# Town of Copake
# Greenhouse Gas Inventory for Municipal Operations
# 2021 Summary Report

## Background

The Copake Climate Smart Task Force chose as one of its initial actions the creation of a Greenhouse Gas Inventory. A GHG Inventory is a necessary foundation for future actions, which could range from a Fleet Inventory to a Climate Action Plan. The GHG Inventory serves as a baseline against which to measure progress in reducing carbon emissions.

The Copake Town Board approved a Resolution in June of 2011 to become a Climate Smart Community and, in May 2022 with Resolution #18, appointed Dan Haas as the volunteer Coordinator and supported the formation of a committee of volunteers. The initiation of a Greenhouse Gas Inventory for Government Operations began in collaboration with the Capital District Regional Planning Commission (CDRPC) technical staff. The GHG Inventory is one of the priority actions and is necessary as a baseline of GHG emissions resulting from day-to-day operations. Meanwhile, the Town's CSC Task Force will continue to evaluate other actions for inclusion in the CAP as the committee's capabilities grew. A CAP is necessary for future planning and goals.

This GHG Inventory Report summarizes the GHG emissions from the Town of Copake's consumption of energy, direct and indirect, from its own operations - its two buildings, town garage, fleet of vehicles, and streetlights. This inventory is an important step toward tangible climate action and further developing a Climate Action Plan (CAP). The CAP is an ongoing process reported periodically to the Town Board as opportunities are identified and the town's capabilities to take action mature.

## Data gathering and methodology

The CSC Task Force appointed Dan Haas to lead the GHG Inventory data collection effort, with the help of Capital District Regional Planning Commission (CDRPC) Sustainability Planner Haley Balcanoff.

The inventory includes Scope 1 and Scope 2 GHG emissions from government operations, as defined below:

- **Scope 1**: Direct GHG emissions from government-owned vehicles and onsite fuel combustion (natural gas, propane and fuel oil) for Administration buildings, and the Highway Garage.
- **Scope 2**: Indirect GHG emissions from purchased electricity.

The data collected for this inventory uses the year 2021 as a baseline. The metrics used in this GHG Inventory were calculated using the GHG Inventory spreadsheet developed by Climate Action Associates, LLC, which is compliant with the Local Government Operations Protocol (LGOP), a standardized set of guidelines for quantifying and reporting the GHG emissions association with government operations. The sectors included in this GHG Inventory are: facility energy use, fleet fuels, and streetlights. The Town has a capped landfill that's been closed for over twenty years. Methane emissions from the capped landfill are not included in this inventory report. The Town does not have a Wastewater Treatment facility.

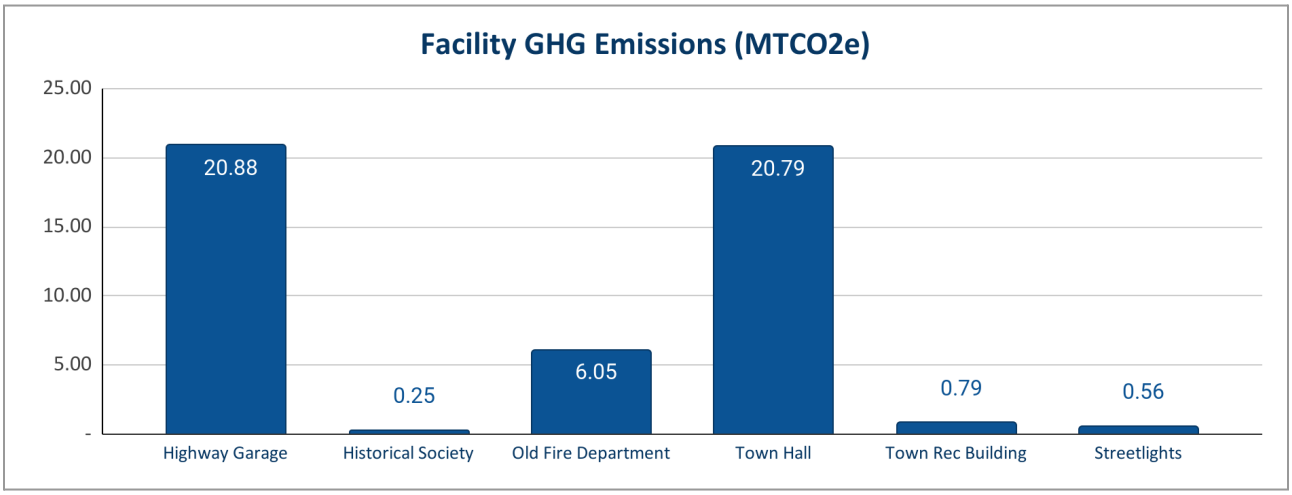
This table shows the Town buildings and energy providers included in the Claverack GHG Inventory:

| Town Building/Municipal Vehicles | Energy Providers |
|---|---|
| Highway Garage | NYSEG (Electric), MainCare (Fuel Oil) |
| Historical Society | NYSEG (Electric), Amerigas (Propane) |
| Old Fire Department | NYSEG (Electric), MainCare (Fuel Oil) |
| Town Hall | NYSEG (Electric), Amerigas (Propane) |
| Town Rec Building | NYSEG (Electric), Amerigas (Propane) |
| Streetlights | NYSEG (Electric) |
| Vehicle Fleet | MainCare (Diesel, Gasoline) |

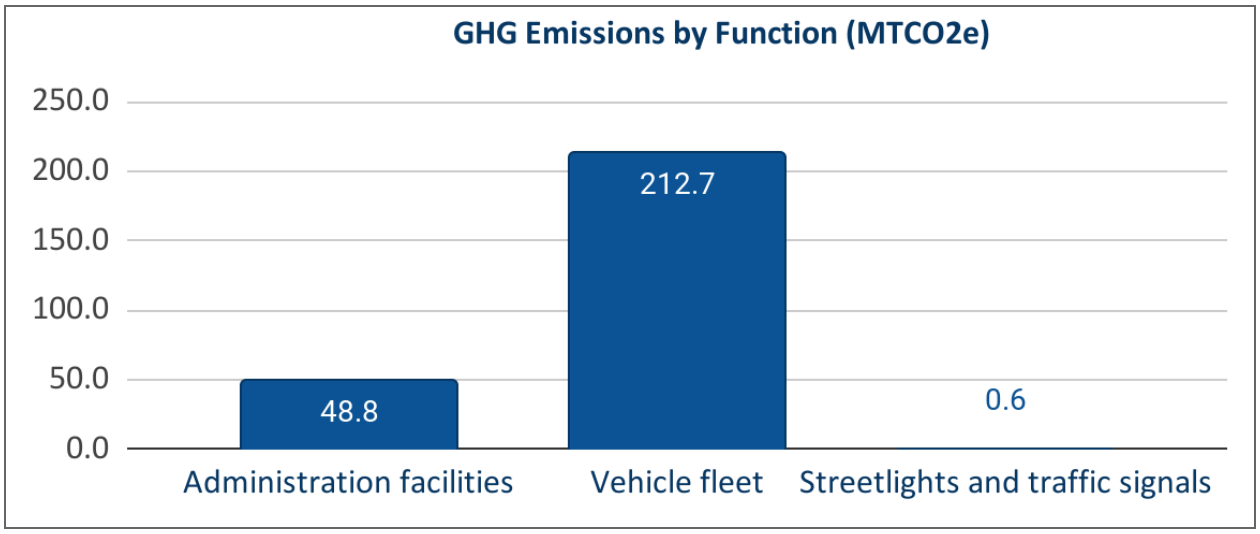
## KEY FINDINGS

The total GHG emissions produced by the Town of Copake's municipal operations in the year 2021 was 262.0 MTCO2e. The municipal operation with the highest GHG emissions was the vehicle fleet, which produced 212.7 MTCO2e. The facility with the highest emissions was the Highway Garage with 20.88 MTCO2e. The Town Hall was close behind with 20.79 MTCO2e.

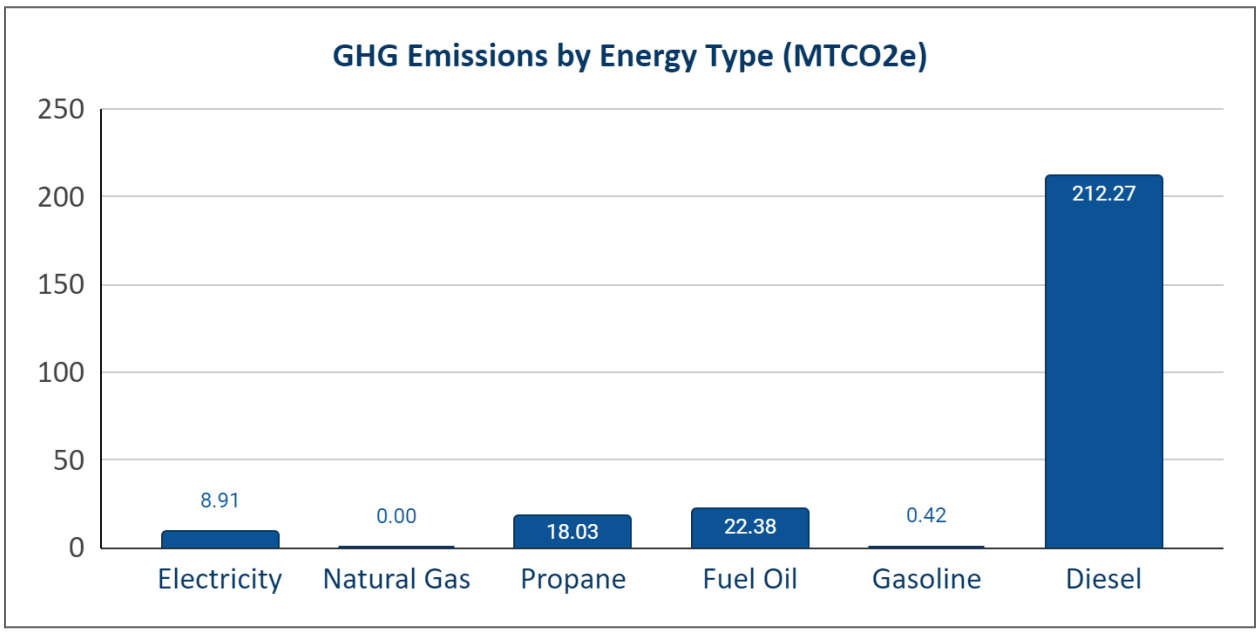
The following chart shows GHG Emissions by Facility.



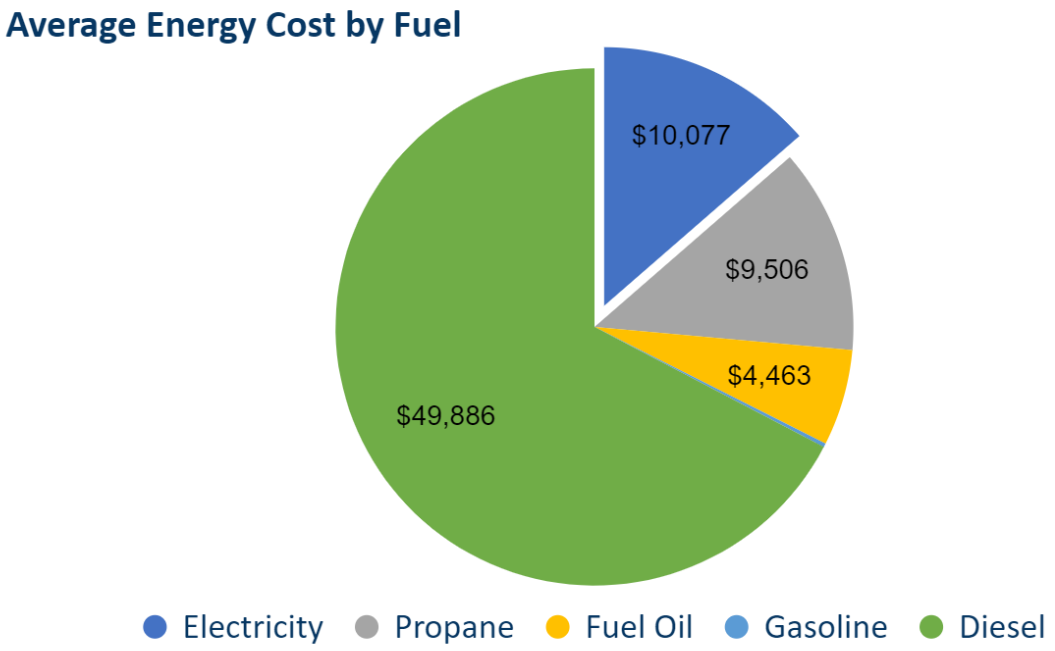

The below chart breaks down GHG Emissions by Function: Administration Facilities, Vehicle Fleet and Streetlights. The vehicle fleet contributed to 81% of the Town's GHG emissions compared to 19% of emissions due to Administration Facilities.




The energy sources used by the Town are: electricity, propane, fuel oil, gasoline and diesel. The total emissions in 2021 was 262.0 MTCO2e, with diesel contributing the most, 212.27 MTCO2e. The chart below shows emissions across all energy sources for 2021.




When analyzing the energy costs of municipal facilities and operations, the Town spent a total of $74,103.00 in 2021. Diesel was the most expensive energy source - $49,886. The chart below breaks down the costs per energy source:




The Town is in 2022 seeing increased pressure for new housing. The Town's population may increase in the future, thus requiring a larger vehicle fleet.

## OPPORTUNITIES TO REDUCE GREENHOUSE GASSES

The greenhouse gas inventory for the Town of Copake highlights several areas where the Town could reduce GHG emissions in government operations. Strategies and targets for reduction can be outlined by pursuing a Climate Action Plan.

The Town intends to conduct energy audits for the Town Hall and Town Park Building in 2023. From those reports, the Town hopes to make energy efficiency and HVAC upgrades to reduce emissions and save money on energy costs in the future.

The first opportunity is to evaluate the vehicle fleet by conducting a fleet inventory and fleet rightsizing.

Next, the Town can reduce emissions from propane and fuel oil by converting facility HVAC systems to heat pumps and mini-split systems.

The Town currently offsets electricity with the use of solar panels; however, the opportunity to add additional solar arrays to offset the balance of electricity would also reduce Scope 2 emissions.