

# Village of Montour Falls, NY Greenhouse Gas Inventory

*for the year 2023 against baseline year, 2018*

Prepared by Southern Tier Central Regional Planning & Development Board (STC)  
on behalf of the Village of Montour Falls for the NYS Climate Smart Communities Program

August 2025

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## Introduction

As a registered New York State Climate Smart Community (CSC), Montour Falls recognizes the importance of building local government capacity for collecting and evaluating emissions data and associated impacts, mitigating climate impacts, and prioritizing reduction efforts. The CSC Program is a NYS Department of Environmental Conservation (DEC) voluntary climate leadership program that supports local efforts to meet the economic, social, and environmental challenges of climate change through free technical assistance, grants, and recognition. Montour Falls is currently a *Bronze certified* community in the CSC Program, pursuing *Silver* designation; demonstrating the Village's commitment to reducing GHG emissions and improving climate resilience.

The Village of Montour Falls prepared this Government Operations Greenhouse Gas Inventory (GOGHGI) to evaluate emissions generated through operation associated with daily government functioning. This action is in alignment with the Village's efforts to create and refine strategies to reduce greenhouse gas emissions within its geopolitical boundary.

This initiative follows the Village's 2018 inventory, which serves as the new baseline for evaluating the Village's emissions. A **baseline** in greenhouse gas (GHG) inventorying refers to the reference state or base values against which change is measured. This report compares emissions data from the year 2023 to the baseline year, 2018, to identify where emissions reductions occurred, with considerations to efforts taken that may contribute to reductions.

The data provided in this report was compiled and evaluated by Village staff with support through free technical assistance provided by Southern Tier Central Regional Planning & Development Board (STC) staff, who serve as the regional CSC coordinators for Chemung, Schuyler, and Steuben Counties and their municipalities.

## Methodology

This inventory includes **Scope 1** – direct, and **Scope 2** – indirect, GHG emissions attributed to government operations for the Village of Montour Falls.

The sources of emissions categorized under those scopes are as follows:

- Scope 1 (Direct) – Fuel consumption/combustion from municipal facilities and fuel consumption/combustion from municipal vehicles
- Scope 2 (Indirect) – Purchased electricity

Natural gas and electricity usage data for municipal buildings were compiled from New York State Electric and Gas Corporation (NYSEG) bills for the billing periods: June 2017 to May 2018, June 2018 to May 2019, June 2022 to May 2023, and June 2023 to May 2024. Usage data was extracted to only reflect the inventory years (2018 and 2023). Usage was generally billed monthly, with some facilities billed every other month (bimonthly). Natural gas use was expressed in centum cubic feet (ccf) in billing documents but was converted into therms for the purposes of evaluating metric tons of carbon dioxide equivalent (mtCO<sub>2</sub>e). These conversions are shown in the respective tables. Emissions from electricity usage were calculated by converting kilowatt hours (kWh) into mtCO<sub>2</sub>e.

Municipal fleet data was gathered from 2018 and 2023 Municipal Fleet Inventories, compiled by the Village Department of Public Works (DPW). Emissions relating to municipal fleet operations were calculated based on fuel type (gasoline or diesel) using annual fuel consumption values.

### **Source Exclusions**

The Montour Falls Library is fully leased to an external party and is not overseen or operated by the Village. The Village does not control energy use allowances or oversee upgrades and does not have access to energy usage data for this building. This building was included in previous GHG inventories but will not be represented in this inventory or future inventories as long as the building remains fully leased.

In 2020, the Village decommissioned their wastewater treatment plant (WWTP), due to the need for comprehensive upgrades, and contributed to the development of a new, joint regional water reclamation facility. Wastewater treatment for the Village is now managed by the Catharine Valley Water Reclamation Facility, located in the neighboring municipality, the Village of Watkins Glen in the Town of Dix, New York. Emissions associated with the old WWTP facility were included in the 2018 GHG inventory; however, because the new reclamation facility is an independent operation that falls outside of both the Village's geopolitical boundary and its operational control, this source was removed from 2023 calculations. The new facility consists of a centralized treatment plant, pump stations, and force main systems in the villages of Watkins Glen and Montour Falls. The emissions associated with these systems could not be calculated at the time of this report, though they could likely be encompassed under **Scope 3** emissions – other indirect, which are optional for the purposes of this action. Electricity use associated with a Village pump station, wellsite, and water tanks are included under Scope 2 and should satisfactorily encompass the Village's emissions under the sewer/wastewater sector. The potential to evaluate the Village's indirect emissions associated with exporting wastewater should be considered in future inventories.

The specific electricity usage and emissions associated with the electric vehicles (EVs) added to the municipal fleet in 2023 could not be calculated as a separate factor in this inventory. Their energy usage is encompassed in the DPW facility's purchased electricity emissions calculations – where the vehicles are charged, but the EVs are not called out as their own source. The EVs are included in the list of 2023 municipal fleet vehicles under Scope 1 to provide a comprehensive overview of the fleet, but it is recognized that these do not generate emissions associated with natural gas combustion (Scope 1). The EVs will be noted again under Scope 2, but no specific emissions will be attributed to those vehicles in that section, either.

Optional Scope 3 emissions were not included in this inventory. The Village should consider evaluating other indirect emissions, such as those associated with waste disposal and/or other outsourced activities to establish a more comprehensive inventory, should those efforts be feasible with future capacity.

## **Uncertainties**

As a municipally-driven initiative compiled by staff without field expertise and with limited capacity, there is potential for uncertainties to arise in the development of technical documents such as this report. These can be broadly understood as *scientific* uncertainty – with a lack of sufficient understanding of the science of the emission (and/or removal) process – and *estimation* uncertainty, which arises in any circumstance of quantifying GHG emissions.

The calculations for this inventory were done by hand using formulas provided by the U.S. Environmental Protection Agency (EPA) via the [Greenhouse Gas Equivalencies Calculator – Calculations and References](#) webpage and cross-checked with the EPA [Local Greenhouse Gas Inventory tool](#) for government operations where appropriate. Due to rounding, calculations and totals may vary slightly. When present, decimal places were rounded to the nearest hundredth. The preparers of this inventory are not subject matter experts and may lack institutional knowledge on municipal operations. Interpretations made in this report are based on available information on greenhouse gas inventorying and the data represented, but may not fully encompass or address attributing factors.

Through the source exclusions section and respective emissions sections, the report seeks to explain potential uncertainties that may arise from the extent of available data and consistency of documentation to provide a transparent overview of local government operations for the Village of Montour Falls.

## **Acknowledgements**

This 2023 Government Operations GHG Inventory was prepared by Liv Lovejoy (STC), with contributions from Village staff, Emma Malnoske (Sustainability Education Coordinator) and Marcus Zerbey (Clean Energy Intern), and Chris Skawski (CCE Tompkins), on behalf of the Village of Montour Falls.

The initial 2018 inventory was prepared by Clean Energy Communities (CEC) Program staff, Osamu Tsuda (CCE Tompkins) and Chris Skawski (CCE Schuyler), under the guidance of Katherine Herleman (CCE Schuyler) and Terrance Carroll (CCE Tompkins), on behalf of the Village.

## Scope 1

Scope 1 emissions evaluated in this inventory include natural gas combustion for municipal facilities – Village Hall, Fire Station, and Department of Public Works (DPW) and sewer/wastewater facilities and infrastructure – the former wastewater treatment plant (WWTP), South Street site, and Broadway site; and fuel combustion for the municipal fleet.

## Facilities

See the tables below for **therms used** for each operation and their respective emissions.

## Usage Breakdowns

*A conversion factor of 1.038 therms per 1 ccf was used to translate values from NYSEG billing to calculate more accurate emissions from natural gas combustion. The therms were then converted to mtCO<sub>2e</sub> by multiplying by a factor of 0.0053 (provided by EPA<sup>1</sup>).*

Municipal facilities utilize natural gas to heat the buildings. Between 2013 and 2018, the use of natural gas increased; however, from 2018 to 2023, the use has decreased. This reduction occurred across all three municipal facilities and can be attributed to the energy-efficient upgrades implemented in those facilities within that timeframe.

*Table 1: Natural Gas Usage by Facility (2018)*

<b>Facility</b>	<b>Usage (ccf)</b>	<b>Usage (Therms)</b>	<b>Emissions (mtCO<sub>2e</sub>)</b>
Village Hall	2,109	2,189.14	11.60
Fire Station	5,196	5,393.45	28.59
Department of Public Works	5,222	5,420.44	28.73

Table 2: Natural Gas Usage by Facility (2023)

Facility	Usage (ccf)	Usage (Therms)	Emissions (mtCO <sub>2</sub> e)
Village Hall	1,326	1,376.39	7.29
Fire Station	4,453	4,622.21	24.50
Department of Public Works	3,271	3,395.30	18.00

Natural gas use was also associated with sewer/wastewater activities at the former WWTP and South Street and Broadway sites. The WWTP was decommissioned between reporting years and the Village's wastewater is now processed through an independent regional water reclamation facility. The other sewer infrastructure remained operational and under Village control as of 2023 and those emissions are calculated below.

Table 3: Natural Gas Usage for Sewer Operations (2018)

Site	ccf	Therms	mtCO <sub>2</sub> e
WWTP	45	46.71	0.25
South Street	294	305.17	1.62
Broadway	659	684.04	3.63

Other sewer operations used only electricity – see Scope 2 emissions.

Table 4: Natural Gas Usage for Sewer Operations (2023)

Site	ccf	Therms	mtCO <sub>2</sub> e
WWTP	No longer under operational control.		
South Street	389	403.78	2.14
Broadway	580	602.04	3.19

## Usage Comparisons

Table 5: Natural Gas Usage by Facility (2018 and 2023)

Facility	2018		2023		Change in Emissions
	Usage (Therms)	Emissions (mtCO <sub>2</sub> e)	Usage (Therms)	Emissions (mtCO <sub>2</sub> e)	
Village Hall	2,189.14	11.60	1,376.39	7.29	- 37.16%
Fire Station	5,393.45	28.59	4,622.21	24.50	- 14.31%
Department of Public Works	5,420.44	28.73	3,395.30	18.00	- 37.35%
<b>Total</b>	13,003.03	68.92	9,393.90	49.79	- 27.76%

Table 6: Natural Gas Usage for Sewer Operations (2018 and 2023)

Site	2018		2023		Change in Emissions
	Therms	mtCO <sub>2</sub> e	Therms	mtCO <sub>2</sub> e	
WWTP	46.71	0.25	<i>No longer under operational control.</i>		***
South Street	305.17	1.62	403.78	2.14	+ 32.10%
Broadway	684.04	3.63	602.04	3.19	- 12.12%
<b>Total</b>	1,035.92	5.49	1,005.82	5.33	- 2.91%

\*\*\*Cannot be calculated for this inventory. Could likely be picked up in Scope 3 – other indirect, depending on how the emissions are generated.

## Vehicles

In 2018, Montour Falls' municipal fleet contained 25 on-road vehicles; eleven of which used diesel fuel and 14 of which used gasoline. Approximately 7,920 gallons of fuel were consumed, resulting in approximately 71.99 mtCO<sub>2</sub>e of emissions across the two fuel types.

By 2023, the Village had reduced its number of on-road vehicles to 21; nine used diesel fuel, 10 used gasoline, and 2 were fully electric. Approximately 6,141 gallons of fuel were consumed, resulting in approximately 57.62 mtCO<sub>2</sub>e of emissions.

Four strategies are attributed to have decreased fuel consumption and emissions:

1. Decreasing total miles driven in the most inefficient vehicles;
2. Decommissioning two older, inefficient vehicles;
3. Replacing two older, inefficient vehicles with new, more efficient vehicles; and,
4. Replacing two older gasoline vehicles with two fully-electric vehicles.

The two EVs went into operation partway through 2023. Exact electricity usage for the charging of these vehicles could not be calculated for this report, though the usage is picked up by the DPW 2023 usage data under Scope 2.

The above strategies resulted in a considerable reduction in emissions from the municipal fleet: approximately 14.37 mtCO<sub>2</sub>e, or a 19.96% decrease.

See the tables below for **gallons of fuel consumed** for each municipal vehicle and their respective emissions.

### Usage Breakdowns

*Emissions were calculated by gallons of fuel consumed for the year, dependent on fuel type with no other considerations, such as miles per gallon (MPG) rating, model year, or vehicle type.*

*For diesel fuel, the annual consumption is multiplied by a factor of 0.01018 to calculate the metric tons of carbon dioxide equivalent (mtCO<sub>2</sub>e).*

*For gasoline, the annual consumption is multiplied by a factor of 0.008887 to calculate the metric tons of carbon dioxide equivalent (mtCO<sub>2</sub>e).*

*These values are provided by EPA as part of their Greenhouse Gas Equivalencies Calculator – Calculations and References webpage. Totals may vary slightly due to rounding.*

Table 7: Municipal Fleet Emissions by Fuel Consumption (2018)

Make/Model	Annual Consumption (gal)	Fuel Type	Emissions (mtCO <sub>2</sub> e)
Eone Pumper	220.20	Diesel	2.24
Pierce Pumper	189.84	Diesel	1.93
Pierce Ladder	106.38	Diesel	1.08
Dodge Ram 3500	99.48	Diesel	1.01

Case Tractor/Mower	31.44	Diesel	0.32
New Holland LB75.B	110.40	Diesel	1.12
Bob Cat S-185	48.36	Diesel	0.49
International Dump TST	597.84	Diesel	6.09
John Deere 410 L	415.56	Diesel	4.23
Ford Dump F550	588.84*	Diesel	5.99
Case Excavator	143.4	Diesel	1.46
Chevy C2500	33.16**	Gasoline	0.29
New Holland Rustler	4.68	Gasoline	0.04
Chevy Tahoe	379.44	Gasoline	3.37
Chevy Suburban	173.16	Gasoline	1.54
Chevy TK Pickup C7500	433.68	Gasoline	3.85
GMC C4C Bucket Truck	68.40	Gasoline	0.61
Ford Dump F3D	318.12	Gasoline	2.83
Ford Pickup F350 (2006)	816.84	Gasoline	7.26
Chevy Pickup	511.68	Gasoline	4.55
Ford F250	595.80	Gasoline	5.29
Ford F350 (2012)	739.20	Gasoline	6.57
Chevy Silverado	406.32	Gasoline	3.61
Kubota Utility RV Y 1100	16.20	Gasoline	0.14
Ford F350 (2015)	680.57	Gasoline	6.05

*\*Purchased halfway through 2018 but annual consumption value was provided as stated and is assumed to be accurate for 2018.*

*\*\*The Chevy C2500 was not fueled from May 2018 through the remainder of the year and an annual fuel consumption value was not given for the vehicle in 2018. Fuel consumption was provided in the 2023 fleet inventory, so this value was used to calculate estimated fuel consumption prorated for the first four months of 2018.*

Table 8: Municipal Fleet Emissions and Consumption Totals (2018)

Fuel Type	Total Annual Consumption (gal)	Emissions (mtCO <sub>2</sub> e)
Diesel	2,551.74	25.98
Gasoline	5,177.25	46.01
<b>Total</b>	<b>7,728.99</b>	<b>71.99</b>

Table 9: Municipal Fleet Emissions by Fuel Consumption (2023)

Make/Model	Annual Consumption (gal)	Fuel Type	Emissions (mtCO <sub>2</sub> e)
Eone Pumper	220.20	Diesel	2.24
Pierce Pumper	189.84	Diesel	1.93
Pierce Ladder	106.38	Diesel	1.08
Dodge Ram 3500	99.48	Diesel	1.01
Case Tractor/Mower	31.44	Diesel	0.32
New Holland LB75.B	110.40	Diesel	1.12
International Dump TST	597.84	Diesel	6.09
John Deere 410 L	415.56	Diesel	4.23
Ford Dump F550	588.84	Diesel	5.99
Chevy C2500	99.48	Gasoline	0.88
Chevy Suburban	173.16	Gasoline	1.54
GMC C4C Bucket Truck	68.40	Gasoline	0.61
Ford Pickup F350 (2006)	816.84	Gasoline	7.26
Ford F350 (2012)	739.20	Gasoline	6.57
Chevy Silverado	406.32	Gasoline	3.61
Ford F350 (2015)	680.57	Gasoline	6.05
Ford F450 (2021)	597.84	Gasoline	5.31
Dodge Ram 2500 (2021)	99.48	Gasoline	0.88

Dodge Ram 2500 (2023)	99.48	Gasoline	0.88
Ford F150 L (2023)	N/A	Fully Electric	<i>Included in Scope 2</i>
Ford F150 L (2023)	N/A	Fully Electric	<i>Included in Scope 2</i>
Bob Cat S-185	<i>Decommissioned</i>	Diesel	N/A
Case Excavator	<i>Decommissioned</i>	Diesel	N/A
New Holland Rustler	<i>Decommissioned</i>	Gasoline	N/A
Chevy Tahoe	<i>Decommissioned</i>	Gasoline	N/A
Chevy TK Pickup C7500	<i>Decommissioned</i>	Gasoline	N/A
Ford Dump F3D	<i>Decommissioned</i>	Gasoline	N/A
Chevy Pickup	<i>Decommissioned</i>	Gasoline	N/A
Ford F250	<i>Decommissioned</i>	Gasoline	N/A
Kubota Utility RV Y 1100	<i>Decommissioned</i>	Gasoline	N/A

Table 10: Municipal Fleet Emissions and Consumption Totals (2023)

<b>Fuel Type</b>	<b>Total Annual Consumption (gal)</b>	<b>Emissions (mtCO<sub>2</sub>e)</b>
Diesel	2,359.98	24.02
Gasoline	3,780.77	33.60
<b>Total</b>	<b>6,140.75</b>	<b>57.62</b>

## Usage Comparison

Table 11: Municipal Fleet Emissions and Consumption Total (2018 and 2023)

Fuel Type	2018		2023		Change in Emissions
	Total Annual Consumption (gal)	Emissions (mtCO <sub>2</sub> e)	Total Annual Consumption (gal)	Emissions (mtCO <sub>2</sub> e)	
Diesel	2,551.74	25.98	2,359.98	24.02	- 7.54%
Gasoline	5,177.25	46.01	3,780.77	33.60	- 26.97%
<b>Total</b>	<b>7,728.99</b>	<b>71.99</b>	<b>6,140.75</b>	<b>57.62</b>	<b>- 19.96%</b>

## Scope 2

Scope 2 emissions evaluated in this inventory include purchased electricity for municipal facilities – Village Hall, Fire Station, and Department of Public Works (DPW); sewer/wastewater facilities and infrastructure – the former wastewater treatment plant (WWTP), South Street site, Broadway site, and the new L’Hommedieu Street site; and water infrastructure – Pump Station, Seneca Wellsite, Steuben Tank, Mills Tank, Skyline, and the new L’Hommedieu Street site.

See the tables below for **kilowatt hours (kWh)** used for each operation and their respective emissions.

### Usage Breakdowns

#### Facilities

Electricity consumption increased for the Village Hall – nearly double – and Department of Public Works (DPW) facilities, while the Fire Station’s consumption dropped significantly in the 5-year window. In the same timeframe, the natural gas consumption across all three municipal facilities decreased. This change in consumption can likely be attributed to the Village’s efforts to shift to renewable energy and improve energy efficiency, resulting in higher electricity consumption in place of natural gas. Additionally, two electric vehicles were added to the municipal fleet in 2023 and are charged at the DPW facility, which likely also contributed partially to the increase in electricity usage for that facility in 2023.

Despite the increase in electricity usage by the Village Hall and DPW facilities, the reduction in use from the Fire Station still resulted in an overall reduction of the kWh consumed and the associated emissions.

Table 12: Electricity Usage by Facility (2018)

Facility	Usage (kWh)	Emissions (mtCO <sub>2</sub> e)
Village Hall	11,962	1.57
Fire Station	46,280	6.07
Department of Public Works	26,760	3.51

Table 13: Electricity Usage by Facility (2023)

Facility	Usage (kWh)	Emissions (mtCO <sub>2</sub> e)
Village Hall	22,303	2.93
Fire Station	16,240	2.13
Department of Public Works	30,960	4.06

### Street Lights

Electricity usage by street lights saw a notable reduction. Between 2018 and 2023, the Village converted a portion of their cobra head street lights to LEDs which likely contributed to the notable reduction.

Table 14: Electricity Usage for Street Lights (2018)

Source	Usage (kWh)	Emissions (mtCO <sub>2</sub> e)
Street Lights	66,068	8.67

Table 15: Electricity Usage for Street Lights (2023)

Source	Usage (kWh)	Emissions (mtCO <sub>2</sub> e)
Street Lights	41,199	5.41

### Wastewater/Sewer

In 2020, the Village’s wastewater treatment plant (WWTP) was decommissioned and the service was picked up through a new regional water reclamation facility. While indirect emissions for the services associated with transporting the wastewater to the new facility and other associated infrastructure operations could not be calculated at the time of this report, the Village recognizes that the emissions have not been completely offset by this change. The new reclamation facility and associated infrastructure (pump stations and force main systems) are outside of the Village’s operational control and they do not have oversight of these operations.

A new site – L’Hommedieu Street – was brought online prior to 2023 for sewer and water operations.

The WWTP accounted for a considerable amount of the electricity usage in 2018 and the decommissioning of the facility resulted in a significant drop by 2023. The Rock Cabin site saw a significant drop in usage, as well, from 39,492 kWh used in 2018 to

just 5,373 kWh in 2023. Other notable changes included an increase in kWh usage at the South Street site and similar value decrease at the Broadway site. The Raymond Street site was decommissioned prior to 2023.

Table 16: Electricity Usage for Sewer Operations (2018)

Site	Usage (kWh)	Emissions (mtCO <sub>2</sub> e)
WWTP	77,260	10.14
South Street	8,376	1.10
Broadway	12,386	1.63
State Route 14	1,248	0.16
Rock Cabin	39,492	5.18
Raymond Street	2,904	0.38

Table 17: Electricity Usage for Sewer Operations (2023)

Site	Usage (kWh)	Emissions (mtCO <sub>2</sub> e)
WWTP	<i>No longer under operational control.</i>	
South Street	11,976	1.57
Broadway	9,980	1.31
State Route 14	1,269	0.17
Rock Cabin	5,373	0.71
Raymond Street	<i>Decommissioned.</i>	
L'Hommedieu Street	1,870	0.25

## Water

The Seneca Wellsite is the greatest consumer of electricity across all sources for local government operations by a large margin and saw a significant increase in kWh in 2023. Mills Tank also saw a slight increase in electricity use in 2023, with the remainder of sites showing a reduction. Skyline saw a considerable decrease, while the new L'Hommedieu Street site became the third highest consumer of electricity for water operations. It is reasonable to see an overall increase in electricity usage for water operations due to a new site being brought online in 2023; whereas for sewer operations, the new site coincided with the decommissioning of a much larger consumer, resulting in the overall decrease in consumption.

Table 18: Electricity Usage for Water Operations (2018)

Site	Usage (kWh)	Emissions (mtCO <sub>2</sub> e)
Pump Station	21,286	2.79
Seneca Wellsite	111,735	592.20
Steuben Tank	310	1.64
Mills Tank	4,956	26.27
Skyline	342	1.81

The L'Hommedieu Street was not operational in 2018, therefore data is only represented for 2023.

Table 19: Electricity Usage for Water Operations (2023)

Site	Usage (kWh)	Emissions (mtCO <sub>2</sub> e)
Pump Station	15,856	2.08
Seneca Wellsite	151,975	805.47
Steuben Tank	185	0.98
Mills Tank	6,118	32.43
Skyline	40	0.21
L'Hommedieu Street	12,187	64.59

## Usage Comparisons

Table 20: Electricity Usage by Facility (2018 and 2023)

Facility	2018		2023		Change in Emissions
	kWh	mtCO <sub>2</sub> e	kWh	mtCO <sub>2</sub> e	
Village Hall	11,962	1.57	22,303	2.93	+ 86.62%
Fire Station	46,280	6.07	16,240	2.13	- 64.91%
Department of Public Works	26,760	3.51	30,960	4.06	+ 15.67%
<b>Total</b>	85,002	11.16	69,503	9.12	- 18.28%

Table 21: Electricity Usage for Street Lights (2018 and 2023)

Source	2018		2023		Change in Emissions
	kWh	mtCO <sub>2</sub> e	kWh	mtCO <sub>2</sub> e	
Street Lights	66,068	8.67	41,199	5.41	- 37.60%

[Tables continued on next page]

Table 22: Electricity Usage for Sewer Operations (2018 and 2023)

Facility	2018		2023		Change in Emissions
	kWh	mtCO <sub>2</sub> e	kWh	mtCO <sub>2</sub> e	
WWTP	77,260	10.14	<i>No longer under operational control.</i>		N/A
South Street	8,376	1.10	11,976	1.57	+ 42.73%
Broadway	12,386	1.63	9,980	1.31	- 19.63%
State Route 14	1,248	0.16	1,269	0.17	+ 6.25%
Rock Cabin	39,492	5.18	5,373	0.71	- 86.29%
Raymond Street	2,904	0.38	<i>Decommissioned.</i>		- 100%*
L'Hommedieu Street	N/A	N/A	1,870	0.25	N/A
<b>Total</b>	141,666	18.59	30,468	4.01	- 78.43%

Table 23: Electricity Usage for Water Operations (2018 and 2023)

Facility	2018		2023		Change in Emissions
	kWh	mtCO <sub>2</sub> e	kWh	mtCO <sub>2</sub> e	
Pump Station	21,286	2.79	15,856	2.08	- 25.45%
Seneca Wellsite	111,735	592.20	151,975	805.47	+ 36.01%
Steuben Tank	310	1.64	185	0.98	- 40.24%
Mills Tank	4,956	26.27	6,118	32.43	+ 23.45%
Skyline	342	1.81	40	0.21	- 88.40%
L'Hommedieu Street	N/A	N/A	12,187	64.59	N/A
<b>Total</b>	138,629	624.71	186,361	905.76	+ 44.99%

## Summary

### Emission Totals Overview

Table 24: Total Scope 1 Emissions by Source

Source	2018 Emissions (mtCO <sub>2</sub> e)	2023 Emissions (mtCO <sub>2</sub> e)	Change in Emissions
Municipal Facilities	68.92	49.79	- 27.76%
Sewer/Wastewater	5.49	5.33	- 2.91%
Vehicles	71.99	57.62	- 19.96%
<b>Total</b>	146.40	112.74	- 22.99%

Table 25: Total Scope 2 Emissions by Source

Source	2018 Emissions (mtCO <sub>2</sub> e)	2023 Emissions (mtCO <sub>2</sub> e)	Change in Emissions
Municipal Facilities	11.16	9.12	- 18.28%
Street Lights	8.67	5.41	- 37.60%
Sewer/Wastewater	18.59	4.01	- 78.43%
Water	624.71	905.76	+ 44.99%
<b>Total</b>	663.13	920.30	+ 38.78%

Table 26: Total Emissions by Scope

Source	2018 Emissions (mtCO <sub>2</sub> e)	2023 Emissions (mtCO <sub>2</sub> e)	Change in Emissions
Scope 1	146.40	112.74	- 22.99%
Scope 2	663.13	920.30	+ 38.78%
<b>Total</b>	809.53	1,033.04	+ 27.61%

## **Further Actions & Initiatives**

In 2021, the Village developed a Government Operations Climate Action Plan (CAP) that outlined a goal of a 50% reduction in GHG emissions, from the base year 2018, from government operations by 2031. Implementation of tasks and actions outlined in the plan are currently underway. By the end of 2023, the Village already saw an overall reduction of 30.70% and is on track to reach their 2031 goal.

In 2024, the Village added a third EV to its fleet, replacing a less efficient gasoline-fueled vehicle. A 20 year old fire truck nearing the end of its useful life with a new, more efficient truck. The Village has also transitioned much of their landscaping equipment to be fully electric. The roof of Village Hall was replaced and insulation was added as part of the building upgrades that occurred in 2024, and the basement was also fully insulated.

In late 2025, the Village will reevaluate energy usage and GHG emissions by completing a new baseline. This will ensure methodology and calculations reflect current available data and guidance and will build internal capacity for evaluating and adapting to climate change. In 2025 and 2026, Montour Falls will replace the Fire Station roof and install solar panels, and place a solar array near the Rock Cabin Trailer Park. These actions will result in the offset of all electricity usage at the Fire Station and produce 100 kilowatts of power to offset electricity usage for the main wellhead and Village Hall.

## **Emissions Forecast**

The Government Operations GHG Inventory CSC action recommends the development of a GHG emissions forecast, where feasible. The Village of Montour Falls is seeking to reduce total government operations GHG emissions by 50% by 2031 and is currently on track to accomplish this goal. An emissions forecast is advisable, should its development be feasible within the Village's capacity, to inform the Village of its emissions outlook for the coming years so they can best plan for and prepare to address them. The Village can evaluate the results of their upcoming, or initiated, efforts to offset usage at certain facilities in this forecast.

The Village may consider calculating carbon removal and emissions reduction efforts in future inventories to best represent their impact.

## Calculations

### Centum cubic feet (ccf) to therms

1 ccf (100 cubic feet) = 1.038 therms

[ccf value] × 1.038 = [therms value]

### Therms to mtCO<sub>2</sub>e

0.1 mmbtu/1 therm × 14.43 kg C/mmbtu × 44 kg CO<sub>2</sub>/12 kg C × 1 metric ton/1,000 kg = **0.0053 metric tons CO<sub>2</sub>/therm**

[therms value] × 0.0053 = [mtCO<sub>2</sub>e value]

### Diesel fuel consumption to mtCO<sub>2</sub>e

10,180 grams of CO<sub>2</sub>/gallon of diesel = **10.180 × 10<sup>-3</sup> metric tons CO<sub>2</sub>/gallon of diesel**

10.180 × 10<sup>-3</sup> = 0.01018

[diesel fuel consumption value] × 0.01018 = [mtCO<sub>2</sub>e value]

### Gasoline fuel consumption to mtCO<sub>2</sub>e

8,887 grams of CO<sub>2</sub>/gallon of gasoline = **8.887 × 10<sup>-3</sup> metric tons CO<sub>2</sub>/gallon of gasoline**

8.8887 × 10<sup>-3</sup> = 0.008887

[gasoline fuel consumption value] × 0.008887 = [mtCO<sub>2</sub>e value]

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