

## Japan's National Greenhouse Gas Emissions in Fiscal Year\*2014 (Final Figures<sup>1</sup>) <Executive Summary>

- Japan's total greenhouse gas (GHG) emissions<sup>2</sup> in fiscal year (FY) 2014 were 1,364 million tonnes of carbon dioxide equivalents (Mt CO<sub>2</sub> eq.).
  - Total emissions decreased by 3.1% (44 Mt CO<sub>2</sub> eq.) when compared to those of FY2013. (1,408 Mt CO<sub>2</sub> eq.).
  - Total emissions decreased by 2.4% (33 Mt CO<sub>2</sub> eq.) when compared to those of FY2005. (1,397 Mt CO<sub>2</sub> eq.).
  - Total emissions increased by 7.3% (93 Mt CO<sub>2</sub> eq.) when compared to those of FY1990. (1,271 Mt CO<sub>2</sub> eq.) .

\* Japan's fiscal year is from April 1 to March 31.

### Note:

- The main factor in the drop in emissions in FY2014 as compared to FY2013 is the decreased energy-related CO<sub>2</sub> emissions owing to lowered CO<sub>2</sub> emissions from power generation, as a result of decreased electricity consumption and the improvement of carbon intensity in power generation.
- The main factor in the drop in emissions in FY2014 as compared to FY2005 is the decreased energy-related CO<sub>2</sub> emissions in the industrial and transport sectors, despite of the increase in hydrofluorocarbon emissions from refrigerants following their substitution in place of ozone-depleting substances.
- Removals by forest and other carbon sinks<sup>3</sup> under the Kyoto Protocol in FY 2014 were 57.9 Mt CO<sub>2</sub> eq., consisting of 49.9 Mt CO<sub>2</sub> eq. by forest carbon sinks and 8.0 Mt CO<sub>2</sub> eq. by cropland management, grazing land management, and urban revegetation.

### Footnote:

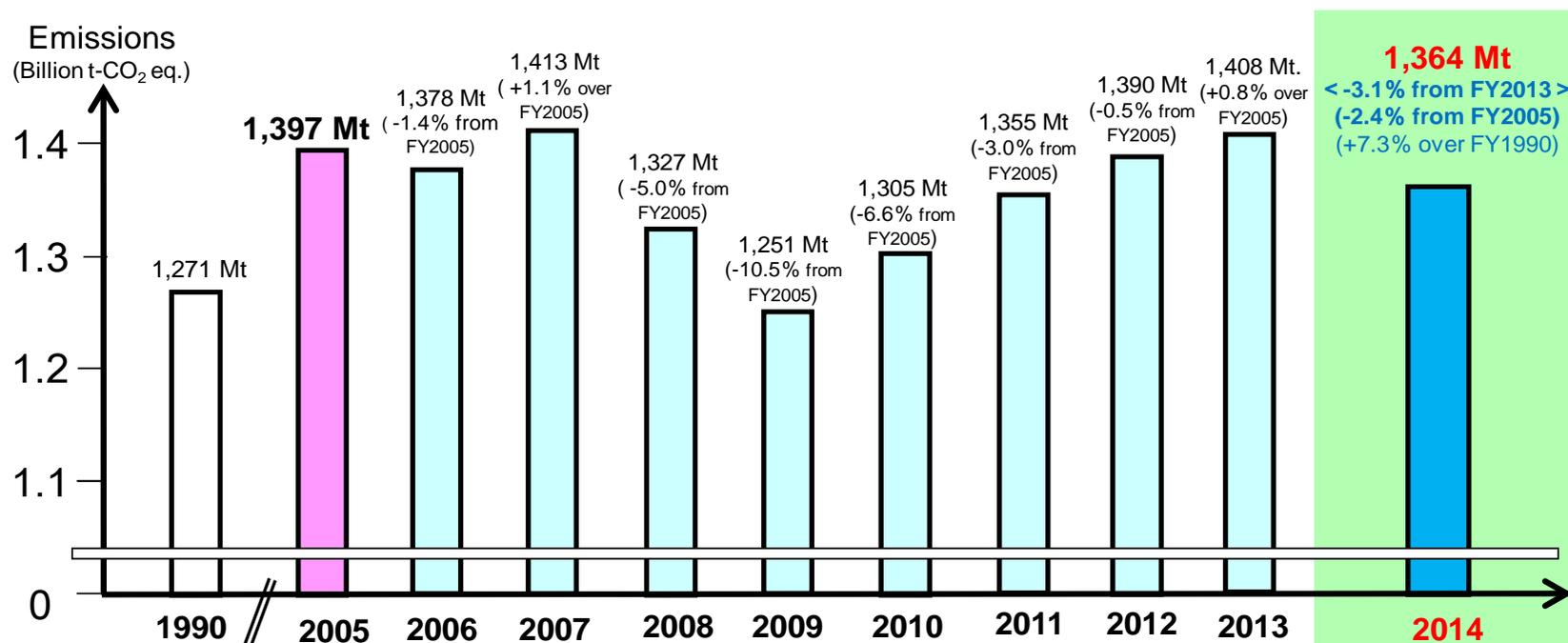
<sup>1</sup> "Final figures" means the figures officially submitted to the Secretariat of the Convention as Japan's GHG emissions and removals in a national GHG inventory. The final figures compiled this time will be recalculated when annual values in statistical data are updated, and/or estimation methods are revised.

<sup>2</sup> There are some differences between the final figures compiled this time and preliminary figures released on November 26<sup>th</sup>, 2015, because some estimation methods were revised for a more accurate estimation, in accordance with the reporting guidelines on GHG emissions/removals inventories under the Convention, and some recalculation was conducted based on annual values in statistics and other data which were made available after the estimation of preliminary figures.

<sup>3</sup> The removals by forest and other carbon sinks reported this time were estimated by calculating emissions/removals from activities under the Kyoto Protocol, in accordance with the decision of the 8<sup>th</sup> session of the Conference of the Parties serving as the meeting of the Kyoto Protocol.

## Japan's total greenhouse gas emissions in fiscal year (FY) 2014 (final figures)

- Japan's total greenhouse gas (GHG) emissions in FY2014 were 1,364 Mt CO<sub>2</sub> eq. (3.1% decrease as compared to FY2013; 2.4% decrease from FY2005 levels; and 7.3% increase from FY1990 levels)
- The main factor in the drop in emissions in FY2014 as compared to FY2013 is the decreased energy-related CO<sub>2</sub> emissions owing to lowered CO<sub>2</sub> emissions from power generation, as a result of decreased electricity consumption and the improvement of carbon intensity in power generation.
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2. There are some differences between the final figures compiled this time and preliminary figures released on November 26<sup>th</sup>, 2015, because some estimation methods were revised for a more accurate estimation in accordance with the reporting guidelines on GHG emissions/removals inventories under the Convention and some recalculation was conducted based on annual values in statistics and other data which were made available after the estimation of preliminary figures.
3. Total GHG emissions in each FY and percent changes from past year (such as changes from FY2005) do not include removals by forest and other carbon sinks from activities under the Kyoto Protocol.

Figure 1 Japan's national greenhouse gas emissions in FY2014 (final figures)

Table 1 Japan's national greenhouse gas emissions,  
comparison with FY2005 and the previous year

	FY1990 [Share]	FY2005 [Share]	FY2013 [Share]	Changes from FY2013	FY2014 (Compared to FY2005) [Share]
<b>Total</b>	1,271 [100%]	1,397 [100%]	1,408 [100%]	→ <-3.1%> →	<b>1,364</b> (-2.4%) [100%]
<b>Carbon Dioxide (CO<sub>2</sub>)</b>	1,156 [91.0%]	1,306 [93.5%]	1,312 [93.2%]	→ <-3.5%> →	<b>1,265</b> (-3.1%) [92.8%]
Energy-related Carbon Dioxide	1,067 [84.0%]	1,219 [87.3%]	1,235 [87.7%]	→ <-3.7%> →	<b>1,189</b> (-2.4%) [87.2%]
Non-Energy-related Carbon Dioxide	89.1 [7.0%]	86.9 [6.2%]	76.5 [5.4%]	→ <-0.4%> →	<b>76.2</b> (-12.3%) [5.6%]
<b>Methane (CH<sub>4</sub>)</b>	48.6 [3.8%]	38.9 [2.8%]	36.1 [2.6%]	→ <-1.6%> →	<b>35.5</b> (-8.9%) [2.6%]
<b>Nitrous Oxide (N<sub>2</sub>O)</b>	30.8 [2.4%]	24.5 [1.8%]	21.5 [1.5%]	→ <-2.9%> →	<b>20.8</b> (-15.0%) [1.5%]
<b>F-gases</b>	35.4 [2.8%]	27.7 [2.0%]	38.8 [2.8%]	→ <+8.3%> →	<b>42.0</b> (+51.7%) [3.1%]
Hydrofluorocarbons (HFCs)	15.9 [1.3%]	12.8 [0.9%]	32.1 [2.3%]	→ <+11.5%> →	<b>35.8</b> (+180.0%) [2.6%]
Perfluorocarbons (PFCs)	6.5 [0.5%]	8.6 [0.6%]	3.3 [0.2%]	→ <+2.5%> →	<b>3.4</b> (-61.0%) [0.2%]
Sulfur Hexafluoride (SF <sub>6</sub> )	12.9 [1.0%]	5.1 [0.4%]	2.1 [0.1%]	→ <-1.8%> →	<b>2.1</b> (-59.1%) [0.2%]
Nitrogen trifluoride (NF <sub>3</sub> )	0.03 [0.003%]	1.2 [0.1%]	1.4 [0.1%]	→ <-39.0%> →	<b>0.8</b> (-33.5%) [0.1%]

(Unit: Mt-CO<sub>2</sub> eq.)

Table 2 Energy-related CO<sub>2</sub> emissions from each sector

(With allocation of CO<sub>2</sub> emissions from power generation and steam generation to each final demand sector)

	FY1990 [Share]	FY2005 [Share]	FY2013 [Share]	Changes from FY2013	FY2014 (Compared to FY2005) [Share]
<b>Total</b>	<b>1,067</b> [100%]	<b>1,219</b> [100%]	<b>1,235</b> [100%]	→ <-3.7%> →	<b>1,189</b> (-2.4%) [100%]
Industries (factory, etc)	502 [47.0%]	457 [37.5%]	432 [35.0%]	→ <-1.4%> →	<b>426</b> (-6.8%) [35.8%]
Transport (cars, etc)	206 [19.3%]	240 [19.7%]	225 [18.2%]	→ <-3.4%> →	<b>217</b> (-9.5%) [18.2%]
Commercial and other (commerce, service, office, etc)	137 [12.8%]	239 [19.6%]	278 [22.5%]	→ <-6.2%> →	<b>261</b> (+9.2%) [21.9%]
Residential	131 [12.2%]	180 [14.8%]	201 [16.3%]	→ <-4.8%> →	<b>192</b> (+6.6%) [16.1%]
Energy Industries (power plants, etc)	91.1 [8.5%]	104 [8.5%]	98.9 [8.0%]	→ <-5.3%> →	<b>93.7</b> (-9.6%) [7.9%]

(Unit: Mt-CO<sub>2</sub>)

**【Details of main increase/decrease in energy-related CO<sub>2</sub> emissions compared to FY2013】**

- Industries sector (factories, etc.): 6.0 million tonnes (1.4%) decrease
  - Emissions from manufacturing (chemical industry, ceramics, soil and stone products, etc.) decreased.
- Transport sector (cars, etc.): 7.6 million tonnes (3.4%) decrease
  - Emissions from passenger transport (passenger cars, etc.) decreased.
- Commercial and other sector (commerce, service, office, etc.): 17.4 million tonnes (6.2%) decrease
  - Emissions due to electricity consumption decreased.
- Residential sector: 9.6 million tonnes (4.8%) decrease
  - Emissions due to electricity consumption decreased.
- Energy Industries sector (power plants, etc.): 5.2 million tonnes (5.3%) decrease
  - Emissions from petroleum products decreased.

**【Details of main increase/decrease in greenhouse gas emissions other than those of energy-related CO<sub>2</sub> emissions compared to FY2013 (CO<sub>2</sub> eq.)】**

- Non-Energy-related Carbon Dioxide (CO<sub>2</sub>): 0.3 million tonnes (0.4%) decrease
  - Emissions from Industrial Processes and Product Use Sector (cement manufacturing, etc.) decreased.
- Methane (CH<sub>4</sub>) emissions: 0.6 million tonnes (1.6%) decrease
  - Emissions from Agriculture sector (enteric fermentation by livestock, rice cultivation, etc.) decreased.
- Nitrous Oxide (N<sub>2</sub>O) emissions: 0.6 million tonnes (2.9%) decrease
  - Emissions from the Industrial Processes and Product Use Sector decreased.
- Hydrofluorocarbons (HFCs) emissions: 3.7 million tonnes (11.5%) increase
  - Emissions from refrigerants increased.
- Perfluorocarbons (PFCs) emissions: 0.08 million tonnes (2.5%) increase
  - Emissions from semiconductor and LCD manufacturing increased.
- Sulfur Hexafluoride (SF<sub>6</sub>) emissions: 0.04 million tonnes (1.8%) decrease
  - Emissions from gas insulated electrical equipment and others decreased.
- Nitrogen trifluoride (NF<sub>3</sub>) emissions: 0.5 million tonnes (39.0%) decrease
  - Fugitive emissions during NF<sub>3</sub> manufacturing decreased.