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Sources of Greenhouse Gas Emissions

Overview

Electricity

Transportation

Industry

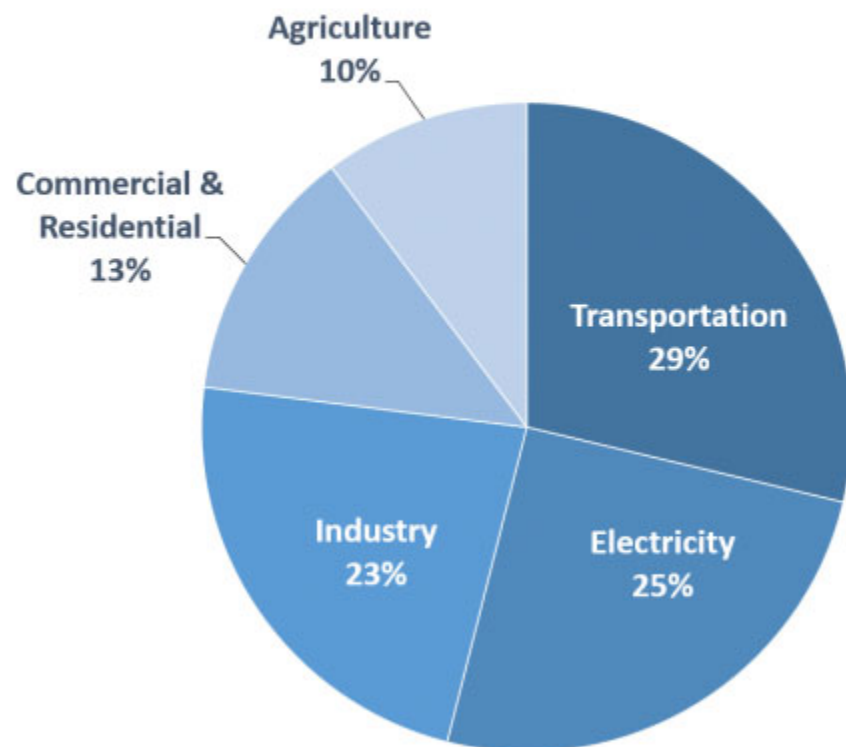
Commercial/ Residential

Agriculture

Land Use/ Forestry

Overview

Total U.S. Greenhouse Gas Emissions by Economic Sector in 2019



Total Emissions in 2019 = 6,558 Million Metric Tons of CO₂ equivalent. Percentages may not add up to 100% due to independent rounding.

* Land Use, Land-Use Change, and Forestry in the United States is a net sink and removes approximately 12 percent of these greenhouse gas emissions, this net sink is not shown in the above diagram. All emission estimates from the *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2019*.

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Greenhouse gases trap heat and make the planet warmer. Human activities are responsible for almost all of the increase in greenhouse gases in the atmosphere over the last 150 years.¹ The largest source of greenhouse gas emissions from human activities in the United States is from burning fossil fuels for electricity, heat, and transportation.

EPA tracks total U.S. emissions by publishing the *Inventory of U.S. Greenhouse Gas Emissions and Sinks*. This annual report estimates the total national greenhouse gas emissions and removals associated with human activities across the United States.

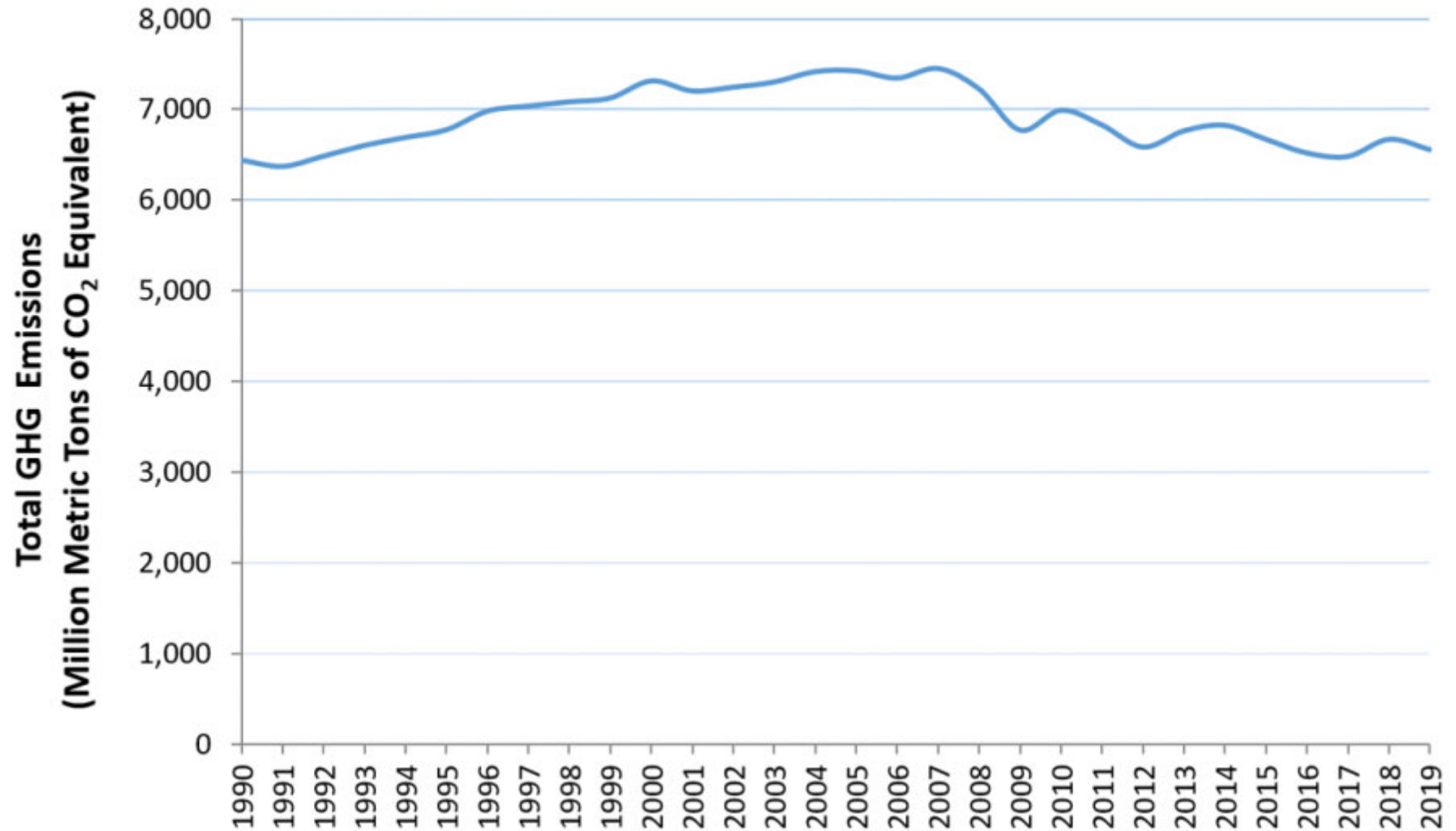
The primary sources of greenhouse gas emissions in the United States are:

- Transportation (29 percent of 2019 greenhouse gas emissions) – The transportation sector generates the largest share of greenhouse gas emissions. Greenhouse gas emissions from transportation primarily come from burning fossil fuel for our cars, trucks, ships, trains, and planes. Over 90 percent of the fuel used for transportation is petroleum based, which includes primarily gasoline and diesel.²
- Electricity production (25 percent of 2019 greenhouse gas emissions) – Electricity production generates the second largest share of greenhouse gas emissions. Approximately 62 percent of our electricity comes from burning fossil fuels, mostly coal and natural gas.³
- Industry (23 percent of 2019 greenhouse gas emissions) – Greenhouse gas emissions from industry primarily come from burning fossil fuels for energy, as well as greenhouse gas emissions from certain chemical reactions necessary to produce goods from raw materials.
- Commercial and Residential (13 percent of 2019 greenhouse gas emissions) – Greenhouse gas emissions from businesses and homes arise primarily from fossil fuels burned for heat, the use of certain products that contain greenhouse gases, and the handling of waste.
- Agriculture (10 percent of 2019 greenhouse gas emissions) – Greenhouse gas emissions from agriculture come from livestock such as cows, agricultural soils, and rice production.
- Land Use and Forestry (12 percent of 2019 greenhouse gas emissions) – Land areas can act as a sink (absorbing CO₂ from the atmosphere) or a source of greenhouse gas emissions. In the United States, since 1990, managed forests and other lands are a net sink, i.e., they have absorbed more CO₂ from the atmosphere than they emit.

Emissions and Trends

Since 1990, gross U.S. greenhouse gas emissions have increased by 2 percent. From year to year, emissions can rise and fall due to changes in the economy, the price of fuel, and other factors. In 2019, U.S. greenhouse gas emissions decreased compared to 2018 levels. The decrease was primarily in CO₂ emissions from fossil fuel combustion which was a result of multiple factors, including a decrease in total energy use and a continued shift from coal to less carbon intensive natural gas and renewables.

Total U.S. Greenhouse Gas Emissions, 1990-2019



Note: All emission estimates from the *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2019*.

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References

1. IPCC (2007). Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis*. EXIT Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
2. IPCC (2007). Climate Change 2007: Mitigation. (PDF). (863 pp, 24MB) EXIT Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
3. U.S. Energy Information Administration (2019). *Electricity Explained - Basics* EXIT

LAST UPDATED ON APRIL 14, 2021