

## Targets for Each Greenhouse Gas and Other Category and Estimates for Sector-Specific Emissions of Energy-related CO<sub>2</sub> in FY 2030 and FY 2040

Table: Targets and estimates for each greenhouse gas and other category

(Unit: Million t-CO<sub>2</sub>)

|                                               | Actual for FY 2013 <sup>1</sup> | FY 2030 <sup>2</sup><br>(compared to FY 2013)                                                                                                                                                                                                                                                   | FY 2040 <sup>3</sup><br>(compared to FY 2013)                                                                                                                                                                                                                                                   |
|-----------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Greenhouse gas emissions and removals         | 1,407                           | 760<br>(▲46% <sup>4</sup> )                                                                                                                                                                                                                                                                     | 380<br>(▲73%)                                                                                                                                                                                                                                                                                   |
| Energy-related CO <sub>2</sub>                | 1,235                           | 677<br>(▲45%)                                                                                                                                                                                                                                                                                   | Approx. 360-370<br>(▲70-71%)                                                                                                                                                                                                                                                                    |
| Industry                                      | 463                             | 289<br>(▲38%)                                                                                                                                                                                                                                                                                   | Approx. 180-200<br>(▲57-61%)                                                                                                                                                                                                                                                                    |
| Commercial and others                         | 235                             | 115<br>(▲51%)                                                                                                                                                                                                                                                                                   | Approx. 40-50<br>(▲79-83%)                                                                                                                                                                                                                                                                      |
| Residential                                   | 209                             | 71<br>(▲66%)                                                                                                                                                                                                                                                                                    | Approx. 40-60<br>(▲71-81%)                                                                                                                                                                                                                                                                      |
| Transport                                     | 224                             | 146<br>(▲35%)                                                                                                                                                                                                                                                                                   | Approx. 40-80<br>(▲64-82%)                                                                                                                                                                                                                                                                      |
| Energy conversion <sup>5</sup>                | 106                             | 56<br>(▲47%)                                                                                                                                                                                                                                                                                    | Approx. 10-20<br>(▲81-91%)                                                                                                                                                                                                                                                                      |
| Non-energy-related CO <sub>2</sub>            | 82.2                            | 70.0<br>(▲15%)                                                                                                                                                                                                                                                                                  | Approx. 59<br>(▲29%)                                                                                                                                                                                                                                                                            |
| Methane (CH <sub>4</sub> )                    | 32.7                            | 29.1<br>(▲11%)                                                                                                                                                                                                                                                                                  | Approx. 25<br>(▲25%)                                                                                                                                                                                                                                                                            |
| Nitrous oxide (N <sub>2</sub> O)              | 19.9                            | 16.5<br>(▲17%)                                                                                                                                                                                                                                                                                  | Approx. 14<br>(▲31%)                                                                                                                                                                                                                                                                            |
| Four gases incl. alternative CFC <sup>6</sup> | 37.2                            | 20.9<br>(▲44%)                                                                                                                                                                                                                                                                                  | Approx. 11<br>(▲72%)                                                                                                                                                                                                                                                                            |
| Hydrofluorocarbons (HFCs)                     | 30.3                            | 13.7<br>(▲60%)                                                                                                                                                                                                                                                                                  | Approx. 6.9<br>(▲77%)                                                                                                                                                                                                                                                                           |
| Perfluorocarbons (PFCs)                       | 3.0                             | 3.8<br>(+26%)                                                                                                                                                                                                                                                                                   | Approx. 1.9<br>(▲37%)                                                                                                                                                                                                                                                                           |
| Sulfur hexafluoride (SF <sub>6</sub> )        | 2.3                             | 3.0<br>(+27%)                                                                                                                                                                                                                                                                                   | Approx. 1.5<br>(▲35%)                                                                                                                                                                                                                                                                           |
| Nitrogen trifluoride (NF <sub>3</sub> )       | 1.5                             | 0.4<br>(▲70%)                                                                                                                                                                                                                                                                                   | Approx. 0.2<br>(▲85%)                                                                                                                                                                                                                                                                           |
| Greenhouse gas removals                       | —                               | ▲47.7                                                                                                                                                                                                                                                                                           | ▲Approx. 84 <sup>7</sup>                                                                                                                                                                                                                                                                        |
| Joint Crediting Mechanism (JCM)               | —                               | Japan aims to contribute to international emission reductions and removals at the level of a cumulative total of approximately 100 million t-CO <sub>2</sub> by fiscal year 2030 through public-private collaborations. Japan will appropriately count the acquired credits to achieve its NDC. | Japan aims to contribute to international emission reductions and removals at the level of a cumulative total of approximately 200 million t-CO <sub>2</sub> by fiscal year 2040 through public-private collaborations. Japan will appropriately count the acquired credits to achieve its NDC. |

The greenhouse gas emissions and removals target (compared to FY 2013) for FY 2035 will be set to approximately 570 million t-CO<sub>2</sub> (60% decrease compared to FY 2013).

In addition to reducing domestic emissions, Japan will steadily advance initiatives for reducing global emissions centering on the Asia region, while making use of frameworks such as the Asia Zero Emissions Community (AZEC). Japan will also advance considerations to ensure the acquired credits based on Article 6 of the Paris Agreement are appropriately counted to achieve its NDC.

<sup>1</sup> Actual values for FY 2013 have been partially updated from figures in the Plan for Global Warming Countermeasures (Cabinet decision on October 22, 2021), in line with the Greenhouse Gas Emissions and Removals (GHG inventory) (FY 2022) submitted to the United Nations Framework Convention on Climate Change Secretariat in April 2024. In line with this, some necessary adjustments have been made to the figures and estimates for FY 2030 as well.

<sup>2</sup> Figures for FY 2030 energy-related CO<sub>2</sub> are estimated values.

<sup>3</sup> Energy-related CO<sub>2</sub> emissions and figures for each sector in FY 2040 are calculated based on the final energy consumption volumes for FY 2040, based on multiple scenario analyses conducted when drafting the FY 2040 energy supply and demand projections.

<sup>4</sup> Japan will continue strenuous efforts in its challenge to meet the lofty goal of cutting its emission by 50%.

<sup>5</sup> Excluding statistical error from power and heat allocation. For this reason, the total sum of the actual emissions by each sector is not equal to the emissions of energy-related CO<sub>2</sub>.

<sup>6</sup> Figures for HFCs, PFCs, SF<sub>6</sub>, and NF<sub>3</sub> are calendar year values.

<sup>7</sup> Removals in FY 2040 are figures expected in the event that the new removals by the forest carbon sinks calculation method is applied as stated in Chapter 3, Section 2, 3. (1) of the Plan for Global Warming Countermeasures (Cabinet decision on February 18, 2025).