



# CLIMATE ACTION PLAN

## Town of North East and Village of Millerton

Consultant:  
Phil Ludvigsen,



# September, 2022



# GHG Inventory Boundaries

- Temporal Boundaries
- Organizational Boundaries
- Operational Boundaries



# Additional CSC Points

PE3: Benchmarking Municipal Buildings	4 Points
PE2: Government Operations GHG Inventory	16 Points
PE2: Government Operations Climate Action Plan	12 Points
PE10: GHG Tracking System	5 Points

# Bookkeeper Records

CENTRAL HUDSON GAS & ELECTRIC 2007			
Billing Period	kWh Used	Total C	
<b>TOWN HALL</b> Account #5845-0530-00			
11/13/06-1/12/07	2309	\$25	
1/12/07-3/15/07	2346	\$31	
3/15/07-5/14/07	2502	\$32	
5/14/07-7/16/07	3045	\$36	
7/16/07-9/12/07	3124	\$471.97	0.1511
9/12/07-11/9/07	2321	\$303.68	0.1308
	15647	\$2,036.11	
<b>HIGHWAY GARAGE</b> Account #5843-2095-00-6			
11/14/06-1/15/07	1931	\$185.61	0.0961
1/15/07-3/19/07	3062	\$349.80	0.1142
3/19/07-5/15/07	1391	\$172.48	0.1240
5/15/2007-7/17/07	1038	\$125.89	0.1213
7/17/07-9/13/07	985	\$154.55	0.1569
9/13/07-11/12/07	948	\$127.76	0.1348
	9355	\$1,116.09	
<b>STREET LIGHTS</b> Account #5411-0980-00			
Jan-07	205	\$39.23	0.1914
Feb-07	171	\$38.28	0.2239
Mar-07	165	\$41.02	0.2486
Apr-07	147	\$39.60	0.2694
May-07	131	\$34.85	0.2660
Jun-07	118	\$34.00	0.2881
Jul-07	128	\$37.20	0.2892

CENTRAL HUDSON GAS & ELECTRIC.xls

DIESEL FUEL			
Delivery Date	Gallons	Price/gallon	
<b>2021</b>			
1/22/21	820.7	2.28	
2/2/21	811.4	2.28	
2/12/21	850.0	2.38	
2/24/21	1351.3	2.38	\$3,216.09
5/13/21	1500.2	2.5	\$3,750.50
6/14/21	1429.5	2.58	\$3,688.11
7/12/21	789.7	2.68	\$2,116.40
8/18/21	1100.1	2.73	\$3,003.27
9/29/21	890.4	2.78	\$2,475.31
11/8/21	800.6	3.18	\$2,545.91
11/10/21	664.0	3.18	\$2,111.52
12/13/21	701.5	3.08	\$2,160.62
	11709.4		\$30,811.92
	-2577.4		-6340.31
	9132.0		\$24,471.61
<b>2020</b>			
1/2/20	53.5	2.319	\$124.07
1/6/20	53.0	2.3618	\$125.18
1/9/20	29.1	2.2606	\$65.78
1/13/20	22.2	2.227	\$49.44
1/16/20	123.2	2.1732	\$267.74
1/20/20	223.9	2.158	\$483.18
1/23/20	110.1	2.095	\$230.66
1/28/20	22.5	1.9767	\$44.48
1/30/20	10.7	1.9977	\$21.38
2/3/20	48.5	1.9222	\$93.23
2/6/20	108.6	1.9352	\$210.16

GASOLINE & DIESEL FUEL USAGE.xls

FUEL OIL USAGE - TOWN HALL			
Delivery Date	Gallons	Price/gallon	
<b>2021</b>			
2/1/21	507.3	2.69	
3/8/21	279.4	2.94	
4/28/21	183.2	2.94	
12/9/22	238	3.5	833.00
	1207.9		3557.68
<b>2020</b>			
1/8/20	400.3	2.2623	905.60
3/26/20	465.6	1.3213	615.20
11/16/20	270.3	1.3535	365.85
	1136.2		1886.65
<b>2019</b>			
3/4/19	491.1	2.1983	1079.59
11/4/19	313.1	2.1295	666.75
	804.2		1746.33
<b>2018</b>			
1/8/18			199.00 Radiator repair
2/2/18	297	2.2625	671.96
4/27/18	382.2	2.389	913.08
12/22/18	301.1	1.9695	593.02

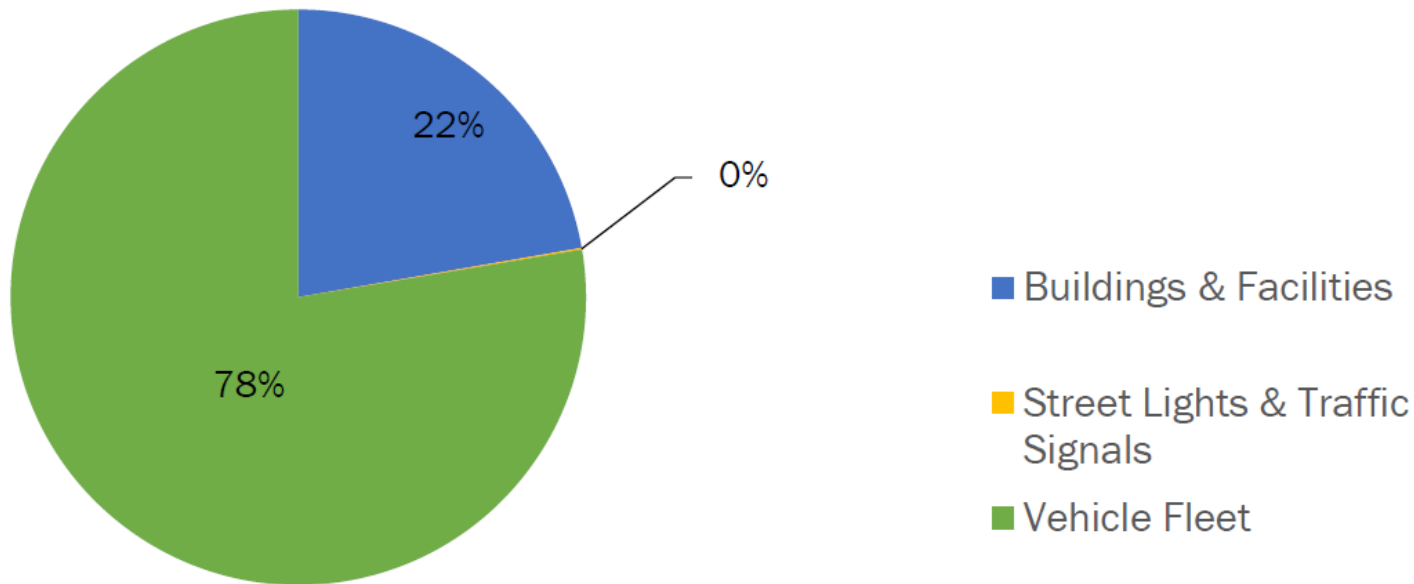
FUEL OIL USAGE - TOWN HALL.xls

# Employee Commutes

						Grand total (GHG emissions in metric tons)		11.89	
Please enter your job title.	Would you characterize your employment as?	How far is your round trip commute to work (in miles)?	How many days per week do you commute to work?	What is your vehicle's average MPG?	Equip MGP	Commute Days	Commute Miles	Gallons	GHG Emissions
Mayor	Part Time	1	2	15-20	17.5	59.2	59.2	3.38	0.04
Deputy Mayor	Part Time	1	0.5	15-20	17.5	14.8	14.8	0.85	0.01
Town Clerk / Treasurer / Office Mgr	Full Time	1	5	15-20	17.5	148	148	8.46	0.09
Deputy Clerk / Grants Administrator	Part Time	20	5	25-30	27.5	148	2960	107.64	1.11
Highway / Water Supervisor	Full Time	1.6	7	35-40	37.5	207.2	331.52	8.84	0.09
Highway / Water Laborer	Full Time	38	5	15-20	17.5	148	5624	321.37	3.33
Highway / Water Laborer	Full Time	2.4	5	25-30	27.5	148	355.2	12.92	0.13
Building Inspector	Part Time	37	1	15-20	17.5	29.6	1095.2	62.58	0.65
Deputy Building Inspector	Part Time	1	0.8	15-20	17.5	23.68	23.68	1.35	0.01
Police Officer in Charge	Part Time	78	2	25-30	27.5	59.2	4617.6	167.91	1.74
Police Officer - Sergeant	Part Time	30	1	20-25	22.5	29.6	888	39.47	0.41
Police Officer	Part Time	10	2	25-30	27.5	59.2	592	21.53	0.22
Police Officer	Part Time	40	2	15-20	17.5	59.2	2368	135.31	1.40
Police Officer	Part Time	90	2	20-25	22.5	59.2	5328	236.80	2.45
Police Officer	Part Time	15	1	20-25	22.5	29.6	444	19.73	0.20

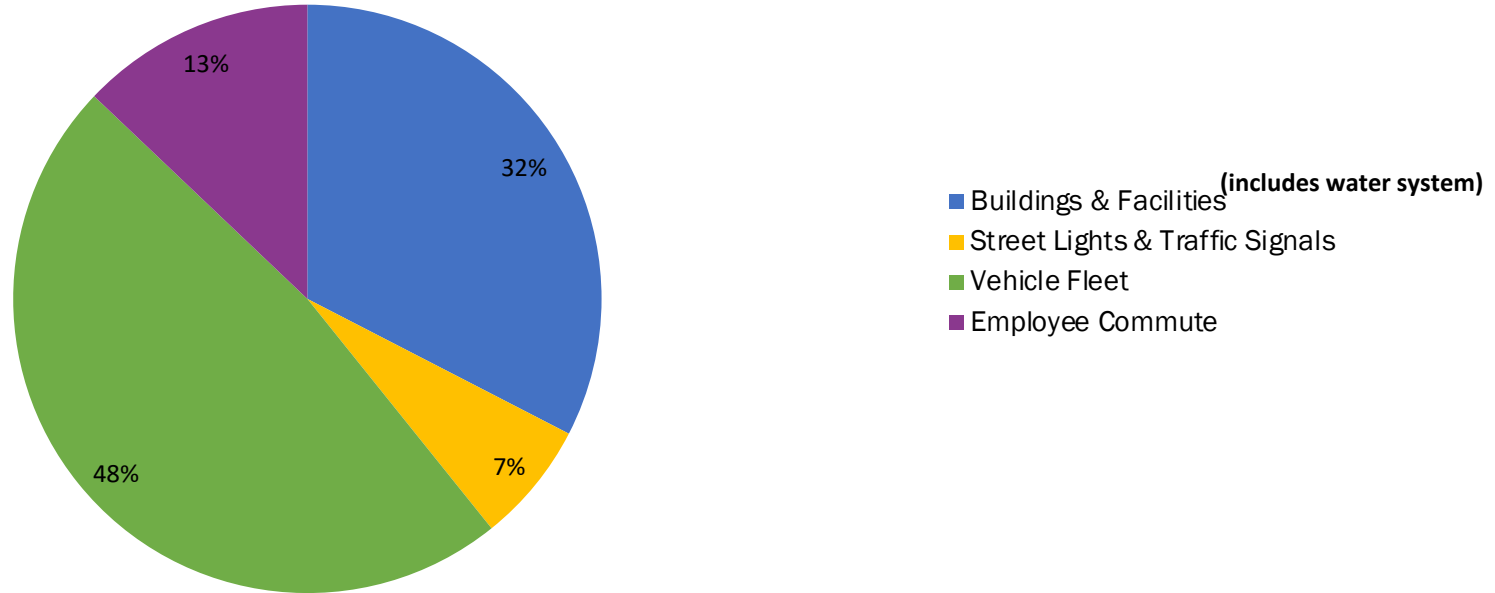
# Major Sources of GHG Emissions for the Town Without Landfill

GHG Emissions (tCO<sub>2</sub>e - %) - Without Landfill



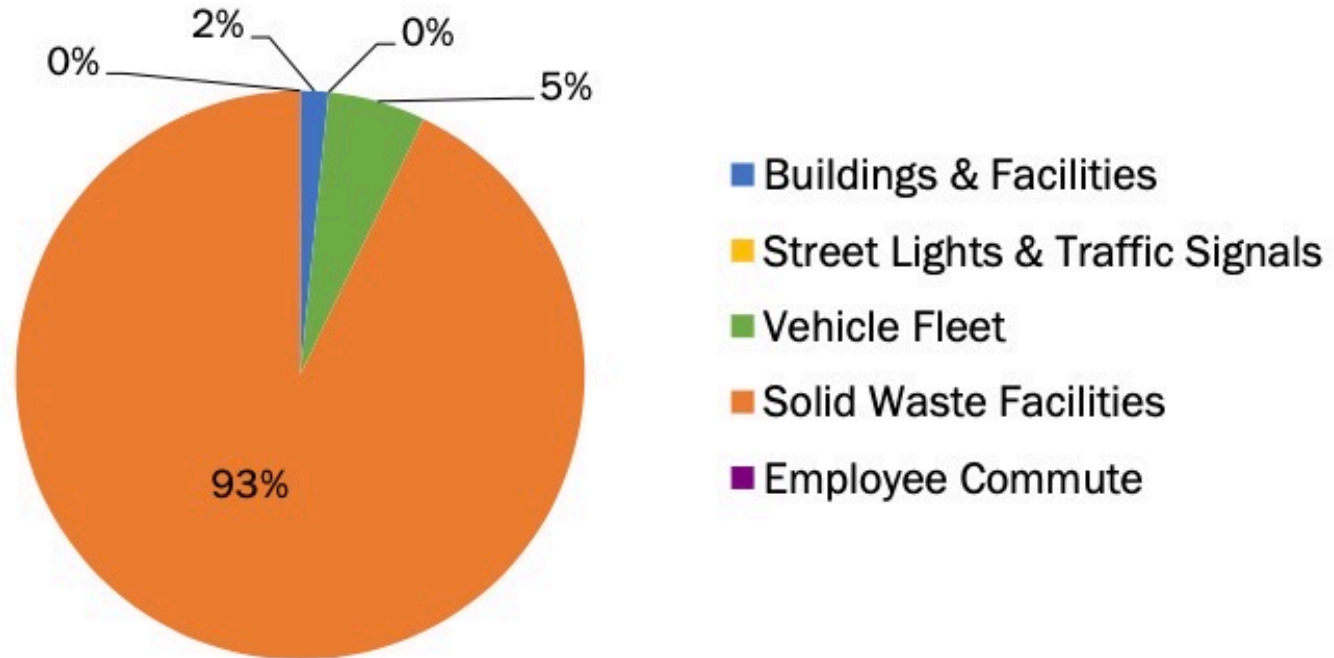
# Major Sources of GHG Emissions for the Village

GHG Emissions (tCO<sub>2</sub>e - %)



# Total Emissions by Sector

GHG Emissions (tCO<sub>2</sub>e - %)







# Practical Considerations

- Estimated GHG reduction from implementation
- Estimated Costs (initial and ongoing)
- Estimated Savings (electricity and fuel)
- Timing (short, medium, or long-term)
- Ability to cost-effectively meet GHG reduction targets
  - “Bang for the Buck”

# Priority Reduction Actions (2023)

Target Year	Climate Action Reduction Measures	Expected GHG Reductions (tCO <sub>2</sub> e/year)	Estimated Cost / Annual Savings	Comments
Year 0-1 (2022-2023)	Village: Pump House Solar Repair (replace 15Kw Invertor)	17 tonnes	<u>Cost:</u> \$0 <u>Savings:</u> \$3,360/year	<ul style="list-style-type: none"> <li>• Simple implementation</li> <li>• No cost solution</li> <li>• Significant GHG emission reduction</li> </ul>
	Town: replaces one gas vehicle with an EV	5 tonnes	<u>Cost:</u> \$750/yr <u>Savings:</u> \$750+/year	<ul style="list-style-type: none"> <li>• Simple implementation</li> <li>• Low cost</li> <li>• Significant GHG emission reduction</li> </ul>
	Town: Investigates landfill emissions	N/A	<u>TBD</u>	<ul style="list-style-type: none"> <li>• Future climate action would be based on known landfill emissions.</li> </ul>
	<b>CUMULATIVE TOTAL:</b>	22 tonnes (.9%) or 9% without landfill		Exceeds Year 1-2 Target of 3% without landfill

# Priority Reduction Actions (2024-2027)

Year 2 to 5 (2024 -2027)	Town: Green Power Purchase Agreement	3.5 tonnes	<u>Cost:</u> \$4,900 <u>Savings:</u> \$0	<ul style="list-style-type: none"> <li>• Simple implementation</li> <li>• Low cost</li> <li>• Significant GHG emission reduction</li> </ul>
	Village LED Streetlight Replacement	2.3 tonnes	<u>Cost:</u> \$123,000 <u>Savings:</u> \$22,000/year	<ul style="list-style-type: none"> <li>• Simple implementation</li> <li>• Medium cost</li> <li>• Minor GHG reductions</li> </ul>
	Village: Upgrade or Expand Pump House Solar	Variable	<u>Cost:</u> \$2.50 to \$3.22 per watt <u>Savings:</u> Variable	<ul style="list-style-type: none"> <li>• Medium complexity</li> <li>• Medium/high cost</li> <li>• Significant GHG reductions</li> </ul>
	Village: Upgrade Village Pump House Operations – New Eff. Pumps	Variable	<u>Cost:</u> Variable <u>Savings:</u> Variable	<ul style="list-style-type: none"> <li>• Medium complexity</li> <li>• Medium cost</li> <li>• Minor GHG reductions</li> </ul>
	Town: If needed, Landfill - Methane Biotreatment	457 tonnes	<u>Cost:</u> \$50,000 to \$150,000 <u>Savings:</u> \$0	<ul style="list-style-type: none"> <li>• Medium implementation</li> <li>• Medium cost</li> <li>• Major GHG reductions</li> </ul>
	<b>CUMULATIVE TOTAL:</b>	<b>484+ tonnes (179%) or 1517+% without landfill</b>		<ul style="list-style-type: none"> <li>• Exceeds Year 5 Target of 10% with and without landfill</li> </ul>

# Priority Reduction Actions (2028-2032)

Year 6 to 10 (2028-2032)	Town: If needed, Landfill - Methane Biotreatment	610 tonnes	<u>Cost</u> : \$25,000 to \$50,000 <u>Savings</u> : \$0	<ul style="list-style-type: none"> <li>• No implementation</li> <li>• Medium O&amp;M cost</li> <li>• Major GHG reductions</li> </ul>
	<b>CUMULATIVE TOTAL:</b>	638+ tonnes (25%) or 260% without landfill		<ul style="list-style-type: none"> <li>• Exceeds Year 10 Target of 25% with and without landfill</li> </ul>

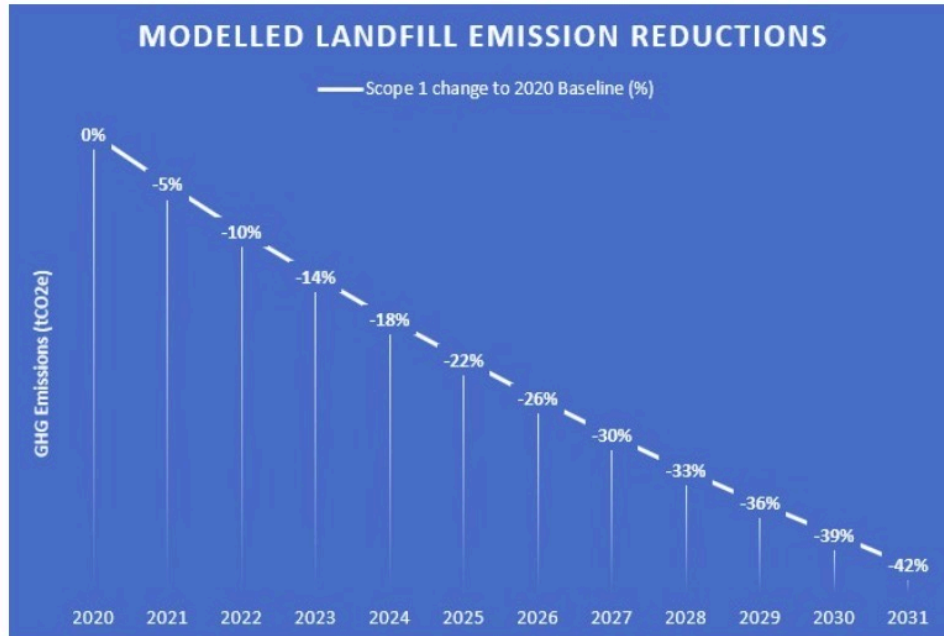
Note: CAP is ONLY to reduce existing emissions.

Emissions will INCREASE with planned

- new wastewater treatment system
- expansion of Village Park
- TBD! New Highway Garage

# Landfill Mitigation

Figure 4D: Projected Landfill Emission Reduction – Year 2020 Thru 2032





# PRIORITY REDUCTION ACTIONS

## VILLAGE

Replace 15Kw Pump House Solar Invertor

Upgrade or Expand Pump House Solar

Upgrade to New Efficient Pumps

LED Streetlight Replacement

## TOWN

Replace 1 Town vehicle with an EV

Town Green Power Purchase Agreement

Landfill - Methane Biotreatment?