



City of Watervliet Community Greenhouse Gas Inventory Data from Capital District 2010 Regional GHG Inventory Report Compiled June 11, 2025

BACKGROUND

The City of Watervliet Board approved Resolution No. 8551 on February 16, 2010, to become a Climate Smart Community (CSC). An action item in the CSC Certification process is *PE2 Action: Community GHG Inventory*.

This Community GHG Inventory Report summarizes the GHG emissions from the City of Watervliet's transportation fuels, waste, energy usage in buildings, and other sources within a given geographic boundary. Developing this GHG Inventory is the first step towards tangible climate action, the development of a Community Climate Action Plan (CAP) and enabling the City of Watervliet to identify realistic goals and community reduction of greenhouse gases.

DATA GATHERING AND METHODOLOGY

For this report, City of Watervliet is utilizing baseline data from 2010 as reported in the [Capital District 2010 Regional Greenhouse Gas Inventory](#)ⁱ. This inventory, completed by Climate Action Associates LLC, a sub-consultant to the Capital District Regional Planning Commission for the New York State Energy Research and Development Authority (NYSERDA), reports on community-level emissions of various sectors in metric tons of carbon dioxide equivalent (MTCO₂e). This data is meant to provide a baseline which can be used to measure future progress in reducing the broader community's collective emissions. In order for the inventory report to be valid for submission it must be completed within 5 years of submission; this inventory report was completed June 11, 2025. The inventory includes Scope 1, Scope 2 and Scope 3 GHG emissions for the community, as defined below.

- **Scope 1:** Direct GHG emissions that physically occur within the regional or community boundary such as those emitted by burning natural gas or fuel oil in homes and businesses.
- **Scope 2:** Indirect GHG emissions from purchased electricity.
- **Scope 3:** Indirect GHG emissions attributed to region or community activities that cause emissions whether the emissions physically occur in-boundary or not.

Baseline Year

The inventory process requires the selection of a baseline year. The year chosen for this regional inventory was 2010.

Quantification Methods

Greenhouse gas emissions in this inventory are quantified using calculation-based methodologies. Calculation-based methodologies calculate emissions using activity data and emissions factors. To calculate emissions accordingly, the basic equation is used:

$$\text{Activity Data} \times \text{Emissions Factor}_{(\text{Fuel, GHG})} = \text{GHG Emissions}_{(\text{Fuel, GHG})}$$

Activity data refer to the relevant measurement of energy use or other greenhouse gas generating processes such as fuel consumption by fuel type, metered annual electricity consumption, and annual vehicle miles traveled.

Emissions Factors

Each GHG has an emission factor unique to each fuel. The electricity emission factor is based on the EPA eGRID (2012) subregion, which in this case is **NYUP (Upstate)**. The propane, heating oil/diesel, and gasoline emissions factors are taken from the EIA database on carbon dioxide emissions coefficients. Non-CO2 GHGs are converted to an equivalent amount CO2 using a global warming potential (GWP) unique to each gas as defined in the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report. All GHG emissions in this report are reported in units of Metric Tons Carbon Dioxide Equivalent (MTCDE) which is the convention for reporting regional GHG inventories. One MTCDE is equal to 1000 kgs of CO2.

Data

Data for each category for the community, provided from the [Capital District 2010 Regional Greenhouse Gas Inventory, Appendix B](#) was as follows:

Table B 1. Municipal Roll-Up GHG Inventories (MTCDE)

		County	Roll Up GHG Emissions By Sector (MTCDE)							
			Res	Com	Industry	Process	Transport	Waste	Ag	Totals
Watervliet	City	Albany	17,824	9,905	21,256	4,025	49,672	3,218	0	105,899

Table B 2. Utility-Supplied Energy Consumption Data for 2010 by Municipality

		County	Electricity (MWh)				Natural Gas (Therms)			
			Total	Res.	Com.	Indust.	Total	Res.	Com.	Indust.
Watervliet	City	Albany	69,686	18,611	12,225	38,850	4,629,623	2,042,683	736,932	1,849,008

Table B 3. Vehicle-miles-traveled and Fuel Consumption (gallons) by Municipality

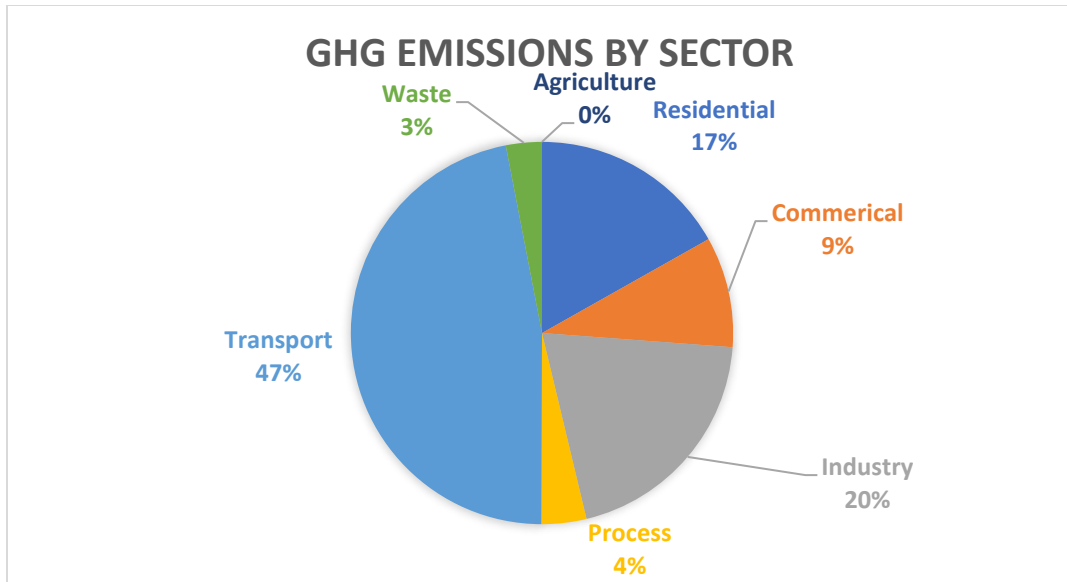
		County	Vehicle Miles Traveled and Fuel Consumption (gallons)			
			VMT	Gasoline	Ethanol	Diesel
Watervliet	City	Albany	11,067,234	4,324,953	480,550	563,806

Table B 4. Household GHG emissions and Energy Cost of Living

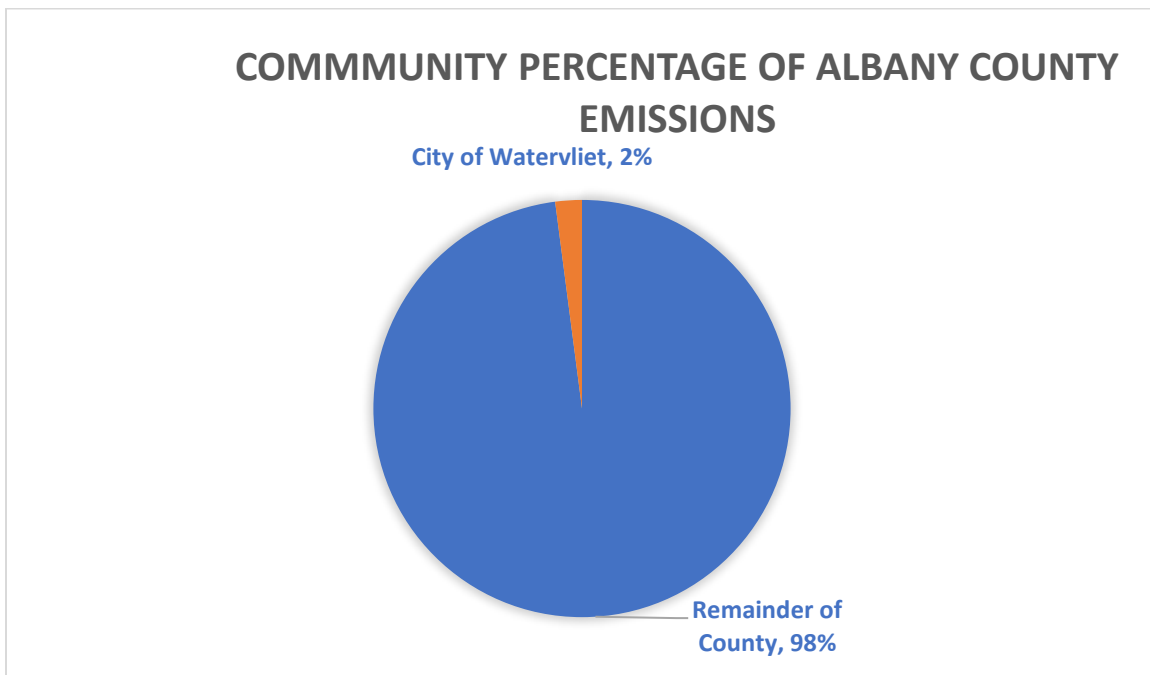
		County	Per-Household GHG Footprint (MTCDE)			Energy Cost of Living (ECOL)		
			Energy	Transport	HH Total	ECOL (\$)	Income (\$)	% income
Watervliet	City	Albany	3.7	3.4	7.1	4,085	47,905	9%

KEY FINDINGS

In 2010, the City of Watervliet emitted 105,899 Metric Tons Carbon Dioxide Equivalent (MTCDE) greenhouse gas (GHG) emissions. Transportation fuels accounts for 47%, followed by energy consumption in the industrial (20%), residential (17%) and commercial (9%) sectors. Fugitive emissions contribute 4%, defined in the figures as the sum of industrial process, product use, and transmission/distribution loss emissions. Waste was the smallest sector contributing 3%. There were no agricultural emissions.



These emissions for City of Watervliet account for 2% of Albany County, which emitted 5,268,456 Metric Tons Carbon Dioxide Equivalent (MTCO₂e).



City of Watervliet's per-capita emissions were 10.3 MTCDE / person, based on the 2010 Census for the City, 10,254. This is compared to 17.3 MTCDE / person for Albany County and 14.8 MTCDE / person for the entire Capital Region.

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ACCOMPLISHMENTS AND FURTHER OPPORTUNITIES TO REDUCE GREENHOUSE GASES

Developing a GHG emissions baseline enables the City of Watervliet to set goals and targets for future reduction of GHG emissions.

The city has been proactive in encouraging transition to electric vehicles by installing 12 city owned chargers in 2022.

The majority of City of Watervliet GHG emissions come from transportation. Further conversion to electric vehicles and moving these emissions to “Scope 2” will allow the City of Watervliet to offset GHGs with renewable energy. This could include a public education campaign on electric vehicles and additional EV charging stations in the City. Building also accounts for a large amount of emissions, so supporting resident energy efficiency and heat pump conversion can reduce these emissions.

Community Climate Action Planning is a next step for the City of Watervliet to identify reduction targets and strategies/funding to achieve these targets, as well as participating in the updated Regional GHG Inventory for 2022, being conducted by the Capital District Regional Planning Commission.

ⁱ NYSERDA, CDRPC, & Climate Action Associates. (2013, May 20). *Capital district 2010 regional GHG inventory - government of New York*. Capital District 2010 Regional GHG Inventory. Retrieved November 18, 2022, from https://climatesmart.ny.gov/fileadmin/csc/documents/GHG_Inventories/capdistghginven.pdf