	▲ 1%	▲ 3%	▲ 5%	▲ 5%	▲ 7%	▲ 5%	▲ 11%	▲ 19%									
				Target level																		▲10%		
	Japan Association of Mayonnaise & Dressings	CO_2 emissions	10^4 t-CO_2	Actual result	6.2	6.0	5.8	5.7	5.5	5.3	5.0	4.4	4.4	4.4	3.9								A	
		CO_2 emissions	FY2012	Actual result	+1%	▲ 1%	▲ 6%	▲ 7%	▲ 11%	▲ 14%	▲ 19%	▲ 28%	▲ 29%	▲ 29%	▲ 36%									
				Target level																		▲21.7%		
		CO_2 emission intensity	FY2012	Actual result	▲ 1%	▲ 3%	▲ 9%	▲ 11%	▲ 15%	▲ 18%	▲ 24%	▲ 29%	▲ 32%	▲ 31%	▲ 37%									
				Target level																		▲17.9%		
	Japan Rice Millers Association	CO_2 emissions	10^4 t-CO_2	Actual result	7.0	7.0	7.0	8.6	8.7	7.7	7.1	7.2	7.6	7.5	6.7								A	
		Energy consumption intensity	FY2005	Actual result	▲ 3%	▲ 7%	▲ 3%	▲ 10%	▲ 9%	▲ 6%	▲ 12%	▲ 13%	▲ 11%	▲ 12%	▲ 16%									
				Target level																		▲12%		
	Industry under Ministry of Economy, Trade and Industry																							
	The Japan Iron and Steel Federation	CO_2 emissions	10^4 t-CO_2	Actual result	19440.8	19180.3	18408.5	18264.3	18120.0	17738.5	17261.3	14593.2	16308.6	15023.1	14835.4								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 1.3%	▲ 5.3%	▲ 6.1%	▲ 6.8%	▲ 8.8%	▲ 11.2%	▲ 24.9%	▲ 16.1%	▲ 22.7%	▲ 23.7%									
				Target level																		▲30%		
	Japan Chemical Industry Association	CO_2 emissions	10^4 t-CO_2	Actual result	6262.6	6164.4	6051.8	5885.0	5946.4	5787.1	5708.2	5457.8	5680.6	5467.3	5173.0								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 2%	▲ 3%	▲ 6%	▲ 5%	▲ 8%	▲ 9%	▲ 13%	▲ 9%	▲ 13%	▲ 17%									
				Target level																		▲32%		
	Japan Paper Association	CO_2 emissions	10^4 t-CO_2	Actual result	1883.1	1816.2	1793.7	1780.1	1786.5	1752.4	1661.7	1565.3	1585.0	1434.7	1340.3								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 4%	▲ 5%	▲ 5%	▲ 5%	▲ 7%	▲ 12%	▲ 17%	▲ 16%	▲ 24%	▲ 29%									
				Target level																		▲38%		
	Japan Cement Association	CO_2 emissions	10^4 t-CO_2	Actual result	1806.5	1774.4	1717.7	1695.7	1731.9	1685.7	1613.8	1551.3	1529.1	1396.0	1254.0								A	
		Energy consumption intensity	FY2013	Actual result	-	+1.5%	+0.7%	▲ 0.6%	+0.2%	▲ 1.2%	▲ 2.2%	▲ 2.8%	▲ 5.5%	▲ 6.7%	▲ 9.7%									
				Target level																		▲9.7%		
		CO_2 emissions	FY2013	Actual result	-	▲ 1.8%	▲ 4.9%	▲ 6.1%	▲ 4.1%	▲ 6.7%	▲ 10.7%	▲ 14.1%	▲ 15.4%	▲ 22.7%	▲ 30.6%									
				Target level																		▲15.0%		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
01. Steady Implementation, evaluation and verification of Industry's Voluntary Action Plans	Liaison Group of Japanese Electrical and Electronics Industries for Global Warming Prevention	CO_2 emissions	10^4 t-CO_2	Actual result	1296.6	1334.0	1344.0	1400.5	1441.4	1340.1	1299.3	1180.4	1233.7	1250.9	1187.8								A	
		Energy consumption intensity	FY2020	Actual result	-	-	-	-	-	-	-	-	▲ 6.5%	▲ 5.9%	▲ 10.4%									
				Target level																		▲9.56%		
	Japan Auto Parts Industries Association	CO_2 emissions	10^4 t-CO_2	Actual result	770.7	744.4	686.3	698.0	698.6	650.3	618.8	571.0	571.1	570.0	559.0								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 16%	▲ 21%	▲ 18%	▲ 15%	▲ 17%	▲ 19%	▲ 24%	▲ 26%	▲ 26%	▲ 27%									
				Target level																		▲46%		
	Japan Automobile Manufacturers Association / Japan Auto- Body Industries Association	CO_2 emissions	10^4 t-CO_2	Actual result	747.3	715.0	663.3	669.4	660.6	624.2	582.7	522.9	520.4	518.5	510.4								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 4%	▲ 11%	▲ 10%	▲ 11%	▲ 17%	▲ 22%	▲ 30%	▲ 31%	▲ 31%	▲ 32%									
				Target level																		▲38%		
	Japan Mining Industry Association	CO_2 emissions	10^4 t-CO_2	Actual result	448.9	440.7	404.0	368.4	361.4	341.0	330.6	320.0	314.0	309.4	278.8								A	
		CO_2 emissions	FY2013	Actual result	-	▲ 7%	▲ 8%	▲ 14%	▲ 20%	▲ 20%	▲ 21%	▲ 22%	▲ 30%	▲ 31%	▲ 38%									
				Target level																		▲38%		
	Lime Manufacture Association	CO_2 emissions	10^4 t-CO_2	Actual result	246.3	246.0	222.6	224.6	226.7	223.0	209.9	176.2	188.7	175.1	169.7								A	
		CO_2 emissions	FY2013	Actual result	-	▲ 0.4%	▲ 9.7%	▲ 8.9%	▲ 8.1%	▲ 9.7%	▲ 15.0%	▲ 28.7%	▲ 23.9%	▲ 29.1%	▲ 31.2%									
				Target level																		▲29%		
	The Japan Rubber Manufacturers Association	CO_2 emissions	10^4 t-CO_2	Actual result	210.3	203.3	189.9	181.7	173.9	161.5	146.2	137.8	151.5	148.2	138.5								A	
		CO_2 emissions	FY2013	Actual result	-	▲ 22%	▲ 25%	▲ 26%	▲ 27%	▲ 29%	▲ 34%	▲ 37%	▲ 32%	▲ 37%	▲ 46%									
				Target level																		▲46%		
	Japan Textile Finishers' Association	CO_2 emissions	10^4 t-CO_2	Actual result	116.5	115.4	112.3	109.7	103.9	98.2	87.9	78.8	74.9	71.0	70.4								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 1%	▲ 4%	▲ 6%	▲ 11%	▲ 16%	▲ 25%	▲ 32%	▲ 36%	▲ 39%	▲ 40%									
				Target level																		▲46%		
	Japan Aluminum Association	CO_2 emissions	10^4 t-CO_2	Actual result	146.2	149.0	144.2	144.9	141.9	134.4	126.0	117.3	122.2	118.8	105.9								B	
		CO_2 emissions	FY2013	Actual result	-	+2%	▲ 1%	▲ 1%	▲ 3%	▲ 8%	▲ 13%	▲ 20%	▲ 16%	▲ 19%	▲ 28%									
				Target level																		▲31%		
	Japan Federation of Printing Industries	CO_2 emissions	10^4 t-CO_2	Actual result	142.1	135.6	134.2	130.2	117.9	108.2	99.5	93.5	89.0	85.8	81.3								A	
		CO_2 emissions	FY2010	Actual result	▲ 12%	▲ 14%	▲ 12%	▲ 13%	▲ 19%	▲ 22%	▲ 26%	▲ 30%	▲ 33%	▲ 36%	▲ 38%									
				Target level																		▲30.0%		
		CO_2 emissions	FY2013	Actual result	-	▲ 5%	▲ 5%	▲ 8%	▲ 17%	▲ 24%	▲ 30%	▲ 34%	▲ 37%	▲ 40%	▲ 43%									
				Target level																		▲55.0%		
	Flat Glass Manufacturers Association of Japan	CO_2 emissions	10^4 t-CO_2	Actual result	117.1	110.2	106.2	106.0	108.8	109.8	111.4	94.1	91.7	76.2	80.1								A	
		CO_2 emissions	FY2013	Actual result	-	▲ 6%	▲ 9%	▲ 9%	▲ 7%	▲ 6%	▲ 5%	▲ 20%	▲ 22%	▲ 35%	▲ 32%									
				Target level																		▲25.8%		
	Japan Glass Bottle Association	CO_2 emissions	10^4 t-CO_2	Actual result	89.4	84.8	85.2	83.8	80.9	76.8	73.1	68.6	68.5	67.7	64.2								A	
		CO_2 emissions	FY2013	Actual result	-	▲ 5%	▲ 5%	▲ 6%	▲ 10%	▲ 14%	▲ 18%	▲ 23%	▲ 23%	▲ 24%	▲ 28%									
				Target level																		▲27.1%		
	The Japanese Electric Wire & Cable Makers' Association	CO_2 emissions	10^4 t-CO_2	Actual result	96.1	91.4	88.1	85.3	82.5	78.6	71.7	65.7	67.0	64.3	59.7								A	
		CO_2 emissions	FY2013	Actual result	-	▲ 5%	▲ 8%	▲ 11%	▲ 14%	▲ 18%	▲ 25%	▲ 32%	▲ 30%	▲ 33%	▲ 38%									
				Target level																		▲37.4%		
	Japan Bearing Industry Association	CO_2 emissions	10^4 t-CO_2	Actual result	84.8	83.8	79.0	78.3	78.6	74.6	67.8	59.7	66.8	65.1	61.7								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 1%	▲ 7%	▲ 8%	▲ 7%	▲ 12%	▲ 20%	▲ 30%	▲ 21%	▲ 23%	▲ 27%									
				Target level																		▲38%		
	The Japan Society of Industrial Machinery Manufacturers	CO_2 emissions	10^4 t-CO_2	Actual result	62.1	61.4	59.1	59.4	57.9	54.0	51.8	49.6	49.2	49.3	47.1								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 1%	▲ 5%	▲ 4%	▲ 7%	▲ 13%	▲ 17%	▲ 20%	▲ 21%	▲ 21%	▲ 24%									
				Target level																		▲38%		
	Japan Copper and Brass Association	CO_2 emissions	10^4 t-CO_2	Actual result	47.6	45.7	42.3	45.1	40.0	37.7	35.2	33.1	36.4	56.3	50.8								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 32%	▲ 37%	▲ 32%	▲ 40%	▲ 43%	▲ 47%	▲ 50%	▲ 45%	▲ 16%	▲ 24%									
				Target level																		▲33%		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
	Japan Construction Equipment Manufacturers Association	CO_2 emissions	10^4 t-CO_2	Actual result	50.1	47.5	41.0	41.1	44.8	41.1	35.9	34.0	38.3	39.8	37.5								A	
		Energy consumption intensity	Average over FY2020-FY2022	Actual result	+31%	+16%	+13%	+25%	+10%	▲ 1%	▲ 1%	+9%	▲ 1%	▲ 8%	▲ 27%									
				Target level																		▲8%		
	Limestone Association of Japan	CO_2 emissions	10^4 t-CO_2	Actual result	28.4	28.0	27.3	26.6	26.4	26.0	25.6	24.4	24.7	24.0	23.2								B	
		CO_2 emissions	FY2013	Actual result	-	-	-	-	-	-	-	-	▲ 13%	▲ 15%	▲ 18%									
				Target level																		▲38%		
	Japan Sanitary Equipment Industry Association	CO_2 emissions	10^4 t-CO_2	Actual result	25.7	23.2	19.9	19.6	19.7	20.3	19.8	18.3	18.2	17.1	15.7								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 10%	▲ 22%	▲ 24%	▲ 23%	▲ 21%	▲ 23%	▲ 29%	▲ 29%	▲ 34%	▲ 39%									
				Target level																		▲40%		
	Japan Machine Tool Builders' Association	CO_2 emissions	10^4 t-CO_2	Actual result	36.3	37.0	35.4	33.4	33.7	32.9	29.4	25.6	28.8	25.2	22.2								A	
		CO_2 emissions	FY2013	Actual result	-	+2%	▲ 3%	▲ 8%	▲ 7%	▲ 9%	▲ 19%	▲ 29%	▲ 21%	▲ 31%	▲ 39%									
				Target level																		▲38%		
	Japan Energy Resources Development Association (formerly Japan Petroleum Development	CO_2 emissions	10^4 t-CO_2	Actual result	25.4	22.1	21.5	21.1	20.3	23.1	21.2	21.1	35.4	35.3	30.1								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 52%	▲ 53%	▲ 54%	▲ 56%	▲ 50%	▲ 54%	▲ 54%	▲ 23%	▲ 23%	▲ 34%									
				Target level																		▲40%		
	Japan Prefabricated Construction Suppliers & Manufacturers Association	CO_2 emissions	10^4 t-CO_2	Actual result	16.3	13.8	13.7	13.7	13.4	12.3	11.4	10.1	11.2	11.1	10.2								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 16%	▲ 16%	▲ 16%	▲ 18%	▲ 25%	▲ 30%	▲ 38%	▲ 51%	▲ 63%	▲ 69%									
				Target level																		▲75%		
	Japan Industrial Vehicles Association	CO_2 emissions	10^4 t-CO_2	Actual result	4.8	4.7	4.4	4.3	4.2	4.0	3.7	3.7	4.1	4.1	3.8								B	
		CO_2 emissions	FY2013	Actual result	-	+0%	▲ 4%	▲ 4%	▲ 2%	▲ 4%	▲ 19%	▲ 8%	▲ 15%	▲ 15%	▲ 21%									
				Target level																		▲38%		
	Japan Carbon Association	CO_2 emissions	10^4 t-CO_2	Actual result	45.1	44.5	39.3	31.9	38.5	39.0	33.4	25.7	30.4	33.4	32.8								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 1%	▲ 13%	▲ 29%	▲ 15%	▲ 14%	▲ 26%	▲ 43%	▲ 32%	▲ 26%	▲ 27%									
				Target level																		▲46%		
	Industry under Ministry of Land, Infrastructure, Transport and Tourism																							
	The Shipbuilders' Association of Japan/The Cooperative Association of Japan Shipbuilders	CO_2 emissions	10^4 t-CO_2	Actual result	65.0	69.4	69.3	70.5	65.0	59.5	53.5	53.3	42.2	38.0	35.2								A	
		CO_2 emissions	FY2013	Actual result	-	+7%	+7%	+8%	+0%	▲ 8%	▲ 18%	▲ 18%	▲ 35%	▲ 42%	▲ 46%									
				Target level																		▲28%		
	Japan Ship Machinery and Equipment Association	CO_2 emissions	10^4 t-CO_2	Actual result	8.5	8.5	8.0	8.3	7.0	6.6	7.0	6.5	5.3	7.3	6.9								B	
		Energy consumption intensity	FY1990	Actual result	▲ 30%	▲ 29%	▲ 27%	▲ 23%	▲ 33%	▲ 37%	▲ 33%	▲ 24%	▲ 33%	▲ 27%	▲ 23%									
				Target level																		▲30%		
	Japan Marine Industry Association	CO_2 emissions	10^4 t-CO_2	Actual result	2.6	2.7	2.6	2.6	2.6	2.7	2.6	2.0	2.7	2.8	2.8								B	
		CO_2 emissions	FY2010	Actual result	▲ 14%	▲ 11%	▲ 13%	▲ 14%	▲ 13%	▲ 9%	▲ 14%	▲ 34%	▲ 11%	▲ 5%	▲ 7%									
				Target level																		▲14%		
	Japan Association of Rolling Stock Industries	CO_2 emissions	10^4 t-CO_2	Actual result	3.6	3.6	3.4	3.4	3.5	3.2	3.1	2.9	2.7	2.5	2.4								B	
		CO_2 emissions	FY2013	Actual result	+0%	+0%	▲ 6%	▲ 6%	▲ 3%	▲ 11%	▲ 14%	▲ 22%	▲ 25%	▲ 32%	▲ 35%									
				Target level																		▲38%		
	Japan Federation of Construction Contractors	CO_2 emissions	10^4 t-CO_2	Actual result	411.3	438.2	431.3	423.7	411.9	429.1	444.8	394.9	354.2	297.0	223.0								A	
		CO_2 emissions	FY2013	Actual result	▲ 18%	▲ 18%	▲ 19%	▲ 19%	▲ 21%	▲ 21%	▲ 22%	▲ 26%	▲ 63%	▲ 69%	▲ 77%									
				Target level																		▲40%		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
	Japan Federation of Housing Organizations	CO_2 emissions (entire lifecycle)	10^4 t-CO_2	Actual result	260 (22,183)	240 (20,891)	239 (19,943)	241 (19,965)	228 (20,790)	211 (20,756)	206 (18,847)	198 (18,564)	208.5 (15,564.2)	204 (14,880)	189 (14,560)								D	
		Environmental performance of new houses	–	Actual result	-	-	-	-	-	-	-	-	-	-	-									
				Target level								-										Realization of ZEH on average for new constructio		
○ Commercial and other sectors																								
	○Steady Implementation, evaluation and verification of Industry's Voluntary Action Plans (commercial and other sectors)																							
	Industry under Financial Services Agency																							
	Japanese Bankers Association	CO_2 emissions	10^4 t-CO_2	Actual result	139.0	134.0	127.0	120.0	112.0	100.0	92.0	89.0	83.0	81.6	64.8								A	
		CO_2 emissions	FY2013	Actual result	-	▲ 18%	▲ 22%	▲ 27%	▲ 31%	▲ 39%	▲ 44%	▲ 45%	-	▲ 50%	▲ 60%									
				Target level																		▲51%		
	The Life Insurance Association of Japan	CO_2 emissions	10^4 t-CO_2	Actual result	110.7	101.9	95.6	85.1	79.6	72.7	66.7	63.0	62.3	61.0	56.8								B	
		CO_2 emission intensity	FY2013	Actual result	-	-	-	-	-	-	-	-	▲ 33%	▲ 36%	▲ 38%									
				Target level																		▲51%		
	The General Insurance Association of Japan	CO_2 emissions	10^4 t-CO_2	Actual result	27.0	25.6	23.5	22.3	20.0	18.8	17.0	16.5	15.4	14.4	13.0								B	
		CO_2 emission intensity	FY2013	Actual result	-	-	-	-	-	-	-	-	▲ 39%	▲ 39%	▲ 38%									
				Target level																		▲51%		
	The National Association of Shinkin Banks	CO_2 emissions	10^4 t-CO_2	Actual result	32.1	30.2	28.1	27.2	25.8	23.2	21.6	21.6	20.6	20.1	18.6								A	
		Energy consumption	FY2009	Actual result	▲ 11%	▲ 14%	▲ 17%	▲ 17%	▲ 18%	▲ 21%	▲ 24%	▲ 23%	▲ 26%	▲ 28%	▲ 31%									
				Target level																		▲19%		
	Community Bank Shinyo Kumiai	CO_2 emissions	10^4 t-CO_2	Actual result	-	-	-	-	-	-	-	-	-	-	-								A	
		Energy consumption	FY2009	Actual result	-	-	-	-	-	-	-	-	▲ 22%	▲ 24%	▲ 27%									
				Target level																		▲18%		
	Japan Securities Dealers Association	CO_2 emissions	10^4 t-CO_2	Actual result	19.4	18.0	16.8	16.0	14.7	13.6	12.2	11.3	10.8	11.6	8.5								B	
		CO_2 emission intensity	FY2013	Actual result	-	-	-	-	-	-	-	-	▲ 38%	▲ 33%	▲ 50%									
				Target level																		▲51%		
	Industry under Ministry of Internal Affairs and Communications																							
	Telecommunications Carriers Association	CO_2 emissions	10^4 t-CO_2	Actual result	570.6	565.2	552.0	520.4	501.0	480.6	463.0	468.0	422.0	428.9	456.4								A	
		Energy consumption intensity	FY2013	Actual result	-	▲ 24%	▲ 48%	▲ 65%	▲ 70%	▲ 76%	▲ 79%	▲ 86%	▲ 87%	▲ 90%	▲ 91%									
				Target level																		▲ 90%		
	Telecom Services Association	CO_2 emissions	10^4 t-CO_2	Actual result	102.1	96.3	89.5	89.4	81.1	77.2	81.2	80.1	79.66	81.2	79.9								A	
		Energy consumption intensity	FY2013	Actual result	-	▲ 3%	▲ 6%	▲ 4%	▲ 9%	▲ 9%	▲ 7%	▲ 0%	▲ 8%	▲ 9%	▲ 8%									
				Target level																		▲2%		
	The Japan Commercial Broadcasters Association	CO_2 emissions	10^4 t-CO_2	Actual result	24.5	22.6	22.3	22.2	22.0	20.2	21.3	21.6	20.2	19.2	18.9								A	
		CO_2 emission intensity	FY2012	Actual result	▲ 6%	▲ 6%	▲ 6%	▲ 7%	▲ 13%	▲ 19%	▲ 26%	▲ 24%	▲ 24%	▲ 26%	▲ 26%									
				Target level																		▲10%		
	Japan Broadcasting Corporation	CO_2 emissions	10^4 t-CO_2	Actual result	21.1	19.9	18.8	18.5	17.1	15.9	15.8	15.7	15.3	15.2	14.3								B	
		CO_2 emissions	FY2018	Actual result	-	-	-	-	-	-	-	-	▲ 18%	▲ 25%	▲ 41%									
				Target level																		▲50.0%		
	Japan Cable and Telecommunications Association	CO_2 emissions	10^4 t-CO_2	Actual result	-	-	-	10.9	11.3	11.0	9.3	8.9	8.2	7.9	6.3								A	
		Energy consumption intensity	FY2020	Actual result	-	-	-	-	-	-	-	-	+3%	0%	-16%									
				Target level																		▲1%		
	Japan Satellite Broadcasting Association	CO_2 emissions	10^4 t-CO_2	Actual result	0.96	0.89	0.78	0.7	0.61	2.27	1.03	1.24	1.38	1.28	1.29								A	
		Energy consumption intensity	FY2010	Actual result	▲ 4%	▲ 10%	▲ 11%	▲ 12%	▲ 12%	▲ 12%	▲ 14%	▲ 14%	▲ 15%	▲ 15%	▲ 15%									
				Target level																		▲15%		
	Japan Internet Providers Association	CO_2 emissions	10^4 t-CO_2	Actual result	-	-	-	-	-	-	-	-	4.9	2.8	2.8								A	
		Energy consumption intensity	FY2015	Actual result	-	-	-	▲ 17%	+14%	▲ 24%	▲ 26%	▲ 36%	▲ 53%	▲ 67%	▲ 74%									
				Target level																		▲1%		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
01. Steady Implementation, evaluation and verification of Industry's Voluntary Action Plans	Industry under Ministry of Education, Culture, Sports, Science and Technology																							
	The Federation of All Japan Private Schools' Associations	CO_2 emissions	10^4 t-CO_2	Actual result	-	-	365.1	382.1	363.8	352.0	-	312.2	-	323.0	295.0								B	
		CO_2 emission intensity	FY2012	Actual result	-	-	-	-	-	-	-	-	-	▲ 14%	▲ 21%									
				Target level																		▲40%		
	Industry under Ministry of Health, Labor and Welfare																							
	Japan Medical Association / Council of 4 Hospitals	CO_2 emissions	10^4 t-CO_2	Actual result	917.0	877.6	851.5	870.5	863.8	812.9	756.8	758.1	787.6	776.5	-								D	
		CO_2 emission intensity	FY2013	Actual result	▲ 19%	▲ 22%	▲ 23%	▲ 22%	▲ 21%	▲ 24%	▲ 26%	▲ 26%	▲ 22%	▲ 23%	-									
				Target level																		▲46%		
	Japanese Consumers Co-operative Union	CO_2 emissions	10^4 t-CO_2	Actual result	-	-	-	-	-	-	-	-	-	-	-								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 27%	▲ 27%	▲ 31%	▲ 32%	▲ 32%	▲ 30%	▲ 39%	▲ 33%	▲ 32%	▲ 28%									
				Target level																		▲40%		
	Industry under Ministry of Agriculture, Forestry and Fisheries																							
	Japan Processed Foods Wholesalers Association	CO_2 emissions	10^4 t-CO_2	Actual result	29.1	32.6	32.2	28.9	27.2	26.9	27.7	26.8	26.2	27.0	25.5								A	
		Energy consumption intensity	FY2011	Actual result	+2%	▲ 2%	▲ 9%	▲ 5%	▲ 7%	▲ 8%	▲ 16%	▲ 15%	▲ 20%	▲ 11%	▲ 16%									
				Target level								▲5.0%										▲5%		
	Japan Foodservice Association	CO_2 emissions	10^4 t-CO_2	Actual result	720.9	682.4	679.4	672.2	647.2	605.7	589.4	526.6	503.1	511.3	507.5								A	
		Energy consumption intensity	FY2013	Actual result	-	▲ 4%	▲ 5%	▲ 8%	▲ 10%	▲ 14%	▲ 15%	▲ 10%	▲ 15%	▲ 23%	▲ 31%									
				Target level																		▲15.7%		
	Industry under Ministry of Economy, Trade and Industry																							
	Japan Chain Stores Association	CO_2 emissions	10^4 t-CO_2	Actual result	540.0	495.0	392.9	283.2	219.8	209.4	206.0	201.2	190.9	188.7	172.5								B	
		Energy consumption intensity	FY2013	Actual result	-	+1%	▲ 11%	▲ 12%	▲ 14%	▲ 1%	▲ 2%	▲ 2%	▲ 2%	▲ 5%	▲ 4%									
				Target level																		▲5.1%		
	Japan Franchise Association	CO_2 emissions	10^4 t-CO_2	Actual result	437.9	457.8	448.8	447.2	430.1	401.4	375.6	358.7	357.2	354.3	336.3								B	
		CO_2 emission intensity	FY2013	Actual result	-	-	-	-	-	-	-	-	▲ 30%	▲ 30%	▲ 34%									
				Target level																		▲46%		
	Japan Council of Shopping Centers	CO_2 emissions	10^4 t-CO_2	Actual result	331.7	275.5	268.8	258.5	255.4	230.8	220.7	199.2	182.8	170.9	149.0								A	
		Energy consumption intensity	FY2005	Actual result	▲ 30%	▲ 32%	▲ 34%	▲ 35%	▲ 37%	▲ 37%	▲ 37%	▲ 41%	▲ 42%	▲ 44%	▲ 46%									
				Target level																		▲23%		
	Japan Department Stores Association	CO_2 emissions	10^4 t-CO_2	Actual result	190.5	172.6	159.4	151.3	133.9	119.6	113.2	87.8	89.3	88.0	82.6								A	
		Energy consumption intensity	FY2013	Actual result	-	▲ 6%	▲ 11%	▲ 12%	▲ 14%	▲ 17%	▲ 19%	▲ 24%	▲ 24%	▲ 23%	▲ 23%									
				Target level																		▲26.5%		
		CO_2 emissions	FY2013	Actual result	-	▲ 9%	▲ 16%	▲ 21%	▲ 30%	▲ 37%	▲ 41%	▲ 54%	▲ 53%	▲ 54%	▲ 57%									
				Target level																		▲50%		
	Ote Kaden Ryutsu Kyoukai (home appliances retail)	CO_2 emissions	10^4 t-CO_2	Actual result	81.1	77.7	71.3	70.4	67.1	60.5	60.3	56.1	54.3	55.8	54.8								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 4%	▲ 12%	▲ 13%	▲ 17%	▲ 25%	▲ 26%	▲ 31%	▲ 33%	▲ 31%	▲ 32%									
				Target level																		▲50%		
	Japan DIY・HC Association	CO_2 emissions	10^4 t-CO_2	Actual result	48.7	46.3	46.3	46.6	34.9	28.2	33.3	22.7	45.2	26.4	40.8								A	
		Energy consumption intensity	FY2013	Actual result	-	▲ 16%	▲ 13%	▲ 14%	▲ 11%	▲ 21%	▲ 10%	▲ 13%	▲ 10%	▲ 25%	▲ 39%									
				Target level																		▲25%		
	Japan Information Technology Services Industry Association	CO_2 emissions	10^4 t-CO_2	Actual result	20.6	16.6	13.4	11.5	10.5	9.6	9.0	10.0	9.5	9.5	9.1								B	
		(Office) Energy consumption intensity	FY2020	Actual result	-	-	-	-	-	-	-	-	▲ 4%	▲ 3%	+14%									
				Target level																		▲9.56%		
		CO_2 emissions	10^4 t-CO_2	Actual result	64.3	61.7	55.3	52.2	44.0	40.8	47.7	47.1	44.5	43.6	41.2									
		(Data center) Energy consumption intensity	FY2020	Actual result	-	-	-	-	-	-	-	-	▲ 5%	▲ 6%	▲ 8%									
				Target level																		▲9.56%		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
	Japan Association of Chain Drug Stores	CO_2 emissions	10^4 t-CO_2	Actual result	132.5	150.5	155.9	159.4	169.1	167.6	154.7	159.6	165.6	168.4	172.0								B	
		Energy consumption intensity	FY2013	Actual result	-	▲ 7%	▲ 16%	▲ 19%	▲ 21%	▲ 23%	▲ 27%	▲ 29%	▲ 33%	▲ 33%	▲ 30%									
				Target level																		▲34%		
	Japan Foreign Trade Council, Inc.	CO_2 emissions	10^4 t-CO_2	Actual result	5.4	5.1	4.5	4.1	3.7	3.4	3.2	2.8	2.9	2.1	3.1								A	
		Energy consumption intensity	FY2013	Actual result	-	▲ 3%	▲ 6%	▲ 10%	▲ 11%	▲ 13%	▲ 13%	▲ 26%	▲ 23%	▲ 44%	▲ 56%									
				Target level																		▲15.7%		
	Japan LP Gas Association	CO_2 emissions	10^4 t-CO_2	Actual result	3.1	3.0	2.8	2.8	2.7	2.5	2.4	2.4	2.4	2.2	2.1								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 4%	▲ 9%	▲ 10%	▲ 13%	▲ 20%	▲ 24%	▲ 24%	▲ 24%	▲ 31%	▲ 33%									
				Target level																		▲38%		
	Japan Leasing Association	CO_2 emissions	10^4 t-CO_2	Actual result	0.9	1.8	1.7	1.6	1.5	1.4	1.4	1.4	0.8	0.7	0.7								B	
		Energy consumption intensity	FY2013	Actual result	-	+8%	+3%	▲ 4%	▲ 4%	▲ 5%	▲ 5%	▲ 4%	▲ 28%	▲ 32%	▲ 33%									
				Target level																		▲46%		
	Industry under Ministry of Land, Infrastructure, Transport and Tourism																							
	The Japan Warehousing Association Inc.	CO_2 emissions	10^4 t-CO_2	Actual result	119.0	106.0	121.0	122.0	129.0	125.0	125.0	125.0	121.0	125.0	134.0								A	
		Energy consumption intensity	FY1990	Actual result	▲ 15%	▲ 18%	▲ 19%	▲ 19%	▲ 19%	▲ 20%	▲ 22%	▲ 24%	▲ 30%	▲ 31%	▲ 35%									
				Target level																		▲20%		
	Japan Association of Refrigerated Warehouses	CO_2 emissions	10^4 t-CO_2	Actual result	106.4	103.1	97.6	95.6	90.1	85.5	82.7	82.4	84.0	83.3	76.0								B	
		CO_2 emission intensity	FY2013	Actual result	-	▲ 4%	▲ 9%	▲ 12%	▲ 17%	▲ 24%	▲ 26%	▲ 31%	▲ 29%	▲ 31%	▲ 36%									
				Target level																		▲51%		
	Japan Hotel Association	CO_2 emissions	10^4 t-CO_2	Actual result	67.0	65.6	63.2	62.0	61.0	58.6	55.0	42.0	45.4	50.2	50.9								A	
		Energy consumption intensity	FY2010	Actual result	▲ 7%	▲ 10%	▲ 12%	▲ 11%	▲ 11%	▲ 13%	▲ 15%	▲ 8%	▲ 13%	▲ 18%	▲ 18%									
				Target level																		▲15%		
	Japan Ryokan & Hotel Association	CO_2 emissions	10^4 t-CO_2	Actual result	-	-	-	5.0	5.7	2.4	7.2	3.8	1.7	4.4	9.2								A	
		Energy consumption intensity	FY2016	Actual result	-	-	-	-	▲ 10%	▲ 10%	▲ 7%	▲ 37%	▲ 49%	▲ 18%	▲ 51%									
				Target level																		▲10%		
	Japan Automobile Service Promotion Association	CO_2 emissions	10^4 t-CO_2	Actual result	415.5	416.5	418.5	419.1	413.3	416.1	399.9	419.6	427.5	424.7	422.1								B	
		CO_2 emissions	FY2007	Actual result	▲ 8%	▲ 8%	▲ 7%	▲ 7%	▲ 9%	▲ 8%	▲ 12%	▲ 7%	▲ 5%	▲ 6%	▲ 7%									
				Target level																		▲15%		
	The Real Estate Companies Association of Japan	CO_2 emissions	10^4 t-CO_2	Actual result	-	-	-	-	-	-	-	-	-	249.9	260.6								A	
		CO_2 emissions	FY2013	Actual result	-	-	-	-	-	-	-	-	-	▲ 19%	▲ 41%									
				Target level																		▲51%		
		CO_2 emission intensity	FY2013	Actual result	-	-	-	-	-	-	-	-	▲ 100%	▲ 41%	▲ 65%									
				Target level																		▲64%		
	Japan Building Owners and Managers Association	CO_2 emissions	10^4 t-CO_2	Actual result	-	-	-	-	-	-	-	-	318.0	289.0	212.0								B	
		CO_2 emission intensity	FY2013	Actual result	-	-	-	-	-	-	-	-	▲ 38%	▲ 44%	▲ 59%									
				Target level																		▲64%		
	Industry under Ministry of the Environment																							
	Japan Federation of Industrial Waste Management and Recycling Associations	CO_2 emissions	10^4 t-CO_2	Actual result	447.5	456.5	470.6	472.7	476.5	497.6	480.9	481.8	465.9	419.0	366.4								B	
		CO_2 emissions	FY2013	Actual result	+21%	+24%	+28%	+28%	+29%	+35%	+30%	+31%	+26%	+14%	▲ 1%									
				Target level																		▲15%		
	The Japan Newspaper Publishers & Editors Association	CO_2 emissions	10^4 t-CO_2	Actual result	53.7	50.0	46.7	45.3	42.0	37.4	34.9	32.5	31.2	29.5	27.4								A	
		Energy consumption intensity	FY2013	Actual result	-	Annual average ▲ 5.8%	Annual average ▲ 5.0%	Annual average ▲ 4.4%	Annual average ▲ 4.4%	Annual average ▲ 4.6%	Annual average ▲ 4.6%	Annual average ▲ 4.5%	Annual average ▲ 4.2%	Annual average ▲ 4.2%	Annual average ▲ 4.1%									
				Target level																		Annual average ▲ 1%		
	Zenkoku Pet Kyoukai (pet retail)	CO_2 emissions	10^4 t-CO_2	Actual result	0.54	0.55	0.56	0.52	0.52	0.51	0.50	0.50	0.56	0.59	0.56								A	
		CO_2 emission intensity	FY2012	Actual result	+27.7%	+34.4%	+4.0%	▲ 18.4%	+0.2%	▲ 4.2%	▲ 6.6%	▲ 9.3%	▲ 0.1%	+1.9%	▲ 18.5%									
				Target level																		0%		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
	Industry under National Police Agency																							
	All Japan Pachinko Association	CO_2 emissions	10^4 t-CO_2	Actual result	502.0	447.0	426.0	401.0	383.0	329.0	311.0	266.0	260.0	235.0	215.0								B	
		CO_2 emissions	FY2007	Actual result	▲ 15%	▲ 22%	▲ 23%	▲ 25%	▲ 26%	▲ 32%	▲ 33%	▲ 42%	▲ 43%	▲ 48%	▲ 51%									
				Target level																		▲22%		
	Japan Amusement Industry Association	CO_2 emissions	10^4 t-CO_2	Actual result	25.3	23.7	23.8	23.3	22.5	19.0	18.7	18.8	18.8	18.8	18.0								A	
		CO_2 emissions	FY2012	Actual result	▲ 7%	▲ 11%	▲ 11%	▲ 15%	▲ 15%	▲ 30%	▲ 30%	▲ 30%	▲ 30%	▲ 30%	▲ 30%									
				Target level																		▲17%		
○ Transport sector																								
01. Steady Implementation, evaluation and verification of Industry's Voluntary Action Plans	○Steady Implementation, evaluation and verification of Industry's Voluntary Action Plans (transport sector)																							
	Industry under Ministry of Land, Infrastructure, Transport and Tourism																							
	The Japanese Shipowners' Association	CO_2 emissions	10^4 t-CO_2	Actual result	5538.8	5417.2	5214.5	5258.2	5402.5	3266.2	4563.5	4023.7	3709.5	3685.1	3773.6								B	
		CO_2 emission intensity	FY1990	Actual result	▲ 38%	▲ 43%	▲ 41%	▲ 39%	▲ 48%	▲ 37%	▲ 31%	▲ 35%	▲ 38%	▲ 31%	▲ 27%									
				Target level																		▲30%		
	Japan Trucking Association	CO_2 emissions	10^4 t-CO_2	Actual result	4079.0	4100.0	4091.0	4068.0	4087.0	4104.0	4044.0	3874.2	4114.0	4000.4	4061.8								B	
		CO_2 emission intensity	FY2005	Actual result	▲ 9%	▲ 7%	▲ 4%	▲ 7%	▲ 7%	▲ 7%	▲ 10%	+3%	+4%	▲ 0%	▲ 0%									
				Target level																		▲31%		
	The Scheduled Airlines Association of Japan	CO_2 emissions	10^4 t-CO_2	Actual result	2152.2	2247.6	2319.9	2437.6	2536.2	2487.1	2539.4	1260.2	1699.1	2112.2	2341.0								B	
		CO_2 emission intensity	FY2013	Actual result	-	▲ 6%	▲ 6%	▲ 8%	▲ 11%	▲ 8%	▲ 8%	+6%	+3%	▲ 4%	▲ 8%									
				Target level																		▲22%		
		CO_2 emission intensity	FY2019	Actual result	-	-	-	-	-	-	-	-	-	+4%	▲ 0%									
				Target level																		▲15.4%		
	Japan Federation of Coastal Shipping Associations	CO_2 emissions	10^4 t-CO_2	Actual result	722.1	725.7	703.9	713.1	702.6	706.7	699.9	665.7	698.6	712.5	654.1								B	
		CO_2 emissions	FY1990	Actual result	▲ 16%	▲ 15%	▲ 18%	▲ 17%	▲ 18%	▲ 18%	▲ 18%	▲ 22%	▲ 19%	▲ 17%	▲ 24%									
				Target level																		▲34%		
	Japan Passengerboat Association	CO_2 emissions	10^4 t-CO_2	Actual result	361.3	365.6	350.9	347.9	342.4	335.6	337.7	321.5	336.9	343.3	387.0								D	
		CO_2 emission intensity	FY2012	Actual result	▲ 1.4%	▲ 2.4%	▲ 5.7%	▲ 5.9%	▲ 9.5%	▲ 9.2%	▲ 10.9%	▲ 18.9%	▲ 18.9%	▲ 18.2%	▲ 3.4%									
				Target level																		-		
	Japan Federation of Hire-Taxi Association	CO_2 emissions	10^4 t-CO_2	Actual result	338.3	325.4	310.0	286.1	272.9	252.7	227.0	128.0	126.6	142.6	135.4								A	
		CO_2 emissions	FY2010	Actual result	▲ 12%	▲ 15%	▲ 19%	▲ 25%	▲ 29%	▲ 34%	▲ 41%	▲ 67%	▲ 67%	▲ 63%	▲ 65%									
				Target level																		▲25%		
	Nihon Bus Association	CO_2 emissions	10^4 t-CO_2	Actual result	375.7	373.2	366.4	359.0	348.0	341.0	364.0	246.0	238.8	278.0	305.0								C	
		CO_2 emission intensity	FY2015	Actual result	-	-	-	▲ 0.3%	▲ 3.8%	▲ 0.4%	▲ 0.4%	+16.2%	+8.7%	+8.7%	+8.7%									
				Target level																		▲6%		
	Japan Private Railway Association	CO_2 emissions	10^4 t-CO_2	Actual result	286.0	274.0	261.0	256.0	246.0	228.0	216.0	205.0	182.0	179.0	173.0								B	
		CO_2 emissions	FY2013	Actual result	-	+5.5%	+0.5%	▲ 1.4%	▲ 5.3%	▲ 12.4%	▲ 17.0%	▲ 21.1%	▲ 29.7%	▲ 30.9%	▲ 33.3%									
				Target level																		▲46%		
	East Japan Railway Company	CO_2 emissions	10^4 t-CO_2	Actual result	215.0	223.0	216.0	218.0	212.0	206.0	199.0	194.0	182.6	184.0	185.0								B	
		CO_2 emissions	FY2013	Actual result	-	+3.7%	+0.5%	+1.4%	▲ 1.4%	▲ 4.2%	▲ 7.4%	▲ 9.8%	▲ 15.1%	▲ 14.4%	▲ 14.0%									
				Target level																		▲50%		
	West Japan Railway Company	CO_2 emissions	10^4 t-CO_2	Actual result	185.5	181.7	177.2	171.7	164.0	160.2	151.8	138.8	152.5	149.2	178.0								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 15.4%	▲ 17.5%	▲ 20.1%	▲ 23.7%	▲ 25.5%	▲ 29.4%	▲ 35.4%	▲ 29.0%	▲ 30.6%	▲ 17.2%									
				Target level																		▲50%		
	Central Japan Railway Company	CO_2 emissions	10^4 t-CO_2	Actual result	119.2	116.9	115.0	113.7	109.5	103.5	101.9	93.3	124.1	128.5	127.7								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 29%	▲ 30%	▲ 31%	▲ 32%	▲ 35%	▲ 38%	▲ 39%	▲ 26%	▲ 23%	▲ 24%									
				Target level																		▲46%		
	The Japan Harbor Transportation Association	CO_2 emissions	10^4 t-CO_2	Actual result	39.0	38.4	37.7	37.8	37.7	37.3	36.5	33.2	34.7	33.6	32.2								A	
		CO_2 emission intensity	FY2005	Actual result	▲ 10%	▲ 11%	▲ 10%	▲ 11%	▲ 14%	▲ 15%	▲ 15%	▲ 15%	▲ 15%	▲ 17%	▲ 21%									
				Target level																		▲20%		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
	Japan Freight Railway Company	CO_2 emissions	10^4 t-CO_2	Actual result	64.9	62.3	60.1	56.3	55.1	45.5	49.0	47.1	45.4	45.0	43.6								B	
		Energy consumption intensity	FY2013	Actual result	-	▲ 1.8%	▲ 4.3%	▲ 7.2%	▲ 8.2%	▲ 10.6%	▲ 4.3%	+0.7%	▲ 0.1%	▲ 1.1%	▲ 0.4%									
				Target level																		▲15%		
	Kyushu Railway Company	CO_2 emissions	10^4 t-CO_2	Actual result	44.2	43.0	41.0	39.4	37.9	34.3	32.7	30.3	29.3	29.3	29.4								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 0.3%	▲ 5.8%	▲ 17.8%	▲ 24.8%	▲ 30.2%	▲ 46.8%	▲ 49.1%	▲ 46.3%	▲ 54.6%	▲ 41.0%									
				Target level																		▲50%		
	Hokkaido Railway Company	CO_2 emissions	10^4 t-CO_2	Actual result	32.1	31.4	30.5	30.8	30.5	31.0	32.1	31.5	30.7	31.1	30.4								A	
		Energy consumption intensity	FY2013	Actual result	-	▲ 0%	▲ 1%	▲ 4%	▲ 6%	▲ 6%	▲ 7%	▲ 8%	▲ 6%	▲ 6%	▲ 11%									
				Target level																		▲7%		
	All Japan Freight Forwarders Association	CO_2 emissions	10^4 t-CO_2	Actual result	12.9	12.9	12.7	12.5	12.3	12.3	12.0	11.0	10.9	10.9	10.9								B	
		CO_2 emissions	FY2009	Actual result	▲ 3%	▲ 3%	▲ 5%	▲ 6%	▲ 8%	▲ 8%	▲ 10%	▲ 18%	▲ 18%	▲ 18%	▲ 18%									
				Target level																		▲20%		
	Shikoku Railway Company	CO_2 emissions	10^4 t-CO_2	Actual result	8.0	7.7	7.7	7.6	7.4	6.9	6.9	6.6	6.4	6.8	6.7								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 4%	▲ 4%	▲ 5%	▲ 7%	▲ 14%	▲ 14%	▲ 18%	▲ 20%	▲ 15%	▲ 16%									
				Target level																		▲30%		
○ Energy conversion sector																								
01. Steady Implementation, evaluation and verification of Industry's Voluntary Action Plans	○Steady Implementation, evaluation and verification of Industry's Voluntary Action Plans (energy conversion sector)																							
	Industry under Ministry of Economy, Trade and Industry																							
	The Electric Power Council for a Low Carbon Society	CO_2 emissions	10^4 t-CO_2	Actual result	49300.0	46900.0	44100.0	43000.0	41100.0	37200.0	34500.0	32900.0	32600.0	32700.0	31200.0								B	
		CO_2 emissions	BAU	Actual result	-	▲ 38%	▲ 41%	▲ 56%	▲ 61%	▲ 77%	▲ 85%	▲ 96%	▲ 88%	▲ 104%	▲ 118%									
				Target level																		▲11 million t-CO_2		
		CO_2 emission intensity	–	Actual result	-	121%	112%	106%	98%	85%	78%	76%	74%	75%	69%									
				Target level																		Approximately 0.25 kg-CO_2/kWh		
	Petroleum Association of Japan	CO_2 emissions	10^4 t-CO_2	Actual result	4032.6	3823.3	3833.5	3844.3	3808.3	3682.4	3446.3	3039.2	3174.3	3232.6	3081.5								B	
		CO_2 emissions	FY2013	Actual result	-	▲ 5%	▲ 5%	▲ 5%	▲ 6%	▲ 9%	▲ 15%	▲ 25%	▲ 21%	▲ 20%	▲ 24%									
				Target level																		▲28%		
	The Japan Gas Association	CO_2 emissions	10^4 t-CO_2	Actual result	45.6	47.6	44.5	45.9	45.4	42.6	39.8	40.0	40.1	39.7	38.1								B	
		CO_2 emission intensity	FY2013	Actual result	-	+2%	▲ 3%	▲ 6%	▲ 6%	▲ 7%	▲ 10%	▲ 9%	▲ 18%	▲ 10%	▲ 11%									
				Target level																		▲28%		

* The CO_2 emissions from FY2013 to FY2023 shown in the table are calculated using the adjusted emission factor for each fiscal year for all industries. Therefore, they do not necessarily match the CO_2 emissions used in the actual results (%) against the target for FY2030.
* For industries that have set BAU targets, the percentage (%) is calculated from the actual results for FY2013 to FY2023 and the BAU for each fiscal year, so the progress rate of the target reduction amount does not match.

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
02. Promotion of the introduction of facilities and equipment with high energy-saving performance (across industries)	Introduction of high-efficiency air conditioning	Measure evaluation indicator Average APF/COP (electrical system)	-	Actual result	4.8	4.8	5.1	5.1	5.1	5.2	5.0	5.0	5.1	5.1	5.2								26%	The measure evaluation indicator, energy saving, and emission reduction have been on an increasing trend for all facilities and equipment. This is due to the fact that the Top Runner Program of the Energy Conservation Act has promoted the improvement of energy consumption efficiency of each facility, and as a result of support for the introduction of high-efficiency facilities and equipment, the replacement with high-efficiency facilities and equipment, etc.has been promoted. Continuous efforts will be made to encourage businesses to invest in high-efficiency air conditioning facilities and introduce them through both regulatory measures under the Energy Conservation Act and support measures through subsidies.
				Expected level								5.5					6.4					6.4		
		Measure evaluation indicator Average APF/COP (fuel system)	-	Actual result	1.5	1.5	1.5	1.5	1.7	1.6	1.7	1.8	1.7	1.8	1.8								79%	
				Expected level								1.6					1.8					1.9		
		Energy conservation	10^4kL	Actual result	1	2	4	5	7	9	12	13	15	16	17								56%	
				Expected level								11					20					29		
		Emissions reduction	10^4 t-CO_2	Actual result	5	9	15	21	26	31	40	45	50	55	59								84%	
				Expected level								48					86					69		
	Introduction of industrial heat pump	Measure evaluation indicator Cumulative installed capacity	1,000kW	Actual result	11	40.0	65.1	88.1	115.8	137.9	157.5	168.4	197.3	220.6	248.8								14%	The measure evaluation indicator, energy saving, and emission reduction have been on an increasing trend for all facilities and equipment. This is due to the fact that the regulations of the Energy Conservation Act have promoted the improvement of energy consumption efficiency of each facility, and as a result of support for the introduction of high-efficiency facilities and equipment, the replacement with high-efficiency facilities and equipment, etc. has been promoted. However, while a certain level of progress is recognized, the current progress is evaluated to be lower than expected compared to the forecast when the measure evaluation indicator changes linearly every fiscal year toward the forecast for FY2030. Therefore, further efforts are required to achieve the target. Continuous efforts will be made to encourage businesses to invest in high-efficiency industrial HPs and introduce them through both regulatory measures under the Energy Conservation Act and support measures through subsidies.
				Expected level								277					824					1673		
		Energy conservation	10^4kL	Actual result	0.2	1.8	3.1	4.3	5.8	7.0	8.0	8.6	10.1	11.3	12.8								14%	
				Expected level								14					43					87.9		
		Emissions reduction	10^4 t-CO_2	Actual result	0.2	1.9	3.6	5.1	7.1	9.2	10.8	11.7	13.7	15.5	18.0								11%	
				Expected level								15					66					161		
	Introduction of industrial lighting	Measure evaluation indicator Cumulative market introductions	100 million units	Actual result	0.16	0.25	0.36	0.47	0.59	0.71	0.83	0.94	1.05	1.16	1.27								125%	The measure evaluation indicator, energy saving, and emission reduction have been on an increasing trend for all facilities and equipment. The current progress is evaluated to be higher than expected compared to the forecast when the measure evaluation indicator changes linearly every fiscal year toward the forecast for FY2030. This is due to the fact that the Top Runner Program of the Energy Conservation Act has promoted the improvement of energy consumption efficiency of each facility, and as a result of support for the introduction of high-efficiency facilities and equipment, the replacement with high-efficiency facilities and equipment, etc. has been promoted.
				Expected level								0.58					0.80					1.05		
		Energy conservation	10^4kL	Actual result	11.0	20.9	33.0	44.6	58.4	71.6	84.8	96.9	109	121.1	133.2								125%	
				Expected level								57					86					109		
		Emissions reduction	10^4 t-CO_2	Actual result	67.0	125.9	188.1	255.2	325.2	390.2	453.2	510.2	583.2	640.2	695.2								278%	
				Expected level								349					844.2					293.1		
	Introduction of low-carbon industrial furnaces	Measure evaluation indicator Cumulative number of introduced units	1,000 units	Actual result	9.4	9.8	10.2	10.9	11.5	12.2	12.8	13.4	14.0	14.6	15.1								59%	The measure evaluation indicator, energy saving, and emission reduction have been on an increasing trend for all facilities and equipment. This is due to the fact that the regulations of the Energy Conservation Act have promoted the improvement of energy consumption efficiency of each facility, and as a result of support for the introduction of high-efficiency facilities and equipment, the replacement with high-efficiency facilities and equipment, etc. has been promoted. Continuous efforts will be made to encourage businesses to invest in high-efficiency low-carbon industrial furnaces and introduce them through both regulatory measures under the Energy Conservation Act and support measures through subsidies.
				Expected level								13.6	14.2				16.6					19.1		
		Energy conservation	10^4kL	Actual result	17.0	32.1	47.2	70.6	93.5	115.8	137.3	158.3	178.6	198.4	217.3								56%	
				Expected level								173	195.7				281.1					374.1		
		Emissions reduction	10^4 t-CO_2	Actual result	57.5	101.7	141.6	215.5	282.3	336.3	391.0	447.2	505.5	561.9	602.3								73%	
				Expected level								516.5	584.2				692.5					806.9		
	Introduction of industrial motors and inverters	Measure evaluation indicator Cumulative number of introduced units of highly efficient motors	10^4 units	Actual result	1.6	9.0	74.9	165.9	207.2	265.7	307.2	334.8	353.2	382.1	389.7								14%	The measure evaluation indicator, energy saving, and emission reduction have been on an increasing trend for all facilities and equipment. This is due to the fact that the Top Runner Program of the Energy Conservation Act has promoted the improvement of energy consumption efficiency of each facility, and as a result of support for the introduction of high-efficiency facilities and equipment, the replacement with high-efficiency facilities and equipment, etc. has been promoted. However, while a certain level of progress is recognized, the current progress is evaluated to be lower than expected compared to the forecast when the measure evaluation indicator changes linearly every fiscal year toward the forecast for FY2030. Therefore, further efforts are required to achieve the target. Continuous efforts will be made to encourage businesses to invest in highly efficient industrial motors and inverters and introduce them through both regulatory measures under the Energy Conservation Act and support measures through subsidies.
				Expected level													1723					2756		
		Measure evaluation indicator Cumulative number of introduced units of inverters	10^4 units	Actual result	152.1	299.7	448.8	599.9	772.2	939.5	1098.3	1231.3	1377.0	1546.9	1755.0								44%	
				Expected level													2370					3811		
		Energy conservation	10^4kL	Actual result	5.48	11.2	20.0	30.2	38.5	47.7	55.5	61.7	67.9	75.5	83.3								28%	
				Expected level													176.2					282.6		
		Emissions reduction	10^4 t-CO_2	Actual result	33.8	67.3	114.1	169.5	207.5	237.0	265.4	292.4	322.4	354.3	377.6								47%	
				Expected level								376					1082					760.8		
	Introduction of high-performance boilers	Measure evaluation indicator Number of introduced units	100 units	Actual result	280.0	330.4	379.2	432.1	479.7	531.0	580.1	620.6	665.9	709.6	752.8								70%	The measure evaluation indicator, energy saving, and emission reduction have been on an increasing trend for all facilities and equipment. This is due to the fact that as a result of support for the introduction of high-efficiency facilities and equipment, the replacement of facilities and equipment with high-efficiency facilities and equipment, etc. has been promoted. Continuous efforts will be made to encourage businesses to invest in high-performance boilers and introduce them through both regulatory measures under the Energy Conservation Act and support measures through subsidies.
				Expected level								591					745.4					957		
		Energy conservation	10^4kL	Actual result	10.8	22.9	34.6	47.3	58.7	71.0	82.8	92.6	103.4	113.9	124.3								70%	
				Expected level								85.4					122.5					173.3		
		Emissions reduction	10^4 t-CO_2	Actual result	29.2	61.8	93.4	127.7	158.4	191.7	223.5	250.0	279.2	307.5	335.6								70%	
				Expected level								230.6					330.7					467.9		
	Introduction of cogeneration	Measure evaluation indicator Cumulative installed capacity of co-generation	10^4 kW	Actual result	1004	1016	1034	1050	1060	1077	1102	1134	1153	1168	1189								56%	The measure evaluation indicator, energy saving, and emission reduction have been on an increasing trend for all facilities and equipment. This is due to the fact that as a result of support for the introduction of high-efficiency facilities and equipment, the replacement of facilities and equipment with high-efficiency facilities and equipment, etc. has been promoted. However, while a certain level of progress is recognized, the current progress can be said to be roughly in line with the forecast, compared with the forecast when the measure evaluation indicator changes linearly every fiscal year toward the forecast for FY2030. Continuous efforts will be made to encourage businesses to make capital investment in cogeneration through both regulatory measures under the Energy Conservation Act and support measures in the form of subsidies.
				Expected level								1134					1230					1336		
		Energy conservation	10^4kL	Actual result	12.0	19.0	29.4	38.6	44.5	53.8	68.2	86.9	96.6	103.9	113.9								51%	
				Expected level								87					146.7					212.1		
		Emissions reduction	10^4 t-CO_2	Actual result	41	63	97	127	149	201	254	332.4	380.4	416.9	474.2								42%	
				Expected level								294					694.2					1061		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
03. Promotion of the introduction of facilities and equipment with high energy-saving performance (iron and steel industry)	Improvement of efficiency of main electricity demand facilities	Measure evaluation indicator Rate of widespread use	%	Actual result	-4	35	27	-25	3	44	93	90	96	169	135								**134%**	The measure evaluation indicator, energy saving and emission reduction for FY2023 all increased compared to FY2013, but decreased compared to FY2022. This measure is considered to be one of the voluntary initiatives of the steel industry based on the Carbon Neutrality Action Plan, and although businesses are replacing with main facilities that consume electricity with higher efficiency equipment with support from the national government for the installation of facilities, there is also the impact of fixed electricity used for the maintenance and management, etc. of steel plants. Thus, there is a possibility that the actual results will fluctuate depending on the increase or decrease in crude steel production volume. Although the actual amounts may fluctuate in the future due to the increase or decrease in crude steel production volume, in FY2023, the businesses are expected to upgrade to facilities that consume electricity with higher efficiency equipment, including support from the national government for the introduction of facilities, and are expected to upgrade to highly efficient electricity demand facilities over medium and long-term as well.
				Expected level													–					100		
		Energy conservation	10^4kL	Actual result	-0.2	1.8	1.3	-1.2	0.1	2.2	4.7	4.5	4.9	8.5	6.8								**135%**	
				Expected level													–					5.0		
		Emissions reduction	10^4 t-CO_2	Actual result	-0.4	3.4	2.6	-2.4	0.3	4.3	9.0	8.7	9.6	16.4	13.1								**130%**	
				Expected level													–					10.0		
	Expansion of chemical recycle of waste plastics at steel mills	Measure evaluation indicator Amount of processed waste plastic	10^4 t	Actual result	40	45	44	45	47	41	45	37	41	37	33								**-12%**	The measure evaluation indicator in FY2023 decreased by 70,000 tons compared to FY2013 and 40,000 tons compared to FY2022. The steel industry is aiming to expand chemical recycling at steel plants based on the assumption that the sorted collection volume of waste plastic, etc. that can be used at steel plants in accordance with the Containers and Packaging Recycling Law will increase. However, since the collection volume of waste plastic, etc. derived from containers and packaging has increased less than expected, it is difficult to expand the use of waste plastic, etc. in chemical recycling, resulting in sluggish performance of each indicator (Reference: Annual Report (The Japan Containers And Packaging Recycling Association)) Under the Act on Promotion of Resource Circulation for Plastics, which came into effect on April 1, 2022, municipalities will collect waste from plastic-using products other than containers and packaging through the sorted collection of waste from plastic-using products, in addition to the waste from plastic containers and packaging collected under the Containers and Packaging Recycling Law. Efforts will be made to expand the use of waste plastic, etc. for chemical recycling. * Plastic containers and packaging that guarantee a certain level of quality (safety and hygiene assurance, removal of foreign substances, etc.)
				Expected level													–					100		
		Energy conservation	10^4kL	Actual result	-2	3	2	3	4	-1	1	-4.3	-0.9	-4.3	-7.7								**-11%**	
				Expected level													–					49		
		Emissions reduction	10^4 t-CO_2	Actual result	-7	11	7	11	18	-4	2	-18	-4	-18	-32								**-11%**	
				Expected level													–					212		
	Efficiency improvement of coke oven	Measure evaluation indicator Rate of widespread use	%	Actual result	93	90	92	91	90	92	93	92	92	91	89								**-57%**	The measure evaluation indicator, energy saving and emission reduction for FY2023 all decreased compared to FY2013 and FY2022. This measure is considered to be one of the voluntary efforts of the steel industry based on the Carbon Neutrality Action Plan, and the upgrading of coke ovens has been progressing sequentially. It has been improving since reaching its lowest point in FY2017. It is expected that the businesses will continue to make strategical upgrades.
				Expected level													–					100		
		Energy conservation	10^4kL	Actual result	-4	-12	-7	-10	-12	-7	-3	-6	-6	-10	-16								**-57%**	
				Expected level													–					17		
		Emissions reduction	10^4 t-CO_2	Actual result	-10	-32	-19	-29	-34	-20	-8	-18	-17	-27	-46								**-62%**	
				Expected level													–					48		
	Improvement of power generation efficiency (joint thermal power generation facilities)	Measure evaluation indicator Rate of widespread use (joint thermal power)	%	Actual result	22	22	30	30	30	30	30	35	35	35	35								**77%**	This measure is one of the voluntary efforts of the steel industry based on the Carbon Neutrality Action Plan, in which businesses are replacing their joint thermal power generation facilities with high-efficiency equipment, including support from the national government for the introduction of facilities. The measure evaluation indicator, energy saving, and emission reduction for FY2023 increased compared to FY2013 and remained flat compared to FY2022. Facility replacements have been making steady progress, and it is expected that businesses will continue to make strategical replacements.
				Expected level													–					39		
		Energy conservation	10^4kL	Actual result	6	7	9	9	9	9	9	13	13	13	13								**87%**	
				Expected level													–					14		
		Emissions reduction	10^4 t-CO_2	Actual result	19	23	29	29	29	29	29	40	40	40	40								**84%**	
				Expected level													–					44		
	Improvement of power generation efficiency (in-house power generation facilities)	Measure evaluation indicator Rate of widespread use (private power generation)	%	Actual result	38	38	54	54	54	54	62	62	62	62	62								**44%**	This measure is one of the voluntary efforts of the steel industry based on the Carbon Neutrality Action Plan, in which businesses are replacing their in-house power generation facilities with high-efficiency equipment, including support from the national government for the introduction of facilities. The measure evaluation indicator, energy saving, and emission reduction for FY2023 increased compared to FY2013 and increased slightly compared to FY2022. Facility replacements have been making steady progress, and it is expected that businesses will continue to make strategical replacements.
				Expected level													–					92		
		Energy conservation	10^4kL	Actual result	5	5	10	14	16	16	21	21	21	20	21								**64%**	
				Expected level													–					30		
		Emissions reduction	10^4 t-CO_2	Actual result	11	11	23	33	38	38	49	49	49	47	48								**63%**	
				Expected level													–					70		
	Enhancement of energy saving facilities	Measure evaluation indicator Rate of widespread use (TRT)	%	Actual result	91	91	90	90	89	89	89	89	88	91	91								**3%**	This measure is one of the voluntary efforts of the steel industry based on the Carbon Neutrality Action Plan, in which the businesses are expanding energy-saving facilities, including support from the national government for the introduction of facilities. The measure evaluation indicators (CDQ, steam recovery), energy saving and emission reduction for FY2023 increased compared to FY2013 and remained flat compared to FY2022. Since businesses are making progress in facility upgrades, the amount of energy conservation and emissions reduction cannot be expected to increase significantly immediately. Businesses are upgrading to energy-saving facilities, including support from the national government for the introduction of facilities, it is expected that measures will advance along with the progress of facility upgrades, leading to the achievement of the target for FY2030.
				Expected level													–					100		
		Measure evaluation indicator Rate of widespread use (CDQ)	%	Actual result	86	87	88	87	87	87	87	88	87	87	87								**7%**	
				Expected level													–					100		
		Measure evaluation indicator Rate of widespread use (steam recovery)	%	Actual result	83	84	84	84	84	84	85	85	84	84	84								**6%**	
				Expected level													–					100		
		Energy conservation	10^4kL	Actual result	0.5	2	3	2	2	2	2	3	2	3	3								**8%**	
				Expected level													–					34		
		Emissions reduction	10^4 t-CO_2	Actual result	0.9	3	6	4	4	4	5	6	3	6	5								**6%**	
				Expected level													–					65		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
	Introduction of innovative pig iron making process (ferro coke)	Measure evaluation indicator Number of introduced facilities	Units	Actual result	0	0	0	0	0	0	0	0	0	0	0								**0%**	Research and development of this measure is being carried out with the aim of establishing the technology for this measure by around 2022, and to have five installed facilities by FY2030. Since the measure evaluation indicator is the number of steps introduced using this process, there was no progress in FY2023. Measures are steadily progressing through support for technology development. After the technology has been established, business will proceed strategical introduction, and the target is expected to be achieved.
				Expected level								0	0	0	0		–					5		
		Energy conservation	10^4kL	Actual result	0	0	0	0	0	0	0	0	0	0	0								**0%**	
				Expected level								–					–					19		
		Emissions reduction	10^4 t-CO_2	Actual result	0	0	0	0	0	0	0	0	0	0	0								**0%**	
				Expected level								–					–					82		
	Introduction of environmentally harmonious ironmaking processes	Measure evaluation indicator Number of introduced facilities	Units	Actual result	0	0	0	0	0	0	0	0	0	0	0								**0%**	Research and development of this measure is being carried out with the aim of establishing the technology for this measure by around 2025, and to have one installed facility by FY2030. Since the measure evaluation indicator is the number of steps introduced using this process, there was no progress in FY2023. Measures are steadily progressing through support for technology development. After the technology has been established, businesses will proceed strategical introduction, and the target is expected to be achieved.
				Expected level								0	0	0	0		–					1		
		Energy conservation	10^4kL	Actual result	0	0	0	0	0	0	0	0	0	0	0								**0%**	
				Expected level								–					–					5		
		Emissions reduction	10^4 t-CO_2	Actual result	0	0	0	0	0	0	0	0	0	0	0								**0%**	
				Expected level								–					–					11		
04. Promotion of the introduction of facilities and equipment with high energy-saving performance (chemical industry)	Introduction of energy saving process technologies in chemistry	Measure evaluation indicator –	–	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	With regard to energy-saving process technology in petrochemicals, the chemical manufacturing process as a whole has reduced CO_2 emissions by 5.32 million tons-CO_2 (the actual results of Carbon Neutrality Action Plan of the chemical industry in FY2023) by accumulating investments in energy-saving measures at each company. It is expected that the industry will continue to invest tens of billions of JPY and maintain a reduction in CO_2 emissions of hundreds of thousands of tons.
				Expected level												–	–	–	–	–	–	–		
		Energy conservation	10^4kL	Actual result	16.9	33.3	50.7	64.1	87.4	101.8	118.5	140.0	158.8	179.0	197.1								**142%**	
				Expected level													–					144.1		
		Emissions reduction	10^4 t-CO_2	Actual result	45.6	89.8	137.0	173.0	236.1	275.0	320.0	378.1	428.9	483.4	532.3								**142%**	
				Expected level													–					389.1		
	Introduction of carbon dioxide utilization technologies	Measure evaluation indicator Introduced amount	10^4 t	Actual result	–	0	0	0	0	0	0	0	0	0	0								**0%**	By FY2022, study of the performance improvement of the photocatalyst was conducted, and it was confirmed that improvement of conversion efficiency with the photoelectrode type is possible. In order to identify issues for upsizing in the future, a system that connects the photocatalyst panel and separation membrane module was constructed, and a long-term field test was conducted outdoors. In addition, continuous operation of small pilots for methanol synthesis and olefin synthesis was carried out, respectively. Since FY2023 onward, under the experimental environment for the successor Green Innovation Fund Project, study has been conducted on the technology for improving the performance of photocatalysts for photocatalyst sheets that are more suitable for social implementation, lowering the cost of photocatalytic modules, and separation membrane modules, etc., as elemental technologies for practical use. Furthermore, for methanol production using hydrogen and olefin production, scale-up study toward practical use has been promoted.
				Expected level													0.64					64.0		
		Energy conservation	10^4kL	Actual result	–	0	0	0	0	0	0	0	0	0	0								**0%**	
				Expected level													0.06					6.4		
		Emissions reduction	10^4 t-CO_2	Actual result	–	0	0	0	0	0	0	0	0	0	0								**0%**	
				Expected level													0.16					17.3		
05. Promotion of the introduction of facilities and equipment with high energy-saving performance (cement and ceramic industry)	Conventional energy saving technology	Measure evaluation indicator Energy intensity reduction	MJ/t-cem	Actual result	2	2	5	5	6	6	10	10	10	11	12								**83%**	The introduction of conventional energy-saving technologies is based on the capital investment plans of individual companies, taking into account the business conditions, production conditions, aging of equipment and the timing of replacement of each company. Although the actual results are not necessarily linear, facilities are continuously being introduced. In FY2023, following FY2022, the new introduction of energy-saving facilities was achieved, which had been on hold since FY2020 due to the COVID-19 pandemic. However, due to a decrease in cement production, the amount of energy saving decreased. As long as there is no significant change in demand trends, the capital investment plans of each company are expected to progress. Thus, it was evaluated to exceed the target level by FY2030. However, there is a possibility that the capital investment plans will be revised due to the labor shortage of construction workers, rising labor and material costs, changes in construction methods, and the impact of soaring material prices due to the recent situation in Ukraine, etc.
				Expected level													–					14		
		Energy conservation	10^4kL	Actual result	0.2	0.4	0.7	0.8	0.9	1.0	1.6	1.5	1.5	1.5	1.4								**55%**	
				Expected level													–					2.4		
		Emissions reduction	10^4 t-CO_2	Actual result	0.5	1.1	1.9	2.1	2.4	2.7	4.3	4.0	4.0	4.0	3.8								**56%**	
				Expected level													–					6.4		
	Technology to use waste as a substitute for thermal energy	Measure evaluation indicator The co-firing ratio of alternative waste to thermal energy	%	Actual result	-0.2	-0.2	0.7	1.7	0.9	1.7	2.4	3.0	2.9	4.3	6.1								**371%**	Thermal energy alternative waste will not become widely used solely by the technical capabilities of the users, but will be accepted or rejected by a combination of factors such as the amount of waste discharged to be used, the type of waste discharged, the cost of treatment, the existence of waste treatment facilities, economic rationality, and competition with other industries. The amount of waste used in FY2023 was about the same as the previous year, and the share of waste to the energy required for cement production (co-firing ratio) remained at a high level compared to the previous year, exceeding the target level for FY2030. Since FY2024, although the rate of increase in waste usage may be smaller than before due to the enforcement of the Plastic Resource Circulation Law and the expansion of material recycling of each company is actively making capital investments aimed at increasing the acceptance of waste in order to further reduce fossil energy, and an increase in the co-firing ratio is expected. Thus, it was evaluated that the result is expected to exceed the target level for FY2030, and the actual value for FY2023 already exceeds the target for FY2030.
				Expected level													1.0					1.5		
		Energy conservation	10^4kL	Actual result	-3.1	-2.2	4.5	9.7	5.2	9.1	12.2	15.8	16.0	22.2	28.5								**307%**	
				Expected level													4.7					7.2		
		Emissions reduction	10^4 t-CO_2	Actual result	-8.2	-6.0	12.1	26.0	26.0	24.3	32.8	42.4	42.9	59.4	76.3								**308%**	
				Expected level													12.7					19.2		
	Innovative cement production process	Measure evaluation indicator Low-temperature firing clinker production volume	%	Actual result	0	0	0	0	0	0	0	0	0	0	0								**0%**	Toward the practical application of the envisioned technology, there are many issues and problems, such as establishing a stable supply system for feedstocks, establishing manufacturing conditions and product quality control conditions through actual machine tests, reviewing product applicability and standard systems, and understanding of users and establishing a supply system for widespread use, and it is necessary to continue the study. On the other hand, technology development for practical use of energy-saving cement is being promoted through trial manufacturing of actual facilities. Thus, it was evaluated to be about the same as the target level for FY2030.
				Expected level													28.9					73.1		
		Energy conservation	10^4kL	Actual result	0	0	0	0	0	0	0	0	0	0	0								**0%**	
				Expected level													4.5					15.1		
		Emissions reduction	10^4 t-CO_2	Actual result	0	0	0	0	0	0	0	0	0	0	0								**0%**	
				Expected level													12.2					40.8		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
	Glass melting process technology	Measure evaluation indicator Technology introduction rate	%	Actual result	0	0	0	0	0	0	0	0	0	0	0								**0%**	In order to develop the outcomes of the project that was completed in FY2012, a small burner that enables simplified, small-scale experiments based on the knowledge obtained in the project was developed.Continuous efforts are being made to popularize this burner. Two companies purchased this burner by FY2019. In addition, this burner has been loaned free of charge to the National Institute for Materials Science (NIMS), where experiments and research have been conducted, respectively. Inquiries have been received from relatively many companies about this burner, although such inquiries did not result in the introduction of this burner. However, since FY2020, the number of inquiries has decreased. Activities to popularize this burner are planned in FY2024 and beyond. By publicizing the energy-saving effects of using the burner, it is expected that some companies would like to conduct a scale-up experiment. In order to establish and introduce innovative melting technology suitable for large-scale melting furnaces, it is expected that the technical difficulty will be high, but considering the background of focusing on GHG net zero, it was decided to aim at realization of the production facility with a glass pulling capacity of 1 ton/day, and the current progress was evaluated as being as expected.
				Expected level													1.2					3.7		
		Energy conservation	10^4kL	Actual result	0	0	0	0	0	0	0	0	0	0	0								**0%**	
				Expected level													1.5					3.0		
		Emissions reduction	10^4 t-CO_2	Actual result	0	0	0	0	0	0	0	0	0	0	0								**0%**	
				Expected level													4.1					8.1		
06. Promotion of the introduction of facilities and equipment with high energy-saving performance (pulp, paper, and paper product industry)	Introduction of high-efficiency recovered paper pulping process technology	Measure evaluation indicator Rate of widespread use	%	Actual result	12.1	14.0	19.0	19.0	21.0	21.0	24.7	30.6	31.1	32.2	34.3								**89%**	In FY2023, with respect to the measure evaluation indicator, the actual value was higher than the previous fiscal year, but the amount of energy saving and the amount of emission reduction remained flat. While there has been a decrease in the number of applicable recycled pulp manufacturing facilities due to reductions in recycled pulp production and shutdowns associated with plant closures, there were no new introductions of high-efficiency recycled pulp manufacturing technologies in FY2023, and since the detailed future investment plans of each company cannot be determined, it is difficult to provide estimates up to FY2030. Recently, paper manufacturers have experienced difficult business conditions due to the impact of sluggish demand for paper and paperboard resulting from the progress in digitalization and soaring raw material and fuel prices. Although investments in the environment are expected to be made toward the long-term goal of GHG net zero, limiting the scope to the introduction of high-efficiency recycled pulp manufacturing technologies, the amount of energy saving and the amount of emission reduction were evaluated to be below the target level for FY2030. As for the paper and pulp industry, the actual amount of energy saving for FY2023 was 25,000 kL in crude oil equivalent, and the CO_2 reduction amount was 70,000 tCO_2, and energy saving through the introduction of highly efficient equipment and process reviews other than the introduction of high-efficiency recycled pulp manufacturing technologies has continued to be implemented. In FY2024, an actual condition survey of the applicable recycled pulp manufacturing facilities will be conducted, and as energy-saving measures for the paper and pulp industry, it is planned to proceed with consideration including a shift to broader targets, including fuel conversion.
				Expected level													34					37		
		Energy conservation	10^4kL	Actual result	0.2	0.7	1.6	1.7	2.0	2.1	2.8	3.1	3.2	3.4	3.4								**87%**	
				Expected level													3.4					3.9		
		Emissions reduction	10^4 t-CO_2	Actual result	0.5	1.9	4.3	4.6	5.4	5.7	7.6	8.4	8.7	9.1	9.1								**86%**	
				Expected level													9.2					10.5		
07. Promotion of the introduction of facilities and equipment with high energy-saving performance (construction work and use of special vehicles)	Introductn of energy saving construction equipment, etc.	Measure evaluation indicator Number of introduced units of hybrid construction machinery	10^4 units	Actual result	Approximately 0.2	0.3	0.4	0.6	0.8	0.9	1.0	1.1	1.2	1.3	1.1								**20%**	The measure evaluation indicator, energy saving and emission reduction are linked in the calculation method, and the number of introduced units of energy-saving construction machinery, which is a measure evaluation indicator, has consistently increased since FY2013. Although growth has been sluggish since 2020 due to the COVID-19 pandemic and other factors, demand for construction equipment is not only recovering at present, but GX Construction Machinery certification system has been newly established. Tharefore, it is considered to be about the same as the target level for FY2030 in the future while combining support countermeasures.
				Expected level		0.4	0.5	0.6	0.8	1.0	1.2	1.4	1.7	2.0	2.3	2.6	2.9	3.2	3.5	3.9	4.3	Approximately 4.7		
		Energy conservation	10^4kL	Actual result	0.3	0.6	1.0	1.6	2.2	2.7	3.2	3.6	3.8	4.0	3.5								**20%**	
				Expected level		0.7	1.1	1.5	2.2	2.9	3.7	5	5.8	6.6	7.7	8.8	9.9	11.0	12.0	13.5	15.0	16		
		Emissions reduction	10^4 t-CO_2	Actual result	0.7	1.5	2.8	4.3	5.9	7.4	8.7	9.7	10.3	10.8	9.4								**20%**	
				Expected level		2.0	3.0	3.9	5.9	7.9	9.9	13	15.8	17.7	20.7	23.7	26.6	29.6	32.5	36.5	40.4	44		
		Measure evaluation indicator * Reference: Rate of widespread use of construction machinery that meets fuel efficiency standards (hydraulic excavators)	%	Actual result	–	–	–	–	6.7	10	14	22	29	39	48								**55%**	The measure evaluation indicator is progressing steadily against the forecast value. It is thought that the widespread use is accelerating, partly due to the effects of support measures. The diffusion rate of widespread use of construction machinery that meets fuel efficiency standards has consistently increased since FY2017, and it is considered to be about the same as the target level for FY2030. FCFL was launched in 2016, and sales volume growth is expected to accelerate. The amount of energy conservation and emission reductions changes in tandem with the measure evaluation indicator.
				Expected level													49.4					82.3		
		Measure evaluation indicator * Reference: Rate of widespread use of construction machinery that meets fuel efficiency standards (wheel loaders)	%	Actual result	–	–	–	–	2.0	4	6	6	6	11	14								**20%**	
				Expected level													39.8					60.7		
		Measure evaluation indicator * Reference: Rate of widespread use of construction machinery that meets fuel efficiency standards (bulldozers)	%	Actual result	–	–	–	–	5.1	6	8	12	16	26	33								**63%**	
				Expected level													33.2					49.3		
		Measure evaluation indicator * Reference: The number of widely-used construction machinery that meets fuel efficiency standards (FCFL)	Units	Actual result	–	–	–	–	77	156	244	326	397	415	426	(446)							**14%**	
				Expected level													500					2500		
		Energy conservation	10^4kL	Actual result	–	–	–	–	1	2.1	2.9	13.5	13.5	10.1	10.3								**55%**	
				Expected level													11					18		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	–	4	5.6	7.7	10.1	12.4	17.2	21.1								**39%**	
				Expected level													29					48		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
08. Promotion of the introduction of facilities and equipment with high energy-saving performance (greenhouse horticulture, agricultural machinery, and fisheries)	Introduction of energy saving equipment in horticulture facilities, etc.	Measure evaluation indicator Introduction of energy saving equipment	1,000 units	Actual result	63	78	85	91	98	104	109	114	119	126	135								**67%**	Although the progress of the results against the forecast of the two measure evaluation indicators (energy-saving equipment and energy-saving facilities) are slightly different, the results of both of them have been at the same level as the forecast of the plan. Thus, it is considered to be about the same as the target level in FY2030. Since the amount of energy saving and emission reduction changes in tandem with the measure evaluation indicators, they are considered to be about the same as the target level for FY2030. From the standpoint of reducing greenhouse gas emissions in the protected horticulture industry, while supporting the introduction of energy-saving facilities and the establishment of energy-saving technologies that also contribute to the reduction of greenhouse gas emissions, dissemination and public awareness-raising of energy-saving production management is carried out continuously based on the Protected Horticulture Energy-Saving Production Management Manual and Protected Horticulture Energy-Saving Production Management Check Sheet. Support for the introduction of facilities and establishment of technologies, dissemination and public awareness-raising of energy-saving production management will be promoted continuously.
				Expected level		78	85	91	98	104	109	115	120	126	131	137	143	148	154	159	165	170		
		Measure evaluation indicator Introduction of energy saving facilities	1,000 locations	Actual result	105	125	143	162	180	198	217	234	251	266	280								**65%**	
				Expected level		125	143	162	180	198	217	231	246	260	275	289	304	318	333	347	362	376		
		Energy conservation	10^4kL	Actual result	–	6.6	10.6	14.3	17.9	21.4	25.1	28.3	31.6	35.2	38.4								**67%**	
				Expected level		6.6	10.6	14.3	17.9	21.4	25.1	28.0	30.9	33.9	36.8	39.7	42.7	45.6	48.5	51.5	54.4	57.3		
		Emissions reduction	10^4 t-CO_2	Actual result	–	18	29	39	48	58	68	76	85	95	104								**67%**	
				Expected level		18	29	39	48	58	68	76	84	91	99	107	115	123	131	139	147	155		
	Introduction of energy saving agricultural machinery	Measure evaluation indicator The number of widely-used energy saving agricultural machinery	1,000 units	Actual result	0.45	0.96	1.7	3.0	4.8	6.7	9.1	14.4	18.0	31.4	46.7								**24%**	The progress of the measure evaluation indicator in FY2023 is rated as C (considered to be equivalent to the standard of the FY2030 target), due to the gradual increase in the number of energy saving agricultural machineries introduced, energy saving and emission reduction matching the target level.
				Expected level								10.0	22.0	34.0	46.0	58.0	70	94.0	118.0	142.0	166.0	190		
		Energy conservation	10^4kL	Actual result	—	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.05	0.07								**24%**	
				Expected level								0.02	0.03	0.05	0.07	0.09	0.11	0.14	0.18	0.22	0.26	0.29		
		Emissions reduction	10^4 t-CO_2	Actual result	—	0.00	0.01	0.01	0.02	0.03	0.04	0.06	0.08	0.13	0.20								**25%**	
				Expected level								0.04	0.09	0.14	0.19	0.24	0.29	0.39	0.49	0.59	0.69	0.79		
	Energy saving on fishing vessels	Measure evaluation indicator Shift to energy saving fishing boats	%	Actual result	12.4	14.0	15.1	17.4	18.9	20.6	22.5	24.1	25.7	27.6	29.5								**60%**	The switching to energy saving fishing vessels in FY2023 has been at the same level as the forecast of the plan, and it is thus considered to be about the same as the target level in FY2030. Since the amount of energy saving and emission reduction are broadly in line with projections, they are considered to be about the same as the target level for FY2030.
				Expected level		13.9	14.8	15.8	16.8	17.8	18.8	19.8	25.8	27.5	29.2	30.9	32.6	34.3	35.9	37.6	39.3	41.0		
		Energy conservation	10^4kL	Actual result	–	0.4	0.8	1.2	1.5	1.9	2.2	2.6	3.0	3.3	3.6								**50%**	
				Expected level		0.4	0.7	1.1	1.4	1.8	2.1	2.5	2.9	3.4	3.9	4.3	4.8	5.3	5.7	6.2	6.7	7.2		
		Emissions reduction	10^4 t-CO_2	Actual result	–	1.0	2.1	3.1	4.1	5.0	6.0	7.1	8.0	9.0	9.6								**49%**	
				Expected level		1.0	1.9	2.9	3.8	4.8	5.7	6.7	8.2	9.4	10.7	11.9	13.2	14.4	15.7	16.9	18.1	19.4		
09. Promotion of energy conservation initiatives through inter-industry collaboration	Promotion of energy conservation initiatives through inter-industry collaboration	Measure evaluation indicator –	-	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	The actual amount of energy saving and emission reduction are on an increasing trend, and if efforts continue as they are, the measure evaluation indicator is considered to be about the same as the target level in FY2030. This is due to the fact that since FY2015, subsidies have been used to support integrated energy-saving projects among multiple existing factories, leading to the advancement of energy-saving efforts through cooperation among multiple businesses. Energy conservation initiatives through inter-industry collaboration will be continuously promoted through support measures in the form of subsidies, etc.
				Expected level													–					–		
		Energy conservation	10^4kL	Actual result	0	0	1.6	2.8	6.0	7.0	11.3	14.4	14.9	17.3	17.3								**60%**	
				Expected level													21					29		
		Emissions reduction	10^4 t-CO_2	Actual result	0	0	5.3	9.2	19.4	22.0	33.6	44.7	46.3	53.7	53.7								**69%**	
				Expected level													71					78		
10. Electrification and fuel conversion	Promotion of fuel conversion	Measure evaluation indicator The amount of fuel converted to gas	Million Nm^3	Actual result	–	191	306	408	499	640	835	965	1082	1169	1238								–	The measure evaluation indicator and emission reduction are linked in the calculation method. Estimates from FY2021 onward were made on the assumption that, based on actual results from FY2016 to FY2019, the amount of development of 132 million Nm^3 and a reduction effect of 125,000 tons-CO_2/year would accumulate each year, and are expected to show linearly toward FY2030. Promotion of fuel conversion will be carried out through subsidy projects. With respect to hydrogen and its derivatives, based on the Basic Hydrogen Strategy revised in June 2023, efforts are being made to support related technology development and to build supply chains, etc. In February 2024, the Bill on Promotion of Supply and Utilization of Low-Carbon Hydrogen and its Derivatives for Smooth Transition to a Decarbonized, Growth-Oriented Economic Structure was approved by the Cabinet. Regarding carbon recycling, the Ministry of Economy, Trade and Industry (METI) is working, based on the Carbon Recycling Roadmap formulated in June 2023, on technology development and social implementation of carbon recycling, international deployment, and the building of CO_2 supply chains. Regarding CCS, based on the GX Promotion Strategy decided by the Cabinet in July 2023, in order to establish scalable business models for the future dissemination and expansion of CCS projects, seven Advanced CCS projects led by operators—with different combinations of CO_2 sources, transport methods, and storage regions—were adopted with project start targeted by 2030, and support was provided for feasibility studies, etc. In February 2024, the Bill on Carbon Dioxide Storage Business (CCS Business Bill) was approved by the Cabinet.
				Expected level													–					–		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level													–					–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	20	26	42	45	58	76	87	110.4	118.9	127.0								**60%**	
				Expected level									101	113	126	138	151	163	176	188	201	211		
11. Implementation of thorough energy management using FEMS	Implementation of thorough energy management using FEMS	Measure evaluation indicator FEMS coverage rate	%	Actual result	5	5.6	6.1	6.5	6.5	7.6	10.7	9.2	5.7	6.7	8.1								**16%**	The measure evaluation indicator, energy saving and emission reduction have been on an increasing trend. This is due to the promotion of the introduction of FEMS and energy management as a result of calls for thorough energy management at factories in accordance with the Public Notice of the Energy Conservation Act (standards of judgment for businesses using energy at factories, etc.) and support for the introduction of FEMS through subsidies, etc. However, while a certain level of progress in policies and measures is recognized, the current progress is evaluated to be lower than expected compared to the forecast when the measure evaluation indicator changes linearly every fiscal year toward the forecast for FY2030. Therefore, further efforts are required to achieve the target for FY2030. Continuous efforts will be made to encourage businesses to make capital investment in FEMS through both regulatory measures under the Energy Conservation Act and support measures in the form of subsidies, thereby facilitating thorough energy management using FEMS.
				Expected level													18					24		
		Energy conservation	10^4kL	Actual result	4	5.6	7.4	8.7	8.9	11.9	19.5	15.1	7.0	8.9	12.1								**12%**	
				Expected level													62					74		
		Emissions reduction	10^4 t-CO_2	Actual result	15	21.3	27.4	31.8	31.9	42.0	68.0	50.9	23.6	29.8	40.6								**14%**	
				Expected level													238					200		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
12. Improvement of the energy efficiency of buildings	Improvement of the energy efficiency of buildings (new buildings)	Measure evaluation indicator The percentage of medium to large-scale new buildings that meet the energy saving performance of the ZEB standard	%	Actual result	0	–	–	–	–	–	29	35	32	35	39								**39%**	The actual amount of energy saving and emission reduction are on an increasing trend. This is thought to be due to the promotion of the spread of low-carbon buildings with high energy-saving performance and the promotion of the improvement of energy-saving performance in new buildings by providing support for leading projects with excellent energy-saving and CO_2 emission reduction feasibility. However, while some progress has been made, further efforts are needed to achieve the target. The Act to Partially Amend of the Act the Improvement of Energy Consumption Performance of Buildings (Act No. 4 of 2019) was promulgated in May 2019 and fully enforced in April 2021; it includes measures such as addition of medium-sized office buildings, etc. to be subject to the mandatory compliance system. In addition, the Act to Partially amend the Energy Consumption Performance of Buildings to Contribute to the Realisation of a Decarbonized Society, which includes measures such as mandatory compliance with energy-saving standards for all new houses and buildings, was promulgated in June 2022 in order to raise the level of energy-saving performance, and will be fully enforced by FY2025. Furthermore, in October 2022, the guidance standards in accordance with the Building Energy Conservation Act and the certification standards for low-carbon buildings in accordance with the Act on Promotion of Low-Carbonization of Urban Cities were raised. Continuous efforts will be made to achieve the target by strengthening the measures described in future plans.
				Expected level													–					100		
		Energy conservation	10^4kL	Actual result	–	13.1	24.3	37.5	53.5	69.9	77.2	83.2	90.3	95.3	98.8								**25%**	
				Expected level													–					403		
		Emissions reduction	10^4 t-CO_2	Actual result	–	54.0	96.0	161.1	203.1	252.1	272.5	292.1	314.7	332.5	336.8								**33%**	
				Expected level													–					1010		
	Improvement of the energy efficiency of buildings (renovation and reconstruction of existing buildings)	Measure evaluation indicator The percentage of building stock that meets energy saving standards	%	Actual result	24	26	28	30	31	33	35	37	38	40	41								**52%**	The measure evaluation indicator, energy saving and emission reduction have been on an increasing trend. This is thought to be due to the promotion of energy-saving renovation of existing buildings through support, etc. for energy-saving renovation of existing buildings. However, while some progress has been made, further efforts are needed to achieve the target. Since September 2021, discussions took place at the Building Environment Subcommittee of the Building Committee of the Social Infrastructure Improvement Council regarding the strengthening of energy-saving measures for housing and buildings. On February 1, 2022, the Social Infrastructure Improvement Council sent the Future of Energy-Saving Measures for Housing and Buildings (Third Report) to the Minister of Land, Infrastructure, Transport and Tourism. In addition, the Act to Partially amend the Energy Consumption Performance of Buildings to Contribute to the Realisation of a Decarbonized Society includes measures such as mandatory compliance with energy-saving standards for all new houses and buildings, was promulgated in June 2022 in order to raise the level of energy-saving performance, and will be fully enforced by FY2025. Energy-saving renovation of existing buildings will be continuously promoted through support measures in the form of subsidies, etc.
				Expected level													–					57		
		Energy conservation	10^4kL	Actual result	–	4.7	8.8	11.9	22.3	26.4	39.6	44.8	48.7	53.3	57.1								**40%**	
				Expected level													–					143		
		Emissions reduction	10^4 t-CO_2	Actual result	–	17.9	32.5	43.8	79.4	89.6	132.1	148.5	160.3	175.9	184.7								**52%**	
				Expected level													–					355		
13. Promotion of high-efficiency energy-saving equipment (commercial and other sectors)	Installation of energy-efficient commercial water heaters	Measure evaluation indicator Cumulative number of introduced units of HP water heaters	10^4 units	Actual result	2.9	3.2	3.5	3.8	4.1	4.4	5.2	5.5	5.8	6.1	6.4								**32%**	
				Expected level								5					9					14		
		Measure evaluation indicator Cumulative number of introduced units of latent heat recovery type water heater	10^4 units	Actual result	15	17.6	20.4	23.5	26.9	30.5	34.2	37.2	39.8	43.0	46.1								**33%**	The measure evaluation indicator, energy saving and emission reduction have been on an increasing trend. This is due to the fact that as a result of support for the introduction of high-efficiency facilities and equipment through subsidies etc., the replacement with high-efficiency facilities and equipment has been promoted. In addition, the current progress can be said to be roughly in line with the forecast, compared with the forecast when the measure evaluation indicator changes linearly every fiscal year toward the forecast for FY2030. Continuous efforts will be made to encourage businesses to make capital investment in water heaters in commercial sector through both regulatory measures under the Energy Conservation Act and support measures in the form of subsidies.
				Expected level								81					100					110		
		Energy conservation	10^4kL	Actual result	2	4.9	7.8	10.9	14.1	17.5	29.2	32.2	35.0	38.2	41.3								**61%**	
				Expected level								26					44					66		
		Emissions reduction	10^4 t-CO_2	Actual result	5	13.9	22.7	31.9	41.1	51.1	65.7	72.6	79.1	86.0	92.4								**64%**	
				Expected level								64					115					141		
	Introduction of high-efficiency lighting	Measure evaluation indicator Cumulative number of introduced units	100 million units	Actual result	0.5	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4								**107%**	The measure evaluation indicator, energy saving and emission reduction have been on an increasing trend for all facilities and equipment. The current progress is evaluated to be higher than expected compared to the forecast when the measure evaluation indicator changes linearly every fiscal year toward the forecast for FY2030. This is due to the fact that the Energy Conservation Act and regulations have promoted the improvement of energy consumption efficiency of each facility, and as a result of support for the introduction of high-efficiency facilities and equipment, the replacement with high-efficiency facilities and equipment has been promoted. Continuous efforts will be made to encourage businesses to invest in high-efficiency lighting and introduce them through both regulatory measures under the Energy Conservation Act and support measures through subsidies.
				Expected level								1.8					2.7					3.2		
		Energy conservation	10^4kL	Actual result	16	39.4	65.5	88.0	116	145	173	198	223	248.2	273.4								**110%**	
				Expected level								131					205					250		
		Emissions reduction	10^4 t-CO_2	Actual result	98	238.9	387.7	511.5	659.4	802.8	937.7	1056.7	1211.2	1330.2	1444.2								**235%**	
				Expected level								803					1257					672		
	Introduction of refrigerant management technology	Measure evaluation indicator Rate of widespread use of appropriate management technology	%	Actual result	51	58.0	65.0	72.0	79.0	100	100	100	100	100	100								**100%**	The measure evaluation indicator, energy saving are evaluated to be progressing as expected. The emissions reduction peaked in FY2018 and has been decreasing, due to the impact of the number of Class I specified products that have been widely used, and the implementation of appropriate management through steady enforcement of the Fluorocarbon Emissions Control Act, and the support of refrigerant management technology through subsidies. While a certain level of progress is recognized overall, further efforts are required to achieve the target. Appropriate refrigerant management technology will be continued to be implemented through the steady enforcement of the Fluorocarbon Emissions Control Act, etc.
				Expected level								100					100					100		
		Energy conservation	10^4kL	Actual result	3.8	4.3	4.7	5.1	5.6	6.9	6.8	6.7	5.7	4.8	3.9								**-3%**	
				Expected level								6.8					3.5					0.6		
		Emissions reduction	10^4 t-CO_2	Actual result	23.5	25.6	26.9	28.8	29.9	34.6	32.3	31.8	27.1	22.5	17.8								**26%**	
				Expected level								41.6					21.6					1.6		
14. Improvement of energy efficiency of equipment through Top Runner Programs (commercial and other sectors)	Improvement of energy efficiency of equipment through Top Runner Programs	Measure evaluation indicator –	–	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	The actual amount of energy saving and emission reduction are on an increasing trend for all equipment. This is due to the fact that the Top Runner Program of the Energy Conservation Act and other measures have promoted the improvement of energy consumption efficiency of each piece of equipment, and subsidies have supported the introduction of high-efficiency equipment, which in turn has promoted the replacement with high-efficiency equipment. However, while a certain amount of progress has been made in policies and measures, the current progress is evaluated to fall below the expected level compared to the amount of energy saved if the amount of energy saved remained linear each year toward the FY2030 and further efforts are needed to achieve the target. Possible factors include, for example, the lack of progress in the diffusion of energy-efficient equipment. From the viewpoint such as room for improvement in energy consumption and energy efficiency, efforts will be continuously made to prioritize issues and work on revising the Top Runner Standards, and the widespread use of energy-saving equipment through support measures in the form of subsidies, etc. will be promoted.
				Expected level												–	–	–	–	–	–	–		
		Energy conservation	10^4kL	Actual result	8	17	25	33	41	51	63	81.0	100.4	132.8	155.8								**44%**	
				Expected level													212					342		
		Emissions reduction	10^4 t-CO_2	Actual result	52	82	112	144	175	253	303	381.6	474.5	622.7	705.4								**75%**	
				Expected level													1300					920		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
15. Implementation of thorough energy management through the use of BEMS, and Energy Conservation diagnosis	Implementation of thorough energy management through the use of BEMS and Energy Conservation diagnosis	Measure evaluation indicator Rate of widespread use	%	Actual result	8	9.4	10.9	12.3	14.2	16.0	17.4	19.1	20.9	22.5	24.1								**40%**	The measure evaluation indicator, energy saving and emission reduction are on an increasing trend. This is due to the promotion of the introduction of BEMS and energy management as a result of calls for thorough energy management at offices and buildings in accordance with the Public Notice of the Energy Conservation Act (Standards for Businesses' Judgments Regarding the Rationalization of Energy Use at Factories, etc.) and support for the introduction of BEMS through subsidies and demonstration support projects, etc. for the Net Zero Energy Building (ZEB) project for buildings. However, while a certain level of progress in policies and measures is recognized, the current progress is evaluated to be lower than expected compared to the forecast when the measure evaluation indicator, etc. changes linearly every fiscal year toward the forecast for FY2030. Therefore, further efforts are required to achieve the target. Continuous efforts will be made to encourage businesses to invest in BEMS and introduce them through both regulatory measures under the Energy Conservation Act and support measures through subsidies.
				Expected level													37					48		
		Energy conservation	10^4 kL	Actual result	13	21.0	29.5	37.7	48.3	58.6	66.8	76.6	86.7	95.6	105.1								**41%**	
				Expected level													137					239		
		Emissions reduction	10^4 t-CO_2	Actual result	56	95.0	128.3	161.8	201.5	230.7	252.9	292.0	331.0	362.8	399.4								**58%**	
				Expected level													628					644		
16. Promotion of local production for local consumption and areal use of energy	Promotion of local production for local consumption and areal use of energy	Measure evaluation indicator Number of regional microgrids constructed	Units	Actual result	–	–	–	–	–	–	0	2	7	8	8	10							–	Efforts are steadily being made by promoting the establishment of an energy system based on local production for local consumption use of energy in a whole area that utilizes renewable energy and unused heat in a whole area within the region. This measure is an initiative in which various entities in the region combine various energy facilities and systems to promote the efficient use of energy in a regional area. In addition, it is difficult to confirm the progress of the initiative using specific indicators that can be checked regularly since the implementation of the initiative takes a long time. Efforts will be continuously made through budgetary projects, etc..
				Expected level									10	10	10	10	10					–		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–	–							–	
				Expected level													–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	–	–	–	–	–	–	–	–	–							–	
				Expected level													–	–	–	–	–	–		
17. Decarbonization of urban areas through the improvement of the thermal environment by heat island control	Decarbonization of urban areas through improvement of the thermal environment by heat island control	Measure evaluation indicator Area of rooftop greening construction	ha	Actual result	–	32.6	57.5	88.7	113.3	130.0	153.3	177.1	194.5	212.0	227.7								**75%**	In 2023, both the area of rooftop greening construction, which is a measure evaluation indicator, and CO_2 emission reduction exceeded the forecast, and have been on an improving trend since FY2014. Thus, the same trend is expected to continue in the future toward FY2030 and urban greening will be promoted continuously.
				Expected level		16.9	31.6	44.4	55.5	65.2	73.6	168.1	185.5	201.9	217.3	231.8	245.4	258.2	270.2	281.5	292.1	302.1		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level													–					–		
		Emissions reduction	10^4 t-CO_2	Actual result (Method A)	–	0.80	1.34	2.02	2.49	2.63	2.99	3.43	3.72	4.07	4.21								**127%**	
				Expected level (Method A)		0.17	0.29	0.43	0.53	0.56	0.64	0.73	0.80	0.87	0.90									
				Actual result (Method B)		0.42	0.79	1.11	1.39	1.63	1.84	3.15	3.33	3.47	3.56	3.62	3.64	3.63	3.59	3.53	3.43	3.32	**127%**	
				Expected level (Method B)		0.09	0.17	0.24	0.30	0.35	0.40	0.67	0.71	0.74	0.76	0.78	0.78	0.78	0.77	0.76	0.74	0.71		
18. Introduction of energy conservation and renewable energy in water supply and sewage (promotion of energy conservation and renewable energy measures in waterworks)	Promotion of energy conservation and renewable energy measures in waterworks	Measure evaluation indicator The amount of renewable energy generated	10^4 kWh	Actual result	5496	5751	5788	6342	6314	5928	6032	6414	6370	6,140									**3%**	The measure evaluation indicator (The amount of renewable energy generated) was roughly in line with that of FY2020, and the amount of energy savings fell below the result for FY2020 compared to the energy saving in FY2013. [Reference] Number of water purification plants, total power consumption, amount of renewable energy generated, amount of energy savings compared to FY2013 in each fiscal year
				Expected level	5861												17004					24852		
		Measure evaluation indicator The amount of energy savings compared to FY2013	10^4 kWh	Actual result	–	5522	3576	1043	-6216	-904	300	151	-1644	6,960									**9%**	
				Expected level													44911					75054		
		Energy conservation	10^4kL	Actual result	–	1.4	0.9	0.3	-1.6	-0.2	0.1	0.0	-0.4	1.8									**9%**	The Ministry of Land, Infrastructure, Transport and Tourism requires water supply businesess to revise their water supply systems to suitable scales based on the Basic Policy for Strengthening the Infrastructure of Water Supply, according to local realities, and in line with long-term projections. Going forward, the Ministry is working on promoting energy-saving measures through the integration of facilities by water supply businesses, etc.. Additionally, while Promotion of Decarbonization in Water Infrastructure since FY2024 (a joint project between the Ministry of Land, Infrastructure, Transport and Tourism, the Ministry of Economy, Trade and Industry and the Ministry of the Environment), etc. promoting the introduction of countermeasures on effective energy-saving by utilizing the results of a set of works including surveys conducted in FY2020 for the construction of a decarbonized water system, and providing information on energy saving and renewable energy countermeasures based on the "Research Project into Mitigation Measures Aimed at Achieving Carbon Neutrality in the Water System and Promoting Adaptation Measures in Response to the Impacts of Climate Change" performed in FY2022, efforts will be made to achieve a decarbonized water system among water supply businesses, etc. nationwide.
				Expected level													11.6					19.3		
		Emissions reduction	10^4 t-CO_2	Actual result	–	3.1	1.8	0.6	-3.1	-0.8	-0.3	-0.2	-1.1	3.2									**15%**	
				Expected level													32.0					21.6		

[Reference] Number of water purification plants, total power consumption, amount of renewable energy generated, amount of energy savings compared to FY2013 in each fiscal year

	Number of water purification plants	Total power consumption	Amount of renewable energy generated
FY2013	5,480 locations	7,407,420,000 kWh	54,960,000 kWh
FY2017	8,081 locations	7,499,290,000 kWh	63,140,000 kWh
FY2018	8,369 locations	7,398,500,000 kWh	59,280,000 kWh
FY2019	8,636 locations	7,346,480,000 kWh	60,320,000 kWh
FY2020	9,026 locations	7,398,930,000 kWh	64,140,000 kWh
FY2021	9,131 locations	7,349,510,000 kWh	63,700,000 kWh
FY2022	9,173 locations	7,335,020,000 kWh	61,400,000 kWh
Increase or decrease compared to FY2020	101.2%	99.1%	95.7%

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
19. Introduction of energy conservation and renewable energy in water supply and sewage （promotion of energy conservation and energy creation measures in sewage operations）	Promotion of energy conservation and energy creation measures in sewage operations	Measure evaluation indicator Energy-derived CO_2 emissions per treated water	t-CO_2 /1,000 m^3	Actual result	0.28	0.27	0.26	0.25	0.26	0.26	0.26	0.27	0.27	0.28									**0%**	The progress of the measure evaluation indicator (energy-derived CO_2 emissions per treated water) has been lagging slightly because it takes time to introduce energy-generating facilities and energy-saving water treatment facilities in conjunction with the renovation and renewal of facilities, and to improve the sophistication and efficiency of facility management. Further reductions are expected through studies and surveys to reduce greenhouse gas emissions, which are required for the formulation and revision of Action Plans of Local Governments in accordance with the Act on Promotion of Global Warming Countermeasures, and through the establishment of support for the installation of measuring equipment and control equipment necessary for changing the operation methods of facilities. The measure evaluation indicator (sewage sludge energy conversion rate) has been increasing in recent years following the revision of the Sewerage Act in 2015, which imposes the obligation to make utmost efforts, but progress has been lagging. On the other hand, the introduction of energy-creating facilities in conjunction with the renovation and renewal of facilities is being considered in the future. Furthermore, the focus is placed on measures such as the utilization of the budget system for the conversion of sewage sludge to energy, the formulation and publication of technical guidelines, and the implementation of project formation. Thus, the introduction of facilities is expected to increase. Based on the above, emission reductions are expected to decrease through further promotion of initiatives, although emissions per unit of treated water tend to be flat.
				Expected level							0.25	0.24	0.24	0.23	0.23	0.22	0.22	0.22	0.21	0.21	0.20	0.09		
		Measure evaluation indicator Sewage sludge energy conversion rate	%	Actual result	15	15	16	17	22	23	24	27	28	26									**51%**	
				Expected level							28	32	33	33	34	34	35	36	36	36	37	37		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–									–	
				Expected level											–	–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	16	28	35	54	64	59	60	60	54									**42%**	
				Expected level							69	81	92	104	115	127	138	150	161	173	184	130		
20. Initiatives in waste treatment	Promotion of sorted collection and recycling of plastic containers and packaging	Measure evaluation indicator Sorted collection volume of waste from plastic containers and packaging	10^4 t	Actual result	66	65.4	66.3	65.7	65.0	64.7	65.5	68.1	68.6	68.2	65.6								**-5%**	The result of sorted collection of plastic containers and packaging, which is a measure evaluation indicator, has decreased slightly, but it is considered to be about the same as the target level due to the promotion of sorted collection by municipalities. Therefore, energy saving and emission reduction are also expected to be about the same as the target level.
				Expected level		66	67	67	68	68	68	69	69	70	70	70	71	71	72	72	72	73		
		Energy conservation	10^4kL	Actual result	–	1.8	1.8	1.8	1.7	-1.8	2.0	2.2	3.6	1.2	0.4								**24%**	
				Expected level		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7		
		Emissions reduction	10^4 t-CO_2	Actual result	–	6.2	6.2	6.1	5.9	-6.5	6.9	7.5	12.5	3.8	0.2								**3%**	
				Expected level		0.3	0.7	1.0	1.4	1.8	2.2	2.5	2.9	3.3	3.6	4.0	4.4	4.7	5.1	5.5	5.9	6.2		
	Introduction of waste power generation at municipal waste incineration plants	Measure evaluation indicator The amount of electricity generated per unit of waste disposed	kWh/t	Actual result	231	234	241	260	273	284	292	307	320	319									**41%**	Electricity generations per unit of waste disposed, which is a measure evaluation indicator, increased from 231 kWh/t (FY2013) to 319 kWh/t (FY2022) due to the progress of initiatives related to the introduction of waste power generation at municipal waste treatment facilities, such as the renewal of facilities that enable highly efficient energy recovery through the use of grants for promoting the establishment of a recycling-based society, etc., and the promotion of improvements to facilities that contribute to CO_2 emission reductions, The energy saving and emission reduction was 670,000 kL in FY2022 and 1,167,000 tons-CO_2 in FY2022, respectively. In addition to the renewal of facilities that enable highly efficient energy recovery through the use of grants for promoting the establishment of a recycling-based society, etc, and the promotion of improvements to facilities that contribute to CO_2 emissions reduction, technology evaluation and verification projects related to the utilization of waste energy, etc. at small- and medium-sized waste treatment facilities that have not fully utilized waste energy so far will be conducted, aiming at achieving targets with certainty.
				Expected level (Upper level)		244	256	269	281	294	307	319	332	344	357	369	382	395	407	420	432	445		
				Expected level (Lower level)		239	246	254	261	269	276	284	291	299	306	314	321	329	336	344	351	359		
		Energy conservation	10^4kL	Actual result	–	0.7	7.2	23	35	44	56	61	69	67									**42%**	
				Expected level (Upper level)		9	19	28	37	47	56	65	75	84	93	103	112	121	131	140	149	158		
				Expected level (Lower level)		5	11	16	22	27	32	38	43	49	54	59	65	70	76	81	86	92		
		Emissions reduction	10^4 t-CO_2	Actual result	–	1.6	15.1	46.7	68.8	80.8	98.5	106.7	120.0	116.7									**74%**	
				Expected level (Upper level)		21	42	63	84	106	127	148	169	190	211	232	253	274	295	317	338	157		
				Expected level (Lower level)		12	24	37	49	61	73	86	98	110	122	135	147	159	171	183	196	91		
	Introduction of waste power generation at industrial waste incineration plants	Measure evaluation indicator The amount of power generated from industrial waste	GWh	Actual result	3748	4205	4102	4094	4137	4373	4529	3961	3924	3427	2988								**-95%**	In FY2021, five new facilities introduced waste power generation, but the amount of power generated decreased from the previous fiscal year. The introduction of waste power generation in industrial waste treatment facilities will continue to be promoted by utilizing projects to promote achievement of multi-benefits, etc. through effective utilization of waste energy.
				Expected level		3759	3759	3770	3770	3781	4388	4403	4417	4432	4447	4462	4477	4491	4506	4521	4536	4551		
		Energy conservation	10^4kL	Actual result	–	11.5	8.9	8.7	9.8	15.7	19.7	5.4	4.4	-8	-19.1								**-95%**	
				Expected level		0.3	0.3	0.6	0.6	0.8	16.1	16.5	16.9	17.2	17.6	18.0	18.3	18.7	19.1	19.5	19.8	20		
		Emissions reduction	10^4 t-CO_2	Actual result	–	25.6	18.8	18.0	19.5	28.8	44.5	12.1	10.0	-18.2	-43.3								**-216%**	
				Expected level		0.6	0.6	1.3	1.3	1.9	36.5	37.3	38.2	39.0	39.8	40.7	42	42.4	43.2	44.1	44.9	20		
	Promotion of fuel production and energy conservation measures in the waste management industry	Measure evaluation indicator RPF production volume	1,000 t	Actual result	914	953	980	1047	1057	1068	1048	1017	1085	1047	1049								**23%**	Due to resource circulation promotion measures, etc., material recycling of waste plastics has increased, leading to a reduction in the growth rate of RPF fuel manufacturing that uses waste plastics as the main raw material, and the production volume is expected to be flat in several years.
				Expected level		913	913	919	925	931	1104	1140	1176	1212	1248	1284	1293	1356	1392	1428	1464	1500		
		Energy conservation	10^4kL	Actual result	–	2.6	4.4	8.9	9.6	10.3	9.0	6.9	11.5	8.9	9.1								**21%**	
				Expected level		–	–	0.44	0.88	1.3	9.8	12.5	15.1	17.8	20.4	23.1	28.0	30.6	33.7	36.8	39.9	43.0		
		Emissions reduction	10^4 t-CO_2	Actual result	–	9.1	15.4	31.0	33.3	35.9	31.2	24.1	39.8	31.0	31.4								**21%**	
				Expected level		–	–	1.5	3.1	4.6	34	43	52	61	70	80	96	108	117	126	135	149		
	Introduction of electric waste collection vehicles	Measure evaluation indicator Number of introduced units of EV garbage collection vehicles	Units	Actual result	0	0	0	0	0	2	2	2	3	4	6								**0%**	Although the number of introduced units of EV garbage collection vehicles, which is a measure evaluation indicator, has not increased, it is thought to be about the same as the target level due to the promotion of introduction of EV waste collection vehicles by the national government and sales promotion by manufacturers. As a result, the amount of emission reduction is thought to be about the same as the target level.
				Expected level							2	2	2	302	3602	6902	10200	13500	16800	20100	23400	26700		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	0	0	0	0	0	0.0002	0.0002	0.0002	0.0004	0.0005	0.0007								**0%**	
				Expected level										0.04	0.44	0.84	1.2	1.6	2.0	2.4	2.8	15		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
21. Improvement of energy efficiency of housing	Improvement of energy efficiency of housing (new housing)	Measure evaluation indicator The percentage of new houses that meet the energy saving performance of the ZEH standard	%	Actual result	0	–	–	–	–	–	12	24	27	37	46								**46%**	The actual amount of energy saving and emission reduction are on an increasing trend. This is thought to be due to the promotion of improvement of the energy-saving performance of new houses by the Housing Top Runner Program under the Building Energy Conservation Act and support, etc. for Net Zero Energy Houses (ZEH). However, while some progress has been made, further efforts are needed to achieve the target. The Act to Partially Amend of the Act the Improvement of Energy Consumption Performance of Buildings (Act No. 4 of 2019) was promulgated in May 2019 and fully enforced in April 2021; it includes measures such as the addition of custom-built detached houses and rental apartments to be subject to the Housing Top Runner Program, and the establishment of a system that requires accountability of architects to building owners for detached houses, etc. In addition, the Act to Partially amend the Energy Consumption Performance of Buildings to Contribute to the Realisation of a Decarbonized Society, which includes measures such as mandatory compliance with energy-saving standards for all new houses and buildings, was promulgated in June 2022 in order to raise the level of energy-saving performance, and will be fully enforced by FY2025. Furthermore, in October 2022, the guidance standards in accordance with the Building Energy Conservation Act and the certification standards for low-carbon buildings in accordance with the Act on Promotion of Low-Carbonization of Urban Cities were raised. In January 2022, the borrowing limit according to the environmental performance of the housing loan tax reduction was increased, and in October, the interest rate for ZEH was further reduced in the Japan Housing Finance Agency's Flat 35S. Continuous efforts will be made to achieve the target by strengthening the measures described in future plans.
				Expected level													–					100		
		Energy conservation	10^4kL	Actual result	-	6.3	10.5	18.9	28.6	42.6	37.3	47.7	58.7	76.6	91.3								**36%**	
				Expected level													–					253		
		Emissions reduction	10^4 t-CO_2	Actual result	-	20.7	33.7	60.1	89.5	129	111.2	141.5	173.3	226.4	266								**43%**	
				Expected level													–					620		
	Improvement of energy efficiency of housing (renovation and reconstruction of existing housing)	Measure evaluation The percentage of housing stock that meets energy saving standards	%	Actual result	6	7	8	9	10	11	13	14	16	18	19								**54%**	The measure evaluation indicator, energy saving and emission reduction are on an increasing trend. This is thought to be due to the promotion of energy-saving renovation of existing housing through support, etc. for energy-saving renovation through subsidies. In FY2018, a subsidy program was established for energy-saving renovations at small and medium-sized contractors, and efforts were strengthened. However, while some progress has been made, further efforts are needed to achieve the target. Since October 2021, discussions took place at the Building Environment Subcommittee of the Building Committee of the Social Infrastructure Improvement Council regarding the strengthening of energy-saving measures for housing and buildings. On February 1, 2022, the Social Infrastructure Improvement Council sent the Future of Energy-Saving Measures for Housing and Buildings (Third Report) to the Minister of Land, Infrastructure, Transport and Tourism. In addition, the Act on Partial Revision of the Act on the Improvement of Energy-Saving Performance of Buildings to Contribute to the Realization of a Decarbonized Society, etc., which includes measures such as mandatory compliance with energy-saving standards for all new houses and buildings, was promulgated in June 2022 in order to raise the level of energy-saving performance, and will be fully enforced by FY 2025. Since FY2019, support has been given to efforts to raise awareness about the effects of improving the thermal environment of living spaces through insulation renovation, etc. on the health condition of residents. In addition, since FY2020, support has been given to efforts for verification and widespread use by private businesses, etc. to build a model for partial energy-saving renovation. Energy conservation in existing houses will continue to be promoted through support measures, etc. through subsidies.
				Expected level													–					30		
		Energy conservation	10^4kL	Actual result	–	1.4	3.5	5.5	7.7	9.9	23.0	27.9	31.8	38.6	50.9								**56%**	
				Expected level													–					91		
		Emissions reduction	10^4 t-CO_2	Actual result	–	3.9	11.2	17.8	24.3	30.3	69.1	83.4	94.6	115.0	149.5								**67%**	
				Expected level													–					223		
22. Diffusion of high-efficiency energy-saving equipment (residential sector)	Installation of high-efficiency water heaters	Measure evaluation indicator Cumulative number of introduced units of heat pump (HP) water heaters	10^4 units	Actual result	422.0	463.5	504.3	546.7	591.4	639.5	691.9	745.9	806.4	876.9	938.5								**44%**	The measure evaluation indicator, energy saving and emission reduction have been on an increasing trend for all equipment. This is because the Top Runner Program of the Energy Conservation Act and other measures promoted the improvement of energy consumption efficiency of each appliance, and the introduction of high-efficiency hot-water supply equipment was supported through subsidies and support for the spread of zero-energy houses (ZEH), which encouraged the replacement of hot-water supply equipment with high-efficiency hot-water supply equipment. However, while some progress has been made, further efforts are needed to achieve the target. Continuous efforts will be made to promote the introduction of highly efficient water heaters through both regulatory measures under the Energy Conservation Act and support measures in the form of subsidies.
				Expected level													1200					1590		
		Measure evaluation indicator Cumulative number of introduced units of latent heat recovery type	10^4 units	Actual result	448.0	540.6	635.8	735.2	842.1	946.6	1051.4	1152.5	1243.8	1369.7	1463.4								**39%**	
				Expected level													2700					3050		
		Measure evaluation indicator Cumulative number of introduced units of fuel cells	10^4 units	Actual result	7.2	11.3	15.4	19.5	23.5	27.6	31.3	35.3	43.3	48.0	52.0								**15%**	
				Expected level													210					300		
		Energy conservation	10^4kL	Actual result	11.0	24.4	37.7	51.9	66.6	82.0	98.5	120.2	138.9	160.9	179.7								**53%**	
				Expected level													217					332		
		Emissions reduction	10^4 t-CO_2	Actual result	18.0	50.7	83.7	118.1	154.9	193.7	235.1	301.5	347.2	402.4	451.4								**49%**	
				Expected level													640					898		
	Introduction of high-efficiency lighting	Measure evaluation indicator Cumulative number of introduced units	100 million units	Actual result	0.6	1.0	1.4	1.9	2.4	2.8	3.3	3.7	4.2	4.7	5.2								**115%**	The measure evaluation indicator, energy saving and emissions reduction are on an increasing trend for all equipment. The current progress can be evaluated as exceeding the expected level compared to the forecast if the measure evaluation indicators etc. were linear each year toward FY2030. This is because the Top Runner Program of the Energy Conservation Act, etc. promoted the improvement of energy consumption efficiency of each appliance, and the introduction of high-efficiency lighting, etc. was supported through subsidies and support for the spread of zero-energy houses (ZEH), which encouraged the replacement of lighting with high-efficiency lighting. Continuous efforts will be made to promote the introduction of highly efficient lighting, etc. through both regulatory measures under the Energy Conservation Act and support measures in the form of subsidies.
				Expected level								2.4					4.4					4.6		
		Energy conservation	10^4kL	Actual result	12.0	34.2	56.3	86.3	115.1	143.9	172.7	199.1	226.1	253.1	280.1								**117%**	
				Expected level								116					205					242		
		Emissions reduction	10^4 t-CO_2	Actual result	73.0	205.2	331.2	499.0	651.6	795.0	932.0	1054	1219	1346	1468								**241%**	
				Expected level								711					1257					651		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
23. Diffusion of high-efficiency energy- saving equipment (energy saving septic tanks) (residential sector)	Promotion of energy-efficient septic tank application (introduction of advanced energy-efficient household septic tanks)	Measure evaluation indicator Cumulative number of septic tanks with a 26% reduction in power consumption compared to septic tanks for a low-carbon society in FY2013	10^4 units	Actual result	3.5	7.1	11	15	19	24	28	33	37	41	(45)								**46%**	The measure evaluation indicator, energy saving and emission reduction (including absorption) are linked in the calculation method. Currently each of the figures is almost in line with the forecast, and some effects are being generated by initiatives such as financial support, etc. through government subsidized projects. Future estimates are made based on the changes in FY2017-2019. If efforts continue at the present level, the measure evaluation indicator, etc. is considered to be about the same as the target level in FY2030. The introduction and widespread use of energy-saving septic tanks will be promoted by utilizing grants for promoting the establishment of a recycling-based society (the septic tank maintenance promotion project for environmental consideration and disaster prevention town-building) and subsidies for business expenses for carbon dioxide emission control measures (the project to promote decarbonization of septic tank systems), etc.
				Expected level												57	63	69	75	81	87	93		
		Energy conservation	10^4kL	Actual result	–	–	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.7	(0.7)								**47%**	
				Expected level												0.9	1.0	1.1	1.2	1.3	1.4	1.5		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	1.1	1.5	1.9	2.3	2.7	3.1	3.5	3.9	(4.2)								**86%**	
				Expected level												5.5	6.1	6.7	7.2	7.8	8.4	4.9		
	Promotion of energy-efficient septic tank application (replacement of low energy-efficient existing medium-and large-sized septic tanks)	Measure evaluation indicator Cumulative number of energy saving medium-and large-scale septic tanks	10^4 units	Actual result	0.1	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.9	1.0	(1.1)								**30%**	The measure evaluation indicator, energy saving and emission reduction (including absorption) are linked in the calculation method. Currently each of the figures is almost in line with the forecast, and some effects are being generated by initiatives such as financial support, etc. through government subsidized projects. Future estimates are made based on the changes in FY2017- 2019. If efforts continue at the present level, the measure evaluation indicator, etc. is considered to be about the same as the target level in FY2030. The introduction and widespread use of energy-saving septic tanks will be promoted by utilizing grants for promoting the establishment of a recycling-based society (the septic tank maintenance promotion project for environmental consideration and disaster prevention town-building) and subsidies for business expenses for carbon dioxide emission control measures (the project to promote decarbonization of septic tank systems), etc.
				Expected level												2.0	2.2	2.4	2.7	2.9	3.1	3.4		
		Energy conservation	10^4kL	Actual result	–	–	0.3	0.4	0.4	0.5	0.6	0.6	0.6	0.7	(0.7)								**30%**	
				Expected level												1.4	1.5	1.7	1.8	2.0	2.1	2.3		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	1.6	2.3	2.7	3.1	3.4	3.7	3.9	4.2	(4.5)								**61%**	
				Expected level												8.3	9.2	10.1	11.1	12.0	12.9	7.4		
24. Improvement of energy efficiency of equipment through Top Runner Programs (residential sector)	Improvement of energy efficiency of equipment through Top Runner Programs	Measure evaluation indicator –	–	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	The actual amount of energy saving and emission reduction are on an increasing trend for all equipment. This is due to the promotion of the improvement of energy consumption efficiency of each piece of equipment under the Top Runner Program of the Energy Conservation Act, and the promotion of the replacement with highly efficient equipment as a result of the support for the introduction of highly efficient equipment through subsidies. From the viewpoint such as room for improvement in energy consumption and energy efficiency, efforts will be continuously made to prioritize issues and work on revising the Top Runner Standards, and the widespread use of energy-saving equipment through support measures in the form of subsidies, etc. will be promoted.
				Expected level												–	–	–	–	–	–	–		
		Energy conservation	10^4kL	Actual result	3.9	9.8	16.6	21.0	27.4	31.8	36.4	44.7	48.0	53.2	60.1								**32%**	
				Expected level								56.1					128					180		
		Emissions reduction	10^4 t-CO_2	Actual result	24.3	60.0	96.4	119.5	149.7	159.5	175.1	209.6	223.2	241.98	264.8								**53%**	
				Expected level								300					713.4					475.7		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
25. Implementation of thorough energy management through the use of HEMS, smart meters, and smart home devices and the provision of energy-saving information	Implementation of thorough energy management through the use of HEMS and smart meters	Measure evaluation indicator Number of widely-used HEMS	10^4 households	Actual result	21.0	25.2	31.0	37.8	42.1	51.0	62.4	646.8	740.2	837.5	977.9								**19%**	The measure evaluation indicator, energy saving and emission reduction are on an increasing trend. This is thought to be due to the promotion of energy management of houses through the introduction of HEMS as well as the widespread popularization of ZEH. While a certain level of progress in policies and measures is recognized, the situation remains below the forecast, and further efforts are required to achieve the target. In order to further expand the diffusion of ZEH, home builders, etc. with a goal of increasing the proportion of ZEH to 50% or more of the homes they receive orders for are positioned as "ZEH builders," and the use of ZEH builders is set as a requirement for receiving subsidies to facilitate the revitalization of private companies that possess energy-saving know-how in housing. In FY2022, the Energy Conservation Communication Ranking System, which evaluates and announces the status of efforts for energy-saving information provision to general consumers by energy retailers, was fully launched. Through such efforts, etc., energy conservation through thorough energy management in households will be promoted.
				Expected level								984					1688.5					4940.9		
		Measure evaluation indicator Rate of implementation of energy saving information provision	%	Actual result	0	–	–	–	–	–	–	–	17.5	22.5	27.6								**35%**	
				Expected level													44					80		
		Energy conservation	10^4kL	Actual result	0.4	0.5	0.7	0.9	1.1	1.4	1.7	20.7	35.7	42.5	48.1								**22%**	
				Expected level								33					87.4					216.0		
		Emissions reduction	10^4 t-CO_2	Actual result	2.4	3.2	4.1	5.2	5.8	6.8	8.2	98.2	134	153.7	166.8								**29%**	
				Expected level								202					365.8					569.1		
26. Diffusion of next-generation vehicles, improvement of fuel efficiency, etc.	Diffusion of next-generation vehicles, improvement of fuel efficiency	Measure evaluation indicator The ratio of next-generation vehicles to new vehicle sales	%	Actual result	23.2	25.6	32.3	35.8	36.7	38.4	38.9	41.2	45.8	50.6	57.2								–	The ratio of next-generation vehicles to new vehicle sales and average fuel efficiency of owned vehicles, which are measure evaluation indicators, are indicators for passenger cars and will remain proportional to the steady progress of vehicle replacement. Since the introduction of the FY2030 fuel efficiency standards for passenger cars has been decided, an improvement in fuel efficiency is expected in the future. Energy savings and emission reductions are for all vehicle types, and while passenger cars are making steady progress in saving energy and reducing CO_2 emissions, freight vehicles are not making progress in improving fuel efficiency at this time, so the two together show a downward trend. However, with the strengthening of enforcement to comply with the FY2022 and FY2025 fuel efficiency standards for freight vehicles, fuel efficiency will improve in the future, and energy saving and emission reductions are expected to progress toward FY2030. It is difficult to quantitatively estimate the estimated value of widely-used next-generation vehicles up to FY2030 because it is susceptible to external factors such as future economic conditions, gasoline prices, subsidies, and environmental regulations. Not only in Japan but also around the world, fuel efficiency regulations are becoming stricter, and electrification targets are being set. Qualitatively, the ratio of next-generation vehicles and average fuel consumption will continue to increase, and the amount of energy conservation and emissions reduction is also expected to increase.
				Expected level (Upper level)								50					–					70	**73%**	
				Expected level (Lower level)								20					–					50	**127%**	
		Measure evaluation indicator Average fuel consumption	km/L	Actual result	14.7	15.3	16.0	16.6	17.2	17.9	18.5	19.2	19.9	20.5	21.2								**64%**	
				Expected level								18.5					–					24.8		
		Energy conservation	10^4kL	Actual result	19.9	49.2	85.1	89.7	128.6	165.4	205.1	240.4	296.8	359.9	406.8								**40%**	
				Expected level								283.4					–					990		
		Emissions reduction	10^4 t-CO_2	Actual result	53.3	131.5	227.5	239.8	343.0	440.8	546.3	640.1	788.9	955.3	1078.9								**39%**	
				Expected level								702.5					–					2674		
27. Road traffic flow measures (promotion of road traffic flow measures)	Implementation of measures for road traffic flow	Measure evaluation indicator Percentage of highway usage	%	Actual result	Approximately 16	–	Approximately 18	–	–	–	–	–	Approximately 19	–	–								**75%**	The results are calculated based on the results of the FY2021 National Road and Street Traffic Conditions Survey. Continuous efforts will be made to promote further CO_2 emission reduction through traffic flow measures, taking into account various factors behind the higher than expected figures for FY2021, including changes in road demand due to the COVID-19 pandemic and increases in highway usage.
				Expected level			16					17					–				Approximately 20			
		Energy conservation	10^4kL	Actual result	–	–	Approximately 37	–	–	–	–	–	Approximately 73	–	–								**99%**	
				Expected level			4					15					–				Approximately 74			
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	Approximately 100	–	–	–	–	–	Approximately 197	–	–								**99%**	
				Expected level			10					40					–				Approximately 200			
28. Road traffic flow measures (promotion of the maintenance of LED road lighting)	Promotion of the installation of LED road lighting	Measure evaluation indicator Number of LED road lights on the national roads under the direct control	10^4 units	Actual result	Approximately 7	–	–	–	–	–	–	Approximately 19	Approximately 22	Approximately 24	Approximately 26							**83%**	The installation result in FY2023, as in FY2022, is higher than expected, and if this trend continues, it is thought to exceed the target level for FY2030.
				Expected level													Approximately 20					Approximately 30		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	Approximately 0.5	Approximately 0.9	Approximately 1	Approximately 1.2								**86%**	
				Expected level													Approximately 0.9					Approximately 1.4		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	–	–	–	–	Approximately 4	Approximately 6	Approximately 7	Approximately 9								**69%**	
				Expected level													Approximately 5					Approximately 13		
29. Road traffic flow measures (promotion of Intelligent Transport Systems (ITS) (centralized control of traffic lights))	Promotion of intelligent transport system (ITS) (centralized control of traffic lights)	Measure evaluation indicator Centralized control of traffic lights	Units	Actual result	48800	50800	51000	51200	51400	51500	51700	51800	52100	52200	52300	(52400)	(52600)						–	The measure evaluation indicator after FY2024 are calculated based on the Fifth Priority Plan for Infrastructure Development, which covers the plan period from FY2021 to FY2025. However, estimates after FY2026 are not available at this time because they fall outside the plan period of the relevant plan. Note that the projected emission reduction for FY2030 are calculated based on the cumulative effect of the implemented measures.Centralized control of traffic lights will be continuously promoted mainly in areas where effects are expected.
				Expected level		50000	50600	51200	51700	52300	52800	53400					52700					–		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	133	137	140	140	141	141	142	142	143	143	143	(143)	(144)						**59%**	
				Expected level		130	130	130	140	140	140	140					144					150		
30. Road traffic flow measures (maintenance of traffic safety facilities (improvement and profile (hybrid) of traffic lights))	Installation of traffic safety facilities (improvement of traffic lights and profiling [hybrid])	Measure evaluation indicator Improvement of traffic lights	Units	Actual result	42000	43800	44500	45100	45700	46200	46800	47300	47800	48100	48400	(48900)	(49400)						–	The measure evaluation indicator after FY2024 are calculated based on the Fifth Priority Plan for Infrastructure Development, which covers the plan period from FY2021 to FY2025. However, estimates after FY2026 are not available at this time because they fall outside the plan period of the relevant plan. Note that the projected emission reduction for FY2030 are calculated based on the cumulative effect of the implemented measures. Improvement of traffic lights will be continuously promoted mainly in areas where effects are expected.
				Expected level		43000	44000	45000	46000	48000	49000	50000					49600					–		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	47	49	50	50	50	50	50	51	51	51	51	(52)	(52)						**44%**	
				Expected level		49	49	50	50	51	52	52					52					56		
31. Road traffic flow measures (maintenance of traffic safety facilities (promotion of the use of LED lights in signal lights))	Installation of traffic safety facilities (promotion of the installation of LED traffic lights)	Measure evaluation indicator LED signal lights	Lights	Actual result	346800	386600	424600	460800	494100	529700	573500	628000	666900	707800	749900	(782800)	(815700)	(848600)	(881500)	(914400)	(947300)	(980200)	**65%**	Estimates from FY2023 onward are calculated based on the actual amount of measure evaluation indicator and emissions reduction in the past, and the emissions reduction in FY2030 is thought to exceed the target level. Conversion to LED signal lights will be continuously promoted.
				Expected level		380000	414000	448000	482000	516000	550000	584000	618000	652000	740700	773600	806500	839400	872300	905200	938100	970100		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	6.5	9.8	10.3	11.0	11.4	11.3	11.7	12.6	13.5	14.4	14.7	(13.0)	(12.9)	(12.9)	(12.7)	(12.4)	(12.1)	(11.7)	**152%**	
				Expected level		9.9	10.8	11.8	12.7	13.6	14.5	15.5					13					11.9		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
32. Road traffic flow measures (promotion of autonomous driving)	Promotion of automated driving	Measure evaluation indicator Rate of widespread use of ACC/CACC	%	Actual result	1.3	1.9	3.0	5.2	8.2	11.4	15.8	21.7	23.1	27.4	32.3								**31%**	The measure evaluation indicator, energy saving and emission reduction are expected to follow the logistic curve due to the calculation method, and the results up to FY2020 can be evaluated to be in line with expected. In addition, since the ratio of the production volume of vehicles with autonomous driving Level 2 or higher to domestic production volume is expected to increase from FY2024, they are thought to be about the same as the target level by FY2030. The promotion of demonstration and public relations activities promoted the improvement of autonomous driving technology and the public's understanding of autonomous driving. The rate of widespread use of ACC/CACC, which is a measure evaluation indicator, seems to be growing steadily as the functions and prices that capture consumer needs have been accepted by the market.
				Expected level										27.4	32.3	87.9	89					100		
		Energy conservation	10^4kL	Actual result	2.1	2.7	3.6	4.8	6.3	8.0	9.7	16.2	17.9	20.8	23.9								**31%**	
				Expected level										20.8	23.9	58.8	58.5					73.2		
		Emissions reduction	10^4 t-CO_2	Actual result	5.6	7.2	9.6	12.9	17.0	21.7	26.2	43.7	48.4	56.1	64.5								**31%**	
				Expected level										56.1	64.5	158.7	158.0					197.7		
33. Greening of the vehicle transportation business by promoting the use of environmentally friendly vehicles etc.	Greening of vehicle transportation business by promoting the use of environmentally friendly vehicles etc.	Measure evaluation indicator Number of widely-used eco-driving-related equipment	1,000 units	Actual result	518	520	530	592	665	721	733	731	733	799	761								**71%**	Number of widely-used eco-driving-related equipment (measure evaluation indicator) is above the expected level for FY2023, and the trend in CO_2 emissions reduction suggests that the introduction of eco-driving-related equipment has resulted in a reduction in CO_2 emissions. It is necessary to continue to make steady progress in policies and measures by disseminating eco-driving.
				Expected level		516	529	542	577	613	604	720	726	733	741	750	761	773	794	816	838	860		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	0	1	4	25	49	67	71	69	69	89	77								**76%**	
				Expected level		-1	4	8	20	31	28	66	67	68	70	73	75	78	84	90	96	101		
34. Promotion of the use of public transportation and bicycles (promotion of the use of public transportation)	Promotion of the use of public transportation	Measure evaluation indicator Transfer volume from private traffic	100 million passenger km	Actual result	38	54	111	90	73	60	27.1	-56.2	–	–									–	Since FY2016, countermeasures to promote the use of public transportation, such as tax incentives, subsidy projects, and public awareness-raising activities, have been effective to some extent, and the figure has exceeded the expected value in some cases. However, due to the repeated disasters in 2019 and the impact of the COVID-19 pandemic from FY2020 onward, the value was lower than the expected level. For FY2022, as in the previous fiscal year, declarations of the state of emergency continued to be issued; in addition to a massive reduction in demand for public transportation, the Ministry of Health, Labour and Welfare urged people "not to use public transportation for movement" as a basic anti-infection measure, resulting in an exceptional state of affairs in which the use of public transportation could not be promoted. Therefore, it is difficult to calculate a CO_2 emission reduction as a result of the promotion of the use of public transportation for the fiscal year. On the other hand, in FY2023, it is expected that transition from private vehicles to public transportation and reduction in CO_2 emission will progress as COVID-19 was reclassified as a Category V infectious disease, the use of public transportation recovers, and the convenience of public transportation improves thanks to the local public transportation "Re-Design" put forward by the Ministry of Land, Infrastructure, Transport and Tourism, the reforms to the Local Public Transportation Act in 2023, as well as the major expansion to the related budgetary options. Continuous efforts will be made to enhance measures aimed at improving the usability of public transportation, and to promote the usage of public transportation through awareness-raising to encourage its use.
				Expected level		32	45	57	68	79	88	97	106	114	122	129	135	141	147	153	158	163		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–									–	
				Expected level											–	–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	24	104	80	56	40	9.8	-68.9	–	–									–	
				Expected level		17	33	48	61	67	78	88	98	107	115	123	131	138	144	150	156	162		
	Improving route efficiency through regional public transportation convenience improvement projects	Measure evaluation indicator Number of implementation plans for improving the convenience of local public transportation compiled	Units	Actual result	–	–	–	–	–	–	–	42	47	56	70	(95)							**69%**	The measure evaluation indicator and emission reduction are linked in the calculation method. With regard to the implementation plan for improving the convenience of local public transportation, although an average of about six projects had been approved every year to date, as of the end of FY2024, there were 95 projects. This plan is a specific project plan in accordance with the Act on Revitalization and Rehabilitation of Local Public Transportation Systems partially amended in FY2020. It is linked to the obligation to make efforts to prepare regional public transportation plans in accordance with the Act on Revitalization and Rehabilitation of Local Public Transportation Systems. In addition, in FY2023, various menus for budgets, etc. have been expanded to strongly promote the reconstruction of local public transportation, and the pace of increase in the number of drafts and certifications has accelerated. For this reason, it is expected that the development of plans will continue to be promoted in each region through measures such as support for the development of plans, and it is expected to exceed the target level for FY2030.
				Expected level									48	54	60	66	72	78	84	90	96	102		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–	–							–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	–	–	–	–	0.94	1.05	1.38	1.73	(2.34)							**76%**	
				Expected level									1.08	1.21	1.35	1.48	1.61	1.75	1.88	2.02	2.15	2.29		
35. Promotion of the use of public transportation and bicycles (promotion of the use of bicycles)	Promotion of the use of bicycles	Measure evaluation indicator Bicycle sharing for commuting purposes	%	Actual result	–	–	15.2	–	–	–	–	–	13.8	–	–								–	The Nationwide Urban Transport Characteristics Survey is conducted approximately every five years, and in FY2023 it was not possible to ascertain the actual values for the measure evaluation indicators, etc.; therefore, evaluation for FY2023 is difficult (previous: FY2021; next: FY2025 (planned)). In addition, the amounts of energy saving and emission reduction are set to "zero" on the basis of FY2015 as the baseline. For FY2021, since the bicycle modal share for commuting declined from FY2015 due to the impact of COVID-19, it was difficult to calculate these amounts quantitatively, and an E rating was given. In accordance with the Second Bicycle Use Promotion Plan, which was formulated in May 2021, continuous efforts will be made to take measures to promote the use of bicycles, aiming at the achievement of the target level for FY2030.
				Expected level													18.2					20.0		
		Energy conservation	10^4kL	Actual result	–	–	0	–	–	–	–	–	–	–	–								–	
				Expected level													5					10		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	0	–	–	–	–	–	–	–	–								–	
				Expected level													14					28		
36. Decarbonization of the railways	Promotion of decarbonization of the railways	Measure evaluation indicator Rate of improvement in energy consumption intensity (FY2013 standard)	%	Actual result	100.0	98.4	96.9	96.8	96.5	96.0	94.8	94.7	92.8	92.5	88.1								**76%**	In terms of the rate of improvement in energy consumption intensity, it improved from the previous fiscal year and reached the expected level. Although the amounts of energy saving and CO_2 emission reduction have already exceeded the target level for FY2030, they decreased from the previous year because emissions increased even in light of the improvement in intensity. Continued support will be given to the introduction of energy saving vehicles and the introduction of energy-saving facilities to railway facilities through subsidy projects and tax exemptions, etc., thereby promoting initiatives to enable railway operators to achieve the reduction target of energy consumption intensity by an average of 1% per year.
				Expected level		99.0	98.0	97.0	96.1	95.1	94.1	93.2	92.3	91.4	90.4	89.5	88.6	87.8	86.9	86.0	85.1	84.3		
		Energy conservation	10^4kL	Actual result	–	4.9	11.1	19.2	28.9	45.4	69.6	82.0	89.6	105.3	94.4								**127%**	
				Expected level		4.3	8.7	13.1	17.5	21.9	26.2	30.6	35.0	39.4	43.8	48.2	52.5	56.9	61.3	65.7	70.1	74.5		
		Emissions reduction	10^4 t-CO_2	Actual result	–	17.2	38.7	67.0	100.7	158.3	242.8	286.0	312.7	367.6	329.3								**127%**	
				Expected level		15.2	30.5	45.8	61.1	76.4	91.7	107.0	122.3	137.6	152.9	168.2	183.5	198.8	214.1	229.4	244.7	260.0		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
37. Decarbonization of the shipping sector	Promotion of energy saving and CO_2 emission-saving vessels	Measure evaluation indicator Number of widely-used ships that contribute to energy conservation	Ships	Actual result	–	52	121	172	227	271	310	375	429	497	575								53%	Regarding the countermeasure evaluation index (number of ships contributing to energy conservation), the actual value for FY2023 slightly fell short of the forecast value, which is presumed to be due to a slowdown in energy-saving and CO_2-reduction efforts compared to initial expectations as a result of reduced capital investment caused by the impact of the COVID-19 pandemic. Going forward, we will continue to utilize the Japan Railway Construction, Transport and Technology Agency's (JRTT) shared construction system and special depreciation system for ships, conduct the Domestic Shipping Innovative Operation Efficiency Improvement and Non-fossil Energy Conversion Promotion Project in collaboration with the Ministry of Economy, Trade and Industry (METI) (subsidies for projects to rationalize energy use and promote non-fossil energy conversion in the transport sector), provide support through the LNG/methanol fuel system introduction support project in collaboration with the Ministry of the Environment (MOE), and promote the use of the coastal ship energy efficiency rating system. In addition, a new concept for ships that pursue further energy savings (collaborative energy-saving ships) was presented in FY2022, and these efforts are expected to further promote the spread of ships that are even more energy-efficient and reduce CO_2 emissions than before. On the other hand, in FY2023, the guidelines for handling biofuels for ships were revised, and going forward, the use of biofuels in coastal shipping is expected to progress. Based on the above, it is expected that the countermeasure evaluation index (the number of energy-saving ships in use), energy savings, and emission reductions will be at the same level as the target levels in FY2030.
				Expected level		52	121	172	227	271	310	380	450	520	590	660	730	800	870	940	1010	1080		
		Energy conservation	10^4kL	Actual result	–	-2.6	9.7	7.8	13.7	14.2	15.5	33.5	15.6	8.6	29.1								47%	
				Expected level		-2.6	9.7	7.8	13.7	14.2	15.5	20	24	27	32	36	40	45	49	53	58	62		
		Emissions reduction	10^4 t-CO_2	Actual result	–	-7.9	28.6	22.4	38.4	41.1	45.8	96.2	46.4	27.1	87.4								48%	
				Expected level		-7.9	28.6	22.4	38.4	41.1	45.8	57	69	80	93	105	118	131	143	156	168	181		
38. Decarbonization of the aviation sector	Promotion of decarbonization of aviation	Measure evaluation indicator CO_2 emissions per unit of transportation	kg-CO_2/ton kilometer	Actual result	1.3977	1.3191	1.2713	1.2838	1.2600	1.2685	1.2912	1.7614	1.6399	1.3280	1.2411								69%	The measure evaluation indicator in FY2023 decreased from the previous fiscal year. It is considered that this is due to transportation volume (for-profit ton-kilometers) having increased due to the recovery in the demand for air travel from the effects of the COVID-19 pandemic. On the other hand, while it is possible that this has impacted the increase in emission intensity (CO_2 emissions per unit of transportation) due to it being possible that CO_2 emissions also increased due to an increase in fuel consumption accompanying the increase in transportation volume, due to the reduction in the emission reduction, the growth in the CO_2 emission is less than the growth in transportation volume. Therefore it is considered that the emission intensity decreased. It is projected that the FY2030 target level will be reached through promotion of continuous CO_2 emissions reduction countermeasures. The actual amount of the emission reduction in FY2023 decreased from the previous fiscal year. It is considered that CO_2 emission have also increased due to transportation volume (for-profit ton-kilometers) combined with fuel consumption having increased due to the recovery in the demand for air travel from the effects of the COVID-19 pandemic.
				Expected level		1.3907	1.3838	1.3768	1.3700	1.3631	1.3563	1.2987	1.2851	1.2717	1.2584	1.2453	1.2323	1.2194	1.2067	1.1941	1.1816	1.1693		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	46.8	88.0	80.7	81.6	87.1	97.0	626.1	483.7	215.9	164								81%	
				Expected level		5.3	10.7	16.3	22.0	27.7	33.6	81.1	93.2	105.5	117.3	129.1	141.0	152.9	164.8	177.2	189.8	202.4		
39. Improvement of efficiency of truck transportation and promotion of joint transportation and delivery (improvement of efficiency of truck transportation)	Efficiency improvement of truck transportation	Measure evaluation indicator Number of vehicles with a gross vehicle weight of more than 24 tons and less than 25 tons owned	Units	Actual result	182274	188668	197094	208479	219443	231071	243021	251129	257267	259778	265379								49%	Among the measure evaluation indicators, the number of vehicles with a gross vehicle weight of over 24t and under 25t increased by about 2% compared to FY2022. With no significant discrepancy from the FY2023 projection, the measure is progressing steadily. For the number of trailers owned, the numbers are down about 2% compared to FY2022. With no significant discrepancy from the FY2023 projection, the measure is progressing steadily. The proportion of the number of private and commercial trucks has increased by approximately 0.5% since FY2022. With no significant discrepancy from the FY2023 projection, the measure is progressing steadily. Given that demand for private trucks is expected to exist to a certain extent, the proportion of the number of private and commercial trucks is considered to remain unchanged. The emission reductions have increased by about 11% compared to FY2022 and about 11% above the expected level for FY2023. The increase is largely due to an increase in the proportion of the number of private and commercial trucks. Continuous efforts will be made to achieve the target by creating a framework, etc. to accelerate environmental measures to be taken by trucking operators, such as through promotion of support for the introduction of large vehicles with high levels of environmental performance.
				Expected level		185520	187722	189207	190206	190875	191322	251379	260025	268968	278219	287788	297686	307924	318514	329469	340801	352522		
		Measure evaluation indicator Number of trailers owned	Units	Actual result	98720	101696	105827	110414	115204	125063	131104	135345	139407	135692	137884								43%	
				Expected level		100307	101381	102106	102592	102918	103135	135561	140169	144934	149861	154955	160223	165669	171301	177124	183145	189371		
		Measure evaluation indicator Percentage of business/private use	%	Actual result	86.3	86.3	86.1	86.0	86.6	86.7	87.2	87.6	87.7	87.8	88.2								206%	
				Expected level		87.1	87.1	87.1	87.1	87.1	87.1	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	35	57	90	262	373	536	660	712	746	825								70%	
				Expected level		168	180	189	194	198	201	586	636	689	743	800	858	918	980	1045	1111	1180		
40. Improvement of efficiency of truck transportation and promotion of joint transportation and delivery (promotion of joint transportation and	Promotion of joint transportation and delivery	Measure evaluation indicator Rate of increase in the number of joint transportation and delivery initiatives	%	Actual result	–	114.3	126.8	144.5	165.9	193.8	202.1	190.3	202.6	204.3	203.5								59%	Against the backdrop of responses to the 2024 Problem, with its concerns over delays in logistics, the measure evaluation indicator has reached 203.5%, and the amount of emission reduction has also been steadily increasing in recent years. Consequently, it is judged that the current measures have been effective to a certain extent. Continuous efforts will be made to promote joint transportation and delivery through approval of comprehensive efficiency improvement plans related to joint transportation and delivery in accordance with the Act on Advancement of Integration and Streamlining of Distribution Business, and steady progress in policies and measures such as partial subsidies for planning expenses through subsidies for projects promoting modal shifts, etc.
				Expected level													276					346		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	1.2	1.3	1.5	1.9	1.9	1.9	2.6	2.4	2.6	2.5								76%	
				Expected level													2.7					3.3		
		Measure evaluation indicator Result of the re-delivery rate of the survey on the actual situation of re-delivery of the courier service	%	Actual result	–	–	–	–	–	–	–	9.95	11.55	11.75	11.25								188%	As a result of calling on consumers through the Re-delivery Reduction PR Month, etc., to promote and disseminate diverse methods of receiving parcels such as unattended delivery (leaving parcels at designated locations), it is considered that the rate of re-deliveries has decreased. While continuously monitoring the rate of re-deliveries, in cooperation with relevant ministries and agencies, local governments, and courier and e-commerce operators, strong efforts will be made to reduce re-deliveries through raising consumer awareness and promoting changes in behavior.
				Expected level													6.0					6.0		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	–	–	–	–	–	-5.8	-0.7	1.1								20%	
				Expected level													5.6					5.6		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
delivery)	Social implementation of drone logistics	Measure evaluation indicator Number of social implementations by local governments	Units	Actual result	–	–	–	–	–	–	–	1	3	7	12								**1%**	With regard to the estimated amount of emission reduction, based on the calculation method that the amount of CO_2 reduction per project under the FY2020 subsidy program is 16 tons/year, a regular service was launched in Ina City, Nagano Prefecture in FY2020, and similar services were launched in Kosuge Village, Yamanashi Prefecture and Mitoyo City, Kagawa Prefecture in FY2021. The target level had been set based on the growth rate of the market size forecast as of FY2020; however, since there is a discrepancy with the current situation and there is a possibility that the target will not be achieved, it is necessary to consider reviewing the target. Against the set targets, for social implementation of drones, the high initial introduction costs and running costs required to start operations have been hurdles, and implementation did not follow after demonstrations. First, to address the shortage of logistics operators in depopulated areas such as remote islands and mountainous regions, support will be provided for last-mile delivery by drones through collaboration among municipalities, logistics operators, etc., aiming at introduction in rural areas. With regard to the estimated amount of emission reduction, based on the calculation method that the amount of CO_2 reduction per project under the FY2020 subsidy program is 16 tons/year, a regular service was launched in Ina City, Nagano Prefecture in FY2020, and similar services were launched in Kosuge Village, Yamanashi Prefecture and Mitoyo City, Kagawa Prefecture in FY2021. At present, there are no major fluctuating factors that can affect the forecast, so it is assumed that the social implementation of drone logistics will proceed as predicted. Therefore, at this point, it is expected to be about the same as the target level.
				Expected level													174					1496		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	–	–	–	–	0.0016	0.0048	0.0112	0.0192								**0%**	
				Expected level													0.5					6.5		
41. Promotion of a modal shift to marine and rail freight transportation (promotion of a modal shift to marine transportation)	Promotion of a modal shift to marine transportation	Measure evaluation indicator Marine cargo transportation volume	100 million ton kilometer	Actual result	330	331	340	358	351	351	358	356	387	388	371								**51%**	The measure evaluation indicator for FY2023 was 37.1 billion ton-kilometers, a decrease of 1.6 billion ton-kilometers compared to FY2022. In addition, the result of emissions reduction in FY2023 was 844,000 tons-CO_2, a decrease of 253,000 tons-CO_2 compared to FY2022. Although the measure evaluation indicator fell below the expectation for FY2023, since this was due to a decrease in cargo transport capacity caused by external factors such as rough weather, it was evaluated that the level will exceed the target level by FY2030. In order to create an environment in which ships, an environmentally friendly transportation mode with high transportation efficiency, continue to be selected, initiatives for modal shifts will be promoted through approval of comprehensive efficiency improvement plans related to modal shifts in accordance with the Act on Advancement of Integration and Streamlining of Distribution Business, partial subsidies for planning and operating expenses through subsidies for projects promoting modal shifts, subsidies for the costs of introducing large containers, etc. through the Modal Shift Promotion Project, promotion of modal shifts and construction of ships that contribute to low environmental loads by utilizing the joint ship construction program by the Japan Railway Construction, Transport and Technology Agency, encouragement through special tax measures, and steady progress in policies and measures such as promotion of the dissemination of the Eco Ship Mark.
				Expected level								367.4					388.9					410.4		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	3.3	22.5	61.5	48.1	51.0	62.2	57.6	111.3	109.7	84.4								**45%**	
				Expected level								85.9					136.9					187.9		
42. Promotion of a modal shift to marine and rail freight transportation (promotion of a modal shift to rail freight transportation)	Promotion of a modal shift to rail freight transportation	Measure evaluation indicator Rail freight transportation volume	100 million ton kilometer	Actual result	193.4	194.5	199.5	196.6	199.8	176.6	183.8	168.4	165.2	164.9	163.1	163.6							**-48%**	The measure evaluation indicator for FY2023 was 16.31 billion ton-kilometers, a decrease of 180 million ton-kilometers compared to FY2022. In addition, the result of emissions reduction in FY2023 was 498,000 tons-CO_2, a decrease of 28,000 tons-CO_2 compared to FY2022. Since it is expected that the amount of emission reduction is linked to the measure evaluation indicator in the calculation method, the amount of emission reduction is expected to increase slightly in FY2024. Efforts were made to promote a modal shift from trucks by providing support for projects, etc. based on the approved comprehensive efficiency improvement plans. However, the impact of natural disasters and the COVID-19 pandemic, etc. is thought to be a factor in the decline in the measures evaluation indicator. In light of the outlook up to FY2030, it is difficult to say that the measures evaluation indicator and the amount of emissions reduction are going steadily, so it was evaluated to fall below the forecast. Initiatives for modal shifts will be continuously promoted through approval of comprehensive efficiency improvement plans related to modal shifts in accordance with the Act on Advancement of Integration and Streamlining of Distribution Business, partial subsidies for planning and operating expenses through subsidies for projects promoting modal shifts, subsidies for the costs of introducing large container and other ships through modal shift acceleration emergency response projects, subsidies for the preparation of freight stations through subsidies for the business costs of activating mainline railways, and steady progress in policies and measures such as promotion of the dissemination of the Eco Rail Mark.
				Expected level													208.9					256.4		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–	–							–	
				Expected level													–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	2.8	14.1	9.6	16.8	-31.4	-15.1	-43.5	-49.2	-47	-49.8								**-34%**	
				Expected level								-47.1					42.4					146.6		
43. Promotion of decarbonization of logistics facilities	Promotion of decarbonization of logistics facilities	Measure evaluation indicator Number of decarbonized logistics facilities	Facility	Actual result	–	–	–	–	–	–	–	2	4	8	116								**58%**	Since FY2023, two new projects have been added to the sources for the measure evaluation indicator, and the number of cases increased significantly; therefore, the progress of the measure evaluation indicator was rated as B. On the other hand, taking into account differences in the reduction amounts by project, energy saving and emission reduction were rated as C. Going forward, it is expected that the targets for energy saving and emission reduction will be achieved by promoting independent dissemination through the horizontal deployment of advanced cases such as the formulation of guidelines.
				Expected level										14	23	35	–	–	–	–	–	200		
		Power reduction	10^4 kWh	Actual result	–	–	–	–	–	–	–	0.1	0.2	2.7	4.0								**9%**	
				Expected level												3.7	–	–	–	–	–	44.0		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	–	–	–	–	0.05	0.13	0.40	2.03								**18%**	
				Expected level												1.9	–	–	–	–	–	11.0		
44. Efforts at ports and harbors (reduction of the distance of land transportation of cargo through optimal selection of ports and harbors)	Reduction of the distance of land transportation of cargo through optimal selection of ports and harbors	Measure evaluation indicator Amount of reduction in land transportation of cargo	100 million ton kilometer	Actual result	–	6.3	7.1	9.2	11.1	11.1	11.1	11.1	11.1	45.9	45.9								**131%**	Regarding the measure evaluation indicator, modal shift through the development of international container terminals and other facilities has shortened land transport distances and reduced CO_2 emissions. As a result, the figure for FY2023 have already exceeded the FY2030 target level. Continue to promote modal shift through the development of international container terminals and other facilities, and to reduce CO_2 emissions.
				Expected level		6	9	10	11	11	11	35	35	35	35	35	35	35	35	35	35	35		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	16.8	19.2	24.9	30.1	30.1	30.1	30.1	30.1	124.5	124.5								**130%**	
				Expected level		17	25	28	30	30	30	96	96	96	96	96	96	96	96	96	96	96		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
45. Efforts at ports and harbors (comprehensive decarbonization of ports and harbors)	Comprehensive decarbonization of ports and harbors [promotion of introduction of energy-efficient cargo handling machinery, etc.]	Measure evaluation indicator Number of introduced units of energy saving cargo handling machines, etc.	Units	Actual result	–	22	34	50	63	87	111	111	111	111	127								**40%**	Support for the introduction of energy-saving cargo handling machinery is being implemented through the Subsidies for Measures to Control Carbon Dioxide Emissions, etc., a collaborative project between the Ministry of the Environment and the Ministry of Land, Infrastructure, Transport and Tourism (under the Projects to Promote Decarbonization of Industrial Vehicles, etc., namely the Decarbonization Promotion Project at Airports and Ports and the Fuel Cell Conversion Promotion Project for Forklifts). As a result of the introduction support under this project, 16 units of energy-saving cargo handling machinery were introduced in FY2023. However, since the progress rate toward the FY2030 target is around 50%, it is planned to continue introduction support utilizing this project and other measures.
				Expected level		22	34	50	63	87	111	130	149	168	187	206	225	244	263	282	301	320		
				Expected level *Reference		22	34	50	63	87	111	135	159	183	207	231	255	279	303	327	351	375		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	0.29	0.41	0.57	0.73	1.00	1.26	1.26	1.26	1.26	1.44								**54%**	
				Expected level		0.29	0.41	0.57	0.73	1.00	1.26	1.39	1.51	1.64	1.76	1.89	2.02	2.14	2.27	2.40	2.52	2.65		
				Expected level *Reference		0.29	0.41	0.57	0.73	1.00	1.26	1.42	1.58	1.74	1.90	2.06	2.22	2.38	2.54	2.69	2.85	3.01		
46. Reform of regulations contributing to global warming countermeasures	Reform of regulations contributing to global warming countermeasures	Measure evaluation indicator Number of cases of special regulatory	Cases	Actual result	1	1	1	1	1	1	1	1	1	1	1								–	The measure evaluation indicator is progressing as expected. On the other hand, the amount of CO_2 emission reduction cannot be indicated because it is difficult for local governments that have been approved by the Plan of Special Zones for Structural Reforms to accurately grasp the situation in each fiscal year. Additionally, as per the above note, regarding the special measures related to this countermeasure, both have been converted into national deployment measures. Since the Approved District Plan has been canceled in line with this, Number of cases of special regulatory, which serve as the measure evaluation indicator, is projected to be 0 in FY2024.
				Expected level		1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	–	–	–								–	
				Expected level		5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	0	0	0	0	0	0	0		
47. Reduction of CO_2 emission intensity in power sectors	Improving efficiency of thermal power generation	Measure evaluation indicator CO_2 reduction by utilizing BAT	10^4 t-CO_2	Actual result	–	420	450	620	670	850	930	1060	970	1140	1300								**118%**	For the improving efficiency of thermal power generation, it is necessary to replace old thermal power generation facilities with high-efficiency facilities or to introduce high-efficiency facilities when a thermal power generation plant is newly built. These lead-times are not continuous since their period and timing vary depending on businesses in light of a stable supply of electricity and the understanding of the local people. Consequently, it is difficult to properly evaluate the likelihood of achieving the level of the target only by the single-year figure. Since the single-year progress toward the target for FY2030 based on the voluntary framework of the electric power sector has reached 118%, it can be evaluated that the FY2030 target has been achieved and the measure is making progress. As the CO_2 emission reduction depends on the electricity generation with thermal power plants in that fiscal year, there is further need to seek improvements going forward to maintain the target level, so progress was evaluated as being in line with projections. Efforts will be made to continue to replace aging thermal power plants and introduce highly efficient facilities when installing new plants. At the same time, efforts will be made to maintain and improve thermal efficiency by thoroughly maintaining and managing existing facilities appropriately so that thermal efficiency can be maintained as high as possible.
				Expected level													–					1100		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	420	450	620	670	850	930	1060	970	1140	1300								**118%**	
				Expected level													–					1100		
	Improving efficiency of thermal power generation, utilization of nuclear power generation on the major assumption of ensuring safety, maximum introduction of renewable energy	Measure evaluation indicator CO_2 emission factor of the electric power industry	kg-CO_2 /kWh	Actual result	0.57	0.55	0.53	0.52	0.50	0.46	0.44	0.44	0.44	0.44	0.422								**46%**	For the improving efficiency of thermal power generation, it is necessary to replace old thermal power generation facilities with high-efficiency facilities or to introduce high-efficiency facilities when a thermal power generation plant is newly built. These lead-times are not continuous since their period and timing vary depending on businesses in light of a stable supply of electricity and the understanding of the local people. Furthermore, the operational status of nuclear power plants is determined not only by the physical status of the reactors, but also by multiple factors, such as the status of conformity assessments by the Nuclear Regulation Authority and the understanding of the municipalities where nuclear power plants are located and other relevant parties. Therefore, it is difficult to appropriately evaluate the probability of achieving the target level based on single-year figures alone. However, since both the emission factor and emission have decreased compared to FY2013, which is the base year for the evaluation of the plan, it can be evaluated that the measure is on track. In order to continue to ensure the effectiveness of initiatives to achieve the target of the voluntary framework in the electric power industry, policy measures will be taken continuously in accordance with the Energy Conservation Act and the Energy Supply Structure Advancement Act. At the same time, the safety of nuclear power plants is left to the expert judgment of the Nuclear Regulation Authority under the premise that safety is the top priority of all circumstances and that all efforts are made to address public concerns. If the Nuclear Regulation Authority determines that the safety of nuclear power plants conforms to new regulatory standards, the nuclear power plants will be restarted based on the respect for the decision. At that time, the national government will take the lead and work to obtain the understanding and cooperation of the municipalities where nuclear power plants are located and other relevant parties. In addition, in the Tomakomai CCS large-scale demonstration, which was conducted with the aim of commercializing CCS technology, target of 300,000 tons of subsea storage was achieved in FY2019. As a result, operation and storage technology was acquired, and CCS was confirmed to be a safe system. Continuous efforts will be made to work on research and development aimed at reducing the cost of CCS and aim for commercialization of CCS in FY2030. * Regarding the maximum introduction of renewable energy, refer to the progress status of the measure titled, "48. Maximum introduction of renewable energy."
				Expected level													–					0.25		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level												–	–	–	–	–	–	–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	400	2900	4100	5400	8800	11200	11600	11200	12400	14700								**42%**	
				Expected level													–					35300		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
48. Maximum introduction of renewable energy	Expansion of use of renewable electricity	Measure evaluation indicator Amount of electricity generated	100 million kWh	Actual result	1179	1326	1486	1536	1696	1773	1856	1983	2102	2188	2261								**46%**	As a result of the launch of the feed-in tariff (FIT) scheme in July 2012 based on the Act on Special Measures concerning the Procurement of Renewable Electricity by Electric Utilities, the amount of renewable energy introduced has expanded significantly compared to that before the start of the FIT. Steady progress is expected to be made toward achieving the target by continuing to promote efforts to expand the use of renewable electricity while curbing the burden on the public and coexisting in harmony with local communities. Since the energy mix does not specify a target for each fiscal year, it is difficult to properly evaluate the achievement of the target only by the single-year figure. However, as a result of the launch of the FIT scheme in July 2012, based on the Act above, the amount of renewable energy introduced has expanded significantly compared to that before the start of the FIT. Although it is difficult to predict the future growth of renewable energy introduction, the amount of electricity generated and emission reductions, which are the measure evaluation indicators, are 226.1TWh and 146.97 million tons-CO_2, respectively, in FY2023. Based on the trend of the certified amount under the Act on Special Measures concerning the Procurement of Renewable Electricity by Electric Utilities, at this point, it is evaluated that the measure is rated as C. Continued initiatives will be taken to expand the use of renewable energy electricity while curbing the burden on the public and coexisting with the local community.
				Expected level (Upper level)													*					Approximately 3530		
				Expected level (Lower level)													*					Approximately 3360		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level (Upper level)																				
				Expected level (Lower level)																				
		Emissions reduction	10^4 t-CO_2	Actual result	7662	8616	9660	9984	11026	11524	12064	12889	13662	14224	14697								**52%**	
				Expected level (Upper level)													*					Approximately 21180		
				Expected level (Lower level)													*					Approximately 20160		
	Expansion of use of renewable heat	Measure evaluation indicator Amount of heat supply (crude oil equivalent)	10^4kL	Actual result	1104	1124	1126	1125	1160	1142	1156	1175	1071	1093	1128								**10%**	Since the energy mix does not specify a target for each fiscal year, it is difficult to properly evaluate the achievement status of the target only by the single-year figure. The amount of heat supply, which are measure evaluation indicators from FY2013 to FY2020, and emission reduction are generally flat. By promoting measures through technological development aimed at reducing costs, it is expected to make steady progress toward achieving the target in the future. Although it is difficult to predict the future heat supply and emission reductions, the heat supply and emission reductions, which are the measure evaluation indicators, are 11,280,000kL and 30.45 million tons-CO_2 in FY2023, respectively, and assuming that they will continue linearly until FY2030, it is evaluated that the measure is ranted as C at this time. Measures will be continued to be promoted through support for the introduction of renewable energy heat utilization facilities and technological development aimed at reducing costs, etc.
				Expected level													*					1341		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level																				
		Emissions reduction	10^4 t-CO_2	Actual result	2980	3035	3039	3037	3131	3084	3132	3187	2892	2952	3045								**10%**	
				Expected level													*					3618		
49. Promotion of the introduction of facilities and equipment with high energy-saving performance (petroleum product manufacturing sector)	Effective use of heat, introduction of advanced control and high-efficiency equipment, improvement of power system operations, and large-scale improvements and upgrades of processes	Measure evaluation indicator Prospect of introduction and widespread use	%	Actual result	29.9	39.1	49.0	55.1	65.5	69.0	69.6	65.0	70.9	74.9	70.3								**58%**	The progress rate in FY2023 was 70.3% compared with the measure evaluation indicator of a projected 2.7 million tons-CO_2 emission reduction. In FY2023, although demand for petroleum products such as gasoline, jet fuel, and diesel remained relatively firm due to the continued recovery in social and economic activity, overall demand for fuel oil decreased compared to the previous year due to the normalization of demand for C heavy fuel oil for power generation, which had increased abruptly since FY2021. In addition, due to periods of regular maintenance of units that crack heavy oil and an increase in troubles, the utilization rate of major units decreased, and the amount of energy saving due to energy conservation facilities introduced in previous years declined. Although additional energy-saving measures were implemented, this decrease in utilization and other factors resulted in an overall decline in the progress rate. As a result of these factors, the amount of CO_2 emissions reduction in FY2023 decreased by 83,000 t-CO_2 compared to FY2022. Although it is difficult to make a detailed evaluation because estimates up to FY2030 cannot be provided, it is thought that the level will be equivalent to the FY2030 target level at this time because each company will continue to work on energy-saving measures. However, it is always necessary to pay attention to the possibility that if facilities for which energy-saving measures have been taken are disposed of or shut down as a result of the closure or downsizing of refineries due to a structural decrease in domestic fuel oil demand, the amount of energy reduction of the facilities will decrease, and the progress rate will decrease.
				Expected level													76.5					100.0		
		Energy conservation	10^4kL	Actual result	2.9	11.8	20.6	27.7	37.3	42.1	43.2	41.8	47.1	52.5	49.4								**64%**	
				Expected level													59.7					76.0		
		Emissions reduction	10^4 t-CO_2	Actual result	7.7	31.9	55.6	74.8	100.7	113.7	116.5	112.7	127.2	141.6	133.3								**63%**	
				Expected level													161.2					208.0		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
50. Expansion of the use of blended cement	Expansion of the use of blended cement	Measure evaluation indicator Mixed cement production/total cement production	%	Actual result	22.1	20.1	19.2	19.0	18.1	19.5	19.2	19.4	18.7	18.6	18.3								-106%	Unlike ordinary portland cement, which is widely used in general, blended cement has disadvantages of slow initial strength development and increased occurrence of cracks depending on conditions. Because of these characteristics of blended cement, it takes longer than ordinary Portland cement to reach the desired strength after construction, and the main applications in Japan are public works projects for bridges, dams, and harbors that do not require early strength. Therefore, the demand for blended cement is highly dependent on the volume of public works projects. The procurement rate of blended cement in public works projects by the national government has already achieved an extremely high-level thanks to the Act on Green Purchasing. For example, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), which procures the largest amount of cement, has procured 99.8% (FY2019: data published by the MLIT). Further promotion of its use in private-sector construction is needed, but there are issues of prolonged curing periods, increased cracking, and restrictions on raw material procurement and distribution. The ratio of official demand and domestic sales volume in FY2013, which is the base year, was 51.7% and 47 million tons, 51.7% and 45 million tons in FY2014, 51.2% and 42.3 million tons in FY2015, 50.5% and 41.5 million tons in FY2016, 49.5% and 41.7 million tons in FY2017, 47.3% and 42.5 million tons in FY2018, 47.7% and 40.95 million tons in FY2019, 48.0% and 38.65 million tons in FY2020, 46.7% and 37.87 million tons in FY2021, 44.5% and 37.27 million tons in FY2022, and 43.6% and 34.56 million tons in FY2023 (Cement Handbook FY2024 Version). Since the use of blended cement is overwhelmingly driven by public demand, the drop in public demand is thought to be one of the main reasons for the negative progress.
				Expected level													–					25.7		
		Emissions reduction	10^4 t-CO_2	Actual result	–	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0								0%	With regard to the promotion of the use of mixed cement in private demand, while improving the environment to promote the use of mixed cement such as stipulating “pouring concrete with a small amount of Portland cement” in the methodologies under the J-Credit Scheme, which lists the “use of blast furnace cement or fly ash cement” as one of the selective items in the certification standards for low-carbon buildings in accordance with the Act on Promotion of Low-Carbonization of Urban Cities, the dissemination and public awareness-raising of mixed cement is carried out using the website of examples of use of mixed cement related to the widespread use and expansion measures of mixed cement. In addition, voluntary initiatives to promote the dissemination and awareness-raising of the use of mixed cement are being made by relevant academic societies and relevant industries, etc., such as the preparation of technical materials including guidelines, and the creation of pamphlets, leading to widespread use of mixed cement. In particular, since FY2018, the Architectural Institute of Japan has started an additional study of “environmental friendliness,” which is highly evaluated for the use of mixed cement, in the revision of the Standard Specification for Construction Work from FY2021 to FY2022. A study on the formulation of guidelines for concrete using fly ash has also begun. As domestic demand shrinks, exports tend to increase. However, in this case, mixed cement will be exported as clinker. Thus, it is also necessary to pay attention to the fact that it will cause a decline in the measure evaluation index during the export expansion phase based on the current evaluation method including the export portion in total cement production.
				Expected level													–					38.8		
51. Diffusion of biomass plastics	Diffusion of biomass plastics	Measure evaluation indicator Domestic shipments of biomass plastics	10^4 t	Actual result	4	4	4	5	5	5	6	11	14	15									6%	The progress of both domestic shipments and emission reduction for biomass plastics in Japan is currently lower than our estimate, because biomass plastics have been still more expensive than petroleum-based plastics, and a supply volume of biomass plastics does not follow the potential demand. However, the introduction of biomass plastics has been accelerated in Japan, as a result of the exclusion of shopping bags made of biomass plastics under the charging system for shopping bags made of whole plastics that started in July 2020. The widespread use of biomass plastics will be further boosted in accordance with "the Biomass Plastic Introduction Roadmap formulated in January 2021" and "the Act on Promotion of Resource Circulation for Plastics enforced in April 2022".
				Expected level		8	20	32	43	55	67	79	91	102	114	126	138	150	161	173	185	197		
		Emissions reduction	10^4 t-CO_2	Actual result		0.1	-0.7	0.3	0.6	0.3	0.8	7.1	9.1	10.3									5%	
				Expected level			12	23	35	47	58	72	86	99	113	127	141	154	168	182	195	209		
52. Reduction of waste incineration	Promotion of recycling of waste plastics	Measure evaluation indicator Amount of plastic waste incinerated (dry base)	10^4 t	Actual result	515	471	462	440	403	403	395	372	365	369	340								74%	The amount of plastic incineration (incineration for power generation, incineration for heating, incineration without energy recovery), which is as a measureing evaluation indicator, has decreased from 5.15 million tons (confirmed in FY2013) to 3.40 million tons (confirmed in FY2023), and the amount of the emission reduction has amounted to 4.85 million tons-CO_2 (FY2023) in Japan, thanks to the progress of efforts to reduce the amount of waste incineration. It is expected that above tendencies for both the measuring evaluation indicator and emission reduction will continue. Further reduction of the amount of plastic incineration wll be implemented in Japan, owing to "decrease in the volume of waste originated from the charging system", "the promotion of sorted collection of plastic containers and packaging", and "the collection of other plastic products waste, which will be expanded under the Plastic Resource Recycling Promotion Law enforced in April 2022".
				Expected level										364	353	341	331	320	310	299	289	278		
		Emissions reduction	10^4 t-CO_2	Actual result	0	119	143	203	221	302	324	387	415	404	485								76%	
				Expected level										409	439	469	498	527	555	583	612	640		
	Promotion of recycling of waste oil	Measure evaluation indicator Amount of material recycled from waste solvents	kt	Actual result	490	514	514	490	514	522	506	487	536	531									18%	In order to achieve the target level for FY2030, in FY2022, the Development of Waste Oil Recycling Process and CO_2 Reduction Demonstration Project was added to the target projects of the Demonstration Project for the Construction of Resource Recycling Systems Such as Plastics to Support a Decarbonized Society, and in FY2024, under the GX projects, a material recycling project for waste solvents was adopted, thereby promoting material recycling.
				Expected level											580	599	619	638	658	677	696	716		
		Emissions reduction	10^4 t-CO_2	Actual result	0	7	7	0	7	10	5	-1	14	13									19%	
				Expected level											28	34	40	46	52	58	64	70		
53. Measures to reduce greenhouse gas emissions related to agricultural soil (reduction of methane emissions in paddy fields)	Measure to reduce GHG emissions in agricultural soils [CH_4 emission reduction from rice cultivation]	Measure evaluation indicator Area ratio of paddy fields conducted prolonging midseason drainage	%	Actual result	–	–	–	–	–	–	–	0.9	1.0	0.9	1.0							3%	Since FY2023, as prolonging mid-season drainage has become subject to the J-Credit Scheme, a rapid expansion of actions is expected going forward, and the amount of emission reduction is projected to be about the same as the target level in FY2030. At present, the measure evaluation indicator (Area ratio of paddy fields conducted prolonging mid-season drainage) is calculated based on the area where prolonging mid-season drainage is implemented under “the Direct Payments for Environmentally Friendly Agriculture (MAFF)”. Although it is considered that, if the initiative continues as is, it will fall short of the target level in FY2030, taking into account the increase in the area under the J-Credit Scheme and changes to the subsidy menu, from next year onward, in the follow-up, by switching to data that more appropriately evaluates the status of the initiative, the measure evaluation indicator is also projected to be about the same as the target level in FY2030. Continuous efforts will be made to promote prolonging mid-season drainage by making use of measures to utilize the J-Credit Scheme.
				Expected level												–	–	–	–	–	–	30		
		Emissions reduction	10^4 t-CO_2	Actual result	–	-3	15	-6	0	9	18	27	28	57	61								52%	
				Expected level												–	–	–	–	–	–	117		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
54. Reduction of final waste disposal	Reduction of final waste disposal	Measure evaluation indicator Final disposal amount of organic municipal waste (based on dry weight)	1,000 t	Actual result	325	238	189	170	138	147	99	88	84	84									**76%**	As a result of progress in efforts to reduce the amount of final waste disposal by reducing the amount of waste generated, etc., the amount of final waste disposal of organic waste, which is a measure evaluation indicator, has decreased from 325,000 tons (the confirmed figure in FY2013) to 84,000 tons (in FY2022), and the amount of emission reduction was 255,000 tons-CO_2. Additionally, the overall amount of emission reduction increased due to a revision of the Global Warming Potential (GWP) since FY2022 results.
				Expected level		300	266	233	200	166	135	105	75	47	28	24	20	18	16	14	12	10		
		Emissions reduction	10^4 t-CO_2	Actual result	–	0.3	2.6	5.7	9.0	13	15	19	22	25									**49%**	The measure evaluation indicator and emission reduction are generally progressing steadily. In order to achieve the final waste disposal reduction target stated in the Basic Policy for Comprehensive and Systematic Promotion of Measures on Waste Reduction and Other Proper Waste Management, continuous efforts will be made to reduce the final waste disposal volume by reducing the amount of waste generated by promoting charges for waste, etc.
				Expected level		0.0	1.7	4.0	6.9	10	14	18	22	26	31	35	39	42	45	48	50	52		
55. Adoption of semi-aerobic landfill structures in final waste disposal sites	Adoption of semi-aerobic landfill structures in municipal waste disposal sites	Measure evaluation indicator Percentage of quasi-aerobic landfill disposal volume	%	Actual result	60	72	71	71	65	69	68	70.0	72	72									**70%**	Global warming countermeasures in municipal waste treatment have been promoted. With regard to the measure evaluation indicator, etc., the percentage of quasi-aerobic landfill disposal volume at final municipal waste disposal sites increased from 60% (in FY2013) to 71% (in FY2016), and the amount of final disposal at quasi-aerobic final waste disposal sites progressed, and has remained around 65 to 70% thereafter. The amount of emission reduction was 12,000 tons-CO_2 (FY2022), which is generally steady. Efforts will be made to increase the percentage of quasi-aerobic landfill disposal volume at final municipal waste disposal sites from now on.
				Expected level		62	64	66	67	69	71	73	73	74	74	75	75	75	76	76	77	77		
		Emissions reduction	10^4 t-CO_2	Actual result	–	0.0	0.5	0.8	1.0	0.9	1.1	1.1	1.1	1.2									**22%**	
				Expected level		0.0	0.1	0.3	0.6	0.9	1.3	1.8	2.3	2.7	3.1	3.5	3.9	4.2	4.6	4.9	5.1	5.4		
	Adoption of semi-aerobic landfill structures in industrial waste disposal sites	Measure evaluation indicator Percentage of quasi-aerobic landfill disposal volume at final industrial waste disposal sites	%	Actual result	70	65	62	67	70	75	76	73	71	68									**-33%**	The percentage of quasi-aerobic landfill disposal volume at final industrial waste disposal sites, which is a measure evaluation indicator, has remained almost flat from 70% (in FY2013) to 68% (in FY2022), and the amount of emission reduction was 2,000 tons-CO_2. Continuous efforts will be made to thoroughly establish and maintain facilities based on technical standards for final industrial waste disposal sites, and quasi-aerobic landfills will be publicized.
				Expected level								72					74					76		
		Emissions reduction	10^4 t-CO_2	Actual result	–	0	-0.2	-0.4	-0.4	-0.4	-0.1	0.1	0.1	0.2									**38%**	
				Expected level								0.1					0.2					0.4		
56. Measures to reduce greenhouse gas emissions related to agricultural soil (reduction of nitrous oxide associated with fertilization)	N_2O emission reduction associated with fertilizer application	Measure evaluation indicator Demand for chemical fertilizers	1,000 tons N	Actual result	410	395	372	380	436	432	398	390	417	353	278								**216%**	The measure evaluation indicator (demand for chemical fertilizers) in FY2023 was 278,000t-N (progress rate: 216%), exceeding the expected reduction for FY2023 (390,000t-N) by 112,000t-N. This is considered to be attributable to the steady penetration in the field of initiatives for appropriate fertilizer application aimed at reducing chemical fertilizers, and although there will continue to be some year-to-year fluctuations, the same level is expected to continue. The result of emissions reduction in FY2023 was 280,000 tons-CO_2 (progress rate: 116%), exceeding the reduction estimate for FY2023 (121,000 tons-CO_2) by 159,000 tons-CO_2. As with the measure evaluation indicator (demand for chemical fertilizers), this level is also expected to continue. [Initiatives to reduce the use of chemical fertilizers] - Expansion in the use of domestic resources such as compost and sewage sludge resources - Introduction and practice of local compost technologies and sensing data-enabled compost reduction technologies - Expansion and solidification of initiatives to optimize compost use based on soil diagnostics, etc.
				Expected level		407	405	402	399	400	402	403	399	394	390	370	366	363	359	356	352	349		
		Emissions reduction	10^4 t-CO_2	Actual result	–	5.1	12.3	9.3	-9.2	-9.5	-0.4	1.0	-8.3	6.4	28								**116%**	
				Expected level		1.5	3.1	4.7	6.3	6.6	6.9	7	8.6	10.3	12.1	16.4	17.7	19.0	20.3	21.6	22.8	24		
57. Advancement of incineration at sewage sludge incineration facilities	Advancement of incineration at sewage sludge incineration facilities	Measure evaluation indicator High temperature incineration rate	%	Actual result	63	67	57	69	62	57	73	77	59	61									**-5%**	The number of new type furnaces and solid fuel conversion furnaces installed has been spreading earlier than expected in 2016, and the result has exceeded the target. Furthermore, in FY2022, the Sewerage Decarbonization Promotion Project was established as an individual subsidy, and intensive support has been started for advanced energy creation projects and nitrous oxide (N_2O) countermeasures projects that contribute to the reduction of greenhouse gases. In the future, the introduction of a solid fuel conversion facility and a new type furnace is expected in line with the renovation and renewal of facilities. Regarding the advancement rate of sewage sludge incineration, measures were further strengthened by making efforts mandatory in the revision of the Sewerage Act in 2015, requiring the introduction of N_2O emissions reduction technology to become eligible for subsidies in the installation and renewal of sewage sludge incineration facilities in FY2017, and adding items related to new type of furnaces to reduce N_2O emissions in the planning, design guidelines and explanations for sewage facilities in 2019. However, the volume of sewage sludge that cannot be incinerated in high temperature increased into FY2021, and the rate of high-temperature incineration declined. Steady efforts will be made while following up on the status of incineration. Further progress on reductions through the above initiatives is required in relation to emission reduction.
				Expected level		66	70	73	76	80	83	84	85	86	87	88	90	92	94	96	98	100		
		Measure evaluation indicator Number of new type furnaces and solid fuel conversion furnaces installed	Units/year	Actual result	–	4	7	3	4	2	2	4	2	1									**50%**	
				Expected level		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
		Emissions reduction	10^4 t-CO_2	Actual result	–	10	4	14.5	3.5	2	25	33	19	26									**33%**	
				Expected level		9	15	23	30	37	44	48	51	53	57	59	63	66	70	72	76	78		
	Reduction of production and import volumes of HFCs, conversion of refrigerants	Measure evaluation indicator Achievement rate of the target GWP value of the designated product system (based on number of product	%	Actual result	7	33	46	50	53	57	69	80	85	91	93								**92%**	Regarding the measure evaluation indicator (achievement rate of target GWP values under the designated product system (product category-based)), steady progress is expected because the Fluorocarbon Emissions Control Act designates average GWP values targets for individual products to achieve by specific years that are to be used as the criteria for the production of designated products, and imposes on manufacturers, etc. the obligation to make efforts to reduce the environmental impact of fluorocarbons based on these criteria, although the progress may be affected by external factors such as economic fluctuations. The Ministry of Economy, Trade and Industry will follow up on the status of initiatives every year in the Industrial Structure Council, aiming at achieving the targets while providing guidance, etc. as necessary. Regarding the measure evaluation indicator (cumulative number of equipment using natural refrigerants installed), due to the direct and ripple effects of the introduction support program, the annual number of equipment using natural refrigerants introduced is on the increase. In addition, under the natural refrigerant equipment introduction subsidy program, large enterprises are required to set and publish conversion targets to equipment using natural refrigerants; as part of the renewed program, efforts will be made to increase the number of installations of equipment using natural refrigerants.
				Expected level								85					95					100		
		Measure evaluation indicator Cumulative number of natural refrigerant equipment introduced	10^4 units	Actual result	–	–	–	–	–	–	1.8	2.1	2.6	3.3	4.2								**13%**	
				Expected level													20					33		
		Emissions reduction	10^4 t-CO_2	Actual result	–	252	276	321	376	431	482	531	575	643	713								**49%**	
				Expected level								350					891					1463		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
58. Policies and measures for fluorinated gases: (HFCs, PFCs, SF_6, NF_3)	Reduction of fluorinated gases at time of product manufacture	Measure evaluation indicator Achievement rate of voluntary action plan goals (based on number of organizations)	%	Actual result	100	100	100	64	64	64	64	71	71	76	81								–	Based on the voluntary action plan prepared by each industry association, efforts are being made to achieve the reduction target for FY2030. Ministry of Economy, Trade and Industry will follow up every fiscal year in the Working Group on Fluorocarbons Countermeasures of the Industrial Structure Council so that each organization can achieve the reduction target, leading to the achievement of the reduction target in the future. With regard to the measure evaluation indicator (Achievement rate of voluntary action plan goals (based on number of organizations)), based on the voluntary action plan prepared by each organization, efforts are being made to achieve the reduction target for FY2030. The actual value for FY2023 was up from the previous fiscal year. Going forward, it is expected to make gradual progress up to FY2030. Until FY2015, the calculation was based on the assumption that each organization had achieved its target based on the voluntary action plan. Until FY2015, the calculation was based on the assumption that each organization had achieved its target based on the voluntary action plan. The amount of emissions reduction is expected to be gradually advanced toward the FY2030 target, although there is a possibility that it will be affected by external factors such as changes in demand for the four gases including HFCs due to economic fluctuations and the operating status of facilities. Ministry of Economy, Trade and Industry will continue to follow up every fiscal year in the Working Group on Fluorocarbons Countermeasures of the Industrial Structure Council so that each organization can achieve the reduction target.
				Expected level								100					100					100		
		Emissions reduction	10^4 t-CO_2	Actual result	–	27	30	35	41	47	52	58	63	70	78								**64%**	
				Expected level								55					88					122		
	Reduction of volume of HFC leaks at time of product use	Measure evaluation indicator Rate of adoption of continuous monitoring systems when selling new commercial air conditioners and commercial refrigeration/freezing equipment (4 major items)	%	Actual result	–	0.2	1.4	2.3	0.3	2.8	0.2	1.9	1.4	3.1	0.8								**8%**	Regarding the measure evaluation indicator (total of reported leakage amounts (in CO_2 equivalent) from operators that leaked 1,000 tons or more of HFCs per year), although it has been on an increasing trend along with the transition in the refrigerants used in equipment, the share of specified fluorocarbons has been declining, and a reduction in leakage volumes is expected in several years. On the other hand, since there are a certain number of operators that continuously leak large amounts, measures to address leakage at those operators will be examined going forward.
				Expected level													5					10		
		Measure evaluation indicator Total amount of HFCs reported by businesses that leaked 1,000 tons or more per year (CO_2 equivalent)	10^4 t	Actual result	–	–	72	74	91	111	113	120	128	146	150								**75%**	
				Expected level													220					200		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	508	595	682	763	840	911	1018	1129								**53%**	
				Expected level								650					1330					2150		
	Reduction of volume of HFC releases at time of product disposal (commercial sectors)	Measure evaluation indicator HFCs recovery rate when disposing of commercial air conditioners and commercial refrigeration/freezing equipment (unit basis)	%	Actual result	–	–	–	–	–	–	–	–	–	–	61								**72%**	Rate of implementation of HFC recovery at the time of disposal of commercial air conditioners and commercial refrigeration and freezing equipment (unit-based), and recovery rate of HFCs at the time of disposal of commercial air conditioners and commercial refrigeration and freezing equipment (refrigerant-quantity-based): In order to improve the sluggish recovery rate of fluorocarbons from refrigeration and air-conditioning equipment in the commercial sector at the time of disposal, the Fluorocarbons Emission Control Act was revised in 2019 and came into effect in April 2020. Following the revision, through mutual cooperation among related businesses, including the introduction of direct penalties for violations by equipment users of the obligation to deliver fluorocarbons at the time of disposal, a framework was established to prevent uncollected fluorocarbons and to ensure that recovery work is reliably carried out when equipment is disposed of, thereby also enhancing the effectiveness of guidance and supervision by prefectures. On the other hand, as the recovery rate at the time of disposal still remains sluggish, a review of the Act will be conducted after five years since the enforcement of the amended Act, with a view to improving the recovery rate at the time of disposal.
				Expected level													70					85		
		Measure evaluation indicator HFC recovery rate when commercial air conditioners and commercial refrigeration and freezing equipment are disposed of (based on refrigerant volume)	%	Actual result	31	32	38	39	38	39	38	41	40	44	44								**30%**	
				Expected level								50					60					75		
		Emissions reduction	10^4 t-CO_2	Actual result	–	398	436	507	594	681	762	839	909	1016	1126								**67%**	
				Expected level								790					1350					1690		
	Reduction of volume of HFC releases at time of product disposal (residential sector)	Measure evaluation indicator Reduction of discarded household air conditioners that are not properly disposed of	10^4 units	Actual result	–	–	–	–	–	–	0	-25	5	43									**28%**	The measure evaluation indicator ("number of discarded household air conditioners that are not properly disposed of reduced") was about the same as the target level because the number of units collected by scrap and yard operators in FY2022 decreased from 3.12 million units in FY2019 to 2.57 million units. This is because the number of units handed over to scrap and yard operators from retailers, moving companies, and construction demolition companies decreased from 2.36 million units in FY2019 to 1.10 million units in FY2022, so it can be evaluated that the distribution of air conditioners to improper routes has decreased to some extent. To further improve the collection of air conditioners to appropriate routes, based on the Report on Evaluation and Study of the Implementation Status of the Home Appliance Recycling System compiled in June 2022, which stated that "in order to improve the collection rate of air conditioners, it is necessary to eliminate inappropriate collection and disposal by illegal collectors and yard operators," efforts have been made to identify and sequentially introduce measures to strengthen countermeasures for illegal collectors and awareness-raising among consumers in cooperation with local governments. In FY2023, a collection of cases was created which contains enforcement action against operators by local governments and notifications and warnings regarding proper disposal issued to consumers.
				Expected level								14	28	42	56	70	84	98	112	127	142	156		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	–	–	–	0	-15	3	33									**29%**	
				Expected level								10	21	31	41	51	62	72	82	92	103	113		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
59. Policies and measures for forest carbon sinks	Policies and measures for forest carbon sink	Measure evaluation indicator Area of forest management practices	10^4 ha	Actual result	83	77	70	61	58	54	53	53	54	50	47								–	The measure evaluation indicator, the area of forest management practices including thinning and reforestation, has been below the target due to the following factors: (i) Some forests are not properly managed without sufficient management due to a decrease in the motivation of forest owners; (ii) Reforestation after harvesting is not implemented in some cases due to issues such as low profitability of forestry; (iii) Insufficient budget for some areas because of challenges in operations such as increased operational cost due to gradual shift of operation site to inland, aging stands, and raised labor cost, despite of enduring efforts to secure the national budget for forest management. To achieve the target level of the measure evaluation indicator for FY2030, efforts are being made through the following measures: (i) further promotion of forest management in forests where forest owners do not provide proper silvicultural practices, by accelerating the consolidation and integration of forest administration in accordance with the amendment of the Private Forest Management Entrustment Act in 2025 and by utilizing the Forest Environment Transfer Tax, whose standards for transfer were revised in 2024; (ii) realization of "New forestry", which makes it possible to significantly improve profitability of forestry, from logging to reforestation and silviculture processes through use of seedlings with superior growth, such as elite trees, and new technologies including ICT, based on the Forest and Forestry Basic Plan; (iii) reduction of forest operation costs by emphasizing the support on labor-saving and cost-saving operations, such as low-density planting and weeding with reduced frequency, and the dissemination of these operations through introduction of best practices, striving to secure the budget necessary for the implementation of forest management practices, such as thinning and reforestation Although there is a medium- to long-term downward trend in forest removals due to the aging of planted forests, it is expected that the target level for forest removals in FY2030 will be achieved by implementing forest management, in addition to the initiatives mentioned above, through promoting the use of domestically produced timber in view of the Wood Use Promotion Act and expanding the amount of carbon storage in harvested wood products (HWP), which is included in forest removals. The progress rate toward the target is not shown for either the measure evaluation indicator or the expected removals due to the following reasons. Regarding the measure evaluation indicator, it defines the target in FY2030 as the annual average area of forest management from FY2021 to FY2030 without accumulating each year result toward a target year. Concerning expected removals, the current results are at a higher level than the FY2030 target, which is set with the aim of mitigating the declining trend in removals associated with the aging planted forests.
				Expected level		81 (average per year)							70 (average per year)											
		Removals	10^4 t-CO_2	Actual result	5172	6100	5737	5556	5526	5384	4944	4712	4796	4552	4517								–	
				Expected level								3800					–					3800		
60. Policies and measures to increase carbon removals in agricultural soils	Policies and measures to increase carbon removals in agricultural soils	Measure evaluation indicator Soil carbon storage amount (mineral soil)	10^4 t-CO_2	Actual result	693	591	636	670	645	650	690	708	693	661	697								**2%**	Soil carbon storage amount has generally trended upwards in recent years, and as the volume of compost inputs overall is increasing, if this upward trend continues, it is considered that it will reach the target level in FY2030. As for the status of application of green manure, since 2018 only oats can be captured in statistics; therefore, in order to appropriately reflect the application status in the calculation, methods to grasp the status of application of green manure other than oats will be considered. As for the amount of biochar applied, only charcoal can be captured in statistics; therefore, in order to appropriately reflect the application status in the calculation, methods to grasp the status of application of biochar types other than charcoal will be considered.
				Expected level												–	–	–	–	–	–	850		
		Removals	10^4 t-CO_2	Actual result	693	591	636	670	645	650	690	708	693	661	697								**2%**	
				Expected level												–	–	–	–	–	–	850		
61. Promotion of urban greening	Promotion of urban greening	Measure evaluation indicator Maintenance area	1,000 ha	Actual result	77	79	80	81	82	83	83	84	111	105	90								**163%**	Regarding the measure evaluation indicator, the maintenance area of urban greening that contributes to greenhouse gas removal was about 90,000 ha, an increase of about 13,000 ha compared to FY2013. As a result, the amount of absorption (actual value) in FY2023 was approximately 1.32 million tons-CO_2, exceeding the expected value. Urban greening will be promoted continuously.
				Expected level		77	78	78	79	80	81	81	82	82	83	83	83	84	84	84	84	85		
		Absorption	10^4 t-CO_2	Actual result	115	117	119	121	123	124	127	128	155	147	132								**189%**	
				Expected level		112	113	115	116	117	118	119	119	120	121	121	122	122	123	123	123	124		
62. Activation of the J- Credit Scheme	Activation of the J-Credit Scheme	Measure evaluation indicator J-Credit certified amount	10^4 t-CO_2	Actual result	3	63	103	242	342	471	585	697	806	889	1036								**69%**	The cumulative J-Credit certified amount, which is a measure evaluation indicator and emission reduction, is 10.36 million tons-CO_2, and the amount has risen significantly (1,470,000 tons-CO_2 increase). By continuing to implement related measures to stimulate credit demand, the amount is expected to be the same level as the FY2025 target (11 million tons-CO_2) and FY2030 target (15 million tons-CO_2) depending on the projects registered to date and planned. Thus, the evaluation for FY2023 was rated as C.
				Expected level													1100					1500		
		Emissions reduction	10^4 t-CO_2	Actual result	3	63	103	242	342	471	585	697	806	889	1036								**69%**	
				Expected level													1100					1500		
63. Contributions to reducing global greenhouse gas emissions	Promotion of the Joint Crediting Mechanism (JCM)	Measure evaluation indicator Estimated cumulative emission reductions and removals through JCM financial support projects, etc.	10^4 t-CO_2	Actual result	0	0.2	1.5	5.2	55.3	282.7	511.6	787.5	1150.8	1488.7	1831.2								**18%**	The actual and expected value of the measure evaluation indicator in FY2023 have both increased compared to the previous fiscal year, and the cumulative projected volume of emission reductions and removals was roughly in the high 20 million tons. In the Plan for Global Warming Countermeasures (Cabinet Decision on February 18, 2025), the goal of the JCM is stated as "to secure accumulated international emission reductions and removals through public-private collaborations at the level of approximately 100 million t-CO_2 by FY 2030 and approximately 200 million t-CO_2 by FY 2040". Furthermore, in the "Grand Design and Action Plan for a New Form of Capitalism and Follow-up (2022) (Cabinet Decision in June 2022)", it is positioned that "in order to expand the Joint Crediting Mechanism (JCM), we will accelerate discussions with relevant countries, aiming to increase JCM partner countries up to around 30 by 2025, and develop and disseminate the guidance on the formulation of JCM projects financed by the private sectors in FY2022". In FY2023, the number of JCM partner countries increased by four, and as of March 2024, the JCM has been established with 29 countries. In addition, the FY2023 budget for JCM equipment subsidy projects (project assistance) was increased compared to the previous fiscal year. To enhance reliability, transparency, and overall credibility in the market and further support greenhouse gas mitigation actions that generate high-integrity carbon credits, in April 2023, at the G7 Ministers' Meeting on Climate, Energy and Environment in Sapporo, Japan proposed the "Principles of High-Integrity Carbon Markets," which were adopted at the meeting. In addition, the Paris Agreement Article 6 Implementation Partnership (A6IP) was launched under the initiative of Japan, and efforts are being made to establish implementation systems in each country. As indicated above, continuous efforts will be made to fill out and expand the JCM by supporting the establishment of a structure for implementing Article 6 of the Paris Agreement, and by putting in place measures to promote JCM implementation centered on private capital.
				Expected level	1.5	161.5	241.5	451.5	587.2	854.2	1210.0	1824.8	1862.9	2168.6	2648.8		–					10000		
		Emission reduction and removals	10^4 t-CO_2	Actual result	0	0.2	1.5	5.2	55.3	282.7	511.6	787.5	1150.8	1488.7	1831.2								**18%**	
				Expected level	1.5	161.5	241.5	451.5	587.2	854.2	1210.0	1824.8	1862.9	2168.6	2648.8		–					10000		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
64. Decarbonization initiatives in national parks	Promotion of decarbonization efforts in national parks [Zero Carbon Park]	Measure evaluation indicator Number of areas where Zero Carbon Parks are registered	Location	Actual result	–	–	–	–	–	–	–	–	6	12	15	(20)							**75%**	This is because the number of municipalities wishing to engage in Zero Carbon Parks is increasing year by year, along with the declaration of Zero Carbon City.
				Expected level													10					20		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level													–					–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level													–					–		
65. Proactive actions by the national government	Proactive actions by the national government	[Adjusted emission factor] Measure evaluation indicator Emissions reduction rate	%	Actual result	–	–	–	-1.7	-3.4	11.2	11.4	20.4	28.2	23.4	21								**42%**	The total emissions of greenhouse gases emitted from government affairs and projects in FY2023 are estimated to be [1,740,686 tons-CO_2] when calculated based on the adjusted emission factor. This is a 21.0% decrease from the total emissions (2,202,728 tons-CO_2) in FY2013, the base year of the National Government Action Plan. The breakdown shows that the amount of fuel used by official vehicles decreased by 0.8%, the change in the amount of electricity used by facilities increased by 0.6%, the amount of change in the emission factor due to an increase in the procurement ratio of renewable energy electricity, etc. decreased by 19.4%, and the amount of fuel used in facilities' energy supply facilities, etc. decreased by 1.3%. Regarding quantitative targets other than total greenhouse gas emissions, it has been confirmed that the ratios of solar power generation facilities introduced, electrified vehicles, and LED lighting increased. In addition, with regard to ZEB of new buildings, among buildings designed, constructed, and completed since FY2022, new buildings equivalent to or greener than ZEB Oriented have been confirmed. On the other hand, the proportion of renewable energy electricity procurement decreased from the previous fiscal year. A possible major factor behind the decline in emissions reduction volume compared to the previous fiscal year is the rise in the emission factor accompanying the decline in the rate of procurement of renewable energy electricity. For this reason, at the Liaison Meeting with Relevant Ministries and Agencies on the Decarbonization of the Public Sector (Third and Fourth Conferences), the status of examination of ways of providing information on renewable electricity menus and procurement methods was shared, and initiatives were promoted to various ministries and agencies, including disseminating information on renewable electricity menus sold by retail electricity businesses and contract-related information for procurers. By progressing such initiatives through PDCA management at liaison conferences, it is considered that the measure evaluation indicator, etc. will be about the same as the target level in FY2030, so the progress status of the measure evaluation indicator, etc., both the measure evaluation indicator and the emissions reduction volume, is rated as C. In FY2022, 86.1% of incorporated administrative agencies, etc. formulated plans for global warming countermeasures, and 40.4% of these plans were in line with the National Government Action Plan in terms of the emissions reduction target. * Due to the revision of the National Government Action Plan in February 2025, in checking the National Government Action Plan, evaluation is to be based on the total amount of greenhouse gas emissions calculated using the adjusted emission factor. In response, emissions calculated using the adjusted emission factor are described. * The figures are preliminary and may change as a result of further investigation.
				Expected level																		50		
		[Adjusted emission factor] Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	-3.7	-7.4	24.7	25.1	44.9	62.1	51.5	46.2								**42%**	
				Expected level																		110.1		
		[Basic emission factor] Measure evaluation indicator Emissions reduction rate	%	Actual result	–	–	–	4.5	6.8	8.9	12.3	14.6	15.9	19.2	19.4								**–**	
				Expected level																		50		
		[Basic emission factor] Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	10.8	16.4	21.3	29.4	34.8	38.1	45.8	46.3								**–**	
				Expected level																		119.6		
66. Proactive actions by local governments and promotion by the national government	Initiatives led by local governments and promotion by the national government	Measure evaluation indicator Rate of formulation of action plans of local governments, the formulation and review, etc. of which are carried out by prefectures and municipalities	%	Actual result	–	–	–	82.6	83.9	85.8	88.6	90.1	89.8	90.3	92.7								**93%**	In response to the Plan for Global Warming Countermeasures decided by the Cabinet on October 22, 2021 and the National Government Action Plan, it is considered that the formulation and revision of the Administrative Work Version will progress through the implementation of the revision of the manual for formulating and implementing the action plans of local governments (administrative work version) and simplified manuals, etc., and development and operation of an information system to improve the efficiency and sophistication of work related to the formulation, execution, evaluation, and support of action plans of local governments (a support system for formulation and management, etc. of action plans of local governments).
				Expected level													95					100		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level													–					–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level													–					–		
67. Promotion of initiatives based on the local government's action plan for entire municipal jurisdictions	Promotion of efforts local government's action plans for entire municipal jurisdictions	Measure evaluation indicator Rate of formulation of action plans of local governments	%	Actual result	–	94	97.4	99.3	100	100	100	100	100	100	100								**100%**	The measure evaluation indicator achieved 100% in FY2017. In the future, in order to steadily promote initiatives such as the reduction of greenhouse gas emissions within the jurisdictions of local governments, support will be given for the formulation and implementation of the local government's action plan for entire municipal jurisdictions, which set forth concrete measures, their targets, and implementation frameworks.
				Expected level					100	100	100	100	100	100	100		100					100		
		Energy conservation	10^4kL	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level								–					–					–		
		Emissions reduction	10^4 t-CO_2	Actual result	–	–	–	–	–	–	–	–	–	–	–								–	
				Expected level								–					–					–		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
68. Promotion of "Decokatsu" (a national campaign for a new, enriched decarbonized way of lifestyles)	Promotion of thorough implementation of Cool Biz and Warm Biz Cool Biz (commercial)	Measure evaluation indicator Rate of implementation of Cool Biz (commercial)	%	Actual result	71.3	68.2	72.4	71.4	74.1	78.1	84.4	84.2	86.2	86.5	50								**-74%**	Recognition of Cool Biz has been firmly established, and Cool Biz in commercial sector have been on an upward trend in recent years. It is at the same level as expected. On the other hand, the implementation rate in residential sector and the amount of energy saving and emission reduction have been lower than expected. With regard to Cool Biz, a certain degree of progress has been made since 2005. It is an initiative that has been implemented continuously, and it is necessary for commercial sector to continuously disseminate information to further popularize and establish Cool Biz. For residential sector, the rate of implementation is calculated based on the temperature setting when air conditioning is used (whether the temperature setting is consciously set higher), etc., and since various measures recommended under Cool Biz (light clothing in summer, shifting activity hours to the morning, etc.) have been spreading to a certain extent, continuous efforts will be made to raise public awareness. The recognition rate of Warm Biz is at the same level as Cool Biz, and it is an initiative that has been implemented continuously with a certain degree of progress since 2005. However, in commercial sector, it is expected that it will be difficult to clearly identify measures compared to Cool Biz, so efforts will be made to disseminate and raise public awareness about the contents and effects in a more comprehensible manner. For residential sector, the rate of implementation is calculated based on the temperature setting when a heater is used (whether the temperature setting is consciously set lower), etc., and since various measures recommended under Warm Biz (use of throws and scarves, incorporating dishes and ingredients that warm the body, etc.) have been spreading to a certain extent, continuous efforts will be made to raise public awareness. Since FY2022, comprehensive demand-side measures starting from dissemination and public awareness-raising including Cool Biz and Warm Biz have been implemented, thereby focusing on promoting changes in citizens' behavior toward the realization of a decarbonized society.
				Expected level		73.0	74.7	76.4	78.1	79.7	81.4	83.1	84.8	86.5	88.2	89.9	91.6	93.2	94.9	96.6	98.3	100		
		Energy conservation	10^4kL	Actual result	-0.5	-0.9	-0.3	-0.5	-0.1	0.4	1.2	1.2	1.5	1.5	-3.2								**-73%**	
				Expected level		-0.2	0.0	0.2	0.4	0.6	0.8	1.1	1.3	1.5	1.7	1.9	2.2	2.4	2.6	2.8	3.0	3.2		
		Emissions reduction	10^4 t-CO_2	Actual result	-2.9	-5.3	-2.0	-2.8	-0.6	2.5	7.5	7.4	9.0	9.2	-19.7								**-145%**	
				Expected level		-1.5	-0.2	1.2	2.5	3.8	5.1	6.5	7.8	9.2	10.5	11.9	13.2	14.5	15.8	17.2	18.5	8.7		
	Promotion of thorough implementation of Cool Biz and Warm Biz Cool Biz (household)	Measure evaluation indicator Rate of implementation of Cool Biz (household)	%	Actual result	77.0	73.9	72.2	72.9	71.2	66.6	68.8	74.7	77.9	83.9	51.3								**-112%**	
				Expected level		78.4	79.7	81.1	82.4	83.8	85.1	86.5	87.8	89.2	90.5	91.9	93.2	94.6	95.9	97.3	98.6	100		
		Energy conservation	10^4kL	Actual result	-0.3	-0.6	-0.8	-0.7	-0.9	-1.4	-1.2	-0.5	-0.2	0.4	-3								**-108%**	
				Expected level		-0.1	0.0	0.1	0.3	0.4	0.6	0.7	0.9	1.0	1.2	1.3	1.4	1.6	1.7	1.9	2.0	2.2		
		Emissions reduction	10^4 t-CO_2	Actual result	-1.8	-3.8	-4.9	-4.5	-5.6	-8.6	-7.2	-3.3	-1.2	2.7	-18.6								**-221%**	
				Expected level		-0.9	0.0	0.9	1.8	2.7	3.5	4.5	5.3	6.2	7.1	8.0	8.9	9.8	10.6	11.6	12.4	5.8		
	Promotion of thorough implementation of Cool Biz and Warm Biz Warm Biz (commercial)	Measure evaluation indicator Rate of implementation of Warm Biz (commercial)	%	Actual result	71.0	66.2	68.4	62.9	59.4	60.6	71.1	69.5	72.0	75.5	49.7								**-73%**	
				Expected level		72.7	74.4	76.1	77.8	79.5	81.2	82.9	84.6	86.4	88.1	89.8	91.5	93.2	94.9	96.6	98.3	100		
		Energy conservation	10^4kL	Actual result	0.1	-0.2	-0.1	-0.4	-0.6	-0.6	0.1	0.0	0.1	0.3	-1.2								**-76%**	
				Expected level		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8		
		Emissions reduction	10^4 t-CO_2	Actual result	0.3	-1.4	-0.6	-2.7	-4.0	-3.5	0.4	-0.2	0.7	2.0	-7.5								**-170%**	
				Expected level		1.0	1.6	2.2	2.8	3.5	4.1	4.7	5.4	6.0	6.7	7.3	7.9	8.5	9.2	9.8	10.4	4.9		
	Promotion of thorough implementation of Cool Biz and Warm Biz Warm Biz (household)	Measure evaluation indicator Rate of implementation of Warm Biz (household)	%	Actual result	81.2	77.1	77.1	76.3	70.5	65.1	67.5	72.5	82.6	86.1	53.8								**-146%**	
				Expected level		82.3	83.4	84.5	85.6	86.7	87.8	88.9	90.0	91.2	92.3	93.4	94.5	95.6	96.7	97.8	98.9	100		
		Energy conservation	10^4kL	Actual result	0.2	-3.0	-3.0	-3.6	-8.0	-12.1	-10.2	-6.5	1.2	3.9	-20.6								**-146%**	
				Expected level		1.0	1.8	2.7	3.5	4.3	5.2	6.0	6.8	7.7	8.6	9.4	10.2	11.1	11.9	12.8	13.6	14.4		
		Emissions reduction	10^4 t-CO_2	Actual result	0.7	-12.8	-12.8	-15.4	-34.4	-52.0	-44.2	-27.8	5.2	16.7	-89.0								**-255%**	
				Expected level		4.3	7.9	11.5	15.1	18.7	22.3	25.9	29.5	33.4	37.0	40.6	44.2	47.8	51.4	55.0	58.6	35.9		
	Home Eco-Diagnosis	Measure evaluation indicator Cumulative number of households diagnosed	1,000 households	Actual result	31	44.6	61.8	80.4	90.4	98.7	103.3	106.3	111.8	132.3	219.7								**12%**	The measure evaluation indicator is the cumulative number of households diagnosed with household eco-diagnosis and the implementation rate. The number of diagnoses, the amount of energy conservation, and the amount of emissions reduction have remained lower than expected. In addition to disseminating information through online diagnosis and various events, continuous efforts will be made to expand the number of households diagnosed by expanding the recommendation of diagnosis by the Deco-Katsu Supporters and local governments that declared to be a Zero Carbon City, etc., and by collaborating with similar initiatives provided by these parties. Since FY2022, comprehensive demand-side measures starting from dissemination and public awareness-raising including home eco-diagnosis have been implemented, thereby focusing on promoting changes in citizens' behavior toward the realization of a decarbonized society.
				Expected level		45	67	100	142	194	251	314	396	486	593	708	830	960	1098	1242	1395	1555		
		Measure evaluation indicator Implementation rate	%	Actual result	0.1	0.08	0.11	0.14	0.16	0.17	0.17	0.18	0.19	0.22	0.36								**11%**	
				Expected level		0.1	0.1	0.2	0.3	0.3	0.5	0.6	0.7	0.9	1.1	1.3	1.5	1.8	2.0	2.3	2.6	2.9		
		Energy conservation	10^4kL	Actual result	0.0	0.06	0.08	0.10	0.12	0.12	0.13	0.13	0.14	0.16	0.27								**11%**	
				Expected level		0.1	0.1	0.1	0.2	0.3	0.3	0.4	0.5	0.7	0.8	1.0	1.1	1.3	1.5	1.7	1.9	2.2		
		Emissions reduction	10^4 t-CO_2	Actual result	0.1	0.13	0.18	0.23	0.26	0.28	0.29	0.30	0.31	0.37	0.60								**11%**	
				Expected level		0.2	0.2	0.3	0.4	0.6	0.76	0.9	1.2	1.5	1.8	2.2	2.6	3.0	3.4	3.9	4.4	4.9		
	Eco-driving	Measure evaluation indicator Implementation rate of eco-driving (passenger cars)	%	Actual result	6	–	–	–	–	–	50.8	64.6	64.0	63.7	63.3								**94%**	By establishing a method for estimating implementation rate of eco-driving in line with the actual situation, it has become possible to grasp the various forms of eco-driving behavior compared to the estimation at the time of formulating the plan, resulting in a high implementation rate. Since FY2022, comprehensive demand-side measures starting from dissemination and public awareness-raising including eco-driving will be implemented, thereby focusing on promoting changes in citizen's behavior toward the realization of a decarbonized society.
				Expected level		8	10	12	14	16	45	48	50	53	56	58	60	62	63	65	66	67		
		Measure evaluation indicator Implementation rate of eco-driving (private freight cars)	%	Actual result	9	–	–	–	–	–	40.7	46.2	47.3	47.7	38.0								**57%**	
				Expected level		12	15	18	21	24	38	41	43	46	49	51	53	55	56	58	59	60		
		Energy conservation	10^4kL	Actual result	10	–	–	–	–	–	176.4	221.8	221.7	221.4	206.7								**83%**	
				Expected level		19	29	39	48	58	157	168	179	190	200	210	219	226	233	239	244	248		
		Emissions reduction	10^4 t-CO_2	Actual result	26	–	–	–	–	–	468.0	588.4	588.2	587.5	548.6								**83%**	
				Expected level		51	77	103	128	154	416	446	476	505	532	557	580	600	619	634	647	659		

Name of mitigation action	Objective and/or activity affected	Measure evaluation indicator, etc.	Units		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Progress in the emission reductions, etc.	Supplement to the progress assessment and reasons
	Car sharing	Measure evaluation indicator Implementation rate of car sharing	%	Actual result	0.23	0.36	0.53	0.66	0.85	1.04	1.29	1.62	1.79	2.11	2.52								**72%**	As the number of car-sharing members is growing rapidly, the implementation rate has been making progress with significantly larger emission reduction than expected. This is mainly attributable to increasing social needs and efforts by companies and industry associations. Since FY2022, comprehensive demand-side measures starting from dissemination and awareness-raising including car sharing have been implemented, thereby focusing on promoting changes in citizen's behavior toward the realization of a decarbonized society.
				Expected level		0.30	0.37	0.44	0.51	0.59	0.66	1.63	1.69	1.88	2.07	2.27	2.46	2.65	2.84	3.03	3.23	3.42		
		Energy conservation	10^4kL	Actual result	2.8	7.0	12.0	15.9	21.6	27.2	34.8	32.5	36.1	43	52.0								**70%**	
				Expected level		5.0	7.2	9.4	11.5	13.7	15.9	33	34	39	43	47	51	56	60	64	68	73		
		Emissions reduction	10^4 t-CO_2	Actual result	7	16.7	29.2	38.8	52.9	67.4	85.3	72.6	80.6	96.2	116.3								**59%**	
				Expected level		12	17	22	28	33	38	75	79	88	98	108	117	127	137	146	156	192		
	Reduction of food loss and waste in households	Measure evaluation indicator Amount of food loss and waste generated from households	10^4 tons	Actual result	302	282	289	291	284	276	261	247	244	236									**77%**	In FY2022, the reduction of food loss from households exceeded the target. In accordance with the Food Loss Reduction Promotion Act that came into effect in 2019, continuous efforts will be made in cooperation with relevant ministries and agencies to reduce food loss as a national movement, such as the promotion of mottECO, Temaedori (buying items from the front of the shelf with an earlier expiration date), and food drives. Since FY2022, comprehensive demand-side measures starting from dissemination and public awareness-raising including the reduction of food loss at home have been implemented, thereby focusing on promoting changes in citizen's behavior toward the realization of a decarbonized society.
				Expected level							271	266	261	256	251	246	241	236	231	226	221	216		
		Energy conservation	10^4kL	Actual result	0	3.5	2.3	1.9	3.1	4.5	7.1	9.5	10.1	11.5									**77%**	
				Expected level							5.4	6.2	7.1	8.0	8.9	9.7	10.6	11.5	12.3	13.2	14.1	14.9		
		Emissions reduction	10^4 t-CO_2	Actual result	0	9.2	6.0	5.1	8.3	12.0	18.9	25.3	26.7	30.4									**77%**	
				Expected level							14.3	16.6	18.9	21.2	23.5	25.8	28.1	30.4	32.7	35.0	37.3	39.6		

* Figures in parentheses in the table are estimates based on actual results and progress of policies and measures

1. "Steady Implementation, evaluation and verification of Industry's Voluntary Action Plan": The meanings of A through E of the "Progress in the emission reductions " section are as follows:
A: Performance in FY2023 already exceeded the FY2030 target level
B: Performance in FY2023 exceeded the level of reference year/BAU, but fell below the FY2030 target level
C: Performance in FY2023 fell below the FY2030 target level and increased compared to the reference year/BAU
D: Data not compiled (newly established / change in target levels / revisions to calculation methodology / etc.)
E: Target not set

* "Progress in the emission reductions" is based on the latest actual value for each individual profile. If the latest actual value is an estimate, it is based on the latest estimate. In addition, the latest actual value and the expected emissions reduction for FY2030 are presented relative to FY2013 by subtracting the FY2013 value.