

Preparation of Japan's National Greenhouse Gas Inventory and Trends in GHG Emissions

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Abstract

Japan has in place institutional arrangements under which the Ministry of the Environment (MOE) acts as the single national entity with overall responsibility for the preparation, approval, and annual submission of the GHG inventory. GIO performs the actual work of inventory compilation, including calculations, editing, preparation of part of the activity data (AD), and the archiving and management of all inventory data. Relevant ministries/agencies provide the AD and emission factors required for preparing the inventory. In addition, the institutional arrangements include procedures for implementing QA/QC activities throughout inventory preparation and for responding to inventory reviews. Other entities involved in the inventory improvement process include the Committee for the Greenhouse Gas Emissions Estimation Methods and the GHG Inventory Quality Assurance Working Group (QAWG). The Committee considers methodologies and AD and EFs for estimating emissions and removals. QAWG is an organization for QA activities and comprises experts who are not directly involved in inventory compilation.

The methodologies used for estimating GHG emissions and removals are basically in accordance with the 2006 IPCC Guidelines. Country-specific methodologies are also used for some source/sink categories in order to more accurately reflect the actual status of emissions and removals in Japan. When available, AD are collected from published sources such as statistics, while unpublished data are obtained by the MOE or GIO through direct requests to relevant ministries/agencies/organizations. These methods are determined through a process in which the Committee explores methods suited to Japan's situation for all activity categories included in Japan's inventory.

Improvements to these methods are determined to be necessary when issues are identified through inventory reviews, observations by the QAWG, adoption of new international guidelines, advances in scientific research, updates in statistical data, and/or new information from the Mandatory GHG Accounting and Reporting System. Proposals for improving emission and removal estimates are considered by scientific research or by the Committee, and the results are incorporated into the inventory.

Japan's GHG emissions and removals in FY2024 were 994 million tonnes of carbon dioxide equivalents (Mt CO₂ eq.). (Emissions: 1,046 Mt CO₂ eq., Removals: 52.3 Mt CO₂ eq.)

The emissions decreased by 24.9% (347.1 Mt CO₂ eq.) compared to the FY2013 emissions (1,394 Mt CO₂ eq.), mainly because of reduced energy consumption (improved energy conservation, etc.) and the decrease in CO₂ emissions from electricity production due to the wider use of decarbonized electricity.

Access to relevant information

<https://www.nies.go.jp/gio/en/index.html>