A Review of the NYSDEC Climate Smart Community: Village of Canton

Grace Conway
Department of Environmental Studies, Applied Sustainability Internship

Introduction

Climate Smart Communities (CSC) is a New York State Program that helps local governments take action to reduce greenhouse gas emissions and adapt to a changing climate (New York State, 2024). Certified Climate Smart Communities document actions that mitigate and adapt to climate change at the local level. In return, the program offers grants, rebates for electric vehicles, and free technical assistance. The Village of Canton is registering to become a CSC by submitting a report on the Municipal Operations of Greenhouse Gas Inventory from 2014-2022. I was involved in this project by preparing a map of the municipal buildings that were being analyzed in the report in the Village of Canton.

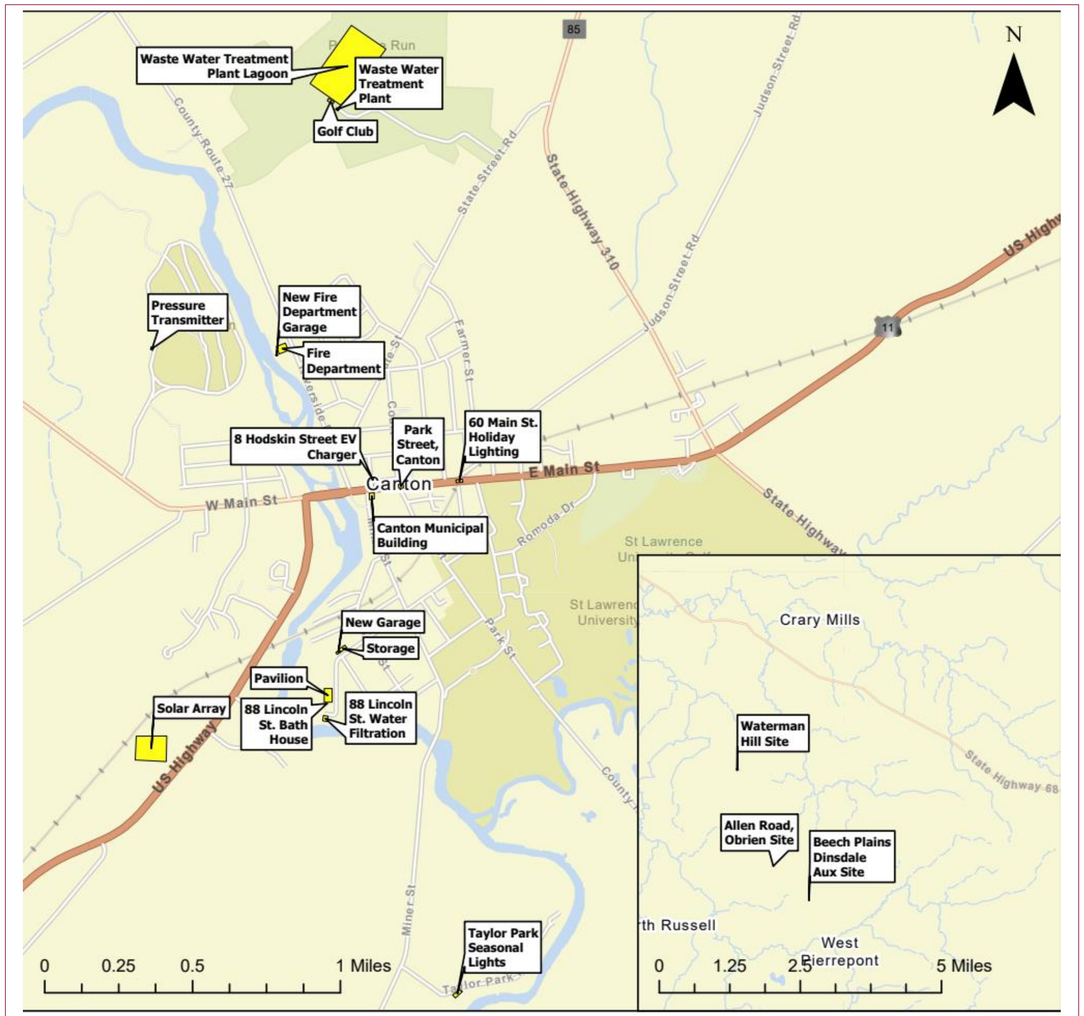
Objective

How can a map of the municipal buildings in the Village of Canton benefit the NYS Climate Smart Community Report?

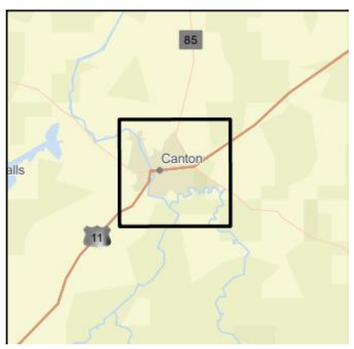
Methods

The Map I created a map of municipal buildings in the Village of Canton with the ArcGIS Software. First, all municipal buildings using electricity, natural gas, and heating oil were identified and listed. Then I created a layer of the general Canton area, before adding polygons on top of the buildings that were identified. After locating all the buildings, solar farms, and electric vehicle chargers, I added labels so readers of the report could easily locate the buildings.

The Energy Consumption Charts Monthly consumption information, meter reading dates, and costs were compiled for each account and inserted into a greenhouse gas (GHG) spreadsheet. Quantities of each fuel source were converted to Green House Gas emissions expressed metric tons of carbon dioxide equivalent (CO2e) using formulas and factors from USA EPA. The baseline year for the data analysis was 2018, chosen because it represents an average year before the completion of any actions taken to reduce GHG emissions.

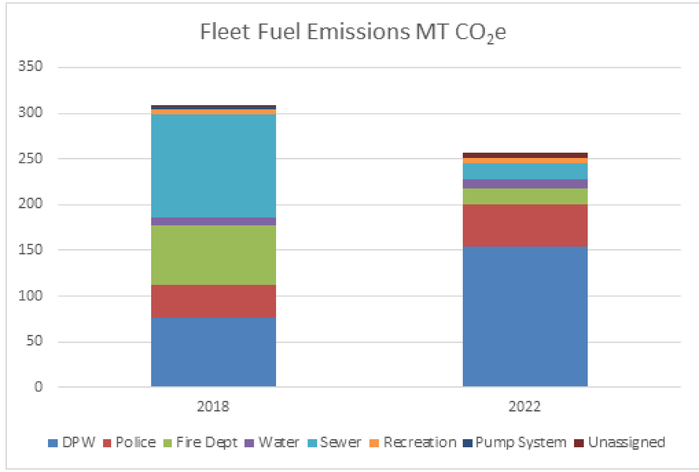


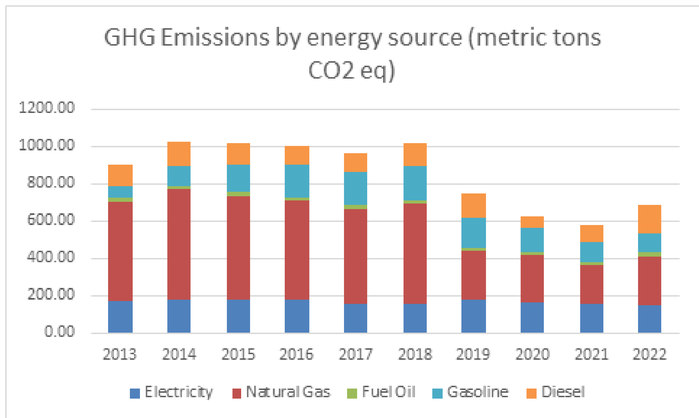
Village of Canton Municipal Buildings with Recorded Greenhouse Gas Emissions



Improvements Made to Reduce GHG Emissions

At the end of 2018, blowers used for wastewater treatment fuels with natural gas were replaced with electric motors with variable speed drives. In the summer of 2021, National Grid upgraded 98% of its streetlights in the Village of Canton to LED lights. Overall, the estimated decrease in GHG emissions is 56%, from 31.5 MTCO2e in 2018 to 14.0 MTCO2e in 2022.





Conclusion

Participating in the Climate Smart Community program has many benefits, like better scores on grant applications for state funding programs, a framework to organize local climate action, highlight priorities, and share best practices with peers. My involvement in this project provided me with a greater understanding of the program and ways in which residents who care about the future of their hometowns can take certification actions. The map I created was an important aspect of demonstrating the position and size of municipal buildings mentioned in the CSC report, as their emission rates are to be noted with the size of the building. The scale of the solar array is also crucial to include in the report when discussing the Village of Canton's energy use.

References

Canton Climate Smart Community Task Force
New York State Climate Smart Community