

Greenhouse Gas Emissions in FY 2004

The Ministry of the Environment has compiled the data on greenhouse gas (GHG) emissions for FY 2004 in compliance with the Law Concerning the Promotion of Measures to Cope with Global Warming (hereinafter referred to as "the Climate Change Policy Law"). The total emission of GHGs converted into carbon dioxide was 1.355 billion tons. This is a decrease by 3 million tons compared to the figure for FY 2003 (1.358 billion tons) and surpasses by 8.0% for the total emission (1.255 billion tons) of the base year (1990) under the Kyoto Protocol.

- Since the assigned amount for the first commitment period (2008-2012) needs to be reported to the UNFCCC secretariat by September 1, 2006 after determining the base year emissions, improvements process on greenhouse gas emissions estimating methods has been still underway. Therefore, due to future improvements, recalculations may be conducted afterward on the emissions reported in this submission.

In compliance with Article 4 of the United Nations Framework Convention on Climate Change (hereinafter referred to as "the UNFCCC") and Article 7 of the Kyoto Protocol to the UNFCCC, the contracting parties are obliged to prepare an inventory of GHG emissions and submit it to the UNFCCC secretariat. In addition, the Article 7 of the Climate Change Policy Law enacted for the domestic measures required by the UNFCCC, stipulates that the government shall calculate GHG emissions every year and announce the results. The Ministry of the Environment hereby announces the calculated GHG emissions for FY 2004 and submits the data to the UNFCCC secretariat as of today.

Total greenhouse gas emission in fiscal 2004 was 1.355 billion tons (in CO₂ equivalents). Compared to that in the base year under the Kyoto Protocol (in principle: 1990), it increased by 8.0% and have decreased by 0.2% from the previous year due to an improvement in nuclear power plant capacity utilization ratio.

The government is determined to achieve 6% reduction commitment under the Kyoto Protocol by responsively implementing the Kyoto Protocol Target Achievement Plan (<http://www.env.go.jp/earth/ondanka/domestic.html#3>) adopted on April 28, 2005 in cooperation and effort between the public and private sectors. The plan includes measures for GHG emissions reduction, measures for securing CO₂ sinks and utilization of Kyoto Mechanism.

<Changes in GHG emissions and its factors in FY 2004 by sector>

1. CO₂ emissions from energy sources

- (i) Emissions from industrial sector: Decrease of 3.4% compared to the base year and increase by 0.1 % compared to the previous year emissions.
 - Emissions from primary industries remained the same level
 - Emissions from other type of industries, small-to-medium-sized manufacturing, and non-manufacturing industries have decreased.
- (ii) Emissions from transportation sector: Increase of 20.3% compared to the base year and decrease of 0.1% compared to the previous year emissions.
 - Emissions from the freight sector decreased (-3.2% compared to the base year)
 - Emissions from passengers sector increased (+45.2% compared to the base year). Particularly, emissions from automobiles for personal use in the passengers sector increased (+52.6% compared to the base year).
- (iii) Emissions from commercial and other sectors: Increase of 37.9% compared to the base year and decrease of 0.6% compared to the previous year emissions.
 - While the total floor space of industrial institutions considerably increased (+35.5% compared to the base year), carbon dioxide emissions per floor space remained the same level.

(iv) Emissions from residential sector: Increase of 31.5% compared to the base year and increase of 0.1% compared to the previous year emissions.

- Number of households considerably increased (+20.5% compared to the base year)
- CO₂ emissions per household increased (+8.6% compared to the base year).
- CO₂ emissions from electricity consumption increased (+45.8% compared to the base year).

(v) Emissions from Energy Industries Sector: Increase of 17.4% compared to the base year and remained the same level as the previous year emissions.

- Self-consumption and electric heat loss due to electric power distribution and transmission along with an increase of energy demand have increased by 17% compared to the base year.

2. CO₂ emissions from non-energy sources

(i) Emissions of CO₂ from industrial processing sector: Decrease of 15.8% compared to the base year and increase of 0.9% compared to the previous year emissions.

(ii) Emissions of CO₂ from waste sector: Increase of 59.9% compared to the base year and an increase of 1.9% compared to the previous year emissions.

3. Non-CO₂ emissions from non-energy sources

(i) Emissions of CH₄: Decrease of 26.4% compared to the base year and decrease of 1.5% compared to the previous year.

- Emissions from SWDS (Solid Waste Disposal Site) and coal mining decreased compared to the base year.

(ii) Emissions of N₂O: Decrease of 14.4% compared to the base year and increase of 1.2% compared to the previous year.

- Emissions from adipic acid production decreased compared to the base year.

(iii) Emissions of three CFC alternatives (HFC, PFC, SF₆): Decrease of 58.0% compared to the base year (FY1995) and decrease of 30.8% compared to the previous year.

- Emissions of HFC decreased due to the by-product in HCFC-22 manufacturing process.