Japan's National Greenhouse Gas Emissions in Fiscal Year 2010 (Preliminary Figures) <Executive Summary>

Concerning the estimation of the preliminary figures: This estimation of the greenhouse gas emissions is based on annual data from a selection of statistics from a variety of sources; however, some of this data is not yet available. For such data – for which FY 2010 values are not available - the FY 2009 values were used to estimate the preliminary figures. Therefore, there may be some difference in the preliminary figures reported here compared to the final figures to be reported in April 2012.

- Japan's total greenhouse gas emissions in FY 2010 were 1,256 million tonnes of carbon dioxide equivalents.
- Total emissions decreased by 0.4% compared to those of the base year under the Kyoto Protocol (FY 1990 for CO_2, CH_4, N_2O and calendar year (CY) 1995 for HFCs, PFCs, SF_6) as a result of decreased CO_2 emissions within the Industries sector.
- Total emissions increased by 3.9% compared to the previous year due to CO_2 emissions increases originating across all sectors.

(Reference)

- The primary reason for the emission increase in FY 2010 as compared to FY 2009 was the recovery from the economic recession induced by the Global Financial Crisis of 2008. CO_2 emissions from the Industries sector increased because of the higher levels of manufacturing. In addition, electric power demand increased due to the relatively high number of days on which extremes of hot or cold were experienced.

Japan's Greenhouse Gas Emissions

Japan's greenhouse gas emissions in FY2010 decreased 0.4% compared to the base year and increased 3.9% compared to the previous year.

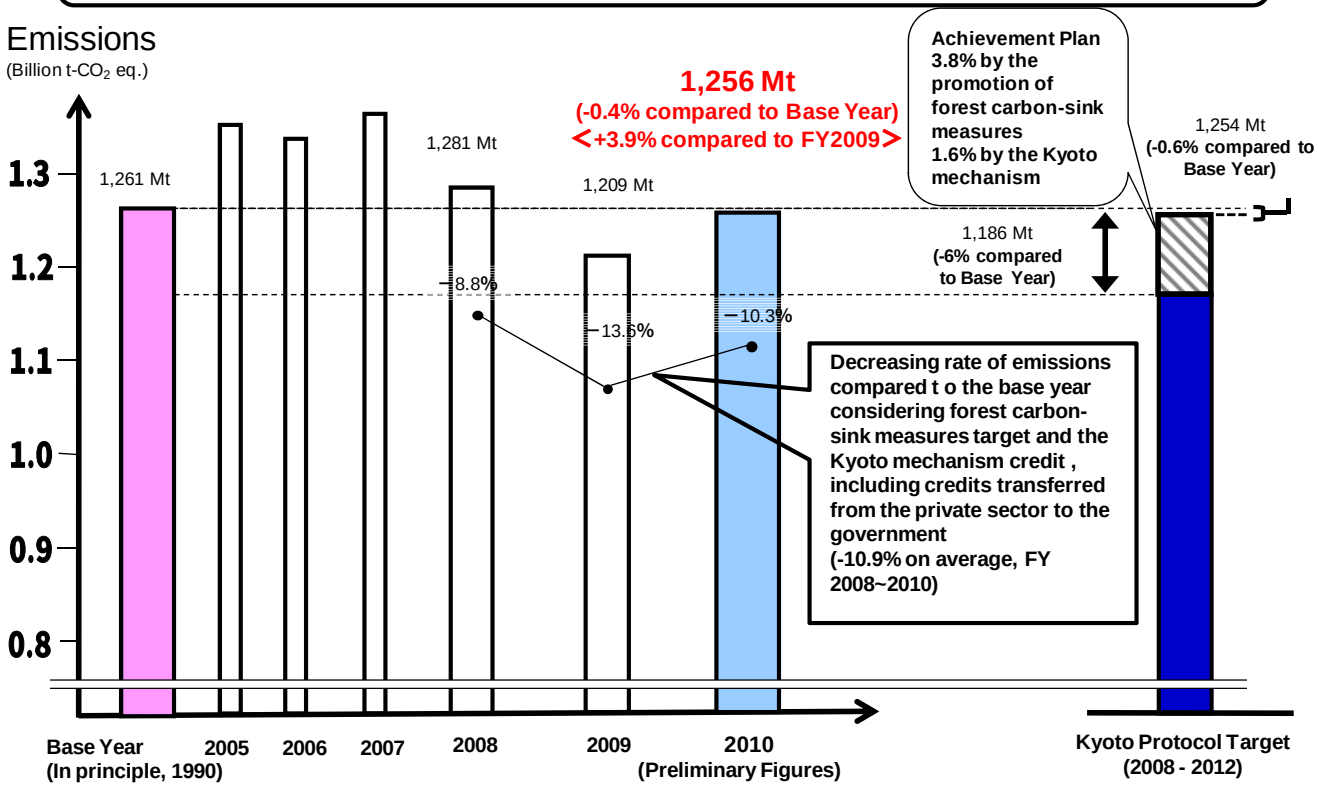

Figure 1 Japan's national greenhouse gas emissions

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

	Base year under Kyoto Protocol [Share]	FY2009 (Compared to base year)	Changes from FY2009	FY2010 (Compared to base year) [Share]
Total	1,261 〔100%〕	1,209 (-4.2%)	→ <+3.9%> →	1,256 (-0.4%) 〔100%〕
Carbon Dioxide (CO_2)	1,144 〔90.7%〕	1,144 (+0.03%)	→ <+4.1%> →	1,191 (+4.1%) 〔94.8%〕
Energy-origin Carbon Dioxide	1,059 〔84.0%〕	1,075 (+1.5%)	→ <+4.4%> →	1,122 (+6.0%) 〔89.4%〕
Non-Energy-origin Carbon Dioxide	85.1 〔6.7%〕	69.2 (-18.6%)	→ <-0.7%> →	68.7 (-19.2%) 〔5.5%〕
Methane (CH_4)	33.4 〔2.6%〕	20.6 (-38.2%)	→ <-2.2%> →	20.2 (-39.6%) 〔1.6%〕
Nitrous Oxide (N_2O)	32.6 〔2.6%〕	21.9 (-32.8%)	→ <-3.2%> →	21.2 (-34.9%) 〔1.7%〕
F-gases	51.2 〔4.1%〕	21.7 (-57.7%)	→ <+8.5%> →	23.5 (-54.0%) 〔1.9%〕
Hydrofluorocarbons (HFCs)	20.2 〔1.6%〕	16.6 (-18.1%)	→ <+10.3%> →	18.3 (-9.7%) 〔1.5%〕
Perfluorocarbons (PFCs)	14.0 〔1.1%〕	3.3 (-76.7%)	→ <+4.2%> →	3.4 (-75.7%) 〔0.3%〕
Sulfur Hexafluoride (SF_6)	16.9 〔1.3%〕	1.9 (-89.1%)	→ <+0.6%> →	1.9 (-89.0%) 〔0.1%〕

(Unit: Mt-CO_2 eq.)

Table 2　Energy-origin CO_2 emissions within each sector
(With allocating CO_2 emissions from power generation and steam generation in each final demand sector)

	Base year under Kyoto Protocol [Share]	FY2009 (Compared to base year)	Changes from FY2009	FY2010 (Compared to base year) [Share]
Total	**1,059 〔100%〕**	**1,075 (+1.5%)**	→ <+4.4%> →	**1,122 (+6.0%) 〔100%〕**
Industries (factories, etc)	482 〔45.5%〕	388 (-19.5%)	→ <+8.5%> →	**421 (-12.7%) 〔37.5%〕**
Transport (cars, ships, etc)	217 〔20.5%〕	230 (+5.8%)	→ <+0.9%> →	**232 (+6.8%) 〔20.7%〕**
Commercial and other (commerce, service, office, etc)	164 〔15.5%〕	215 (+31.2%)	→ <+0.5%> →	**217 (+31.9%) 〔19.3%〕**
Residential	127 〔12.0%〕	162 (+26.9%)	→ <+6.8%> →	**173 (+35.5%) 〔15.4%〕**
Energy Industries (power plants, etc)	67.9 〔6.4%〕	80.0 (+17.9%)	→ <+0.1%> →	**80.1 (+18.0%) 〔7.1%〕**

【Details of increase/decrease in energy-origin CO_2 emissions compared to FY 2009】

○ Industries sector (factories, etc.): 33.0 million tonnes (8.5%) increase
  ・Emissions from manufacturing and others increased with the increase of production as the result of recovery from economic recession.
○ Transport sector (cars, ships, etc.): 2.1 million tonnes (0.9%) increase
  ・Emissions from passengers cars/trucks/lorries increased.
○ Residential sector: 11.0 million tonnes (6.8%) increase
  ・Emissions from electric power generation/petroleum (kerosene, LPG) increased because of extremely hot and cold days.
○ Commercial and Other sectors (commerce, service, office, etc.): 12.0 million tonnes（0.5%) increase
○ Energy Industries sector (power plants, etc.): 0.04 million tonnes (0.1%) increase

【Details of increase/decrease in greenhouse gas emissions other than those of energy-origin CO_2 emissions compared to FY 2009 (CO_2 equivalents)】

○ Non-energy origin CO_2 emissions: 0.5 million tonnes (0.7%) decrease
  ・Emissions from the Industrial Processes sector (e.g., cement production) decreased.
○ Methane (CH_4) emissions: 0.4 million tonnes (2.2%) decrease
  ・Emissions from the Waste sector (e.g., solid waste disposal on land) and the Agriculture sector (e.g., enteric fermentation, rice cultivation) decreased.
○ Nitrous Oxide (N_2O) emissions: 0.7 million tonnes (3.2%) decrease
  ・Emissions from the Industrial Processes sector (e.g., adipic acid production) decreased.
○ Hydrofluorocarbons (HFCs): 1.7 million tonnes (10.3%) increase
  ・Emissions from refrigerants increased as a result of substitution of HCFC, which is an ozone depleting substance, with HFC.
○ Perfluorocarbons (PFCs): 0.1 million tonnes (4.2%) increase
  ・Emissions from cleaning agent/solvent etc., increased
○ Sulfur Hexafluoride (SF_6): 0.01 million tonnes (0.6%) increase
  ・Emissions from semiconductor production etc., increased.