

# Village of Homer Climate Action Plan

2019



# Introduction to the Village of Homer and the Climate Smart Communities Task Force

Welcome to the Village of Homer! In this report you will have the opportunity to learn more about our village and how we are working to make it more sustainable. Homer is a rural community of about 3,000 residents located in Central New York. The village government consists of a mayor and clerk who fulfill the executive role and a village board who serves as the legislative body. The village provides a variety of services to its residents through departments such as: the Water Department, the Parks and Recreation Department, the Glenwood Cemetery, the Department of Public Works, the Police Department, and the Fire Department.

In 2018 the Village of Homer Board passed a resolution recognizing the importance of taking municipal action to address climate change and joining the New York State Climate Smart Communities program. Through the Climate Smart Communities program the Village of Homer pledged to reduce greenhouse gas emissions and adapt to a changing climate through the following actions:

1. Build a climate-smart community
2. Inventory emissions, set goals, and plan for climate action
3. Decrease energy use
4. Shift to clean, renewable energy
5. Use climate-smart materials management
6. Implement climate-smart land use
7. Enhance community resilience to climate change
8. Support a green innovation economy
9. Inform and inspire the public
10. Engage in an evolving process of climate action

The Village of Homer established a Climate Smart Communities task force to assist Mayor Hal McCabe and village staff with implementing the various elements of the Climate Smart Communities program. The task force is comprised of Mayor McCabe, village board members, village residents, and Homer high school students.

Our task force has pioneered an innovative way to achieve the requirements of the CSC program. We have given youth a voice in this process by giving the leadership role of the task force to the Homer Environmental Club of which the CSC Coordinator and Assistant Coordinator have both been members. We believe climate change will have drastic impacts upon the future of our village and that young people should have the ability to shape how we respond.

The Village of Homer has been committed to environmental excellence even before participating in the Climate Smart Communities (CSC) program. The village board approved energy efficiency upgrades to municipal buildings, fixed a water main break that decreased the amount of water distributed, and became an Energy Smart Community. We are excited about continuing this legacy by pursuing bronze level certification within the Climate Smart process by reducing our greenhouse emissions and adapting to a changing climate.

# Results from the Greenhouse Gas Inventory

## Village Government Operations Inventory

A group of students at the State University of New York College of Environmental Science and Forestry (ESF) completed a preliminary greenhouse gas emission inventory for Village of Homer municipal operations as part of a class assignment. The inventory examined greenhouse gas emissions associated with the village government's electricity, natural gas, gasoline, and diesel fuel consumption for the various village departments. The inventory found that the Village of Homer government operations contributed to 517 MTCO<sub>2</sub>e in 2017.

Department	In MTCO <sub>2</sub> e				Total
	GHG Electricity	GHG Natural Gas	GHG Gasoline	GHG Diesel	
Water	179	15.2	9.1	10	213.3
Recreation	10.2	5	6.1	N/A	21.3
Cemetery	0.71	N/A	N/A	5.3	6.01
DPW	13.8	44.4	11.3	52.2	121.7
Police	13.5	11.7	36.5	N/A	61.7
Fire	38.6	42.9	N/A	11.5	93
Total	255.81	119.2	63	79	517.01

# Greenhouse Gas Emissions

By Source and Department

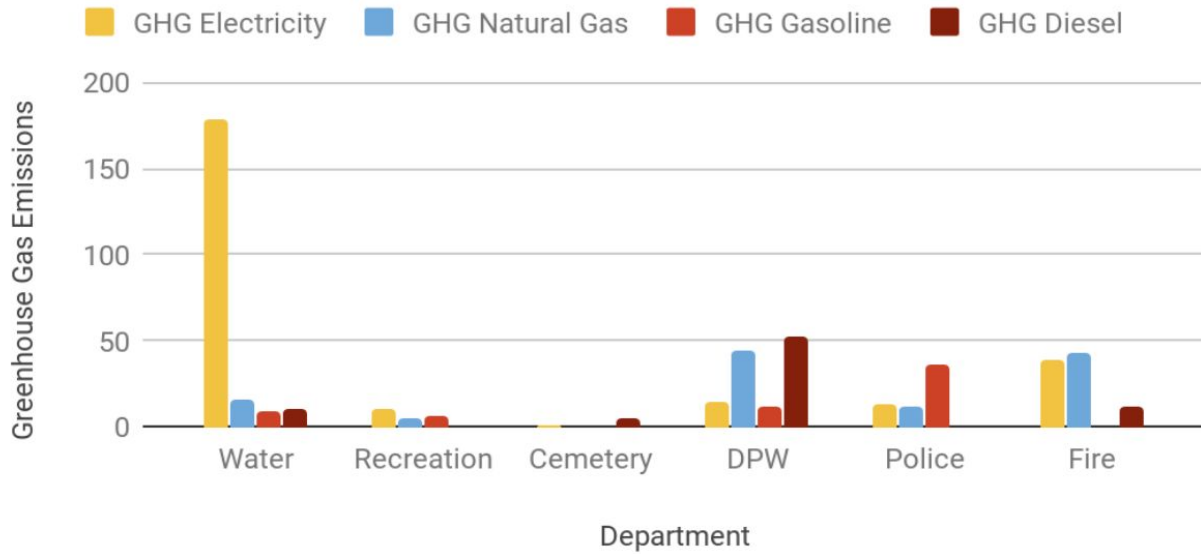


Figure 5: Greenhouse Gas Emissions by department

# Greenhouse Gas Emission Percentage

By Department

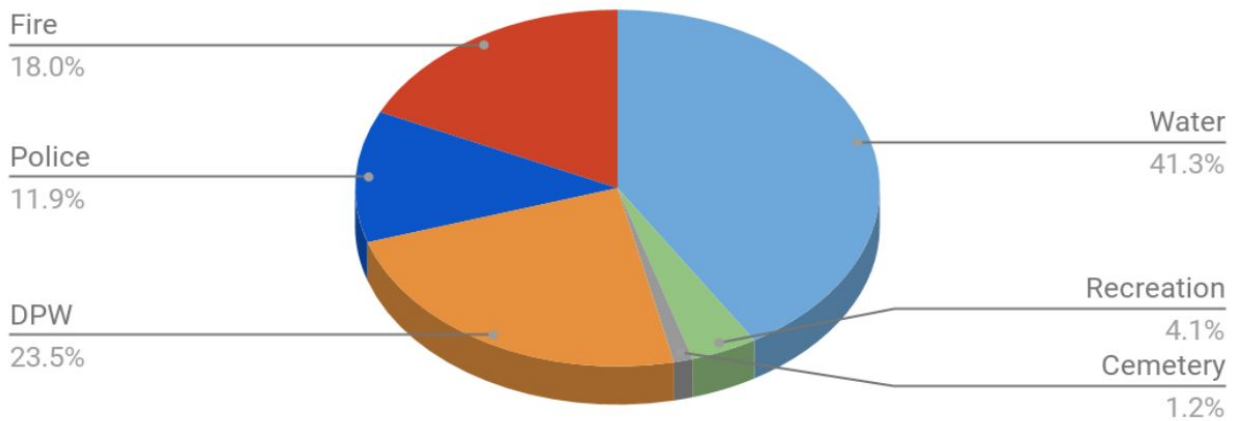


Figure 6: Greenhouse Gas Emissions in percentages

# Greenhouse Gas Emissions

## By Source

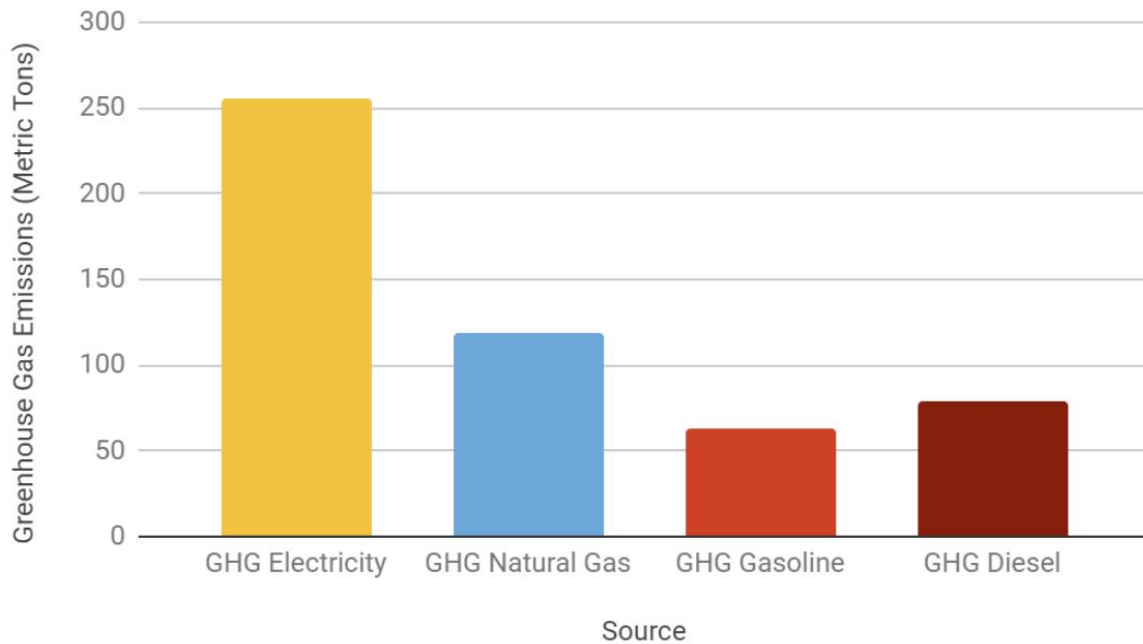
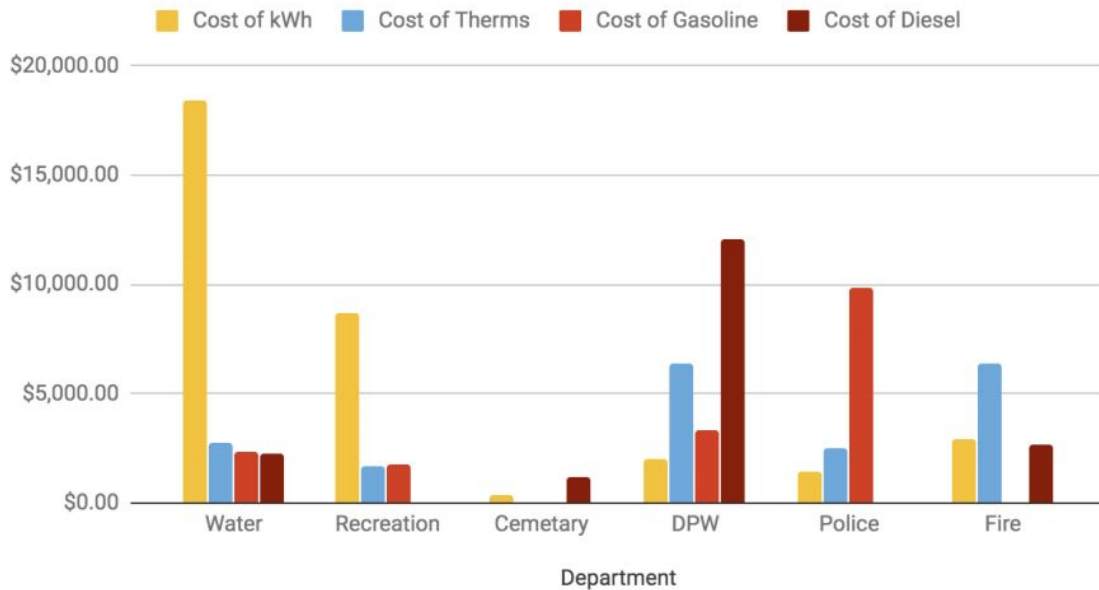


Figure 7: Greenhouse Gas Emissions by Source

This greenhouse gas emissions inventory shows the emissions from the Village of Homer’s public services departments. The inventory also shows the fuel sources causing the emissions. The fuel sources and consumption vary by department. The varying consumption can be explained by the function of each department. Public safety operates a fleet of police and fire vehicles, consuming 4,101.62 gallons of gasoline in 2018. The public safety department is also a large consumer of diesel, at 1,132.94 gallons of diesel. The public safety department contains fire trucks, responding to calls across a 125 square mile district, which are responsible for diesel emissions. The water department uses a large amount of electricity to power water pumps throughout the village. Public works consumed 5,145.03 gallons of diesel in 2018 to fuel their 4 CDL class 8 trucks, used to keep the roads clear of snow and haul asphalt for paving. Public works natural gas consumption can be attributed to heating of their large garage and office building. Public works also consumes a nominal amount of gasoline to fuel two F-250 support trucks and a Ventrac lawn mower used to cut grass.

## Government Energy Costs

### Energy Cost by Source and Department



In 2018, total energy costs in Village of Homer was \$88,974.44. As is apparent from the graph, the department which spent the most money was the Water Department, which spent about \$20,000, and most of its costs were to pay for electricity. The DPW also spent about the same amount of money, most of which was spent for the cost of diesel and natural gas. The public works department, which consists of fire department and police station together spend more than any other department. The graph above shows energy cost by source. Electric costs represent the largest cost to the Village, followed by natural gas, diesel, and finally gasoline.

## Building Emissions Data 2017-2018

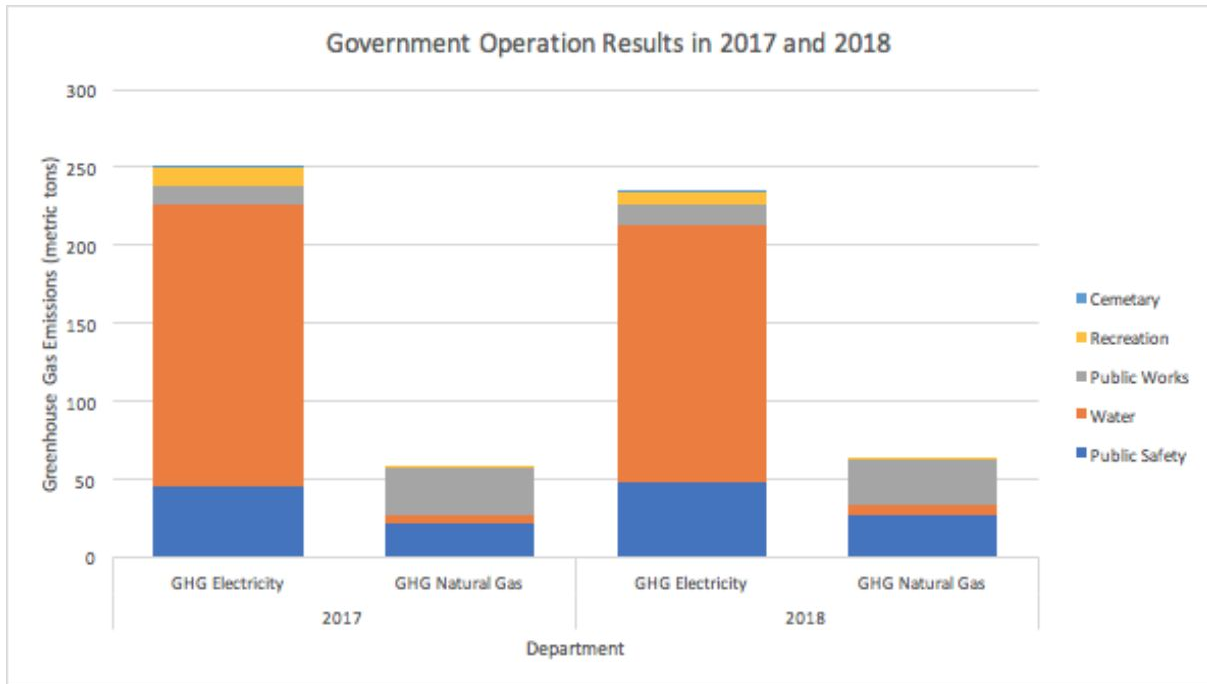


Figure 10: Government GHG emissions in MCO2 in 2017 and 2018

Analyzing the data from 2017 and 2018, it is possible to see what direction the government operations emissions are heading. Some sectors have seen a decrease in emissions, including the water department, which used 8.2% less electricity in 2018 than in 2017. Other departments have used about the same amount of electricity and therefore emitted the same amount of CO<sub>2</sub> into the atmosphere. Public Safety, however, used more natural gas in 2018 than 2017 which has contributed to greater total emissions.

Overall, governmental operations emissions from electricity in 2018 decreased by 15 metric tons from 250 metric tons in 2017 to 235 metric tons in 2018. However GHG emissions from heating increased by 5 metric tons in 2018 compared to 2017. As a whole, the government has already made some changes that have contributed to less GHG emissions.

## GHG Reduction Goals/Targets

Through this climate action plan, the Village of Homer establishes a short term and a long term goal for reducing greenhouse emissions associated with municipal operations. By 2030 we would like to reduce municipal greenhouse gas emissions 30% below 2017 levels. By

2050 we want to reduce municipal greenhouse gas emissions 85% below 2017 levels. The greenhouse gas emissions inventory completed by SUNY ESF students for 2017 will serve as the baseline year, therefore future greenhouse gas emission reductions will be in comparison to the 2017 results.

We have already begun to address some of the issues within the Village that are causing our emissions. Since the emission inventory was done we have replaced the boiler in the fire department, which was not efficient, with a much more efficient boiler that should significantly reduce the fire departments emissions. The Village has also been working on a lighting upgrade, which will be completed in 2020; all lighting for the Village will be LED. The village has also purchased an electric bike for the police department. This bike will allow the department to use transportation that does not add to the villages emissions.

Below we have separated our goals into short and long term, as well as separated specific departments. In each category there are proposed actions for the village to take to achieve our overall goals of 30% reduction by 2030, and 85% by 2050. The lists in each category have the highest priority actions at the top, decreasing priority as the list goes on. It is important to note that these lists are not complete and may change as the Village progresses with certification.

### **Short term: Highest priorities at the top**

- Policies
  - 6.15 Adopt and Enforce an Anti-idling Ordinance (1,3 pts)
  - PE3 Action: Green Building Standard for Government Buildings (2,3,5 pts)
  - PE3 Action: Environmentally Preferable Purchasing Policy (1,2,3,4 pts)
  - PE4 Action: Green Power Procurement Policy (2,4 pts)
  - PE5 Action: Construction & Demolition Waste Policy (2,4,6 pts)
  - PE6 Action: Complete Streets policy (4 pts) \*Bronze and Silver Priority
- PE7 Action: Climate Vulnerability Assessment (4,6,16 pts) \*Bronze and Silver Priority
- Explore feasibility of solar, wind, and geothermal energy systems through onsite renewables, power purchase agreements, Renewable Energy Certificates (RECs), community solar, etc
- Explore feasibility of utilizing alternative fuel vehicles (hybrids, plug-in electric vehicles, compressed natural gas, etc)Explore opportunities for reducing vehicle miles traveled
- Develop a plan to engage Village of Homer employees with greenhouse gas emission reduction goals (behavior change campaign, training, soliciting ideas,

etc)

- PE8 Action: Community Choice Aggregation (15 pts)
- Install lighting controls to reduce lighting run-hours (timers, occupancy sensors, photo sensors)
- reduce energy consumption related to plug load, Enable sleep mode on computers, monitors, printers, copiers, and other office devices, Turn off equipment at the end of the work day

### **Long term: Highest Priorities at the top**

- Purchase fuel efficient vehicles
- Community solar
- When things reach end of life make sure to replace with a more efficient replacement.
- electric garbage truck

### **Specifics for Departments**

Water:

- Determine whether pump motors are oversized (if so, reduce size)
- Replace water pump motors with premium efficiency motors
- Install Variable Frequency Drives (VFDs) on pump motors (these adjust pump speed based on need)
- Organize a water conservation campaign to reduce water consumption of Village businesses and residents

DPW:

- thermostat max
- more efficient vehicles(electric maybe far in the future)

Police:

- reduce gasoline consumption- electric vehicles

Fire:

- thermostat max

## **Ongoing GHG Monitoring and CAP Updates**

The Village of Homer will complete a municipal greenhouse gas emission inventory annually, provide a progress report annually, and review and update the Climate Action Plan at least every five years.