Japan's National Greenhouse Gas Emissions in Fiscal Year 2010 (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 2010 were 1,258 million tonnes of carbon dioxide equivalents.
- Total emissions decreased by 0.3% 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 4.2% compared to the previous year due to CO_2 emissions increases originating across all sectors.
- Total removals by forest carbon sink measures and others under the Kyoto Protocol in FY 2010 were 50 million tonnes of carbon dioxide equivalents (consisting of 48.9 million tonnes by forest carbon sink measures and 1.1 million tonnes by urban revegetation). The removals corresponded to 4.0% of the total emissions in the base year (of which 3.9% is from removals by forest carbon sink measures).

(Reference)

- The primary reason for the emission increase in FY 2010 as compared to FY 2009 was the recovery from the economic recession following the Lehman Shock 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.

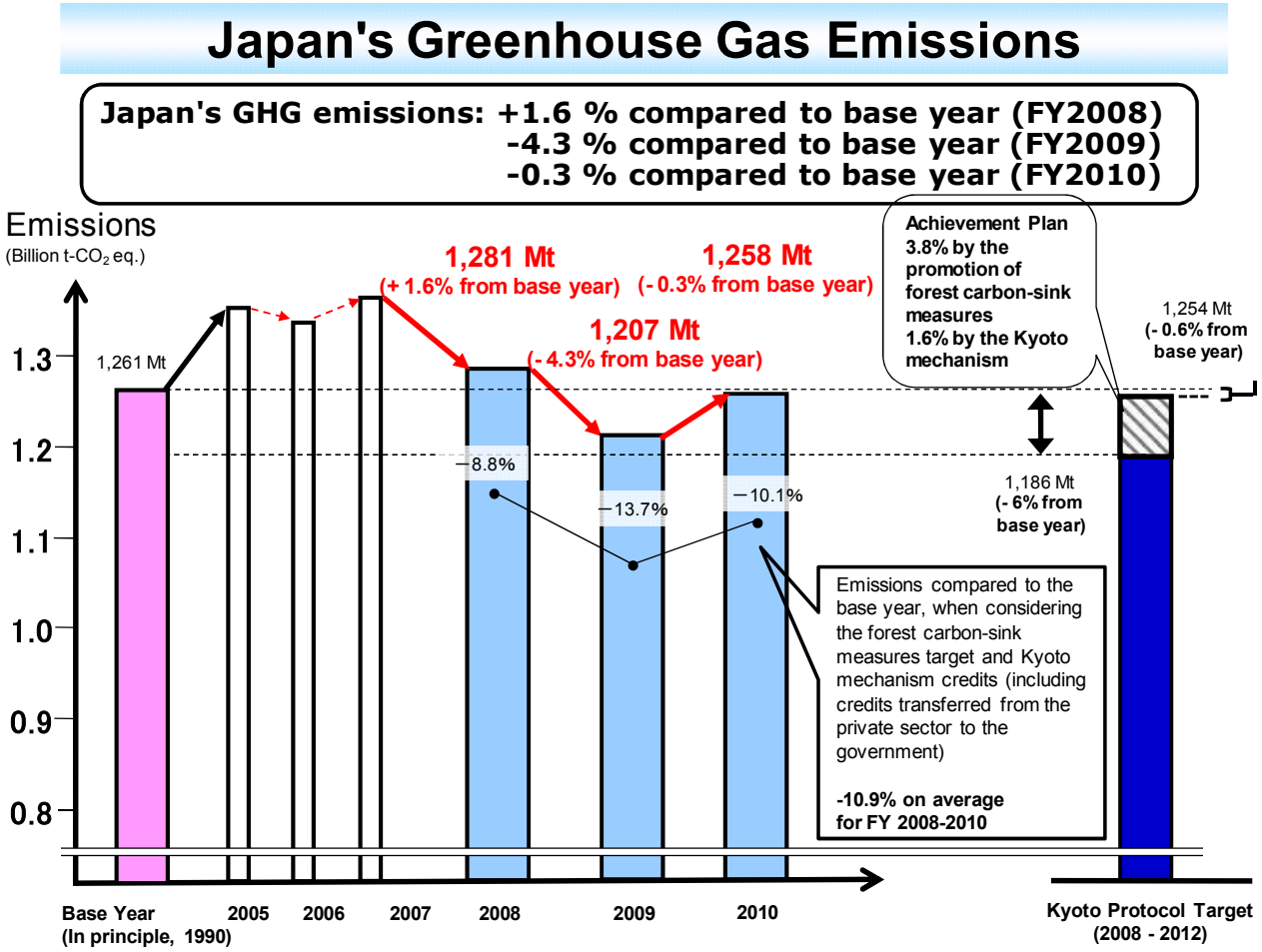

Figure 1 Japan's national greenhouse gas emissions

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%〕**	1,207 **(-4.3%)**	→ **<+4.2%>** →	**1,258 (-0.3%) 〔100%〕**
Carbon Dioxide (CO_2)	1,144 〔90.7%〕	1,142 (-0.2%)	→ **<+4.4%>** →	**1,192 (+4.2%) 〔94.8%〕**
Energy-origin Carbon Dioxide	1,059 〔84.0%〕	1,075 (+1.5%)	→ **<+4.5%>** →	**1,123 (+6.1%) 〔89.3%〕**
Non-Energy-origin Carbon Dioxide	85.1 〔6.7%〕	67.0 (-21.2%)	→ **<+2.3%>** →	**68.6 (-19.4%) 〔5.5%〕**
Methane (CH_4)	33.4 〔2.6%〕	20.9 (-37.5%)	→ **<-2.1%>** →	**20.4 (-38.8%) 〔1.6%〕**
Nitrous Oxide (N_2O)	32.6 〔2.6%〕	22.6 (-30.8%)	→ **<-2.2%>** →	**22.1 (-32.4%) 〔1.8%〕**
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 (-75.8%) 〔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 by sector
(CO_2 emissions from power and steam generation are allocated to the sector in which the final demand occurs)

	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%)**	→ **<+4.5%>** →	**1,123 (+6.1%) 〔100%〕**
Industries (factories, etc)	482 〔45.5%〕	388 (-19.5%)	→ **<+8.7%>** →	**422 (-12.5%) 〔37.6%〕**
Transport (cars, etc)	217 〔20.5%〕	230 (+5.7%)	→ **<+0.9%>** →	**232 (+6.7%) 〔20.6%〕**
Commercial and other (commerce, service, office, etc)	164 〔15.5%〕	216 (+31.3%)	→ **<+0.5%>** →	**217 (+31.9%) 〔19.3%〕**
Residential	127 〔12.0%〕	162 (+26.9%)	→ **<+6.3%>** →	**172 (+34.8%) 〔15.3%〕**
Energy Industries (power plants, etc)	67.9 〔6.4%〕	80.0 (+17.9%)	→ **<+1.2%>** →	**81.0 (+19.3%) 〔7.2%〕**

(Unit: Mt-CO_2)

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

○ Industries sector (factories, etc.): 33.9 million tonnes (8.7%) increase
  ・Emissions from manufacturing and others increased with the increase of production as the result of recovery from economic recession.
○ Transport sector (cars, etc.): 2.1 million tonnes (0.9%) increase
  ・Emissions from passengers cars/trucks/lorries increased.
○ Residential sector: 10.1 million tonnes (6.3%) increase
  ・Emissions increased, due to the increase in electric power consumption during the extremely hot/cold days of summer/winter and the increase in consumption of petroleum products (kerosene, LPG etc).
○ Commercial and other sectors (commerce, service, office, etc.): 1 million tonnes（0.5%) increase
  ・ Emissions from the consumption of town gas and electric power increased.
○ Energy Industries sector (power plants, etc.): 0.9 million tonnes (1.2%) 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: 1.6 million tonnes (2.3%) increase
  ・Emissions from the Industrial Processes sector (e.g., lime production) decreased.
○ Methane (CH_4) emissions: 0.4 million tonnes (2.1%) decrease
  ・Emissions from the Agriculture sector (e.g., enteric fermentation, rice cultivation) and the Waste sector (e.g., solid waste disposal on land) decreased.
○ Nitrous Oxide (N_2O) emissions: 0.5 million tonnes (2.2%) 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 agents/solvents etc., increased.
○ Sulfur Hexafluoride (SF_6): 0.01 million tonnes (0.6%) increase
  ・Emissions from semiconductor production etc., increased.