

**BACKGROUND**

The Town Board of Hillsdale approved Resolution #79 on October 12, 2021 to become a Climate Smart Community and at the same time it appointed Howard Van Lenten as the volunteer Coordinator and supported the formation of a committee of volunteers. The Committee reported several recommendations concerning actions to undertake the initiation of a Greenhouse Gas Inventory for Government Operations in collaboration with the Capital District Regional Planning Commission (CDRPC) technical staff. A CAP is necessary for future planning and goals. The GHG Inventory is one of the priority actions and is necessary as a baseline of GHG emissions resulting from day-to-day operations.

This GHG Inventory Report summarizes the GHG emissions from the Town of Hillsdale’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 Howard Van Lenten 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 [YEARS] 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, streetlights, WWTP, and refrigerants.

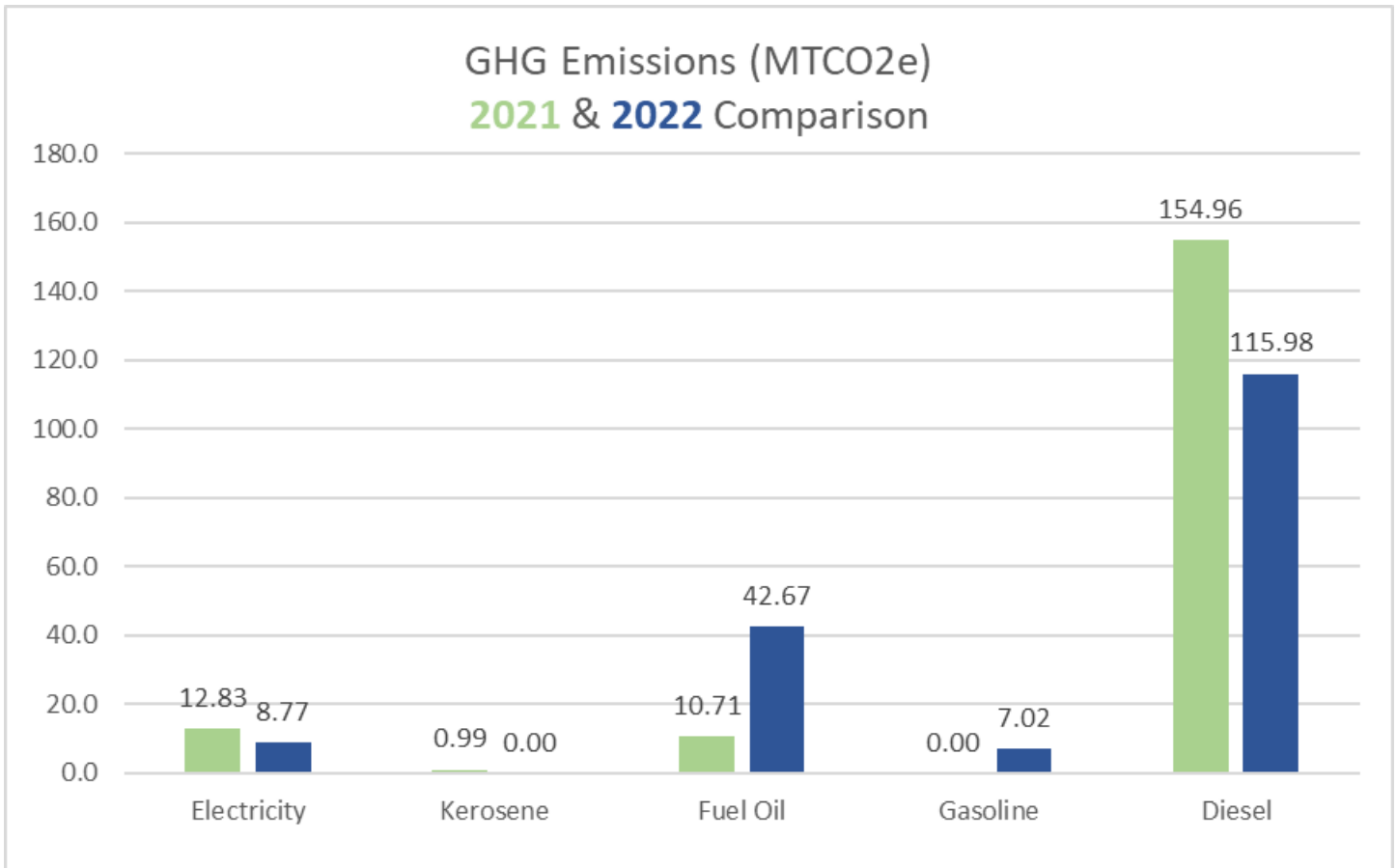
This table shows the Town buildings and energy providers included in the Claverack GHG Inventory:

<b>Town Building/Municipal Vehicles</b>	<b>Energy Providers</b>
Park Pump	NYSEG
Sewer Plant	NYSEG

Sheriff's Substation/Old Town Hall	NYSEG, Herrington Fuels Inc (Fuel Oil)
Streetlights	NYSEG
Town Garage	NYSEG, Main-Care Energy (Kerosene)
Vehicle Fleet	Main-Care Energy (Diesel)
Town Hall	NYSEG, Herrington Fuels Inc (Fuel Oil)

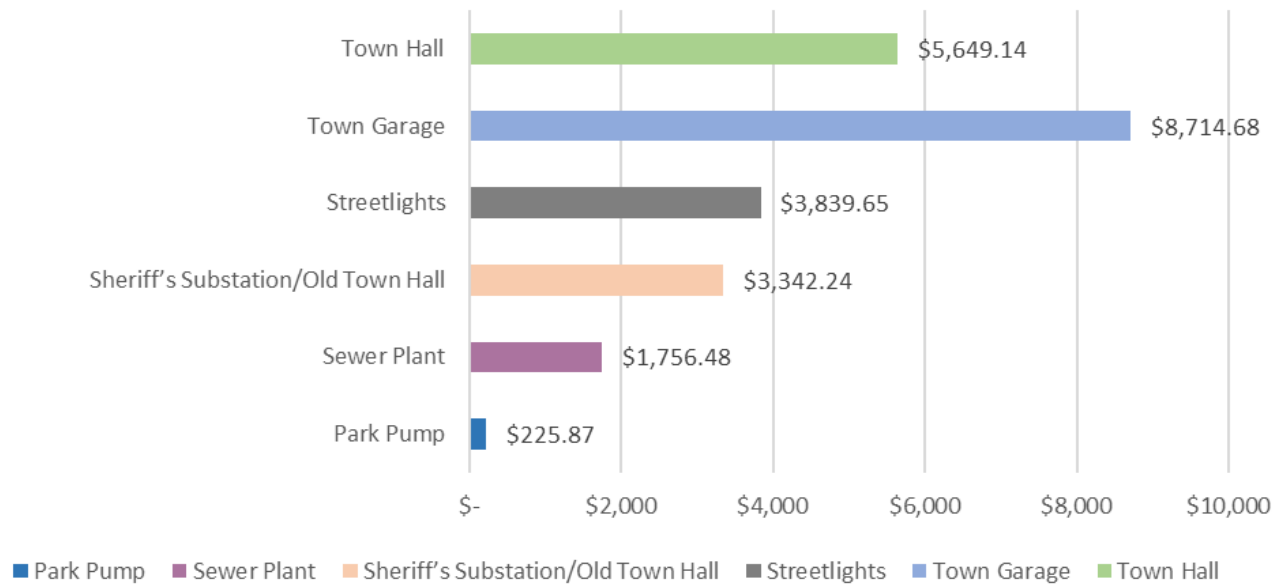
## KEY FINDINGS

The total GHG emissions produced by the Town of Hillsdale's municipal operations in 2021 and 2022 was 180 and 167 tons respectively. In both years, the greatest source of emissions resulted from the Town's vehicle fleet, as demonstrated in the chart below.

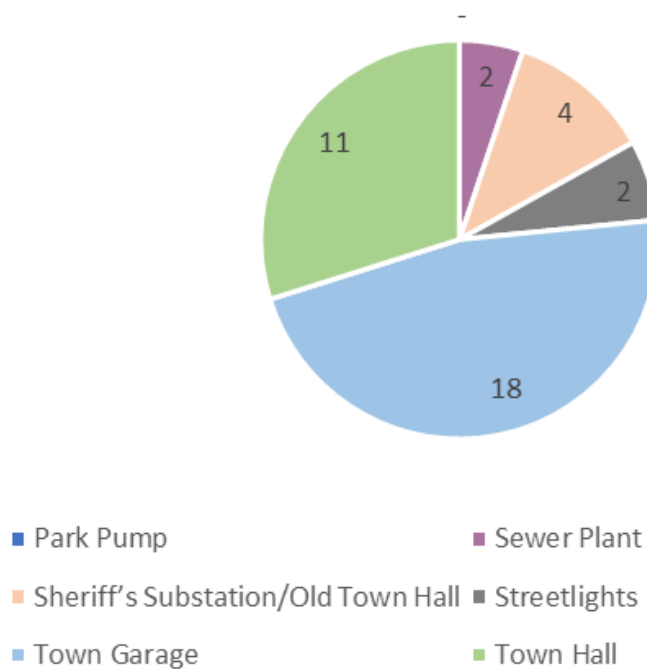


The below charts takes the average GHG emissions of the Town's Administration Facilities ranked by Facility, along with average annual costs:

### Facility Energy Cost (\$)

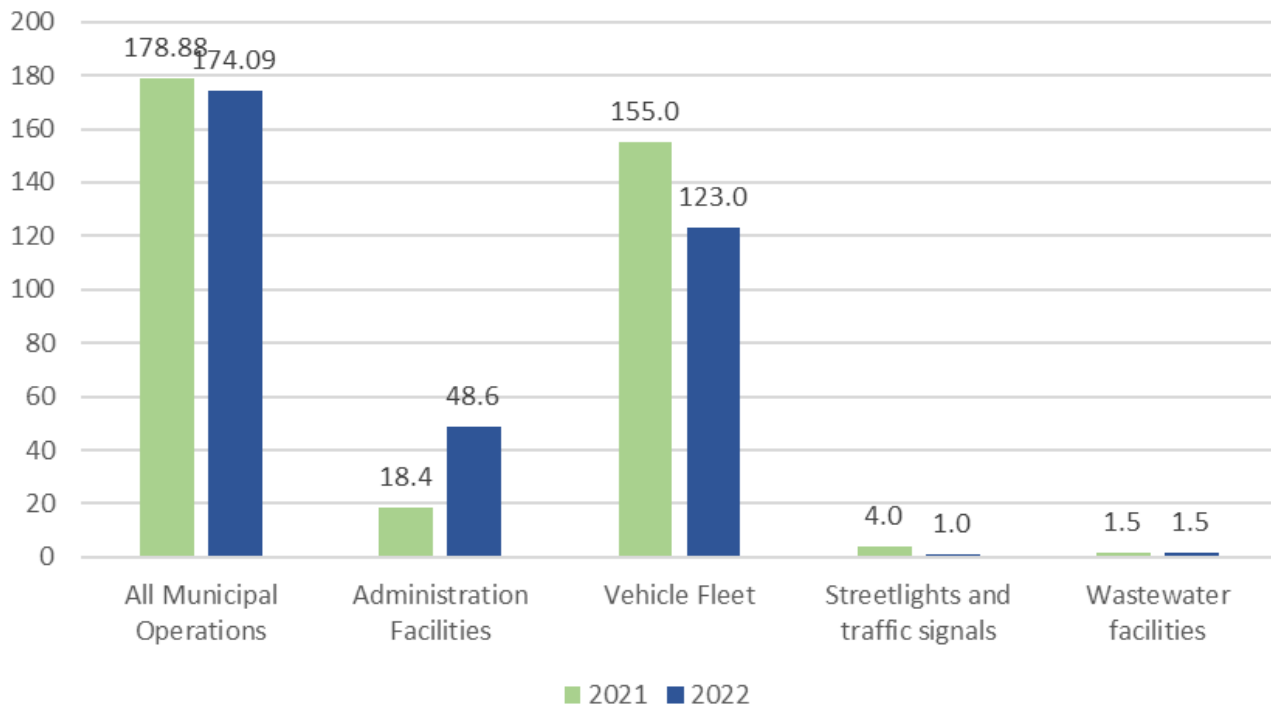


### Average GHG Emissions (MTCDE) by Administration Facility



The chart below compares emissions by administrative function for the two years:

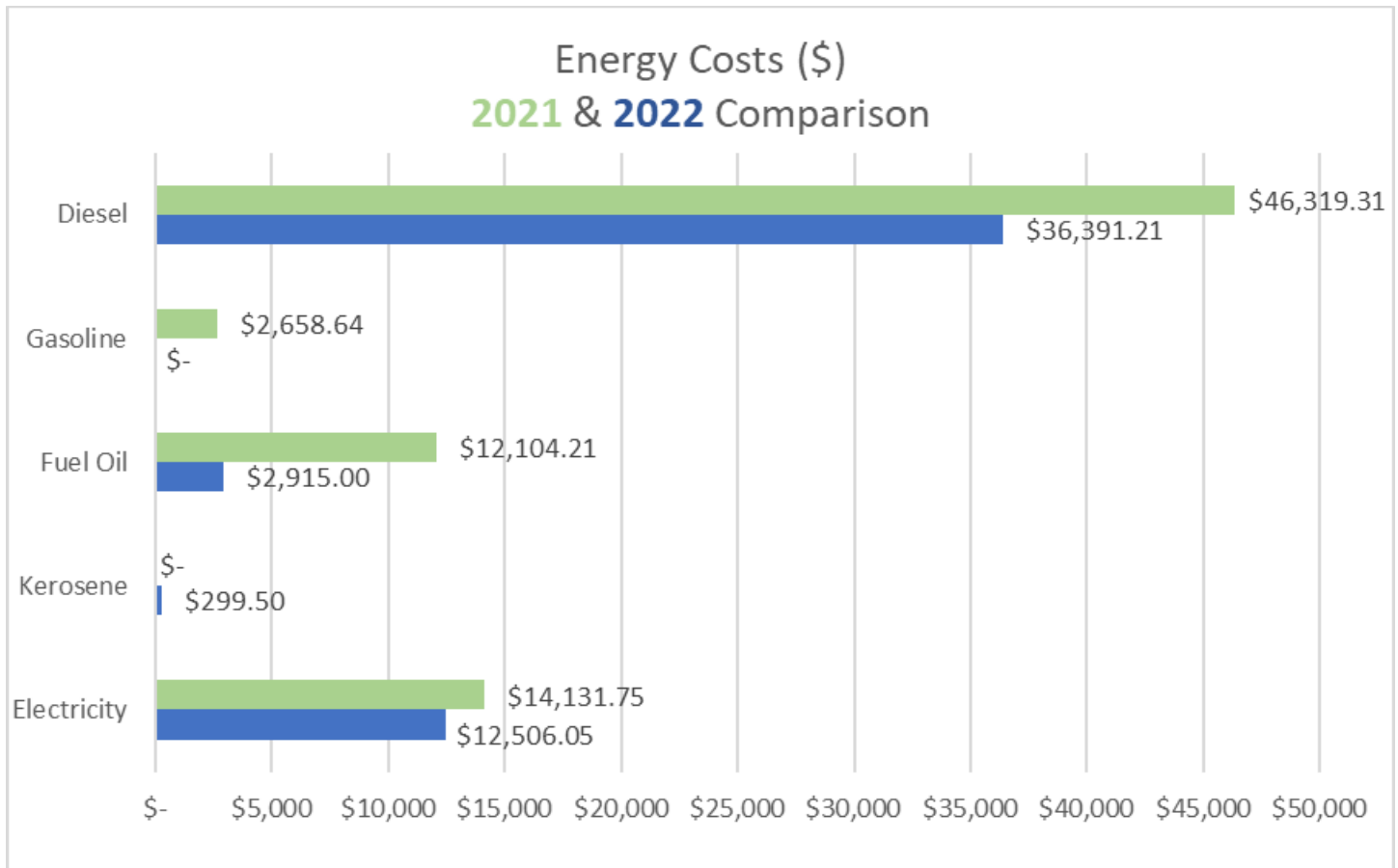
## 2021 & 2022 Comparison of GHG Emissions (MTCO<sub>2</sub>e) by Administrative Function



GHG Emission % By Function	2021	2022	Average
Administration facilities	10%	28%	19%
Vehicle fleet	87%	71%	79%
Streetlights and traffic signals	2%	1%	1%
Wastewater facilities	1%	1%	1%

As mentioned, the Vehicle Fleet contributes to the greatest amount of emissions - an average of 79% of the Town’s administrative portfolio. Facilities within the Town contribute to an average of 19% MTCO<sub>2</sub>e. While Wastewater Treatment facilities are usually large energy consumers, the Town’s WWTP only contributes to about 1% of the Town’s GHG emissions. This is due the fact that the wastewater emissions in this sector are only process emission from the treatment- not from the energy used by the plant.

Next, it’s important to analyze GHG emissions by source.



The Town of Hillsdale spent \$52,112 in 2021 and \$80,313 in 2022 on energy. The Town spent the most annually on diesel, which is also the largest contributor of GHG emissions. While the Town spent about \$13,000 annually on electricity, this energy source is an indirect source of emissions, thus only contributing to about 11 MTCO<sub>2</sub>e. Fuel oil was a large expense in 2021 but was reduced in 2022 due to the installation of a heat pump at the Town Hall.

## OPPORTUNITIES TO REDUCE GREENHOUSE GASES

This Greenhouse Gas Inventory for the Town of Hillsdale serves as a baseline for the Town’s greenhouse gas emissions. The next step to strategize opportunities and goals to reduce emissions is to pursue a Climate Action Plan.

The Town has started to take steps to reduce emissions since 2021 by installing a heat pump in the Town Hall. Further steps can be taken to reduce emissions from the Vehicle Fleet, which contributes to the highest MTCO<sub>2</sub>e within the Town’s portfolio. An analysis of the fleet inventory, fleet rightsizing, and electric vehicle replacements can be explored to reduce emissions within the Town’s transportation sector. Additionally, continuing to convert Town facility’s to electric HVAC systems, such as heat pumps, will reduce the direct GHG emissions within the administration sector.

The Town can also explore the installation of solar panels to offset electricity costs and indirect GHG emissions.

In terms of nature-based solutions to mitigate carbon, the Roe Jan plantings done by the CAC serve to sequester carbon. Expansion of these plantings will further help mitigate. Similarly, recommendations in the Town's Natural Resource Inventory and Open Space Plan to conserve forests would also sequester carbon.