

Town of New Lisbon
**Government Operations Greenhouse
Gas Emissions Inventory (Scopes 1 and 2)**
2020

Prepared by:
The New Lisbon Climate Smart Communities Task Force
December 2021

Introduction

[New York State's climate act](#) (CLCPA) targets include a reduction in greenhouse gas (GHG) emissions of 40 percent by 2030 and 85 percent by 2050 (below 1990 levels). To facilitate the town's efforts to do its part in the much larger effort to achieve these goals, the town has taken the NYS Climate Smart Communities (CSC) pledge and is working towards bronze certification. For a brief history of the town's participation in the (CSC) program, the reader is directed to the town's first Progress Report which was issued on or about April 22, 2021 and is available on the town's Climate Smart Communities Task Force website.¹

This Greenhouse Gas Emissions Inventory (Inventory) serves as a preliminary step in creating strategies to reduce GHG emissions. It is important for local government to understand their government operations' emission levels and their impacts as it allows them to prioritize actions when creating a local Climate Action Plan to reduce these emissions.

A written draft of this Inventory was delivered to the Town Board in advance of its November 2021 meeting, and the CSC Task Force Chairperson, Nancy Martin-Mathewson, presented it to the board and the public at that meeting.

Thereafter, the draft was revised and then released to the public via the Task Force's website and Facebook page, the town's website and Facebook page, and by email

¹ <http://townofnewlisbon.com/csc/>

directly to stakeholders in and outside of the town.² Immediately prior to the December 2021 town board meeting, a public information session was held at the Town Hall to present the Inventory to the public and to invite public comment.

Immediately following the public information session, appropriate revisions were made by the Town Board after which a resolution to accept the Inventory was made, seconded, and approved.

It is the intent of the Climate Smart Communities Task Force and of the New Lisbon Town Board that this inventory be updated no less frequently than every five years.

Assistance in preparing this Inventory was provided by the Otsego County Conservation Association and by the Mohawk Valley Region Climate Smart Institute.

Methodology

This Inventory encompasses Scope 1 (direct) and Scope 2 (indirect) GHG emissions from town government operations.

Energy consumption data used to calculate GHG emissions data were collected from: 1) the Town Board Highway Committee's fuel consumption reports, 2) invoices for deliveries of heating oil and propane by Reese-Marshall Co., and 3) invoices from New York State Electric & Gas Corporation (NYSEG) and Otsego Electric Cooperative, Inc. (Otsego Electric).

The GHG emissions calculations in this report were made using the Climate Smart Communities Local Government Greenhouse Gas Accounting Tool, provided by the New York State Department of Environmental Conservation. The tool is based on the Local Government Operations Protocol, which serves as a national standard for municipal greenhouse gas inventories across the country. A copy of the completed tool is available on request. The assistance of Danny Lapin of the Otsego County Conservation Association in populating the Gas Accounting Tool is gratefully acknowledged.

² The email distribution included approximately 50 residential households in addition to the members of the Town Board, the Town Clerk, the Town Highway Superintendent, and the Town Assessor and also included the Otsego County Conservation Association, Otsego 2000, Assemblyman John Salka, State Senator Peter Oberacker, and Congressman Antonio Delgado.

Baseline Consumption

Figures 1-5 in Appendix A illustrate consumption of fossil fuels and electricity by the Highway Department, town hall, and streetlights in 2020.

The Task Force chose 2020 for the GHG inventory because the required data were reliable and readily accessible for all energy categories. However, the CLCPA uses 1990 as the baseline year.

With respect to baseline 1990 GHG emissions, EPA data show that nationwide total (all sources) GHG emissions in 2019, the most recent year for which data have been reported, were <2% greater in 2019 than in 1990.³ Therefore, it is appropriate to use 2020 as the baseline year for purposes of measuring progress towards achievement of the CLCPA GHG emissions reductions targets.⁴

Emissions Sources

Emissions from town operations come nearly entirely from (1) stationary sources, specifically, the town hall and the town highway garage, (2) mobile sources, specifically, our plow/dump trucks, pickup trucks, and construction equipment, and (3) indirect sources, specifically, the 18 streetlights in Garrattsville^{5,6}.

³ 1990: 6,442.7 MMT_e;
2015: 6,671.1 MMT_e;
2016: 6,520.3 MMT_e;
2017: 6,483.3 MMT_e;
2018: 6,671.4 MMT_e;
2019: 6,558.3 MMT_e.

<https://www.epa.gov/sites/production/files/2021-04/documents/us-ghg-inventory-2021-chapter-2-trends.pdf>. See, also, <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019>.

⁴ GHG emissions from town operations were down slightly in 2020 due to interruptions resulting from the COVID-19 pandemic. However, although the impact of these interruptions is difficult to measure, the CSC Task Force believes the resulting reduction in GHG emissions is within the margins of error.

⁵ The Garrattsville streetlights were converted to LED in June 2020.

⁶ Not accounted for are the Clerk's in-home office, worked performed at home by the Clerk, Supervisor, Deputy Supervisor, Highway Superintendent, and Assessor, and a firehouse used almost exclusively for storage of vehicles. (Fire company meetings, training programs, and fund raising events are held at another building owned by the Garrattsville Fire Company.)

Direct emissions sources are (1) diesel and gasoline for use of plow/dump trucks, pickup trucks, and equipment and (2) heating oil and propane for the Highway Department buildings and the town hall. Electricity for the buildings and the Garrattsville streetlights is supplied by NYSEG (town hall and streetlights) and Otsego Electric (highway facility).

Emissions and energy use by stationary sources, mobile sources, and indirect sources broken down by department (Highway Department, town hall, and streetlights) are shown in Figures 6-8 in Appendix B.

As shown in the Inventory Emissions Summary of the Gas Accounting Tool, total GHG emissions in 2020 were 151 MT CO₂e. Of this amount, stationary sources accounted for 30 MT CO₂e (20%), Mobile sources accounted for 119 MT CO₂e (79%), and indirect sources accounted for 2 MT CO₂e (2%).

Inventory Emissions Summary

Total New Lisbon Emissions (MT CO ₂ e)								
	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	Total MT CO ₂ e	Percent of Total
Scope 1	148.34	0.06	0.35	-	-	-	148.76	98%
Scope 2 - Location Based	2.38	0.00	0.01	-	-	-	2.39	2%
Scope 2 - Market Based <i>(for informational purposes only)</i>	2.38	0.00	0.01	-	-	-	2.39	
Scope 3	-	-	-	-	-	-	-	0%
Total Gross Emissions	150.72	0.07	0.36	-	-	-	151.15	100%
Total Net Emissions	150.72	0.07	0.36	-	-	-	151.15	100%

Emissions by Source (MT CO ₂ e)								
Source	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	Total	Percent of Total
Stationary Combustion	30.10	0.00	0.00	-	-	-	30.11	20%
Mobile Combustion	118.24	0.06	0.35	-	-	-	118.65	79%
Solid Waste	-	-	-	-	-	-	-	0%
Wastewater Treatment	-	-	-	-	-	-	-	0%
Electricity - Location Based	2.38	0.00	0.01	-	-	-	2.39	2%
Electricity - Market Based <i>(for informational purposes only)</i>	2.38	0.00	0.01	-	-	-	2.39	
Employee Commute	-	-	-	-	-	-	-	0%
Water	-	-	-	-	-	-	-	0%
Ag & Land Management	-	-	-	-	-	-	-	0%
Urban Forestry	-	-	-	-	-	-	-	0%
Waste Generation	-	-	-	-	-	-	-	0%
Total (Gross Emissions)	150.72	0.07	0.36	-	-	-	151.15	100%

Mobile consumption of gasoline accounted for 13 MT CO₂e and of diesel, 105 MT CO₂e.

Stationary consumption of heating oil and propane for the town hall accounted for 12 MT CO₂e and for the highway facility, 18 MT CO₂e.

Electricity consumption accounted for relatively minor GHG emissions, specifically, 0.6, 1.4, and 0.4 MT CO₂e for the town hall, highway facility, and street lights, respectively.

Baseline GHG Emissions

Baseline (2020) GHG emissions are summarized in the following table.

Baseline (2020) GHG Emissions (MT CO₂e)

Stationary Sources	
Town Hall (heating oil & propane)	12
Highway (heating oil & propane)	18
Mobile Sources	
Diesel	105
Gasoline	13
Electricity	
Town Hall	0.6
Highway	1.4
Street Lights	0.5
All Sources	
Total	150

Conclusions

Not surprisingly, the greatest part of the town’s GHG emissions results from operation of town trucks and equipment for which the baseline emissions are estimated at 118 MT CO₂e.

As shown in the following table, to meet the CLCPA targets, the town will need to reduce total GHG emissions by 61 MT CO₂e by 2030 and by 128 MT CO₂e by 2050. Actions and plans to move the town in this direction are presented and discussed in the town’s 2021 Progress Report and in the town’s 2021 Climate Action Plan (CAP). Clearly, however, achieving these targets will be challenging and will require technological advances, particularly in the design of electric dump/plow trucks and construction equipment, and funding, particularly with respect to funding, e.g., for conversion from conventional heating to heating derived from renewable fuels.

CLCPA GHG Emissions Reduction Goals

Stationary Sources			
	MT CO ₂ e (2020)	MT CO ₂ e (2030)	MT CO ₂ e (2050)
Town Hall (heating oil & propane)	12	7	2
Highway (heating oil & propane)	18	11	3
Mobile Sources			
	MT CO ₂ e (2020)	MT CO ₂ e (2030)	MT CO ₂ e (2050)
Diesel	105	63	16
Gasoline	13	8	2
Electricity			
	MT CO ₂ e (est. 1990)	MT CO ₂ e (2030)	MT CO ₂ e (2050)
Town Hall	0.6	0.4	0.1
Highway	1.4	0.8	0.2
Street Lights	0.5	0.3	0.1
TOTAL	151	90	23

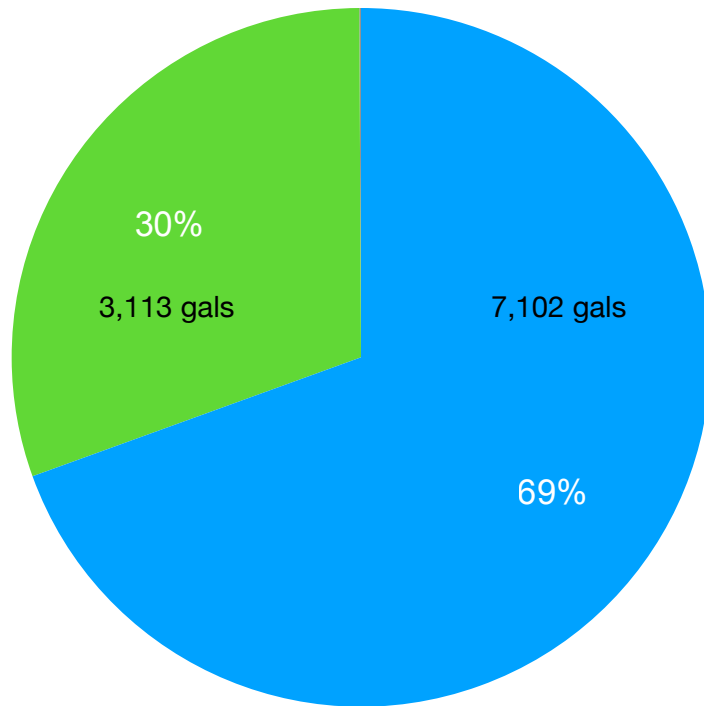
Town of New Lisbon Greenhouse Gas Emissions Inventory

Appendix A

Figures 1-5

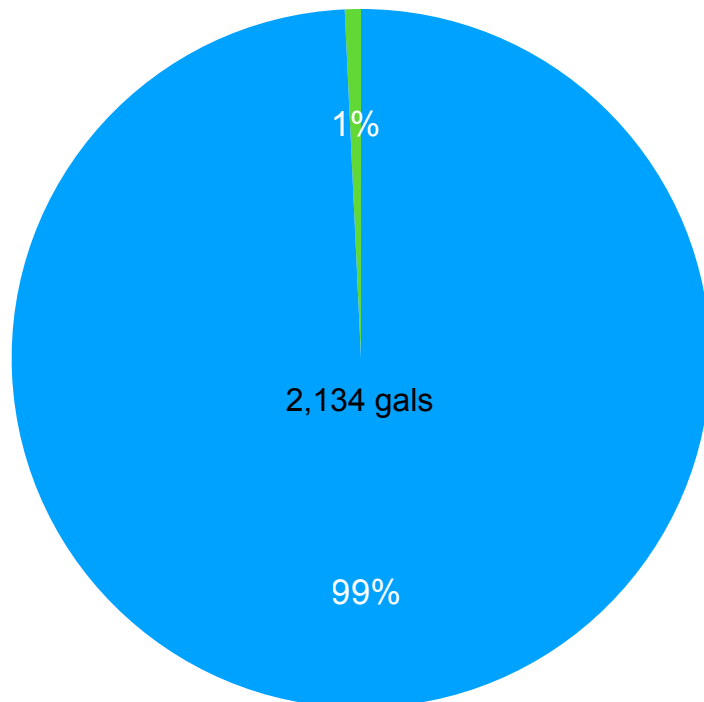
● Plow Trucks ● Heavy Equipment ● Light Equipment

1. Diesel



2. Gasoline

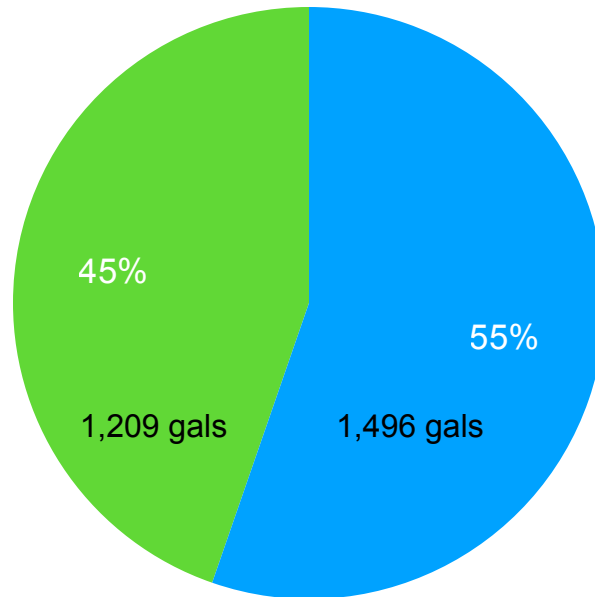
● Pickup Trucks ● Light Equipment



● Highway Facility

● Town Hall

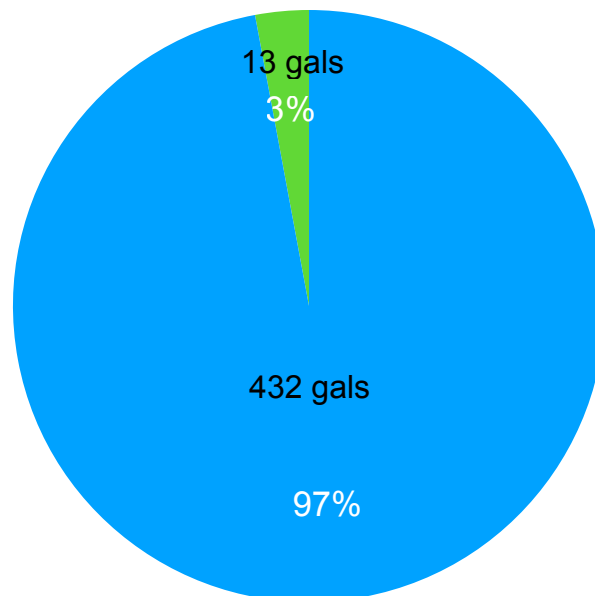
3. Heating Oil



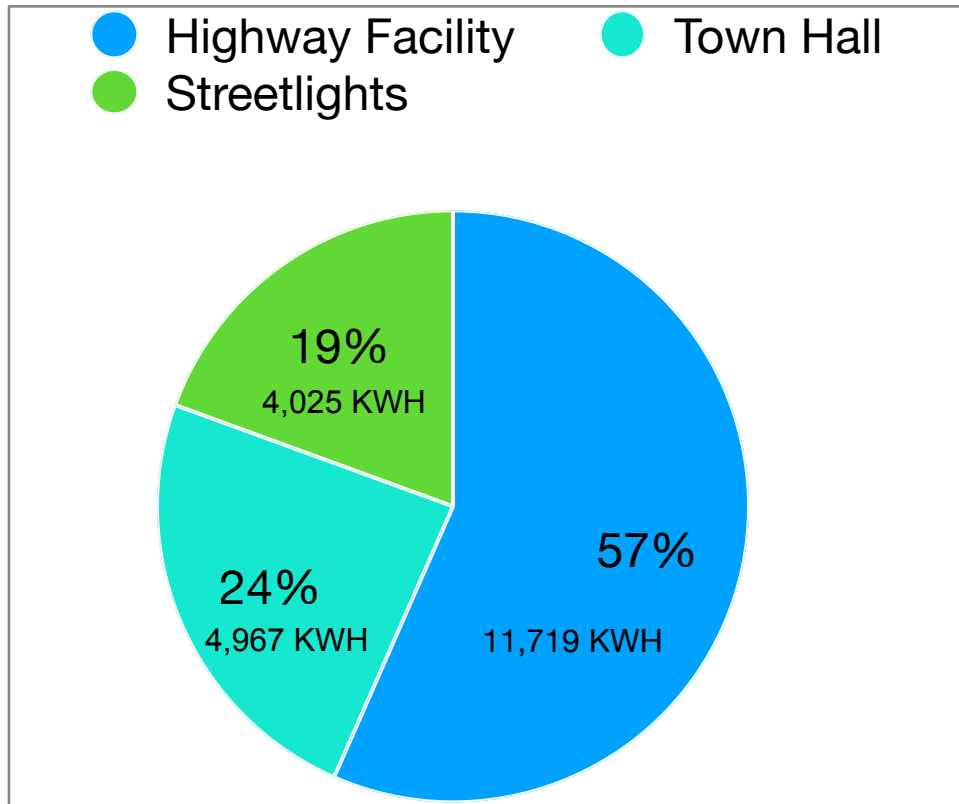
● Highway Facility

● Town Hall

4. Propane



5. Electricity

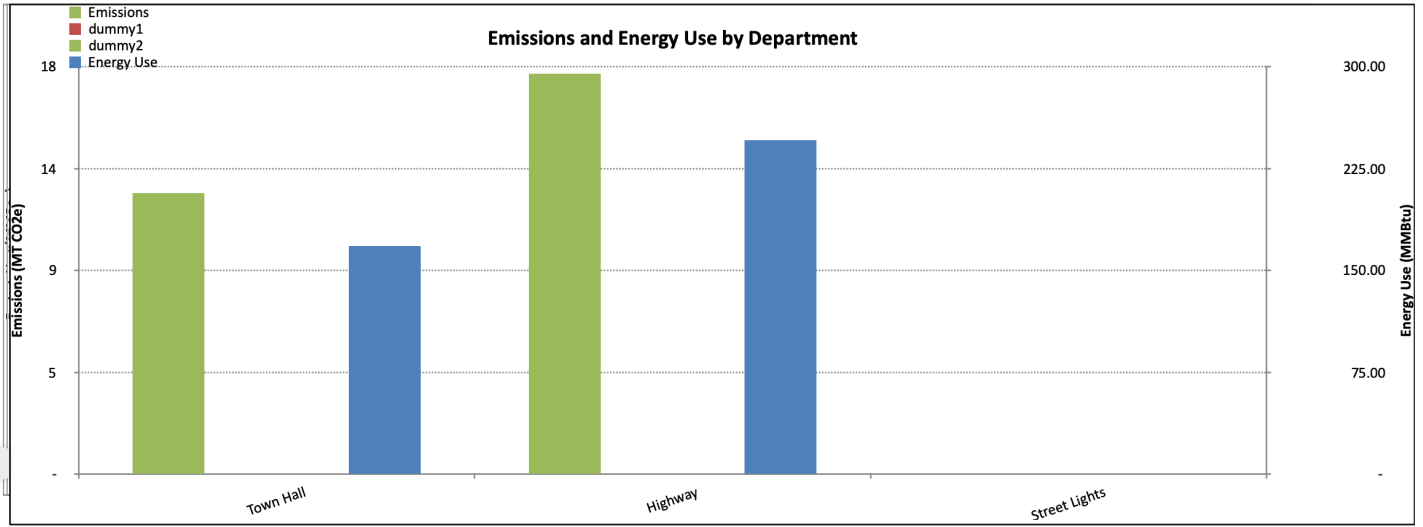


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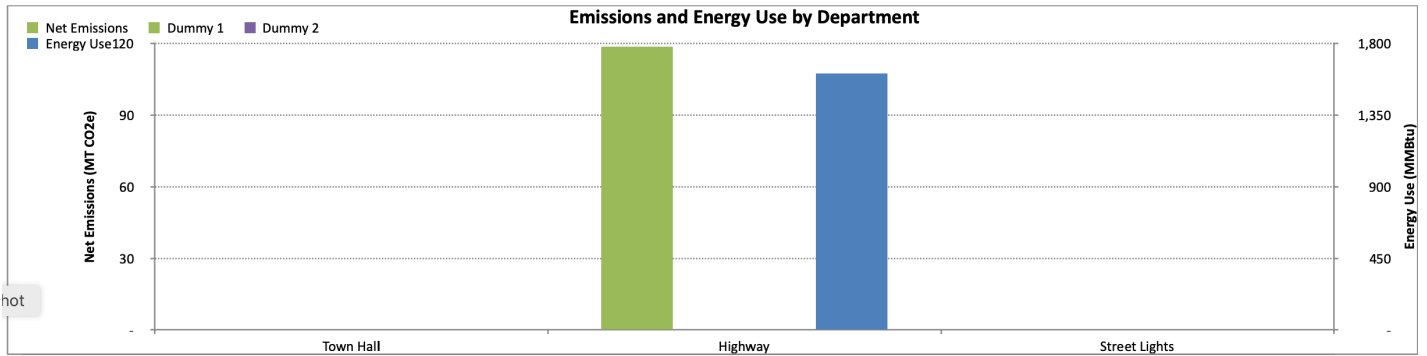
Appendix B

Figures 6-8

6.



7.



8.

