



2010 Inventory of Community Greenhouse Gas Emissions Town of Hurley, New York

CLIMATE SMART TASK FORCE

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Primary Contributors: Felicia Legge, SUNY Ulster, Lynne Bailey

Task Force Members: Kristen Schara, Lynne Bailey, Erin Nylen

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Introduction

Greenhouse gasses (GHG) trap heat between the earth's surface and its atmosphere. Understanding the sources of greenhouse gas emissions and establishing a GHG baseline inventory are critical first steps in the local climate action process.¹ A Greenhouse Gas Inventory identifies activities that are responsible for GHG emissions, quantifies the level of each activity, and then calculates the associated emissions resulting from transportation fuels, waste, energy usage in buildings, and other sources within the community.

An essential way to understand how many greenhouse gasses are being emitted into the atmosphere is by measuring them and converting all gasses into a metric ton of CO₂ (Carbon Dioxide) equivalent (MTCO₂e). Each of these steps, defining the activities, measuring the level of the activity, and determining the consequent emissions, is carefully calculated in order to build a credible, transparent, and easily replicable inventory.

The resulting inventory provides a baseline which can be used to measure future progress in reducing a town's collective emissions, and will serve to guide the development of a *Climate Action Plan* for the Town of Hurley.

Source of Data for this Inventory

The Climate Smart Task Force used data from the Mid-Hudson Regional Greenhouse Gas Emissions Inventory² which contains emissions data for the

¹ <https://climatesmart.ny.gov/actions-certification/actions/#open/action/7>

² https://climatesmart.ny.gov/fileadmin/csc/documents/GHG_Inventories/midhudghginventory.pdf

region from the year 2010. Published in 2012 by ICF International for New York State Energy Research Development Authority (NYSERDA), local data was identified to create the Town of Hurley baseline inventory. For detailed information regarding the methodology used to calculate emissions, refer to the regional report.

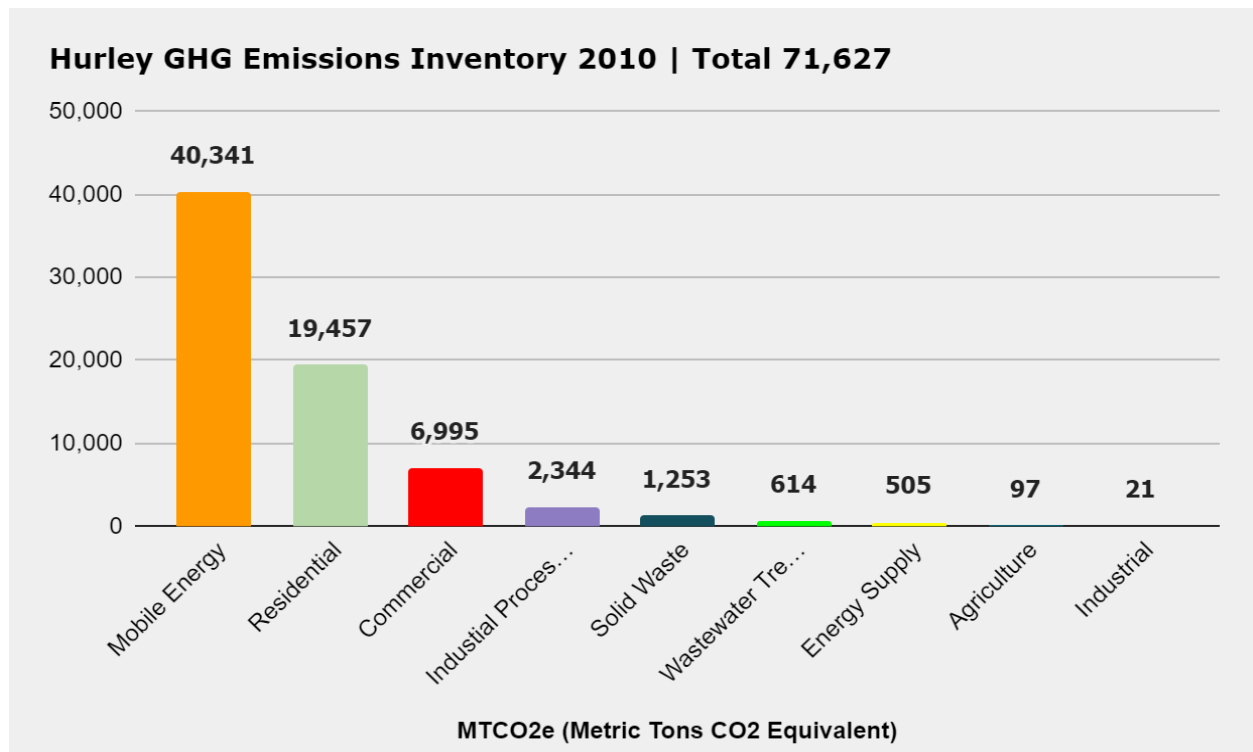
Greenhouse Gas Inventory for the Town of Hurley (2010)

The three highest sectors contributing to greenhouse gas emissions in the Town of Hurley are Transportation, Residential and Commercial. Data recorded for the Town of Hurley shows that more than half of emissions measured came from mobile energy (transportation) at 56%. Following transportation is residential energy at 27%, which includes the use of electricity, fuel oil, and gas in residential homes. All emissions are reported in metric tons of carbon dioxide equivalent (MTCO₂e). See Appendix for Emission Source Descriptions.

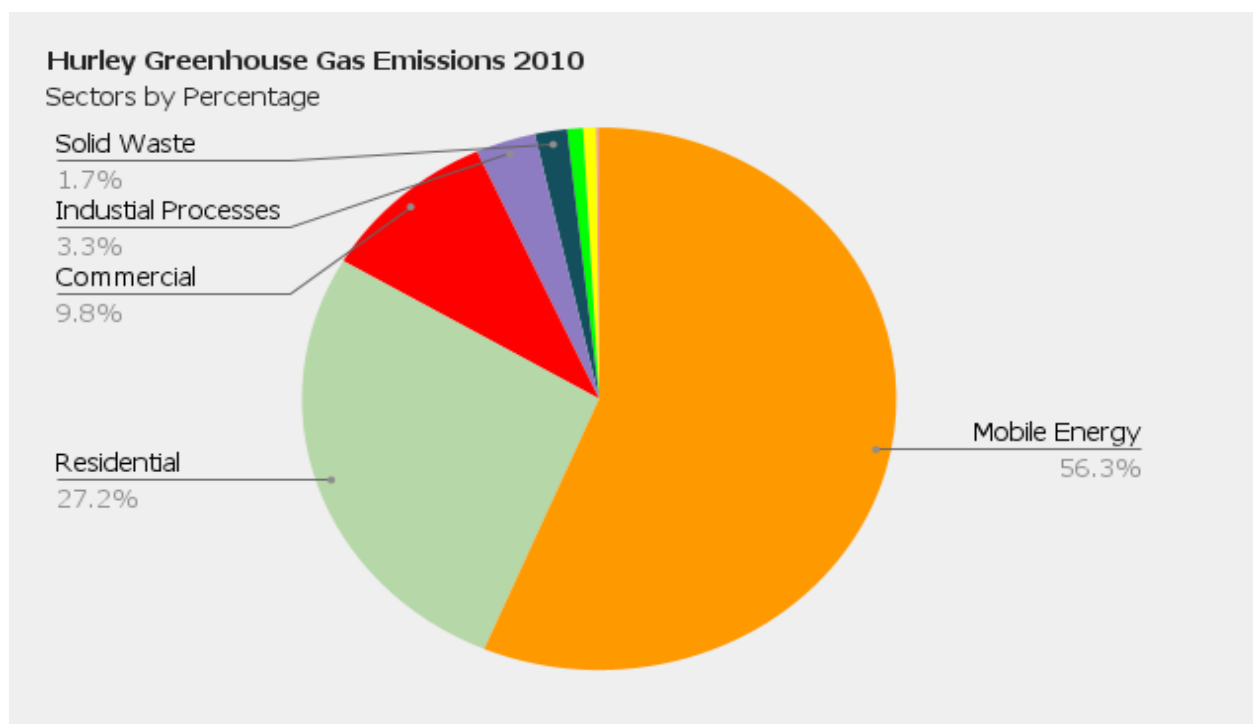
Emission Source and Quantity

Emission Source	MTCO₂e
Mobile Energy	40,341
Residential	19,457
Commercial	6,995
Industrial Processes	2,344
Solid Waste	1,253
Wastewater Treatment	614
Energy Supply	505
Agriculture	97
Industrial	21
Total	71,627

Emissions by Sector



Sector Emissions by Percentage



About Greenhouse Gasses

Greenhouse gasses trap heat between the earth's surface and its atmosphere. The most abundant GHG emissions contain carbon. Humans have altered the carbon cycle by:

- Releasing long-stored carbon into in the atmosphere as GHG through activities like burning fossil fuels and cement production;³ and
- Reducing the ways that carbon is naturally stored through land use changes such as deforestation development.⁴

Types of Greenhouse Gasses

- Carbon dioxide (CO₂);
- Methane (CH₄);
- Nitrous oxide (N₂O) from agricultural loss of soil, and wetlands
- Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs); Sulfur hexafluoride (SF₆): these are all man-made chemicals, typically used for refrigeration and cooling, and do not occur in nature;
- Water Vapor (H₂O), often evidenced as clouds, is also a GHG, but is not measured in these studies as these vapors are a component of the water cycle⁵. The aggregate of water in all forms on our planet, ice, liquid and gas, does not change.⁶

³ <https://earthobservatory.nasa.gov/features/CarbonCycle>

⁴ <https://news.climate.columbia.edu/2021/09/23/natural-climate-solutions-why-we-need-them/>

⁵ [How Much Water Is on Earth? - Earth How;](#)

⁶ [Is Earth's total water finite? | Questions | Naked Scientists \(thenakedscientists.com\)](#)

Appendix

Emission Source Definitions

Mobile Energy: Use of energy in transportation, including on-road transportation, passenger and freight rail, aviation, marine transportation, and off-road vehicles.

Residential Energy Consumption: Use of energy in homes, businesses, and other non-mobile uses.

Industrial Processes: Non-energy emissions associated with industrial activity (e.g., carbon dioxide emissions associated with cement production or emissions associated with coolants for air conditioners) and fugitive emissions from fuel systems (leakages in the production, distribution, and transmission of fossil fuels).

Commercial Energy Consumption: Direct emissions from the combustion of natural gas, coal, kerosene, distillate, motor gasoline and other fuels, as well as indirect emissions from electricity consumption.

Solid Waste: Non-energy emissions related to managing solid waste, including trash and wastewater (e.g., methane emissions associated with the anaerobic decay of waste disposed of in landfills).

Wastewater Treatment: When organic waste material in wastewater degrades during the wastewater treatment processes, it emits both methane and nitrous oxide.

Energy Supply: Fugitive emissions and energy losses due to the transmission and distribution of electricity and natural gas.

Agriculture: Non-energy emissions from agriculture, including both crops and livestock (e.g., methane emissions associated with livestock and nitrous oxide emissions associated with fertilizer application).

Industrial (Stationary) Energy Consumption: Direct emissions from power plants, landfills, metals manufacturing, mineral production, petroleum refineries, pulp and paper manufacturing, chemicals manufacturing, government and commercial facilities, and other industrial facilities.