

**LOCAL GOVERNMENT
OPERATIONS INVENTORY
OF THE TOWN OF
NORTH SALEM, NY
GREENHOUSE GAS EMISSIONS
2019-2021**

NINA EISENMAN
JANUARY 18, 2022



**North Salem
Climate Smart Community**



ACKNOWLEDGMENTS

The Inventory would not have been possible without the generous support and invaluable input of Town Supervisor **Warren Lucas**, Town Clerk, **Maria Hlushko**, North Salem Town Councilwoman and Climate Smart Community Program Coordinator **Katherine Daniels**, Confidential Secretary to the Supervisor, **Janine Kourakos**, and Town Highway Department Administrative Assistant, **S. Gayle Soto**.

Thank you to **Helen Houghton** and **Maria Hlushko** for the providing the photographs.

Thank you to **Professor Jon Dickinson** of Columbia University for his guidance, wisdom and humor.

Why conduct a GHG Inventory?

The Inventory provides data-driven insights the Town can use to set realistic, achievable 2030 GHG emission reduction goals and a net-zero target date in its Climate Action Plan.

Town of North Salem Climate Action Plan: Goals

*"The priorities outlined in this Climate Action Plan will put the Town of North Salem on a path to reach net carbon neutrality as follows: **XX%** reduction in greenhouse gas (carbon dioxide, methane and nitrous oxide) emissions by 2030 and net zero emissions by **20XX**."*

GOALS

Lower the Town's energy use and operating expenses, reduce GHG emissions, gain NY State Climate Smart Community certification, become a leading NYSERDA Clean Energy Community, and position the Town for grants.



THE TOWN OF NORTH SALEM – GHG INVENTORY 2019–2021




NYSERDA Clean Energy Communities Scorecard

Thank you for participating in NYSERDA's Clean Energy Communities Program. This scorecard shows your community's accomplishments and how they compare to others in your region and across New York State.

Select Your Community:

Town of North Salem

Town of North Salem



A NYSERDA Clean Energy Community

5,104

POPULATION (2010 CENSUS)

Mid-Hudson

REGION

Westchester

COUNTY

62

DESIGNATED COMMUNITIES IN THE REGION

386

DESIGNATED COMMUNITIES STATEWIDE

Accomplishments

11

ACTIONS COMPLETED

4,300


POINTS EARNED

High Impact Actions	Count	Points
Benchmarking	1	100
Community Campaigns	1	200
Community Choice Aggregation	2	1,500
Energy Code Enforcement Training	2	200
LED Street Lights	1	700
NYStretch Energy Code	1	1,200
PACE Financing	2	200
Unified Solar Permit	1	200
Grand Total	11	4,300

Leaderboard

Regional Leaders	Points
Village of Hastings-on-Hudson	6,200
Town of Bedford	5,500
City of Beacon	5,400

Statewide Leaders	Points
Village of Hastings-on-Hudson	6,200
Town of Bedford	5,500
City of Beacon	5,400



Climate Smart Communities

2. Inventory emissions, set goals, and plan for climate action.

PE2 Action: Government Operations GHG Inventory


16 Points

PLANNED

Bronze Priority

Silver Priority

COMPETITIVE FUNDING AVAILABLE



NEW YORK STATE OF OPPORTUNITY

NYSERDA

Read more at:

www.nyserra.ny.gov/cec

What does the GHG Inventory cover?

GHG Inventory Parameters	
GHG Protocol	ICLEI Local Government Operations Protocol for the quantification and reporting of GHG emissions inventories Version 1.1
Base Year	2019
Time Frame	2019-2021
Organizational Boundary	Operational Control
Operational Boundary	Scopes 1, 2 and partial 3 (See page 6 for definitions of scopes 1, 2 and 3)



SCOPE 1:

Direct GHG emissions (excluding direct biogenic CO₂ emissions) from heating fuel used in buildings and facilities, and fuel used for transportation under the operational control of the Town.

SCOPE 2:

All indirect GHG emissions associated with the consumption of purchased or acquired electricity, steam, heating, or cooling used by buildings, streetlights and traffic signals, water delivery facilities, and wastewater facilities under the operational control of the Town.

SCOPE 3:

Estimated indirect 2021 emissions resulting from the Town’s full-time employees’ commutes to and from work.

Note: Fugitive emissions are not included in The Inventory as data was not available.

GHG Gases Included in the Inventory

Emissions from the following greenhouse gases are included in the Inventory:

- ◆ Carbon Dioxide, CO₂ (GWP=1x)
- ◆ Methane, CH₄ (GWP=25x)
- ◆ Nitrous Oxide, N₂O (GWP=298)

Global warming potential (GWP) is how much a GHG contributes to global warming relative to one unit of CO₂. CH₄ and N₂O retain 25 and 298 times more atmospheric heat, respectively than CO₂.

Carbon Dioxide equivalent (CO₂e) is the combined impact of CO₂ + CH₄ + N₂O emissions adjusted for their GWPs.

THE TOWN OF NORTH SALEM – GHG INVENTORY 2019–2021



Town of North Salem GHG Emission Sources		
Stationary		Transportation
Buildings and Other Facilities	Streetlights and Traffic Signals	Vehicle Fleet
<ul style="list-style-type: none">• 66 June Road• Annex• Lobdell House• North Salem Highway Department• Ruth Keeler Memorial Library• Town Hall	<ul style="list-style-type: none">• 667 Titicus Rd Barn – Balanced Rock Street Light• Route 116 Lights• Purdy's Lighting District Street Lights• Street Lights at Large• Croton Falls Lighting District Street Lights• Near 28 Sunset Drive – Joe Bohdrum Park Lights• 4 West Cross Street Parking Lot Lights• Near 2 Cross Street Parking Lot Lights• Back Street Lot Lights• June Road – Courthouse Parking Lot• Close Hill Road Christmas Tree	<ul style="list-style-type: none">• Highway Department Fleet• Police Car Fleet• Animal Control Van• Building Department Cars• Senior Services Car• Recreation Department Vehicle <p>Please see Appendix D for a complete list of The Town's fleet of vehicles</p>
Water Delivery Facilities	Wastewater Facilities	Employee Commutation
<ul style="list-style-type: none">• Jessitar Road Pump – Candlewood Park Water District Well Pump• Nash Road – Candlewood Park Water District Source of Supply• Lakeview Road – Salem Acres Water District Source of Supply• 8 Close Hill Road Pump Station• Mahopac Ave. Pump House – Croton Falls Water District• Route 22 – Croton Falls Water District• Ridgeway Ave. – Sunset Ridge Water District	<ul style="list-style-type: none">• Peach Lake Sewer District – 10 Maple Lane• East Peach Lake Road Pump House• Bridge Street Pump House – Peach Lake Sewer	<ul style="list-style-type: none">• 30 full-time employee cars• Estimate assumes all employee vehicles are gas-powered, internal combustion engine cars

Year-over-year analysis of
GHG emissions by:

**Sector • Subsector • Property •
Energy Source • Scope**

What did we find?

THE TOWN OF NORTH SALEM – GHG INVENTORY 2019–2021



Results

Town of North Salem GHG Emissions by Subsector and Scope 2019–2021 (tCO ₂ e)									
	Stationary					Transportation			
	Buildings and Other Facilities	Streetlights and Traffic Signals	Wastewater Facilities	Water Delivery Facilities	Stationary Total	Town Fleet	Employee Commuting	Transportation Total	Total
2019	124	30	145	41	341	326		326	667
Scope 1	80		44		124	326		326	450
Scope 2	44	30	101	41	217				217
2020	115	17	130	30	291	296		296	587
Scope 1	71		39		110	296		296	405
Scope 2	43	17	91	30	182				182
2021	116	17	124	26	283	319		319	603
Scope 1	76		40		116	319		319	435
Scope 2	39	17	85	26	167				167
Scope 3							49		49

2021 GHG Emissions were 603 tCO₂e – about the same as an average passenger vehicle driving 1.5 million miles.

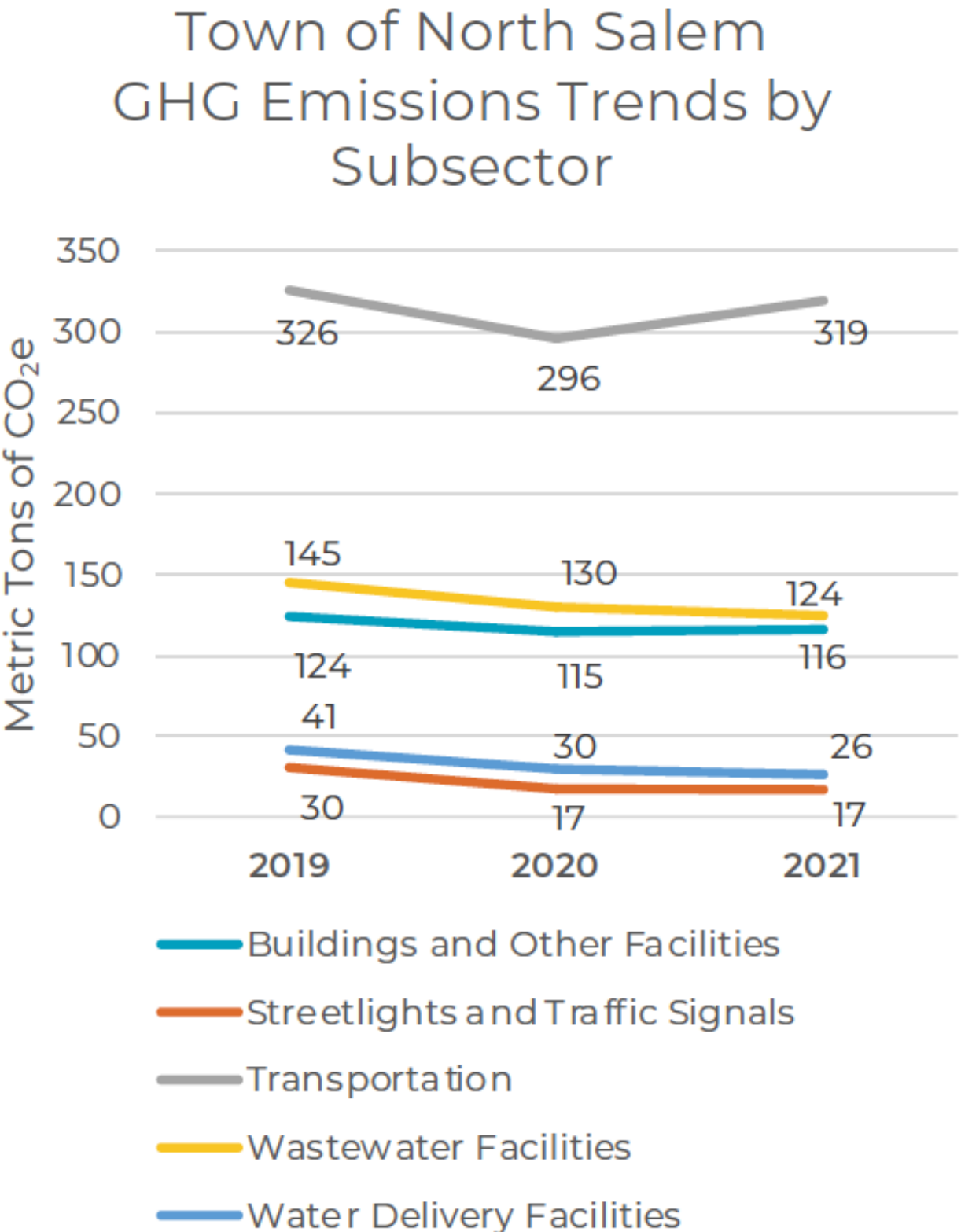
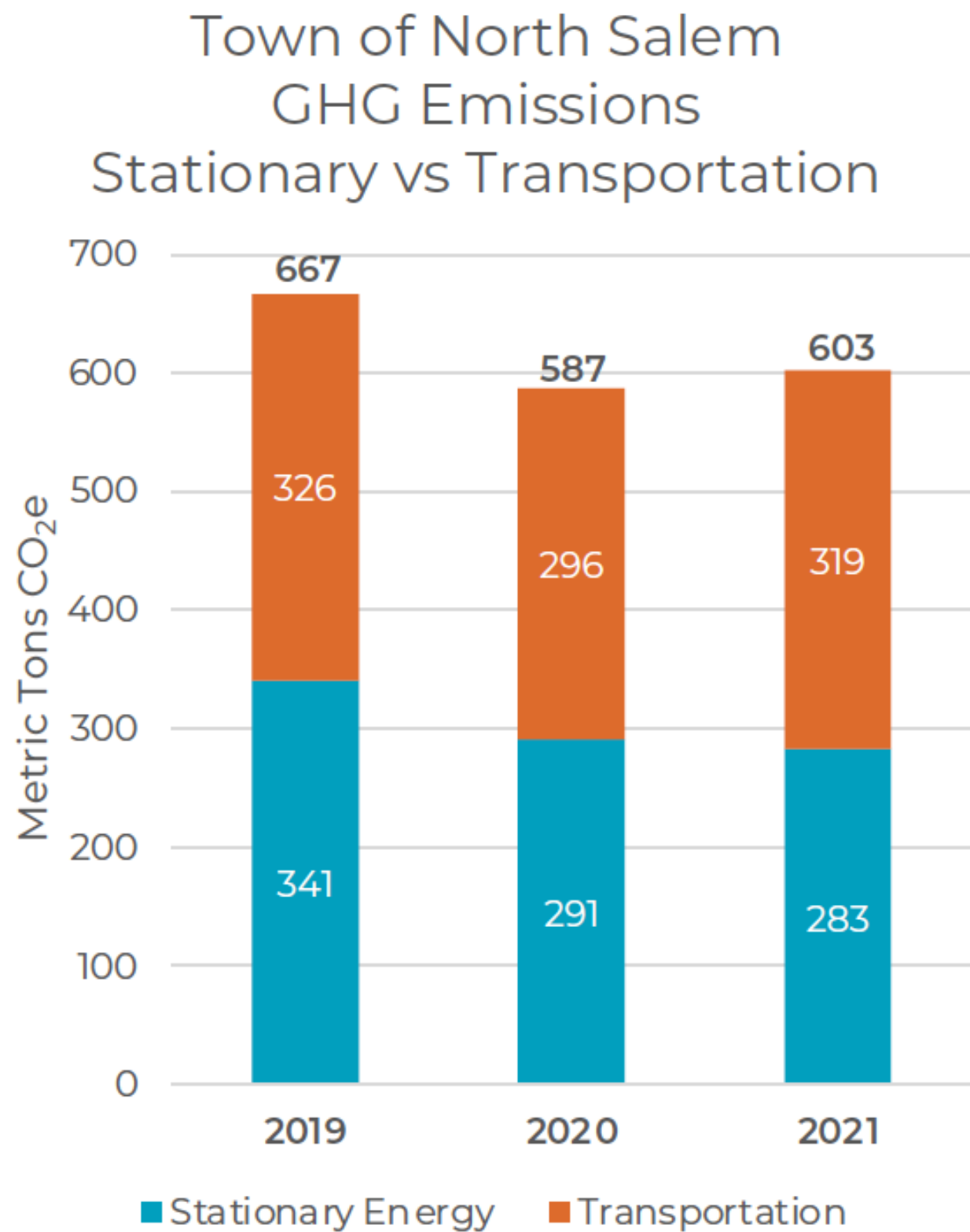
2019-2021
GHG Emissions from
Streetlights
Down

43%

2019-2021
TOTAL
GHG
EMISSIONS
DOWN

10%

THE TOWN OF NORTH SALEM – GHG INVENTORY 2019-2021



**Transportation
Sector**

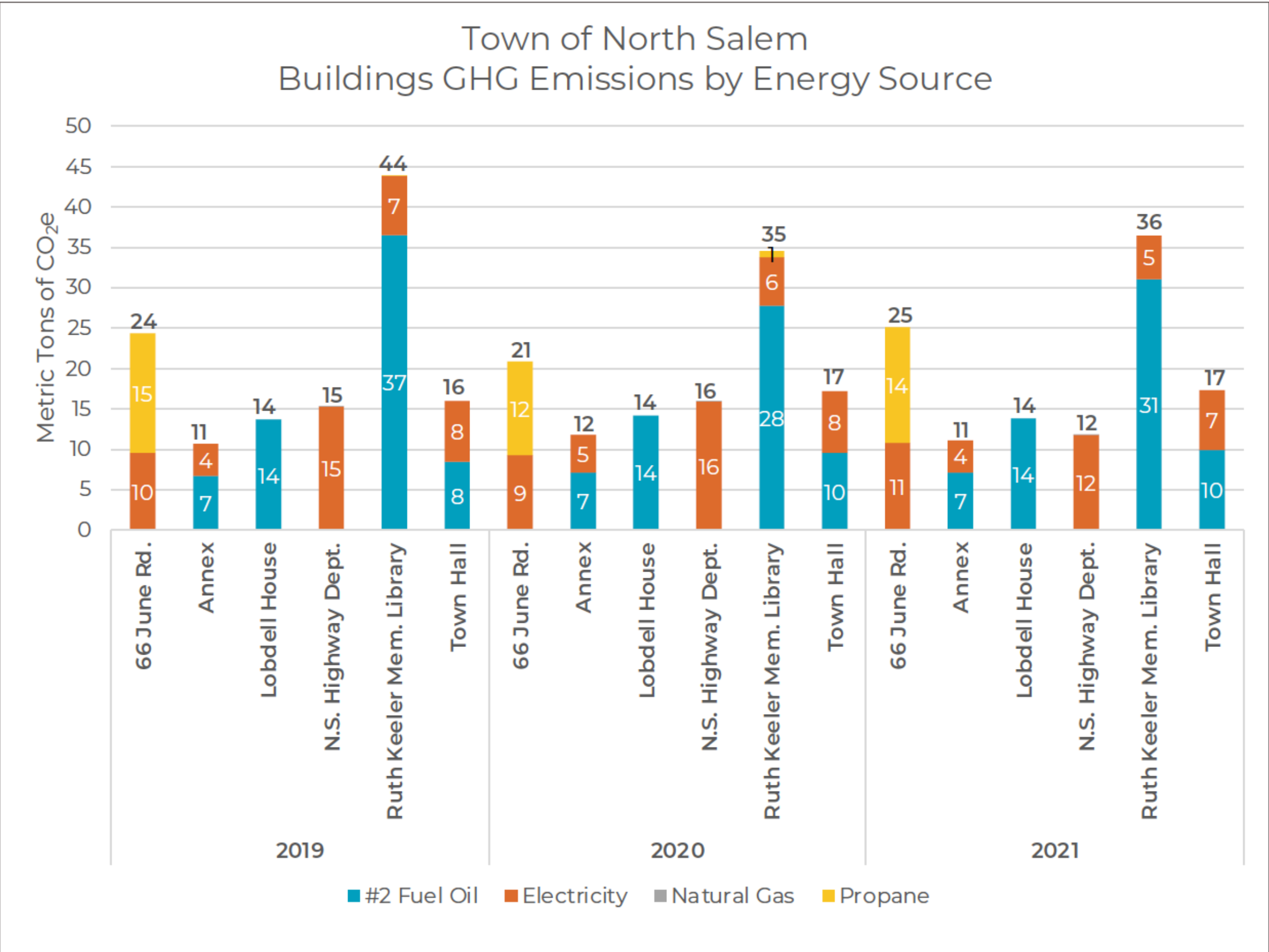
51%

of Scope 1&2
GHG Emissions

THE TOWN OF NORTH SALEM – GHG INVENTORY 2019–2021



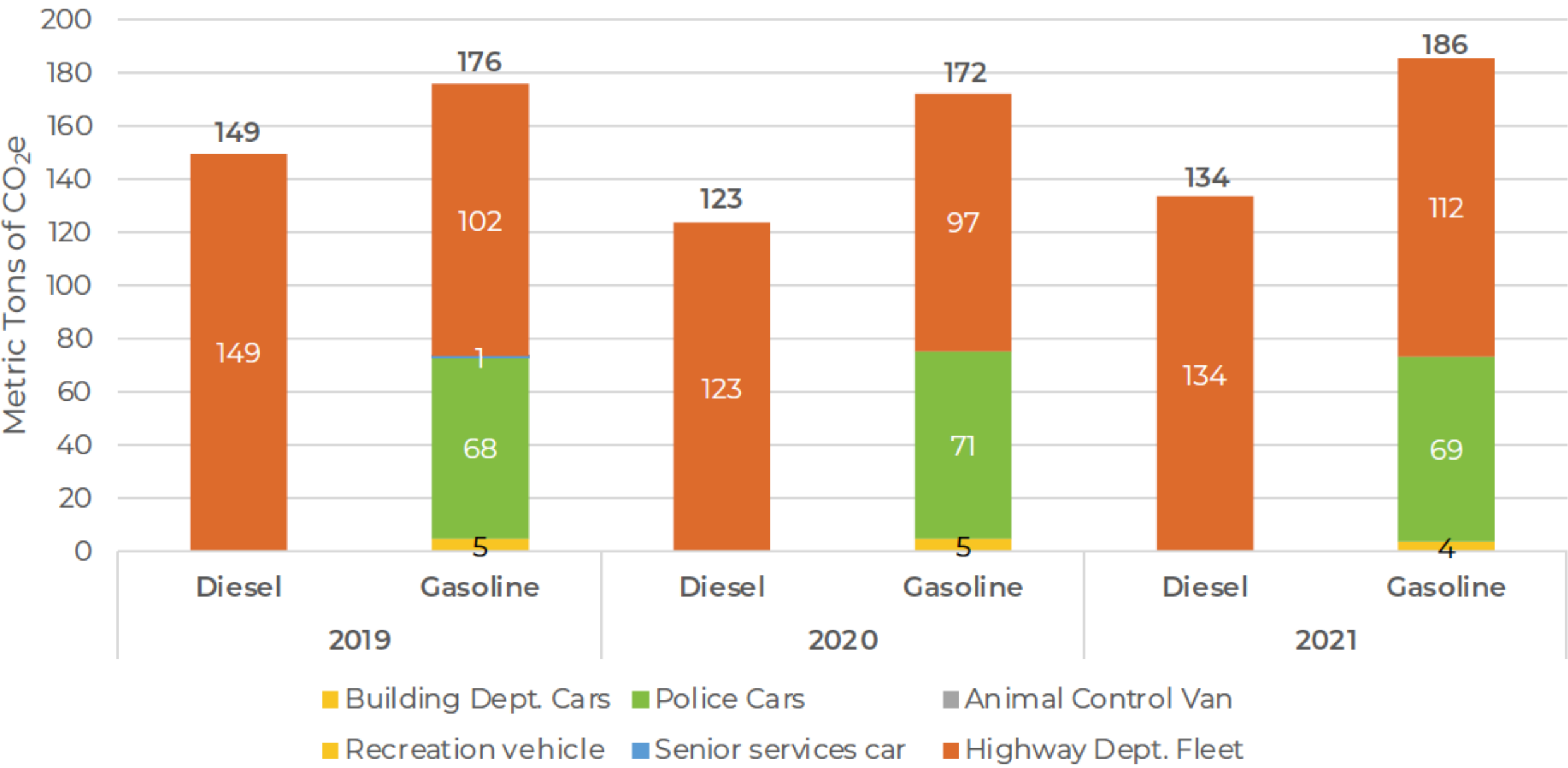
Just under 90% of Ruth Keeler Memorial Library's GHG emissions are attributable to #2 fuel oil used for heating.



THE TOWN OF NORTH SALEM – GHG INVENTORY 2019-2021



Town of North Salem
Transportation GHG Emissions
by Vehicle Group and Fuel



The Transportation sector is responsible for roughly 51% of Scope 1 and 2 GHG emissions. Approximately 75% of Transportation emissions and 39% of all of the Town’s Scope 1 and 2 emissions are attributable to the Highway Department’s diesel and gas-powered, internal combustion engine (ICE) vehicles.

Highway Dept Fleet is Responsible for
39%
of Total GHG Emissions

Conclusions & Recommendations

Conclusions

The Town is on the right track and there are more opportunities for emissions reductions.

Transportation is the biggest emissions reduction opportunity.

Replacing **Buildings'** #2 fuel oil with lower emission heating systems will significantly reduce stationary emissions.

Goals

25% reduction in GHG by 2030 from 2019 base.

Stretch target: 40% reduction by 2030.

2050 **net zero** target.

Climate Smart Community
Bronze Certification in 2022.

Recommendations

Yearly GHG inventory with manual, regular meter readings and Scope 3.

Emissions Reductions

Replace Highway Dept Fleet with EV/Hybrid vehicles.

Replace building oil burners with heat pumps/geothermal.

Install rooftop solar on buildings.

THE TOWN OF NORTH SALEM – GHG INVENTORY 2019–2021



THANK YOU!
QUESTIONS?