

Japan's National Greenhouse Gas Emissions for Fiscal Year 2009 (Final Figures) <Executive Summary>

In this document, "final figures" means the figures officially submitted to the UNFCCC secretariat as Japan's greenhouse gas (GHG) emissions and removals in a GHG inventory. The final figures compiled at this time will be revised when annual values in statistical data are updated, and/or estimation methods are revised.

- Japan's total greenhouse gas emissions in FY 2009 were 1,209 million tonnes of carbon dioxide equivalents.
- Total emissions decreased by 4.1% compared to the base year under the Kyoto Protocol (FY 1990 for CO₂, CH₄, N₂O and calendar year (CY) 1995 for HFCs, PFCs, SF₆) as a result of decreases in CO₂ emissions from sectors such as the Industries sector.
- Total emissions decreased by 5.6% compared to the previous year as a result of decreases in CO₂ emissions from all sectors, including the Industries sector.
- Total removals by forest carbon sink measures and others under the Kyoto Protocol in FY 2009 were 47 million tonnes of carbon dioxide equivalents (consisting of 46.3 million tonnes by forest carbon sink measures and 0.7 million tonnes by urban revegetation). The removals corresponded to 3.7% of the total emissions in the base year.

(Reference)

- The reasons for the decrease in emissions in FY 2009 compared to FY 2008 were the continuous decrease in energy demand within all sectors including the Industries sector as the result of the severe economic recession induced by the financial crisis that occurred in the second half of FY 2008, and the improvement in CO₂ emissions intensity of electric power generation due to increases in the capacity factor of nuclear power plants etc.

Japan's Greenhouse Gas Emissions

Japan's greenhouse gas emissions in FY2009 were -4.1% compared to the base year and -5.6% compared to the previous year.

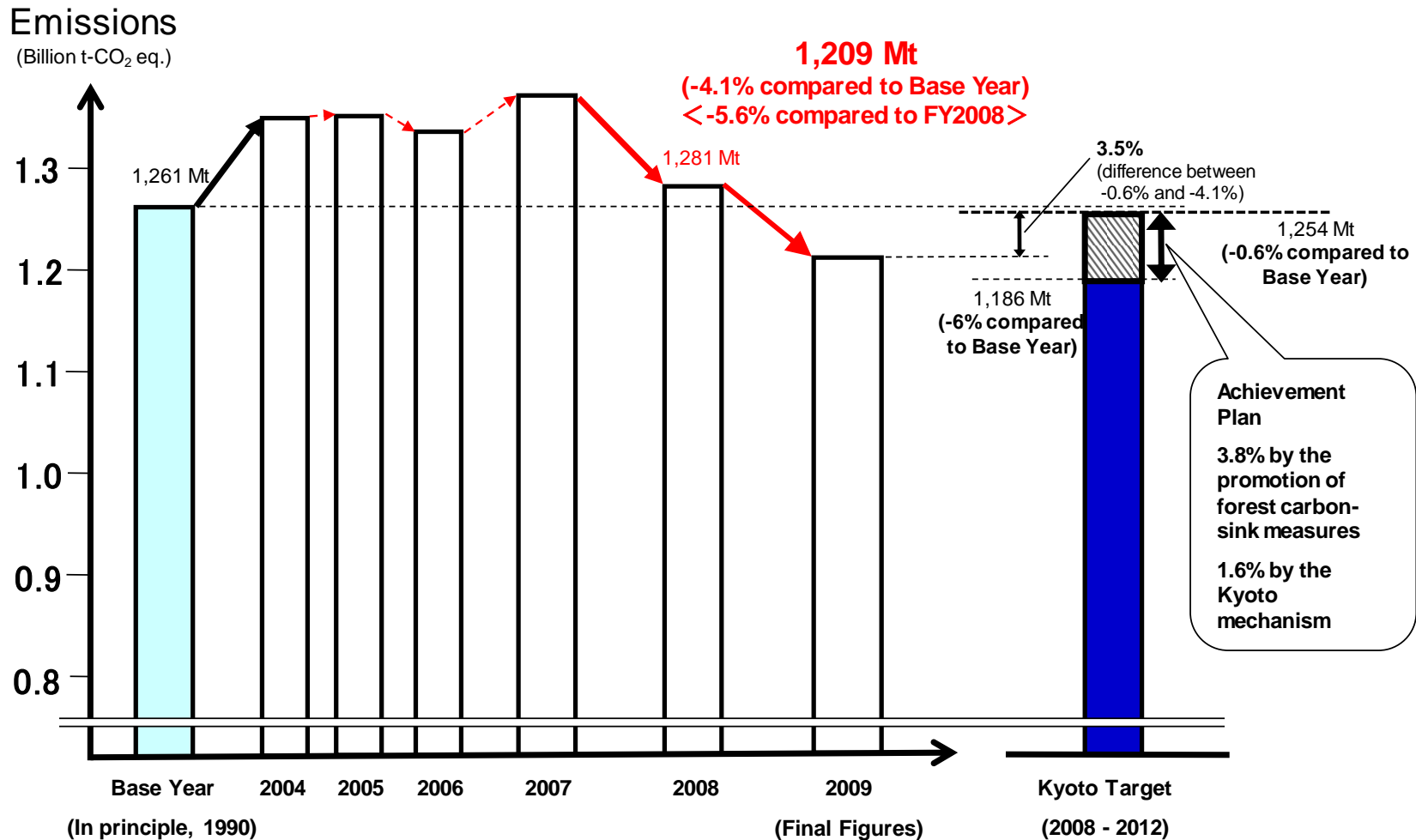


Figure 1 Japan's national greenhouse gas emissions

Table 1 Japan's national greenhouse gas emissions

| | Base year under Kyoto Protocol [Share] | FY2008 (Compared to base year) | Changes from FY2008 | FY2009 (Compared to base year) |
|--|--|--------------------------------------|---------------------------|--------------------------------------|
| Total | 1,261 [100%] | 1,281 (+1.5%) | → <-5.6%> → | 1,209 (-4.1%) |
| Carbon Dioxide (CO₂) | 1,144 [90.7%] | 1,213 (+6.0%) | → <-5.7%> → | 1,145 (+0.04%) |
| Energy-origin Carbon Dioxide | 1,059 [84.0%] | 1,138 (+7.5%) | → <-5.5%> → | 1,075 (+1.5%) |
| Non-Energy-origin Carbon Dioxide | 85.1 [6.7%] | 74.8 (-12.0%) | → <-7.5%> → | 69.2 (-18.6%) |
| Methane (CH₄) | 33.4 [2.6%] | 21.2 (-36.5%) | → <-2.4%> → | 20.7 (-38.0%) |
| Nitrous Oxide (N₂O) | 32.6 [2.6%] | 22.4 (-31.2%) | → <-1.4%> → | 22.1 (-32.2%) |
| F-gases | 51.2 [4.1%] | 23.7 (-53.7%) | → <-8.1%> → | 21.8 (-57.4%) |
| Hydrofluorocarbons (HFCs) | 20.2 [1.6%] | 15.3 (-24.3%) | → <+9.0%> → | 16.7 (-17.5%) |
| Perfluorocarbons (PFCs) | 14.0 [1.1%] | 4.6 (-67.1%) | → <-29.1%> → | 3.3 (-76.7%) |
| Sulfur Hexafluoride (SF ₆) | 16.9 [1.3%] | 3.8 (-77.6%) | → <-51.2%> → | 1.9 (-89.1%) |

(Unit: Mt-CO₂ eq.)

Table 2 Energy-origin CO₂ emissions by sector
(CO₂ emissions from power and steam generation are allocated
on an end-user basis)

| | Base year under Kyoto Protocol [Share] | FY2008 (Compared to base year) | Changes from FY2008 | FY2009 (Compared to base year) |
|--|--|--------------------------------------|--------------------------|--------------------------------------|
| Total | 1,059 [100%] | 1,138 (+7.5%) | → <-5.5%> → | 1,075 (+1.5%) |
| Industries (factory, etc) | 482 [45.5%] | 419 (-13.1%) | → <-7.3%> → | 388 (-19.5%) |
| Transport (cars, ships, etc) | 217 [20.5%] | 235 (+8.3%) | → <-2.4%> → | 230 (+5.8%) |
| Commercial and other (commerce, service, office, etc) | 164 [15.5%] | 234 (+42.3%) | → <-7.8%> → | 216 (+31.2%) |
| Residential | 127 [12.0%] | 171 (+34.2%) | → <-5.5%> → | 162 (+26.9%) |
| Energy Industries (power plants, etc) | 67.9 [6.4%] | 79.1 (+16.6%) | → <+1.1%> → | 79.9 (+17.8%) |

(Unit: Mt-CO₂)

【Details of increase/decrease in energy-origin CO₂ emissions compared to FY 2008】

- Industries sector (factories, etc.): 30.7 million tonnes (7.3%) decrease
 - Emissions from manufacturing and others decreased due to the decrease in production as a result of the economic recession.
- Transport sector (cars, ships, etc.): 5.5 million tonnes (2.4%) decrease
 - Emissions from trucks/lorries decreased due to the decrease in volume of freight transportation.
- Commercial and other sectors (commerce, service, office, etc.): 18.3 million tonnes (7.8%) decrease
 - Emissions decreased, due to an improvement in the emissions intensity of electric power generation and a decrease in emissions associated with consumption of oil products (e.g., fuel oil).
- Residential sector: 9.3 million tonnes (5.5%) decrease
 - Emissions decreased, due to an improvement in the emissions intensity of electric power generation.
- Energy Industries sector (power plants, etc.): 0.8 million tonnes (1.1%) increase

【Details of increase/decrease in greenhouse gas emissions other than energy-origin CO₂ emissions compared to FY 2008 (CO₂ equivalents)】

- Non-energy origin CO₂ emissions: 5.6 million tonnes (7.5%) decrease
 - Emissions from the Industrial Processes sector (e.g., cement production) decreased.
- Methane (CH₄) emissions: 0.5 million tonnes (2.4%) decrease
 - Emissions from the Waste sector (e.g., solid waste disposal on land) decreased.
- Nitrous Oxide (N₂O) emissions: 0.3 million tonnes (1.4%) decrease
 - Emissions from the Agriculture sector (e.g., agricultural soils) and Waste sector (e.g., waste incineration) decreased.
- Hydrofluorocarbons (HFCs): 1.4 million tonnes (9.0%) increase
 - Emissions from refrigerants increased as a result of substituting HCFC, which is an ozone depleting substance, with HFC.
- Perfluorocarbons (PFCs): 1.3 million tonnes (29.1%) decrease
 - Emissions from semiconductor manufacturing decreased.
- Sulfur Hexafluoride (SF₆): 1.9 million tonnes (51.2%) decrease
 - Fugitive emissions of SF₆ during its production decreased.