

Greenhouse Gas Inventories

A greenhouse gas inventory is an accounting of the amount of greenhouse gases emitted to or removed from the atmosphere over a specific period of time (e.g., one year). A greenhouse gas inventory also provides information on the activities that cause emissions and removals, as well as background on the methods used to make the calculations. Policy makers use greenhouse gas inventories to track emission trends, develop strategies and policies and assess progress. Scientists use greenhouse gas inventories as inputs to atmospheric and economic models.

To track the national trend in emissions and removals since 1990, EPA develops the official U.S. greenhouse gas inventory each year. The national greenhouse gas inventory is submitted to the United Nations in accordance with the Framework Convention on Climate Change [EXIT Disclaimer](#).

In addition to the U.S. inventory, greenhouse gas emissions can be tracked at the global, state and local levels as well as by companies and individuals:

- Many other countries also develop national greenhouse gas inventories, which can be compiled into global inventories. EPA works with developing and transition countries to improve the accuracy and sustainability of their greenhouse gas inventories. EPA has developed Greenhouse Gas Inventory Capacity Building templates and software tools targeting key sources, emissions factors, good practices, institutional infrastructure and use of the latest IPCC guidelines on greenhouse gas inventories.
- Many states prepare greenhouse gas inventories, and EPA provides guidance and tools to assist them in their efforts.
- Corporate greenhouse gas inventories provide information on the emissions associated with the operations of a company.
- Individuals produce greenhouse gas emissions through everyday activities such as driving and using air conditioning or heating. EPA provides an online calculator for estimating personal emissions.

The Intergovernmental Panel on Climate Change (IPCC) [EXIT Disclaimer](#) publishes internationally accepted inventory methodologies that serve as a basis for all greenhouse gas inventories, ensuring that they are comparable and understandable. The 2006 IPCC Guidelines were completed and accepted by the IPCC in May 2006.

Emission Trends & Projections

Estimates of future emissions and removals depend in part on assumptions about changes in underlying human activities. For example, the demand for fossil fuels such as gasoline and coal is expected to increase greatly with the predicted growth of the U.S. and global economies.

The Fourth U.S. Climate Action Report concluded, in assessing current trends, that carbon dioxide emissions increased by 20 percent from 1990-2004, while methane and nitrous oxide emissions decreased by 10 percent and 2 percent, respectively. The declines in methane emissions are due to a variety of technological, policy, and agricultural changes, such as increased capture of methane from landfills for energy, reduced emissions from natural gas systems, and declining cattle populations. At least some of the decline in nitrous oxide emissions is due to improved emissions control technologies in cars, trucks, and other mobile sources. (Fourth U.S. Climate Action Report, 2007)