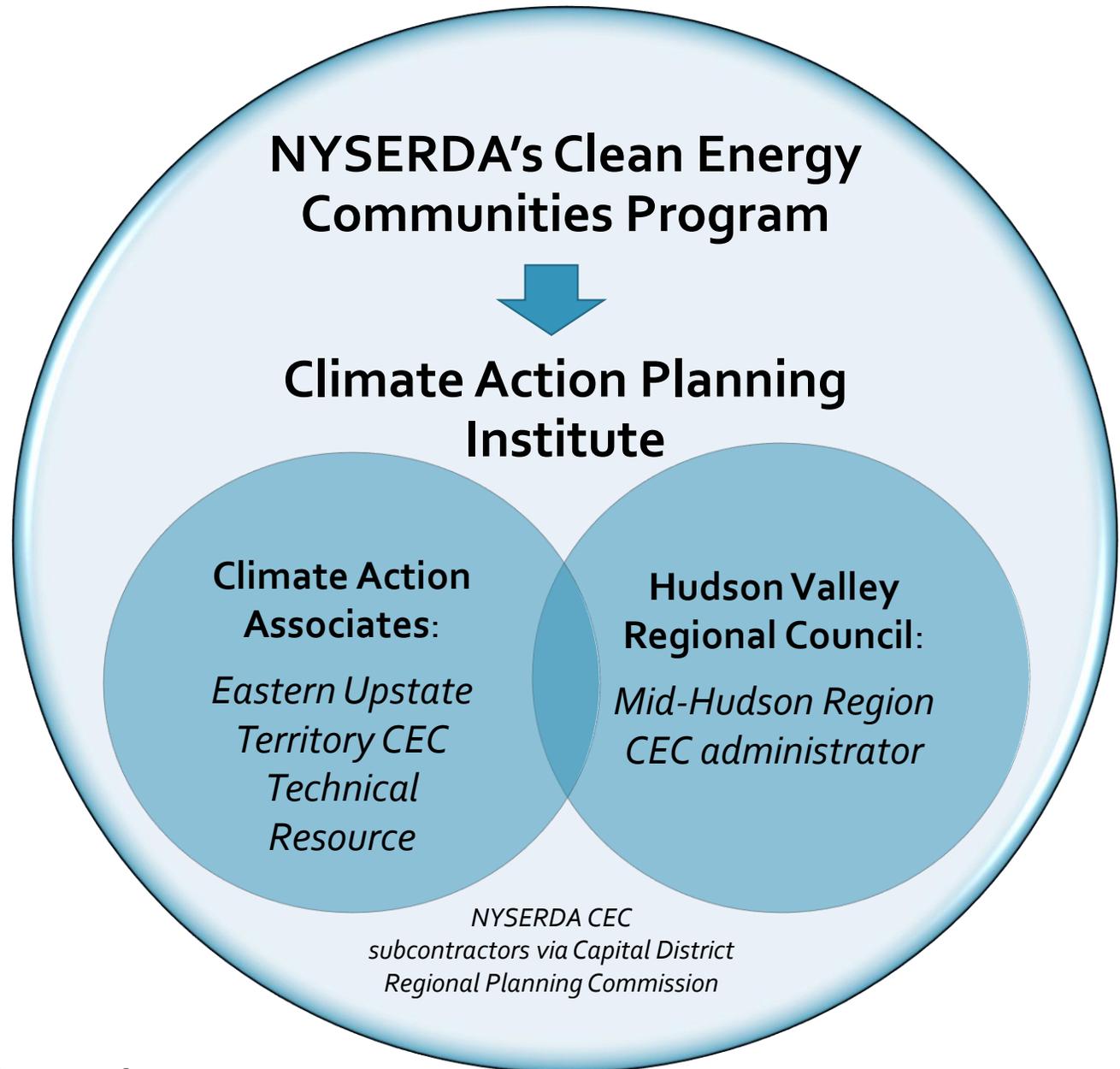
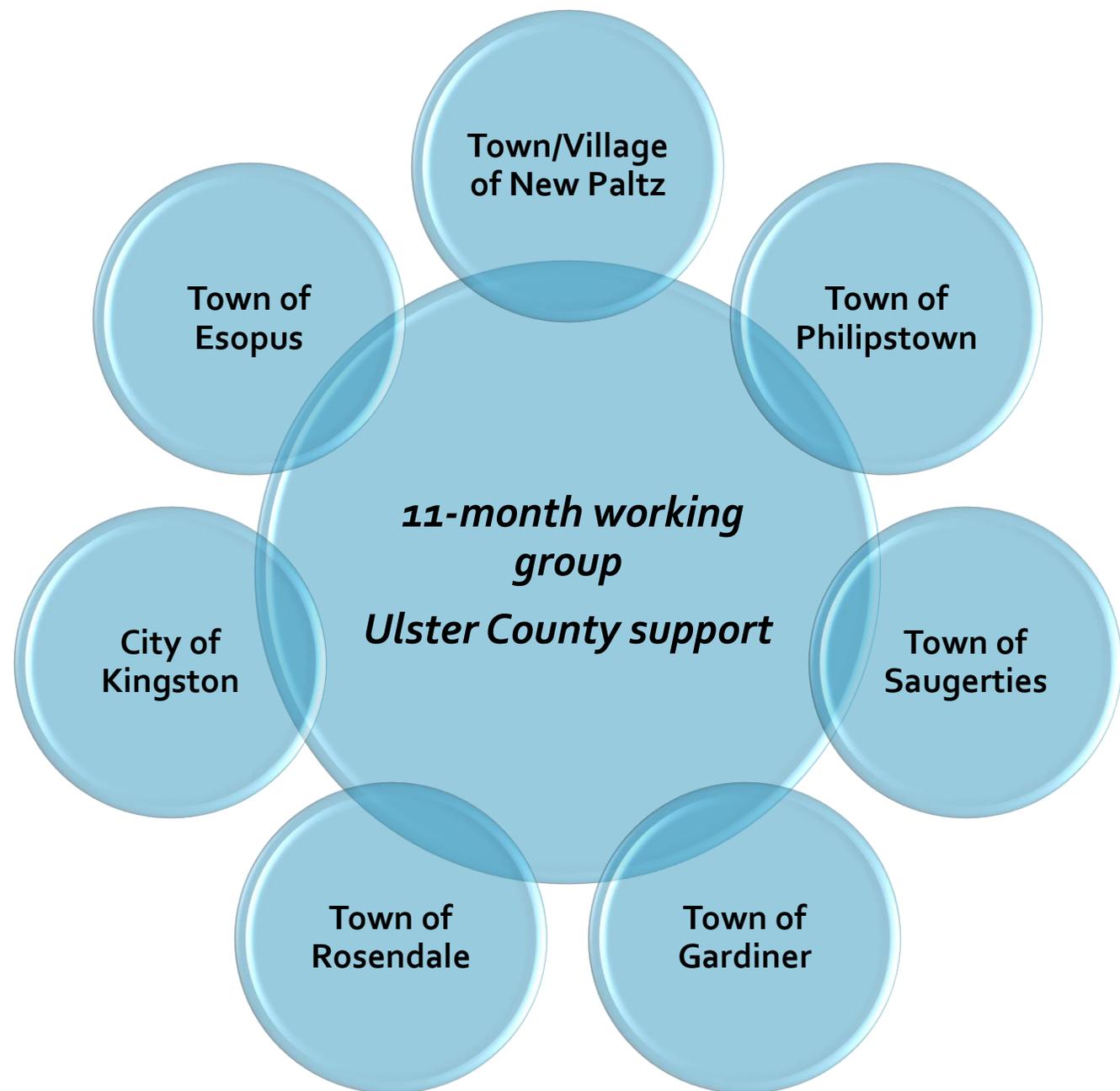


# 2018-19 Climate Action Planning Institute



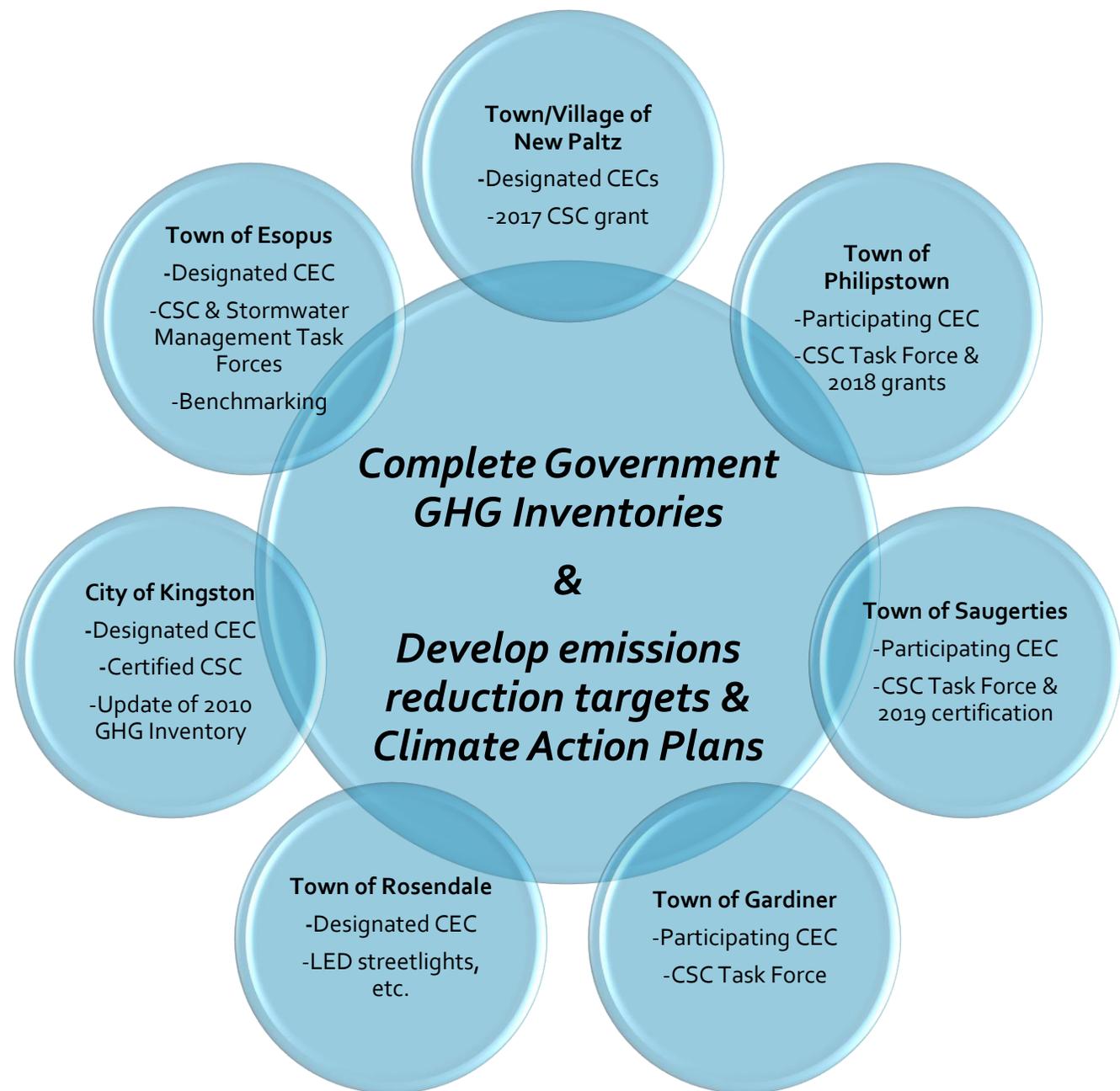
# 2018-19 Climate Action Planning Institute



**NYSERDA**  
Supported



# 2018-19 Climate Action Planning Institute



**NYSERDA**  
Supported



- Benefits

- No grant application & reporting
- Access to Resources
  - GHG Inventory Tool & technical assistance
  - Network with other communities: Future opportunities & needs?
  - Bulk utility data: Central Hudson provided two full years of gas/electric to CAPI participants

1	ACCT	END DATE	START DATE	READ DAYS	READ TYPE	SERVICE	TOTAL KWH	TOTAL KW	DEMAND CHARGES	SUPPLY CHARGES	UTILITY CHARGE	TOTAL CHARGES
9031	8649.....	20171019	20170919	30	ACTUAL	E	734	8	77.92	6.1	86.75	170.84
9032	8649.....	20171120	20171021	30	ACTUAL	E	942	7	65.23	7.83	87.15	160.27
9033	8649.....	20171219	20171119	30	ACTUAL	E	1201	10	95.13	9.04	88.15	192.4
9034												

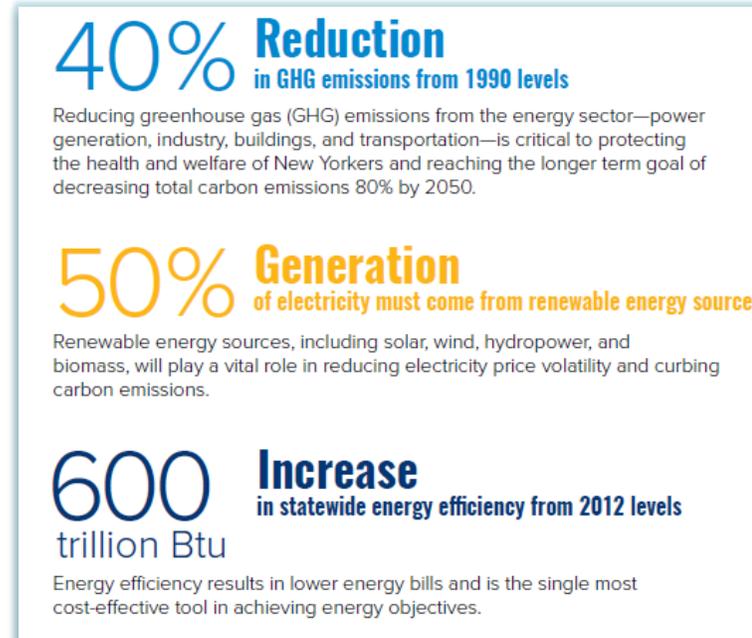
- Government GHG Emissions Inventory Tool

- Build Facility Master List
- Develop groupings for reporting GHG of facilities
  - Wastewater Treatment, Parks, Streetlighting, Town Hall campus etc.
- List out all Energy Provider Accounts
- Data Collection
  - Gas & Electric bulk data/Tank fuels /Fleet fuels/Employee Commute

## 2018-19 Climate Action Planning Institute

- Staff capacity for technical support
- Timing & coordination
- GHG Inventory Tool
  - Evolved through CAPI to meet participant's needs
  - New 5 year GHG Inventory template workbook
  - Changes to Factors & Sources tab
    - Conversion of tons to metric tons
    - Using NY Upstate eGrid factors = < GHGs associated with electricity
    - Climate Action Plan Scorecard: quantifies GHG savings of various projects/initiatives

- Emissions reduction targets
  - Model on NYS 2030 energy goals
  - Without having 1990 baseline, adopt achievable targets that meet NYS objectives of deep reductions



- Climate Action Plan Scorecard
  - How to quantify various GHG reduction measures?
  - Ex: Electric Vehicle calculator: <https://www.ucsusa.org/clean-vehicles/electric-vehicles/ev-emissions-tool>

# 2018-19 Climate Action Planning Institute

## Thank you!

- [Hudson Valley Regional Council](#): Carla Castillo & Europa McGovern
- [Climate Action Associates](#): Jim Yienger & Greg Mumby
- [Ulster County Dept. of the Environment](#): Amanda LaValle & Nick Hvozda
- [Capital District Regional Planning Commission](#): Todd Fabozzi
- [NYSERDA's Clean Energy Communities Program](#)
- [Central Hudson Gas & Electric Corp.](#): Tom Su (District Director – DER)
- CAPI Guest Speakers
  - [Mid-Hudson Streetlight Consortium](#): Pat Courtney Strong
  - [NYPA](#): Jeff Laino
  - [Hudson Valley Community Power](#)/Renewable Highlands CCA: Jeff Domanski
  - Fleet GHG Reductions: Stephen Weir, Climate Smart Gardiner Task Force
  - City of Kingston
    - Sean Koester/City Hall meeting room
    - Julie Noble/February 27 CAPI **WEBINAR** presentation
- *Special thanks to Mark Ellison of Esopus for this venue!*
- All CAPI participants and municipal volunteers, staff, & elected officials

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
	<p><b>Step 1: Create A Facility Master List</b></p> <p>Creating the Facility Master List tab is STEP ONE in a municipal GHG inventory. This is the shaded Column B in the Facility Master List tab. List the facilities or groupings you will report in the GHG inventory. Because utility and community records have different names for things, adopt a "common" name people recognize. Large facilities like "Town Hall" are typically are listed separately, but you can group similar infrastructure like "Pump Houses" into a single grouping. Communities may group multiple buildings on a campus or in a park in one grouping. Next, identify what energy sources in each facility to help make sure no energy is missed.</p> <p>You can assign as many reporting categories in columns as you want, in addition to the default categories used by ICLEI to describe basic government operations categories. There is a report for that in GHG inventory tab. For example you could add "department" which may be relevant for larger communities. Smaller communities, however, can create effective Climate Action Plans without complicated facilities groupings.</p>															
	<p><b>Step 2: List Energy Provider Accounts</b></p> <p>List each unique utility or energy supplier account and link it to one of the items on the Facility Master List. This is important to do before starting to collect data. List all accounts that relevant for the inventory period including closed accounts or newly opened ones. If a utility provides natural gas and electricity, is appears in two rows. For campuses and groupings you may have multiple accounts linked. If fuel oil or propane is clearly linked to a facility, you can list it here. If not, tank fuels can be accounted for in a separate tab.</p>															
	<p><b>Step 3: Collect Electricity and Natural Gas data from utilities in the "Electric Data" and "Gas Data" tabs.</b></p> <p>Your inventory charts will draw from these tabs to make emission calculations and to draw charts in the GHG Inventory tab with results. Each line is the monthly bill for one account. On possible way to obtain these data is to request monthly data from the utility in consolidated form, and then use that format for the tab - this is preferred over reading paper bills. Or research if your municipality has an online account with their utility to access the data, or a usage history portal, such as Central Hudson's list below. At a minimum, you need should get meter read to and from dates, usage, and energy costs and place them in the appropriate columns, keeping to the exact format in this Workbook.</p> <p><b>Central Hudson Usage History Portal:</b> <a href="https://inet.cenhud.com/RetailChoice/ICforESCOs/InqAcct.aspx">https://inet.cenhud.com/RetailChoice/ICforESCOs/InqAcct.aspx</a>. The previous 24 months of usage history are available here, accessible by provision of individual account number.</p> <p>The GHG Inventory tab formulas will search through the entire column of data in electricity and natural gas tabs and associates energy with facility groups, using linkages in the Facility Master List and Energy Provider Accounts tab.</p>															
	<p><b>Step 4: Tank Fuels used at Facilities (only if you have them)</b></p> <p>Use this tab to track tank fuel purchased, with line items for purchases and costs by year. If possible, break the data down in rows associated with a facility on Facility Master List. This is valuable to ensure emissions by facility are reported accurately in cases where primary heating fuels are propane or fuel oil. Because tank fuels are not metered, and sometime deliveries happen on either side of a calendar years, it may be more accurate to pull 3 to 4 years and look for average usage to help you assign data to a correct years.</p>															



## FACTORS and SOURCES:

Choose Grid Subregion: Upstate NY

Select your region for more accurate emission rates.

Emission Factors for Fuels		Grid Subregions	CO2e (lb/MWh)	CO2e(kg/MWH)	EGRID Vintage
Electric CO2e (kg/MWh)	134.24	NYS Avg.	465.9	211.32	2016
Natural Gas CO2e (kg/MMBtu)	54.08	NYC/Westchester	637.1	288.98	2016
Liquid Propane CO2e (kg/gallons)	5.87	Long Island	1186	537.96	2016
Heating Oil/Diesel CO2e (kg/gallon)	10.35	Upstate NY	295.9	134.24	2016
Gasoline CO2e (kg/gallon)	9.06				

NOTE: The "CO2e" emission factors account for the small contribution of methane (CH4) and nitrous oxide (N2O) to the carbon footprint a fuel. They typically represent collectively 1.5 - 2% of the total carbon footprint. Unlike CO2, emissions depend on technology used to burn the fuels and are complicated to estimate. Following the recommendation of the New York Regional GHG Inventory Guidance referenced below, for the stationary fuels this tool simply adds 1.9% of the value of the CO2 factor from the the US EIA tables to derive the CO2e factor.

### Sources:

[https://www.eia.gov/environment/emissions/co2\\_vol\\_mass.php](https://www.eia.gov/environment/emissions/co2_vol_mass.php)

[https://www.epa.gov/sites/production/files/2018-02/egrid2016\\_data\\_metric.xlsx](https://www.epa.gov/sites/production/files/2018-02/egrid2016_data_metric.xlsx)

[https://www.dec.ny.gov/docs/administration\\_pdf/ghgguide.pdf](https://www.dec.ny.gov/docs/administration_pdf/ghgguide.pdf)

[https://www.epa.gov/sites/production/files/2018-02/documents/egrid2016\\_summarytables.pdf](https://www.epa.gov/sites/production/files/2018-02/documents/egrid2016_summarytables.pdf)



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<b>Baseline Emissions (MTCO2e)</b>	673
<b>Reduction Goal</b>	20%
<b>Required Reduction (MTCO2e)</b>	135
<b>Total Plan Savings (MTCO2e)</b>	262
<b>Percent Reduction From Base</b>	39%

<b>Emissions Reduction Plan Actions</b>									
<b>Sector</b>	<b>Action</b>	<b>GHG Savings (MTCO2e)</b>	<b>Electricity (kWh)</b>	<b>Natural Gas (therms)</b>	<b>Propane (gallons)</b>	<b>Fuel Oil (gallons)</b>	<b>Gasoline (gallons)</b>	<b>Diesel (gallons)</b>	<b>% Reduction From Baseline</b>
Renewable Energy / Energy Supply	Offset 100% of electricity with green power	20.0							3%
Renewable Energy / Energy Supply	Community Solar	57.0							8%
Renewable Energy / Energy Supply	Ground source heat / geothermal	185.0							27%
Renewable Energy / Energy Supply	Wind	-							0%
Renewable Energy / Energy Supply	Energy Storage	-							0%
Energy Efficiency	LED Lighting Retrofit	-							0%
Energy Efficiency	HVAC Improvements	-							0%
Energy Efficiency	LED Streetlight Conversion	-							0%
Energy Efficiency	WWTP Upgrades	-							0%
Energy Efficiency	Building Management System	-							0%
Green Fleets	Electric Car Procurement Policy	-							0%
Green Fleets	Increased Fleet Fuel Efficiency	-							0%
Green Fleets	Route Enhancements	-							0%
Solid Waste	Composting	-							0%
Solid Waste	Recycling	-							0%
Non-Energy GHG Reduction	Refrigerant Replacement	-							0%
Green Fleets	Idling Policy	-							0%
		-							0%
		-							0%





# Claiming Green Power Use

Climate Action Planning Institute

April 10, 2019

# Green power claims require ownership of “environmental attributes”

- For electricity, the environmental attributes of renewable generation are called RECs
- 1 REC = 1 MWh
- Only count towards reducing indirect emissions (Scope 2). Not the same as an “offset”
- Must be “retired” by claimant (i.e. cannot double count)
- You cannot claim RECs that count toward a mandate (i.e. New State Clean Energy Standard)

# Clean Energy Standard: 70% by 2030



<b>Tier 1 REC Annual Obligations</b>	
<b>Year</b>	<b>LSE Obligation</b>
2018	0.15%
2019	0.78%
2020	2.84%
2021	4.20%

Fuel Sources and Air Emission to Generate Your Electricity for  
Central Hudson Gas & Electric Corp.—CENHUD - 2017  
January 1, 2017–December 31, 2017



Fuel Sources

Biomass	< 1 %
Coal	3 %
Hydroelectric	11 %
Natural Gas	40 %
Nuclear	38 %
Oil	< 1 %
Renewable Biogas	< 1 %
Solar	< 1 %
Solid Waste	3 %
Wind	3 %
Total .....	100 %

(Total may vary slightly from 100% due to rounding)

# On-site generation: user must own the RECs

- Behind the meter? **Most likely yes**
- Remote net energy metering (RNEM)? **Most likely yes, check contract**
- Net metered PPA? **Purchaser must have contractual rights to environmental attributes**

**Exhibit 1**  
**Pricing Attachment**

1. **Term:** Twenty (20) years, beginning on the Commercial Operation Date.
2. **Additional Terms:** Up to three (3) Additional Terms of five (5) years each.
3. **Environmental Incentives and Tax Credits Accrue to *Seller*. Environmental Attributes Accrue to *Purchaser*.**
4. **Contract Price:**

Contract Year	\$/kWh
---------------	--------

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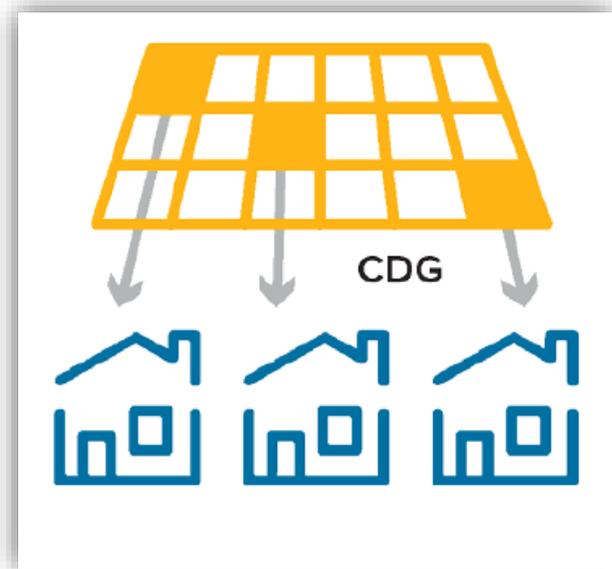
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3. **Environmental Incentives and Tax Credits Accrue to Seller.** **Environmental Attributes Accrue to Purchaser.**
4. **Contract Price:**

**Contract Year**

**\$/kWh**

# CDG: entire project must opt out of “E” payment

CDG = Community  
Distributed Generation



## Value Stack Compensation for CDG



- Avoided D – avoided demand
- E – environmental benefit
- Capacity – ICAP
- LBMP – energy commodity
- MTC – market transition credit for CDG

Value Stack +  
MTC (CDG)



# Voluntary replacement RECs: purchase and retire

- Unbundled RECS or ESCO green supply product
- Pay attention to the source (wind, solar, biomass...)
- Should be verified/certified by a third party entity
- Reference EPA Green Power program



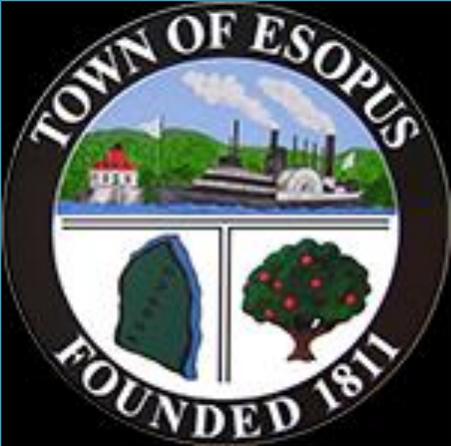
# Climate Action Planning Institute



- GHG Emissions Inventory
  - Data collection in progress
  - Data also for benchmarking reporting (via EPA Portfolio Manager)
- 'Designated' Clean Energy Community
  - \$5,000 NYSERDA grant
- Climate Smart Communities Program
  - Town of Esopus Environmental Board
    - Climate Smart Community Task Force
    - Stormwater Management Task Force



## CSC Program: Related Initiatives



- Initial CSC certification assessment
  - NYSERDA-funded Solarize campaign (2018)
  - Landfill solar PPA
  - LED streetlight conversion
  - Stormwater management Task Force
    - Grant-funded: Inventory, assessment, mapping, improvements
- Comprehensive Plan Update
  - Includes CSC Initiatives
  - Anticipated approval May 2019
    - On-going process



# Contact



THANK YOU

*Mark Ellison*  
*Environmental Board Chair*  
*Stormwater Management Task Force Chair*  
[Mellison@hvc.rr.com](mailto:Mellison@hvc.rr.com)



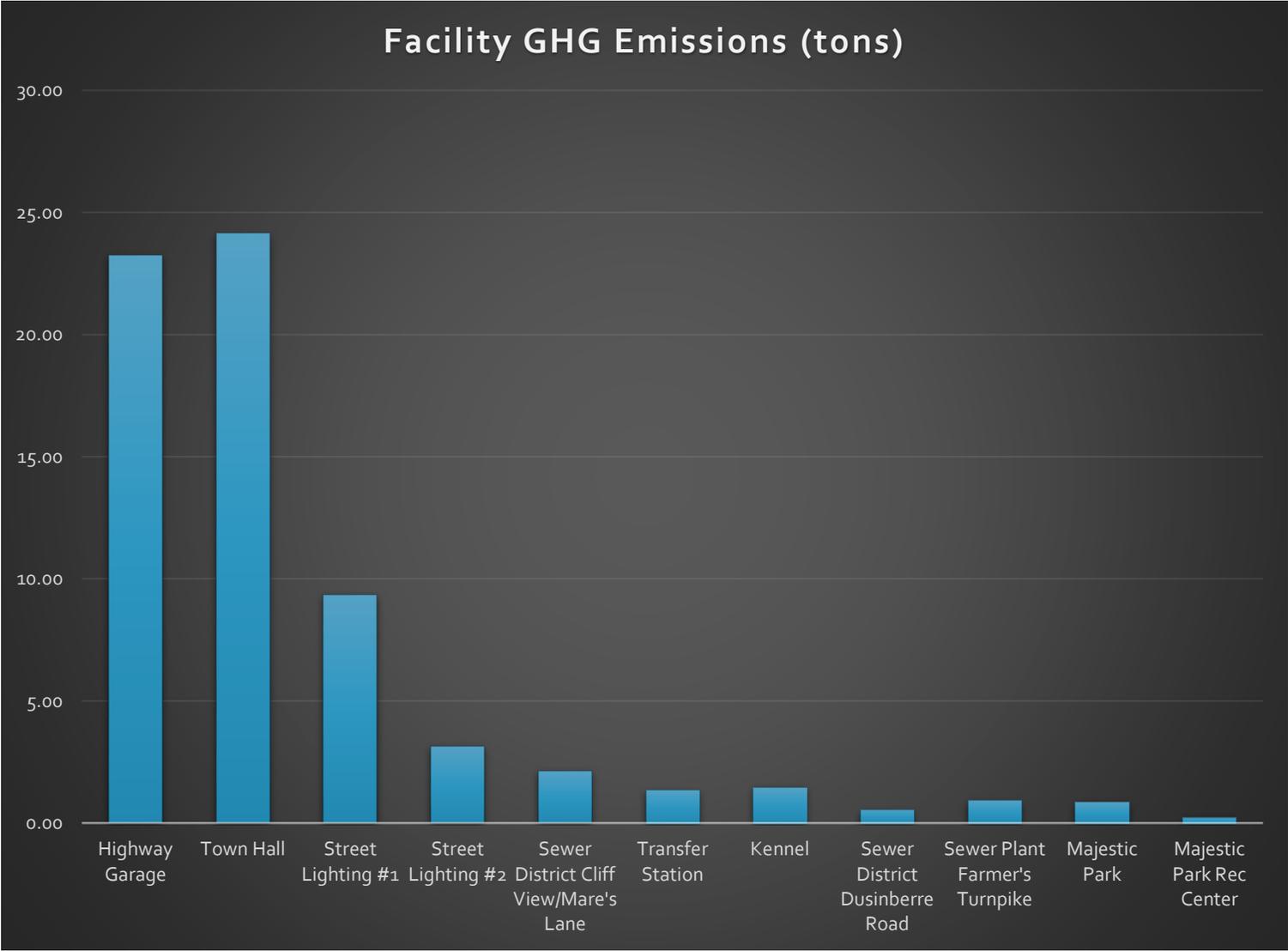
# Climate Action Planning Institute



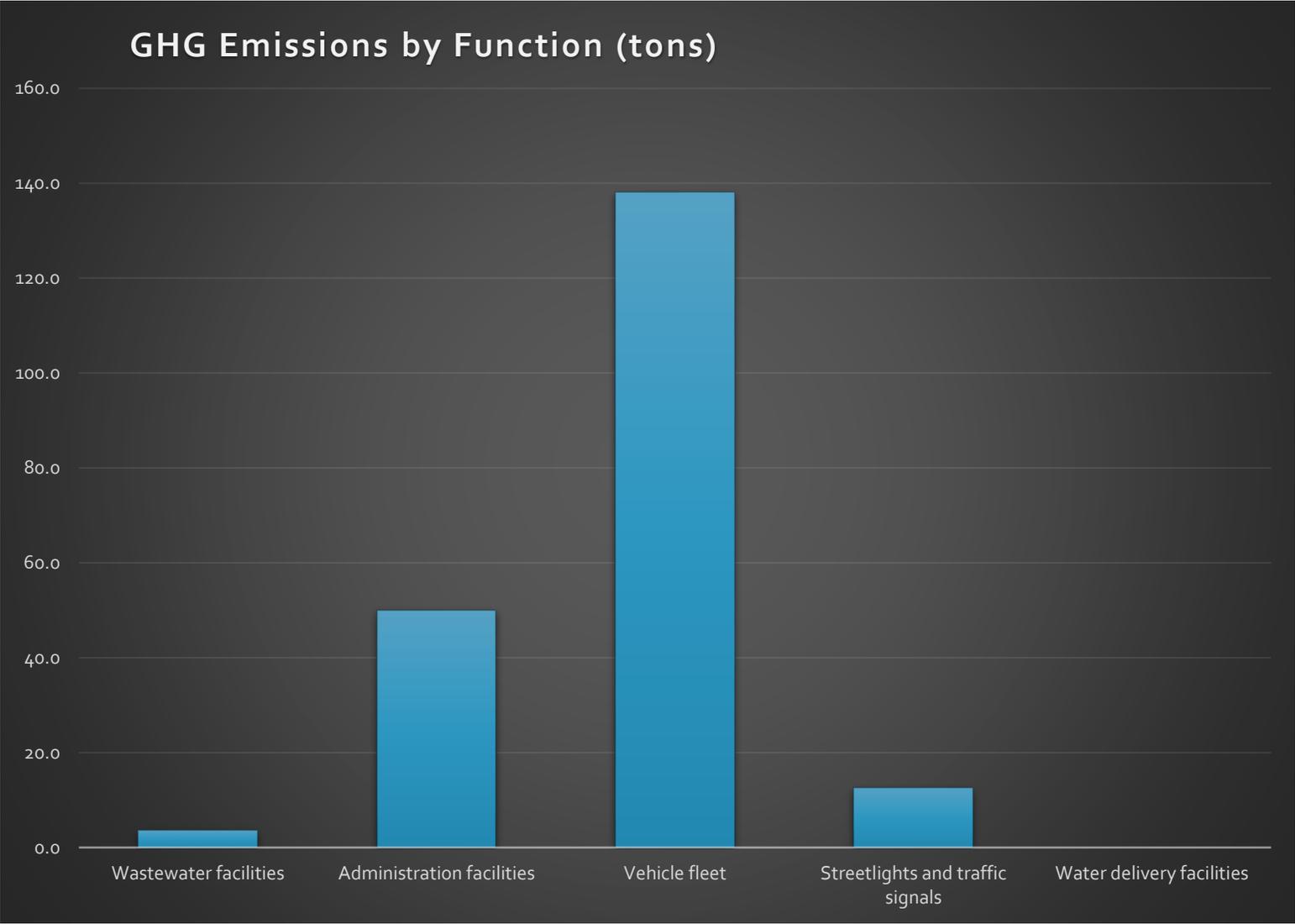
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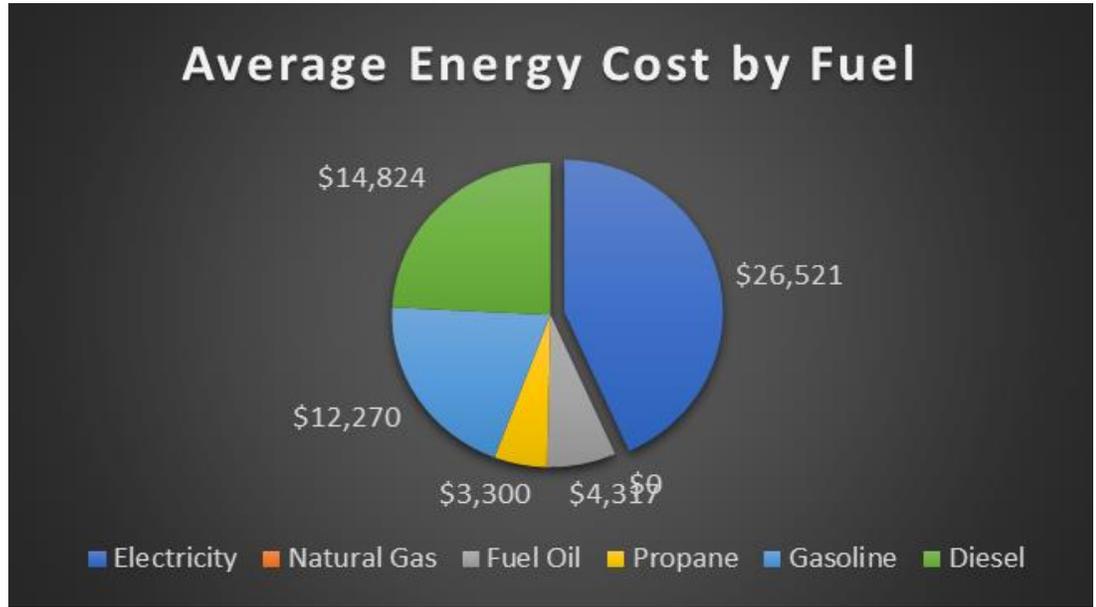
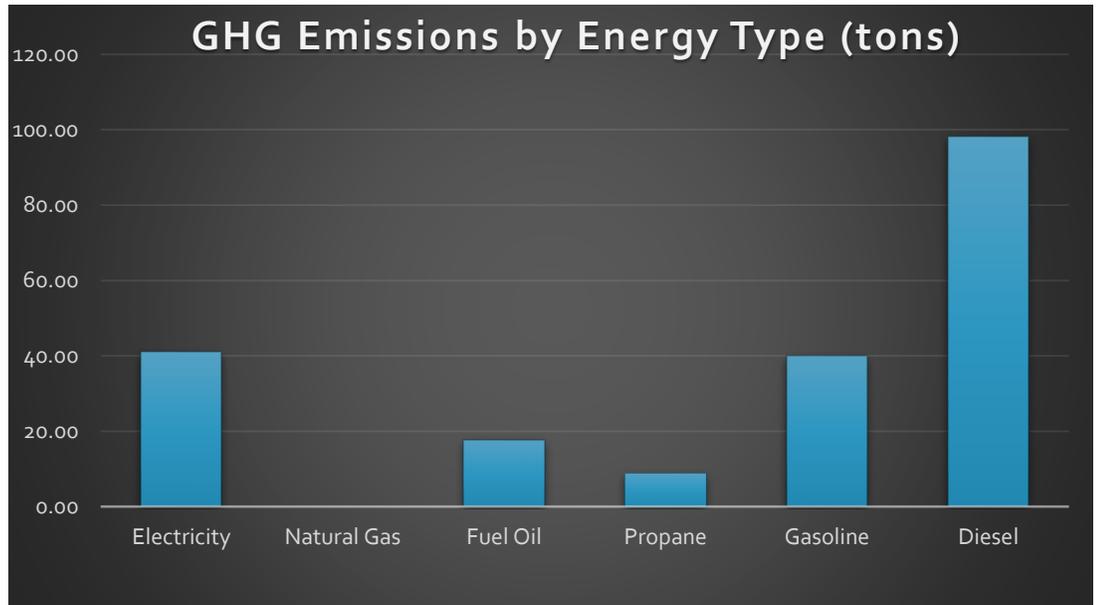
# 2015-17 GHG Emissions Inventory



# 2015-17 GHG Emissions Inventory



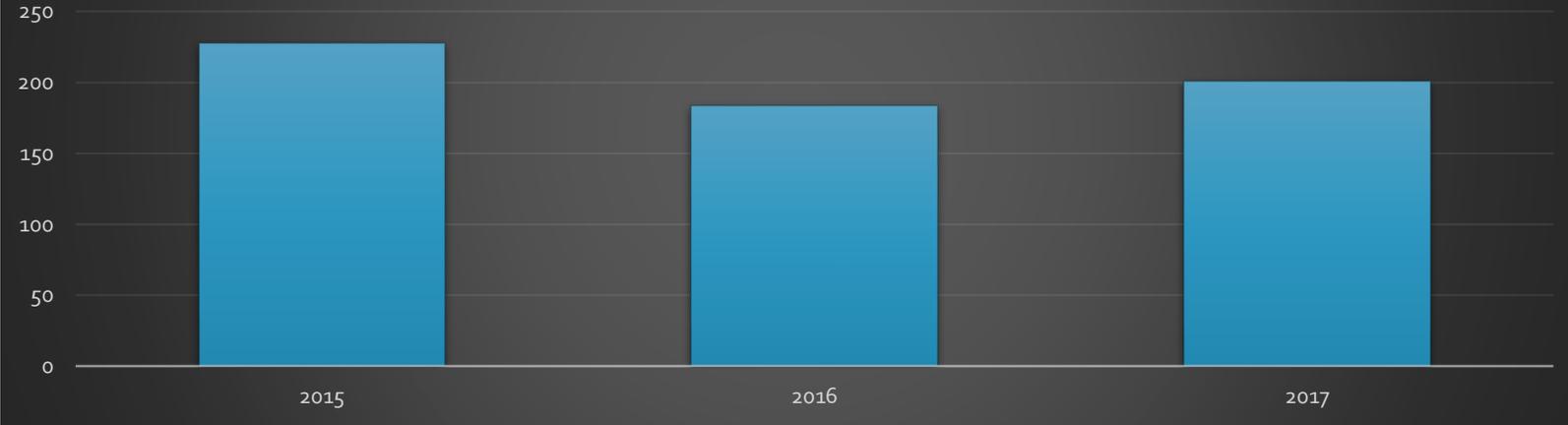
# 2015-17 GHG Emissions Inventory



# 2015-17 GHG Emissions Inventory



## Annual GHG emissions (tons) from All Municipal Operations

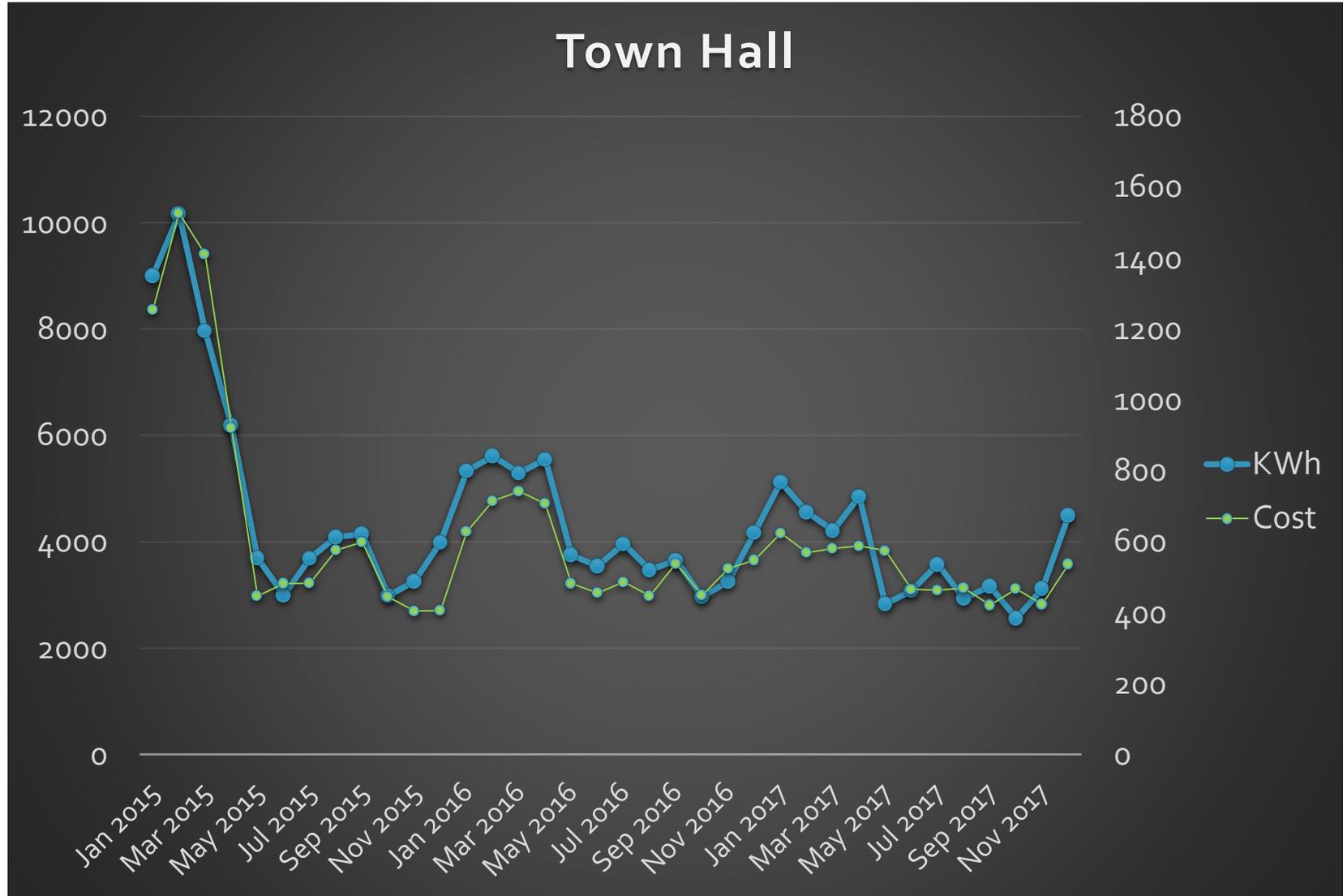


## GHG Emissions by Energy Source

	2015	2016	2017	Average
<b>All Energy Sources</b>	234.0	184.9	202.6	207.2
<b>Electricity</b>	42.30	41.73	39.70	41.24
<b>Natural Gas</b>	0.00	0.00	0.00	0.00
<b>Fuel Oil</b>	27.60	11.71	15.99	18.43
<b>Propane</b>	13.70	5.65	9.09	9.48
<b>Gasoline</b>	39.07	40.37	40.25	39.90
<b>Diesel</b>	111.37	85.43	97.52	98.10



# 2015-17 GHG Emissions Inventory



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# 2015-17 GHG Emissions Inventory



- Presentation to Board (February 5)
- Climate Action Plan
  - Where to focus emissions reductions
    - Fleet emissions higher than all facilities combined
    - Fleet Inventory & tracking
    - Challenges
      - Fuel oil is too cheap compared to electricity!
    - Geothermal already at Town Hall
    - LED streetlight conversion (78 lights)
    - What else?
- CSC Task Force Initiatives
  - EV Charging Station (DEC grant)
  - Go Green Winter Expo
  - Many others!



# Contact



THANK YOU

*Mark Varian*  
*CSC Task Force member*  
[markvarian@hotmail.com](mailto:markvarian@hotmail.com)

# Climate Action Planning Institute



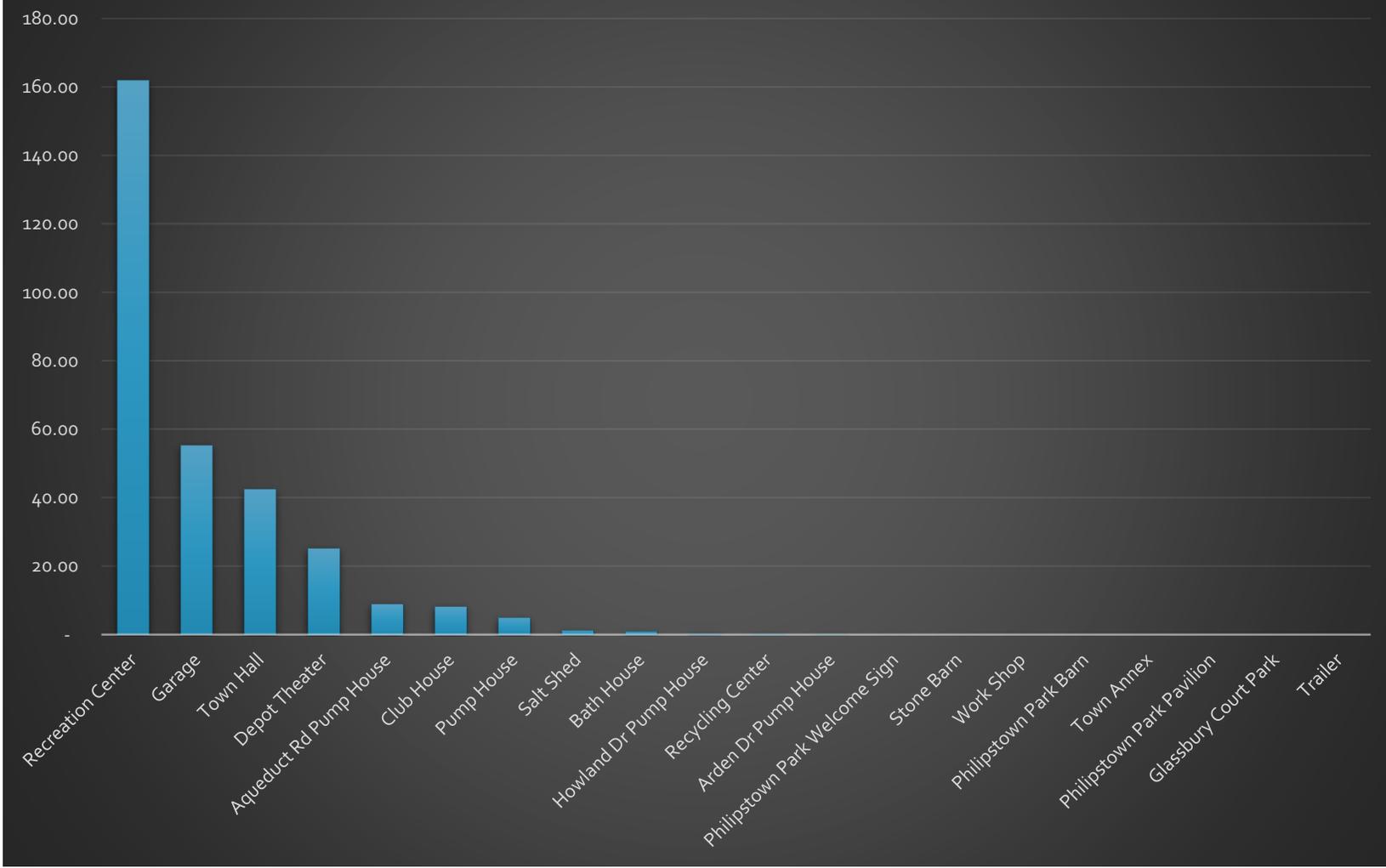
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  - Energy Provider Accounts
  - Data Collection
    - Gas & Electric bulk data
    - Tank fuels
    - Fleet fuels
    - Employee Commute Survey



# 2016 GHG Emissions Inventory



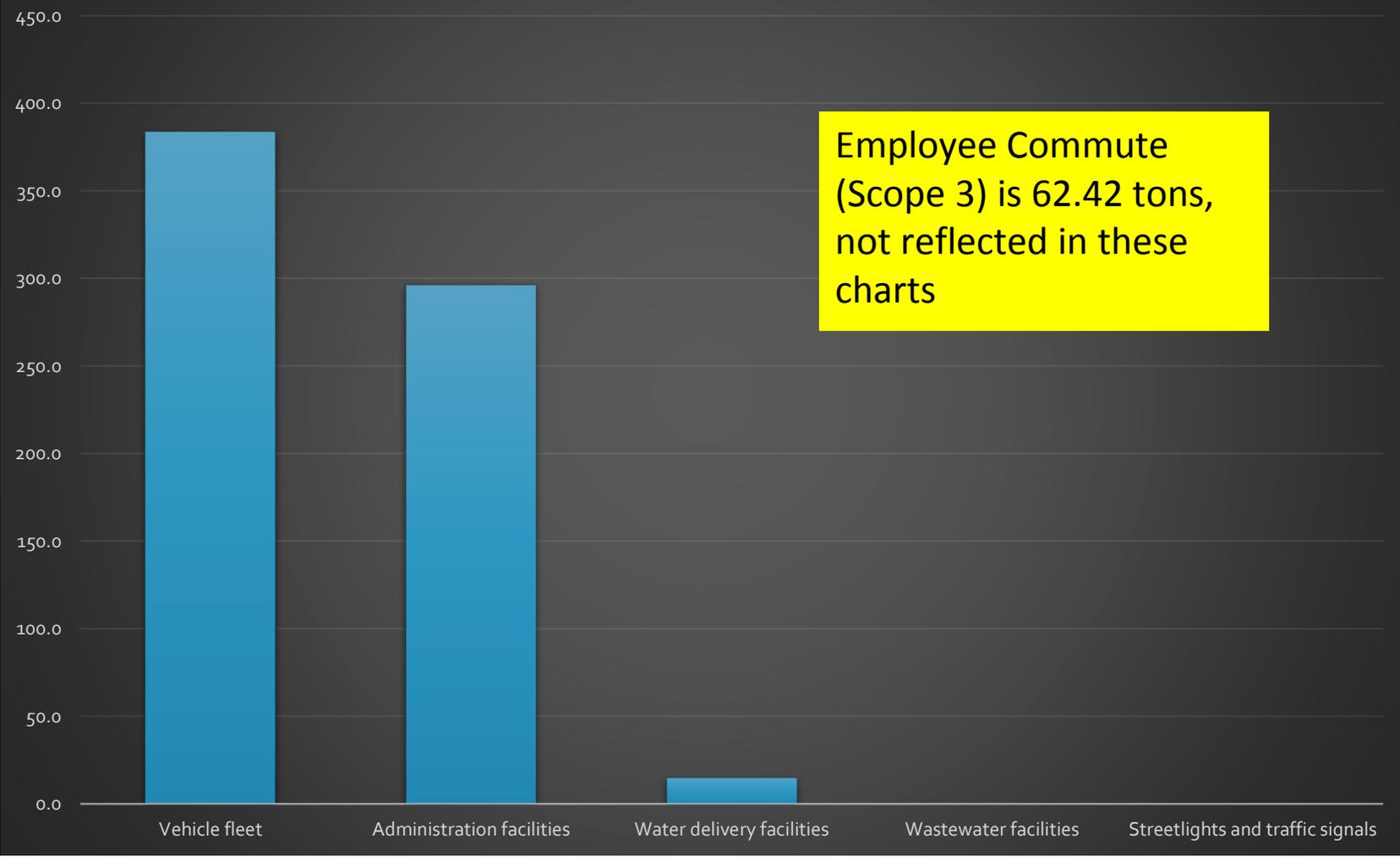
### 2016 Facility GHG Emissions (tons)



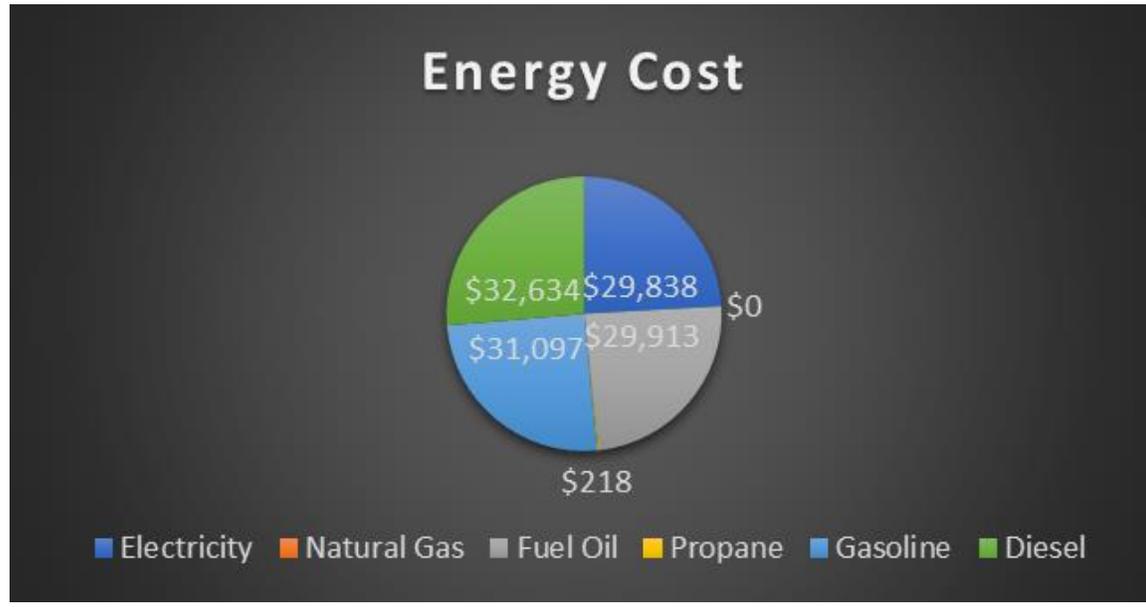
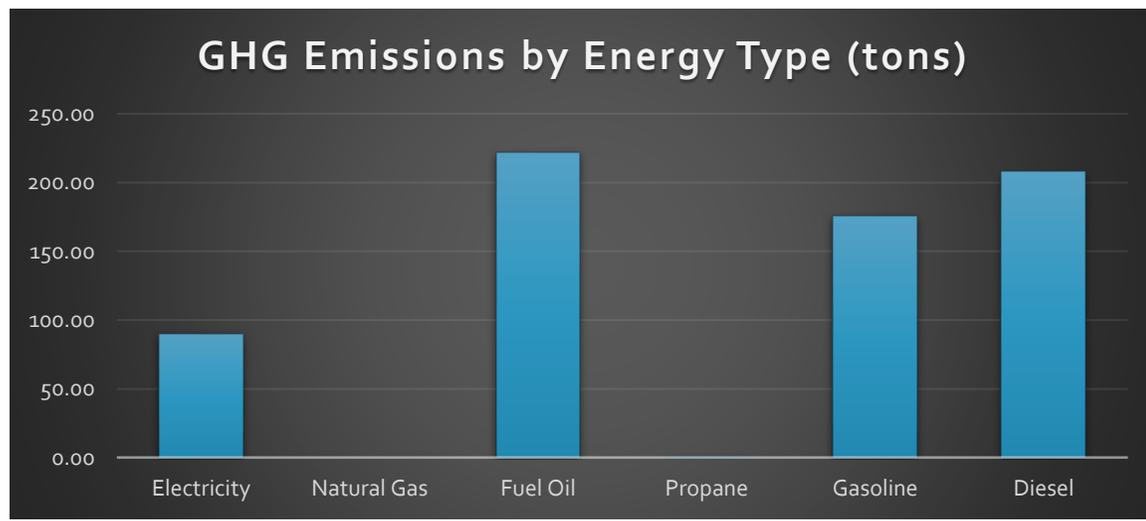
# 2016 GHG Emissions Inventory



### 2016 GHG Emissions by Function (tons)



# 2016 GHG Emissions Inventory



# 2016 GHG Emissions Inventory



Energy Source	2016 Emissions (tons)	2016 Energy Cost	GHG Emissions Percent	Cost per Ton
Electricity	89.80	\$29,838	13%	\$332.26
Natural Gas	0.00	\$0	0%	\$0.00
Fuel Oil	221.97	\$29,913	32%	\$134.76
Propane	0.69	\$218	0%	\$316.51
Gasoline	175.60	\$31,097	25%	\$177.09
Diesel	207.99	\$32,634	30%	\$156.90



# Climate Action Plan “Scorecard”



- All GHG inventories tell a story... (pending errors in calcs, etc.)
- Where to focus on emissions reductions?
  - Rec center energy/emissions high compared to other facilities
- Fleet emissions higher than all facilities combined
- Town uses a lot of fuel oil
  - Fuel oil emissions are more than double electricity
  - But Town pays HALF as much for fuel oil
  - Low oil prices favor high GHG emissions
- 13% of Town emissions are from electricity
  - = not a huge savings potential from green power
- Reductions could come from switching fuel oil to ASHPs
  - But, oil is cheap compared to electricity



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Town of Philipstown

# Next Steps



- Board workshop (March)
- Implementation
  - Set emissions reduction targets
  - CSC grant projects
    - Community GHG Inventory
    - Various other CSC actions
  - Climate Action Plans (Governments & Community)
  - Reduce energy consumption
    - Municipal buildings
    - Fleet
      - EV sedan
      - Highway trucks?
  - Employee commute
    - Public transportation
    - Car-pooling
    - Non-motorized transport



**NYSERDA**  
Supported

Town of Philipstown

# Contact



THANK YOU

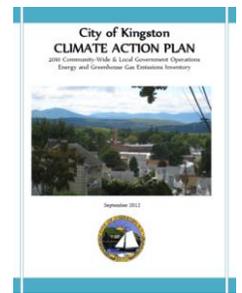
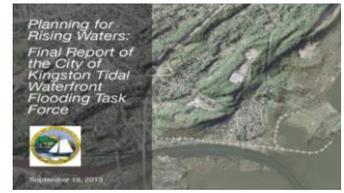
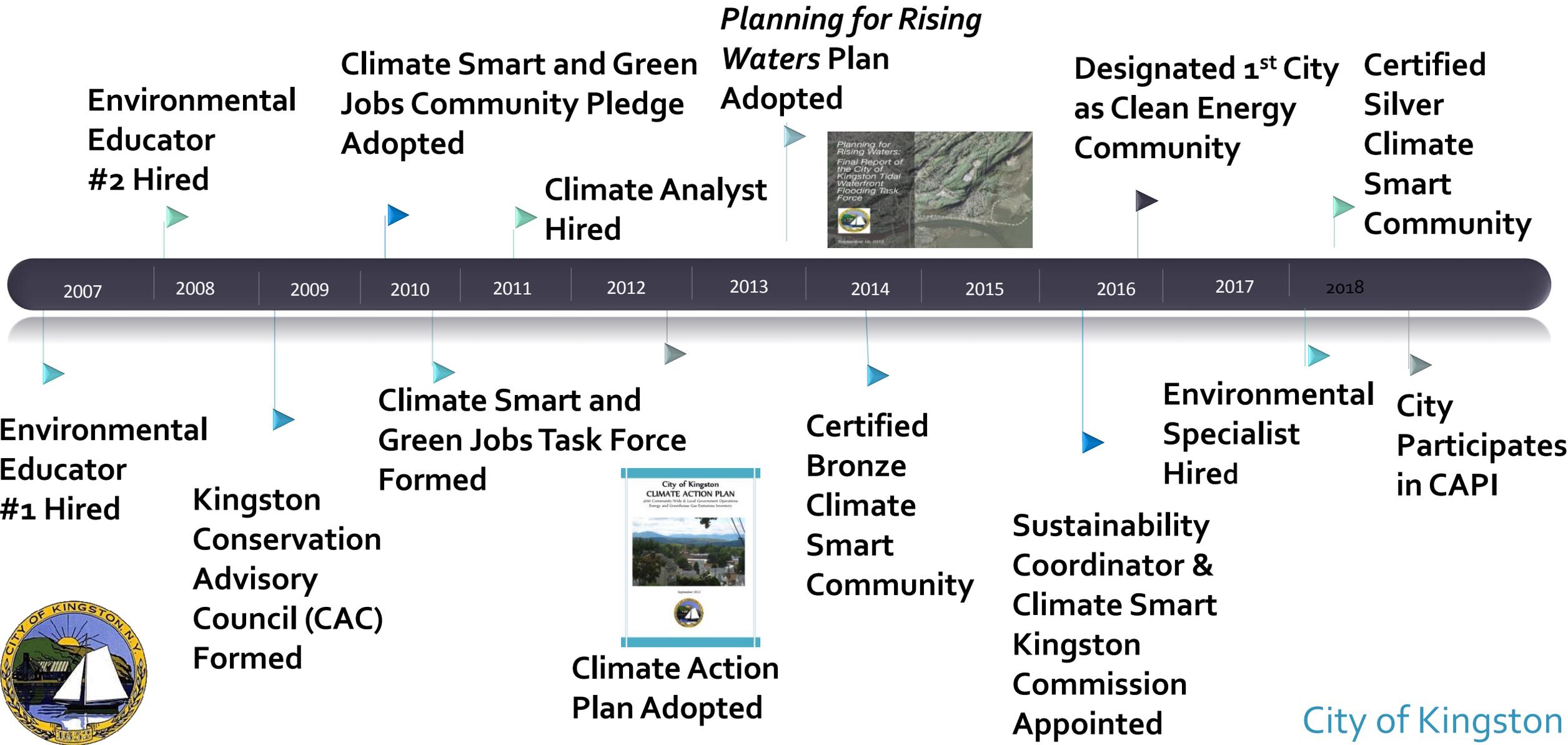
*Roberto Muller*  
*CSC Coordinator*  
[rafaelsanluissan@gmail.com](mailto:rafaelsanluissan@gmail.com)



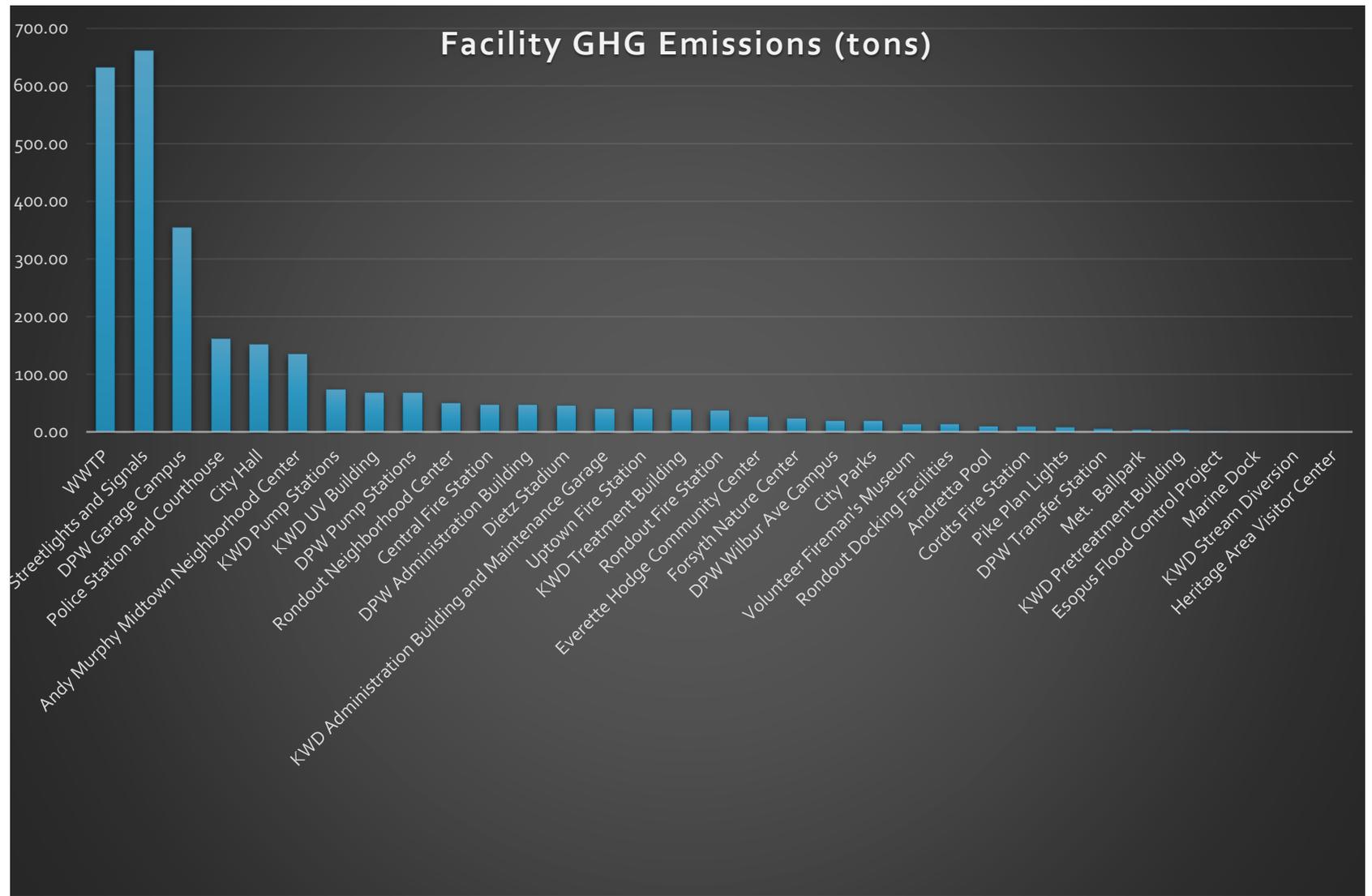
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Town of Philipstown

# Kingston Climate Initiatives



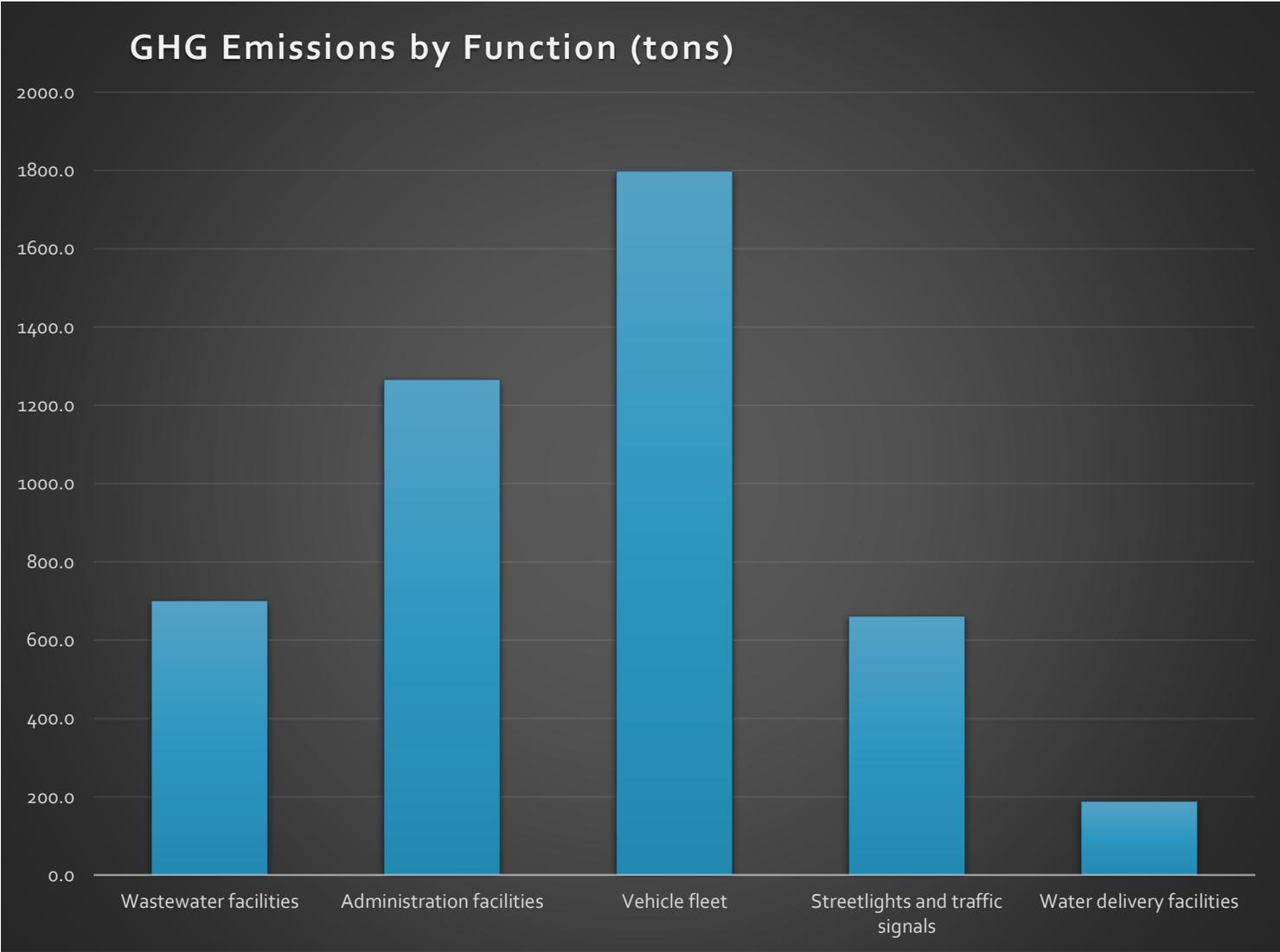
# 2017 GHG Emissions Inventory



**Kingston LED streetlight conversion project  
= estimated annual electricity savings of 1,000,000 kWh**



# 2017 GHG Emissions Inventory



**NYSERDA**  
Supported

# Next Steps



- Gather and chart 2018 final data
- Present to Climate Smart Kingston Commission
- Climate Action Plan update
  - Outline progress towards emissions reduction targets
  - Establish additional implementation plans
  - Establish new targets and goals
- CSC Program
  - Advance and pursue new grant projects
  - Complete re-certification process
  - Share Best Practices with municipalities





Find more about  
Kingston's Sustainability  
Initiatives at  
[www.Kingston-ny.gov/  
sustainability](http://www.Kingston-ny.gov/sustainability)



Julie Noble  
Environmental Education and Sustainability  
Coordinator

[julienoble@kingston-ny.gov](mailto:julienoble@kingston-ny.gov)

(845) 481-7339

City of Kingston



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# Climate Action Planning Institute



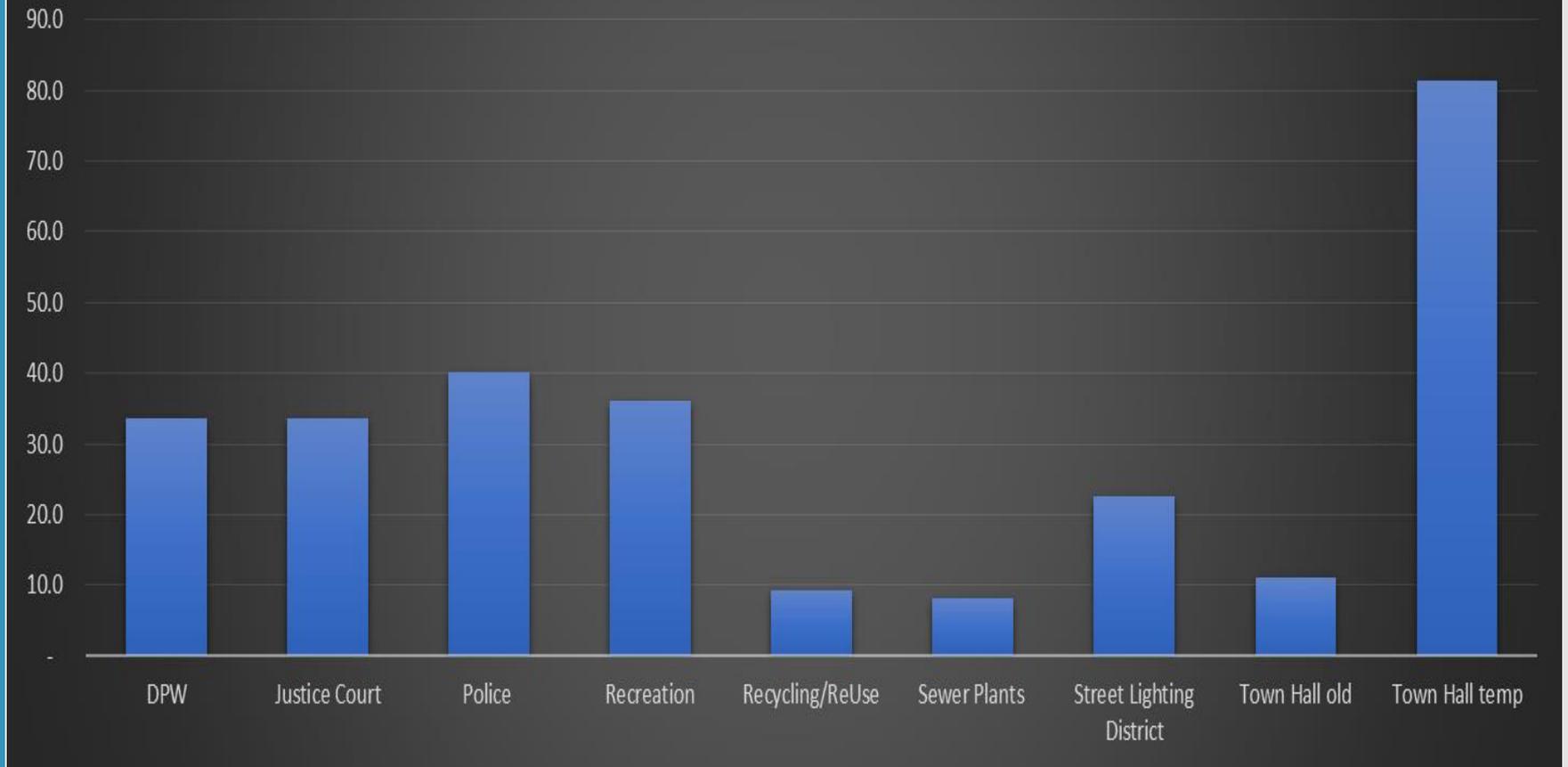
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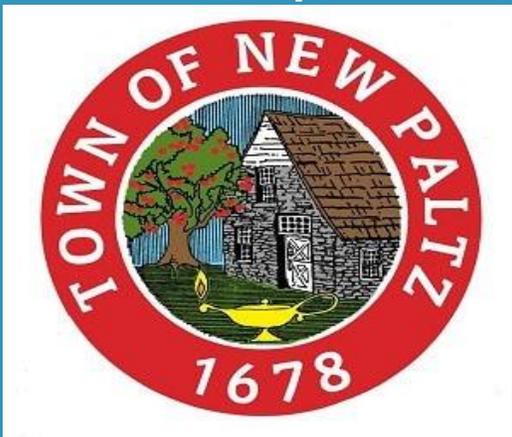
# 2016-2017 GHG Emissions Inventory



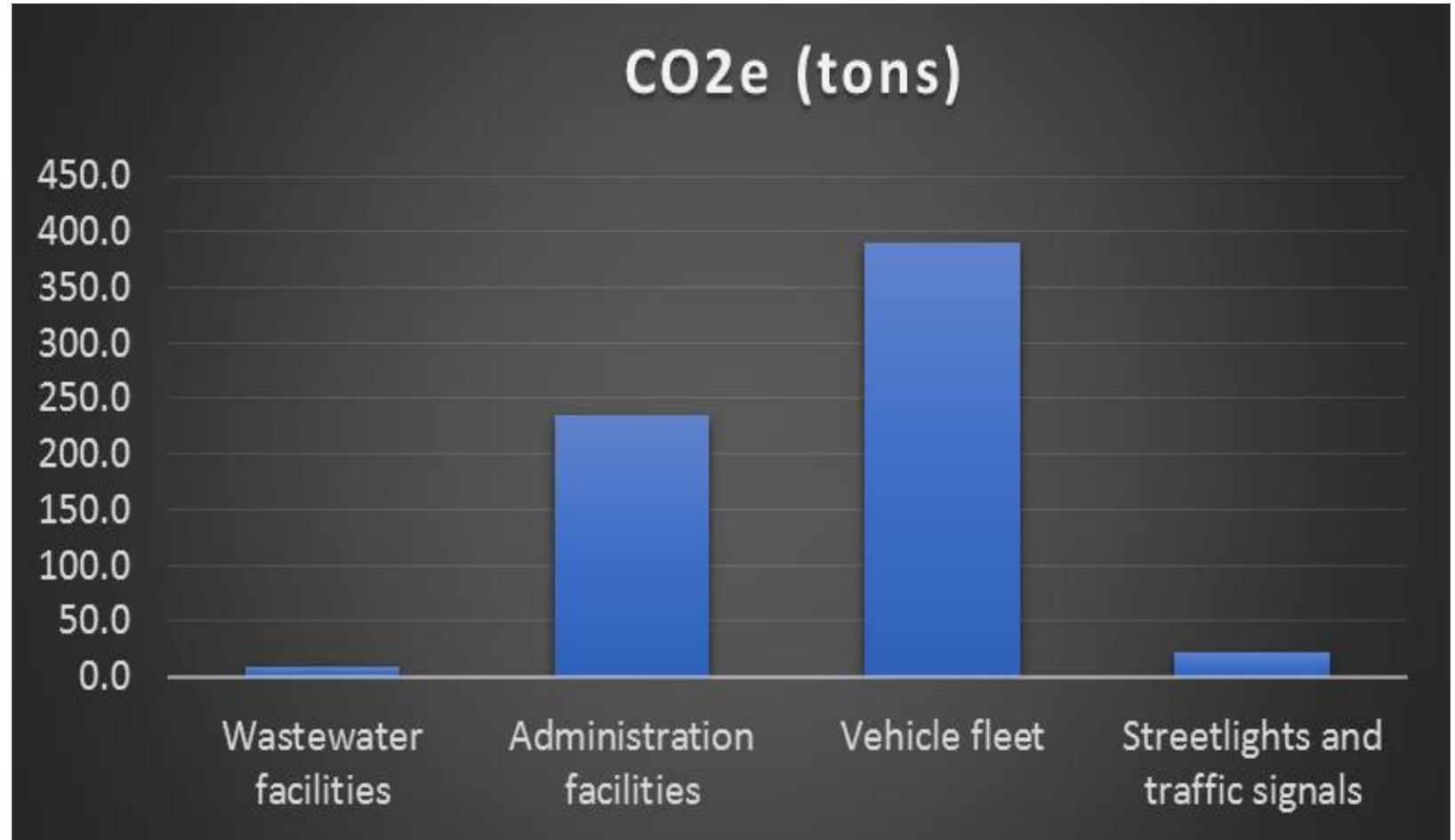
### Facility GHG Emissions (tons)



# 2016-2017 GHG Emissions Inventory



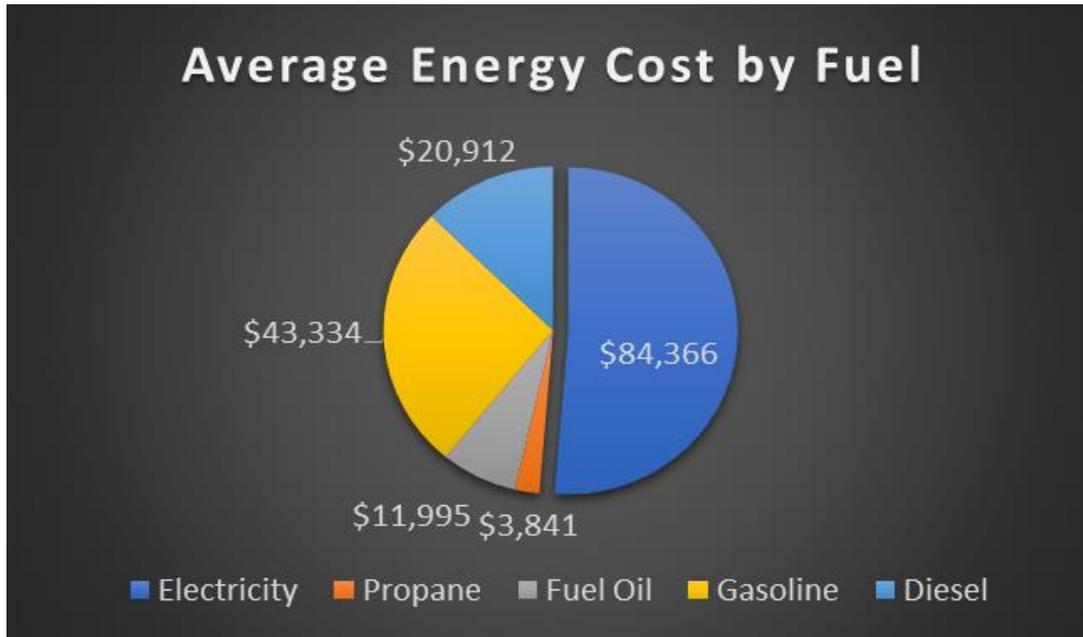
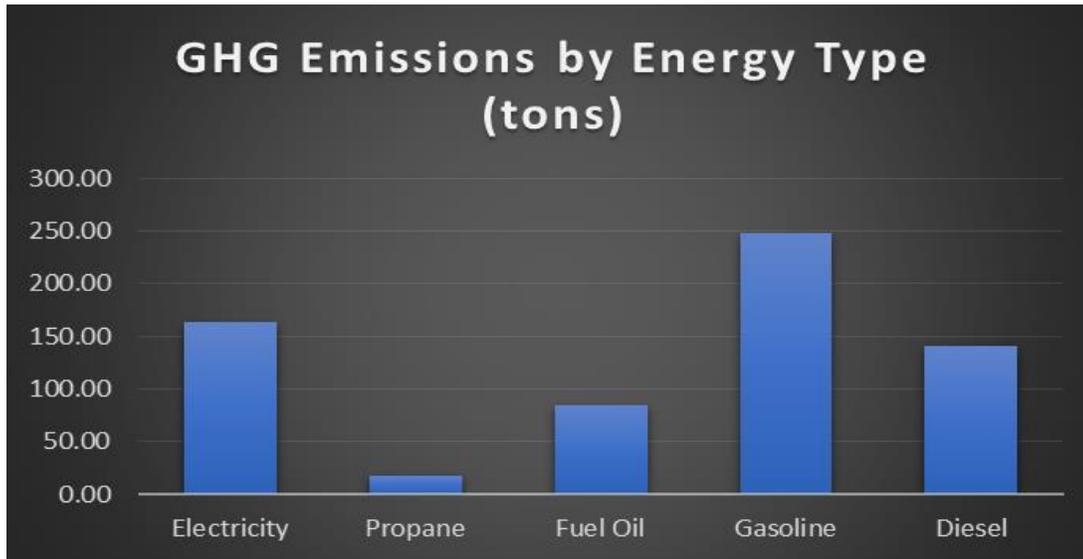
## GHG Emissions by Function



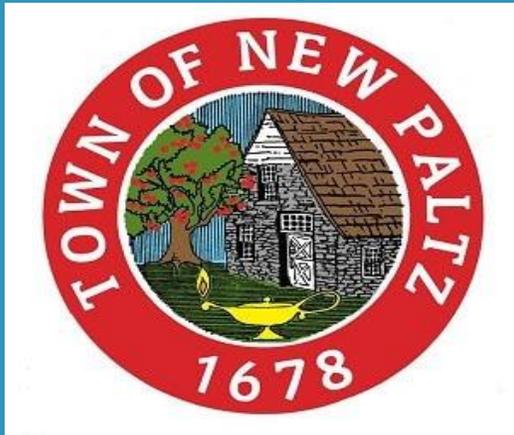
**NYSERDA**  
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Town of New Paltz

# 2016-2017 GHG Emissions Inventory



# 2016-2017 GHG Emissions Inventory



## Annual Trends in GHG Emissions (tons of CO<sub>2</sub>e)

Function	2013	2014	2016	2017
All Municipal Operations	580.44	638.03	645.51	665.53
Administration Facilities	139.78	178.75	243.15	227.65
Vehicle Fleet	411.36	428.05	371.20	407.85
Streetlights & Signals	21.73	22.99	23.08	21.99
Wastewater Facilities	7.58	8.24	8.09	8.44

Fuel Type	2013	2014	2016	2017
Electricity	113.92	112.47	161.01	165.98
Propane	15.61	23.28	18.21	17.48
Fuel Oil	39.56	74.23	95.09	74.22
Gasoline	252.27	261.45	237.78	259.32
Diesel	159.09	166.60	133.42	148.53



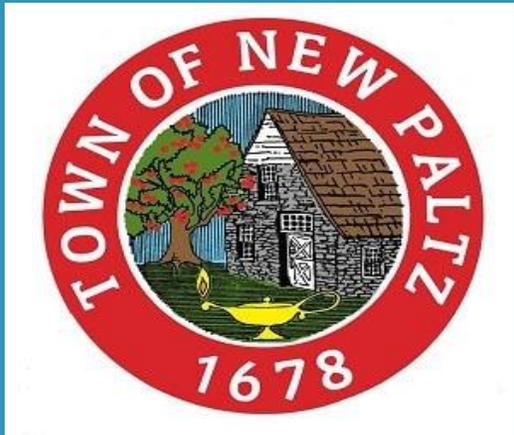
# 2016-2017 GHG Emissions Inventory



- Presentation to Board
  - March 21, 2019
  - Adopted by Town Board via municipal resolution
- Climate Action Plan
  - Where to focus emissions reductions
    - Fleet Fuel = 382 tons of CO<sub>2</sub>e/year
    - Town Hall = 81.3 tons CO<sub>2</sub>e/year).
    - Justice Court = 9.5 tons CO<sub>2</sub>e/year)
- CSC Task Force Initiatives
  - Update Town GHGI with 2018 data, collect Scope 3 data
  - Earth Day table, April 27
  - Community Pot Luck event, May 10



# Contact



## THANK YOU

- Janelle Peotter, CSC Task Force Chair  
[janellepeotter@gmail.com](mailto:janellepeotter@gmail.com)
- Amanda Gotto, CSC Task Force Project Manager  
[dagotto13@gmail.com](mailto:dagotto13@gmail.com)



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Town of New Paltz

# 2016-2017 GHG Emissions Inventory



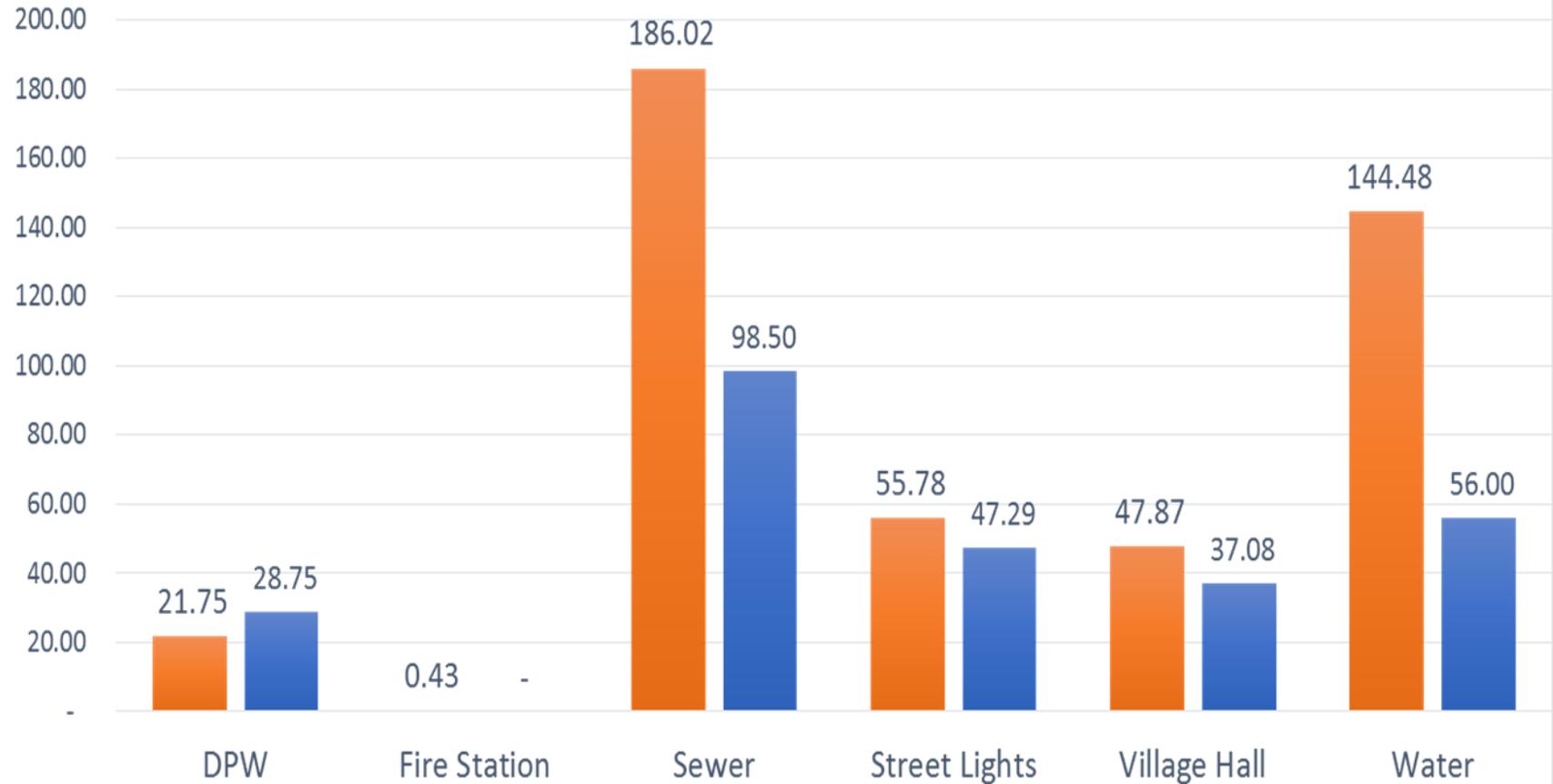
- Benefits
  - No grant application & reporting
  - Access to Resources
    - Inventory template & technical assistance
    - Bulk utility data
  - Network with other communities
- Challenges
  - Data collection
  - Capacity for technical support
- Government GHG Emissions Inventory: Process
  - Facility Master List
  - Energy Provider Accounts
  - Data Collection
    - Electric bulk data
    - Tank fuels
    - Fleet fuels



# 2016-2017 GHG Emissions Inventory



### Facility GHG Emissions (2016 & 2017)

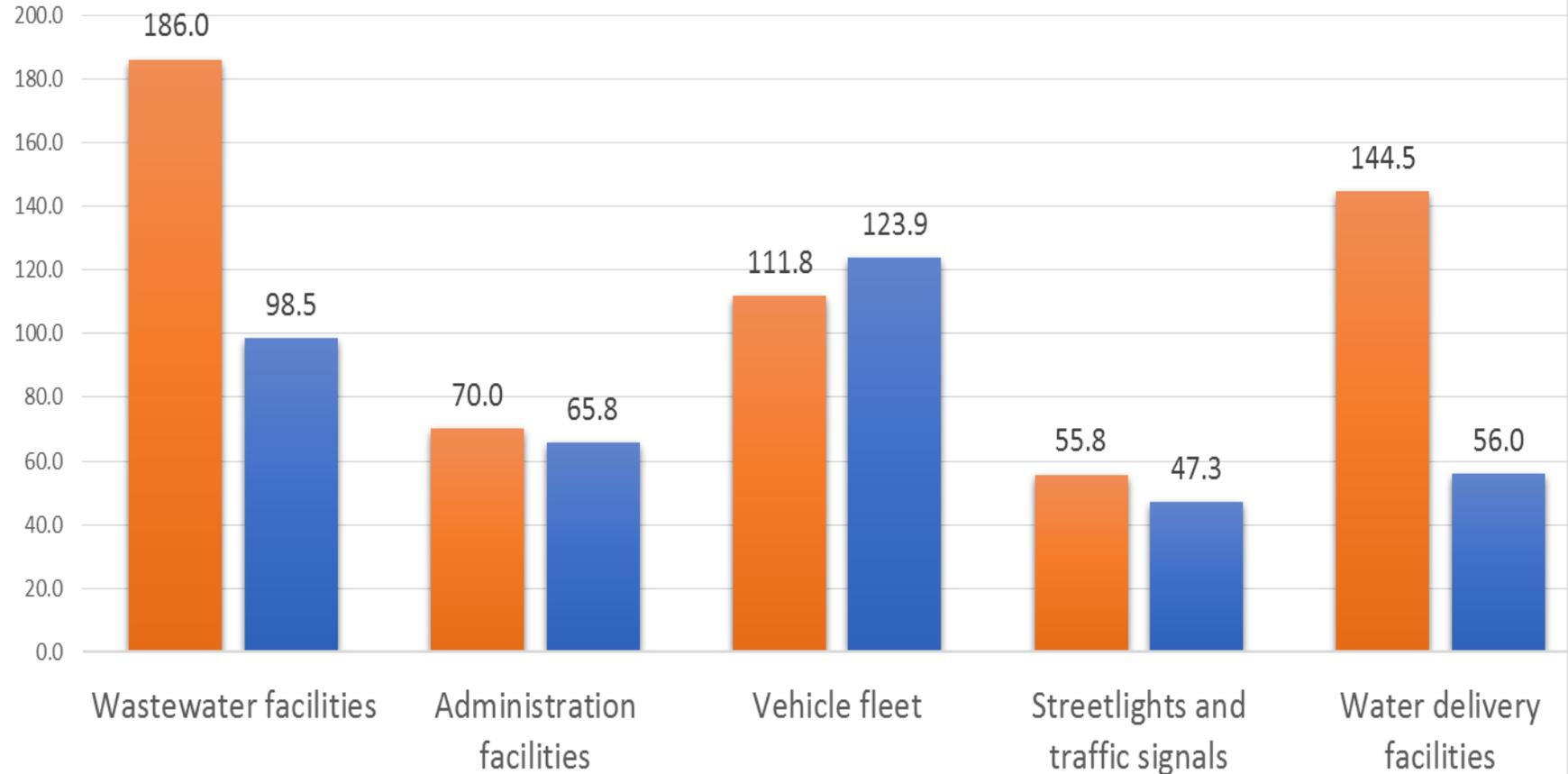


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# 2016-2017 GHG Emissions Inventory



## GHG Emissions by Function (2016 & 2017)



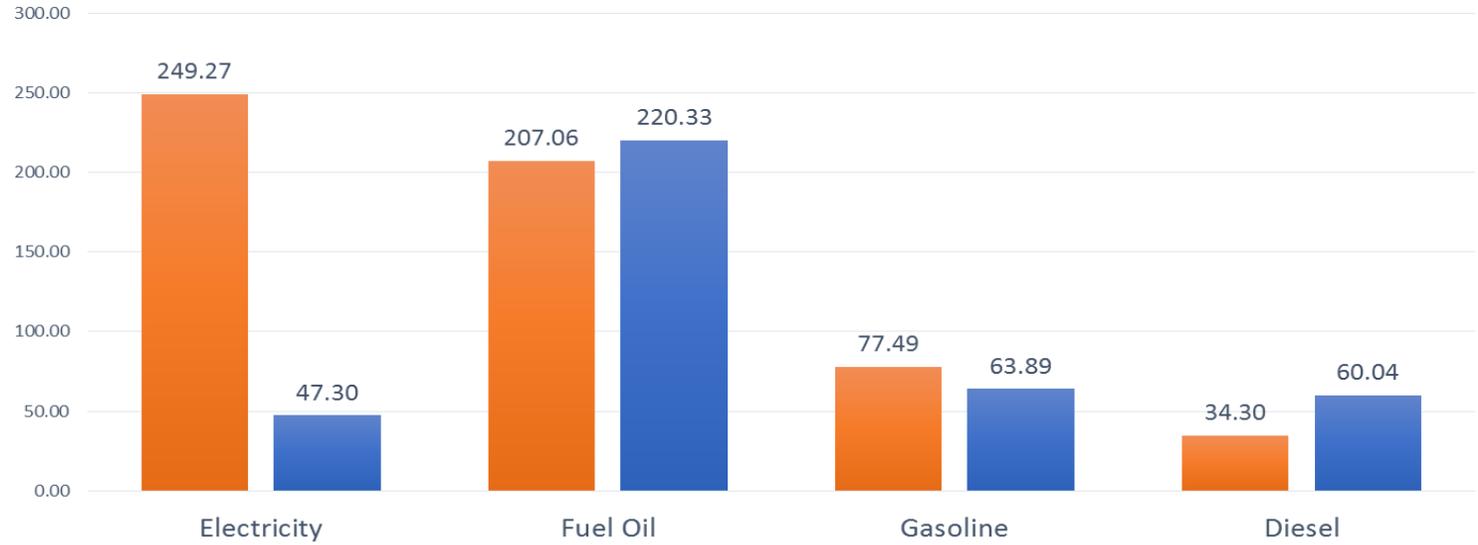
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Village of New Paltz

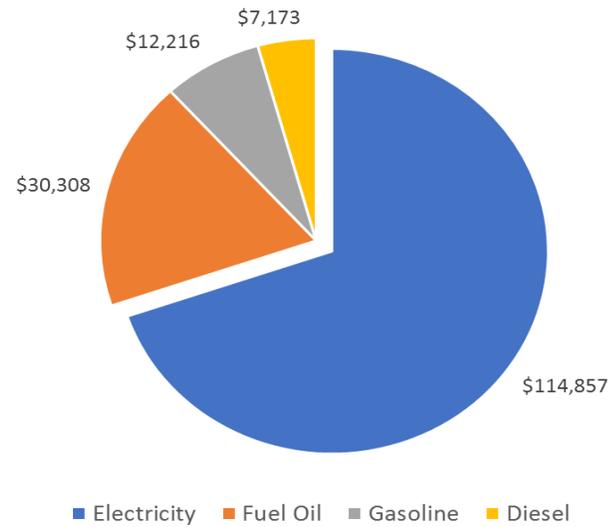
# 2016-2017 GHG Emissions Inventory



GHG Emissions by Energy Type (2016 & 2017)



Average (2016-2017) Energy Cost by Fuel



# 2016-2017 GHG Emissions Inventory



## Annual Trends in GHG Emissions (tons of CO<sub>2</sub>e)

Function	2016	2017
<b>All Municipal Operations</b>	<b>568.12</b>	<b>391.54</b>
Administration Facilities	70.05	65.83
Vehicle Fleet	111.79	123.93
Streetlights & Signals	55.78	47.29
Wastewater Facilities	186.02	98.50
Water Delivery	144.48	56.00

Fuel Type	2016	2017
<b>All Energy Sources</b>	<b>568.12</b>	<b>391.56</b>
Electricity	249.27	47.30
Fuel Oil	207.06	220.33
Gasoline	77.49	63.89
Diesel	34.30	60.04



# 2016-2017 GHG Emissions Inventory



- Presentation to Board
  - March 27, 2019
  - Adopted by Village Board via municipal resolution
- Climate Action Plan
  - Where to focus emissions reductions
    - wastewater treatment & water delivery facilities = 51%
    - vehicle fleet (DPW & Fire Department) = 25%
    - administration facilities = 14%
    - streetlights/signals = 11%
- CSC Task Force Initiatives
  - Update Village GHGI with 2015 & 2018 data
  - Collect Scope 3 data
  - Earth Day table, April 27
  - Community Pot Luck event, May 10



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Village of New Paltz

# 2016-2017 GHG Emissions Inventory



## THANK YOU

- Janelle Peotter, CSC Task Force Chair
  - [janellepeotter@gmail.com](mailto:janellepeotter@gmail.com)
- Amanda Gotto, CSC Task Force Project Manager
  - [dagotto13@gmail.com](mailto:dagotto13@gmail.com)



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Village of New Paltz

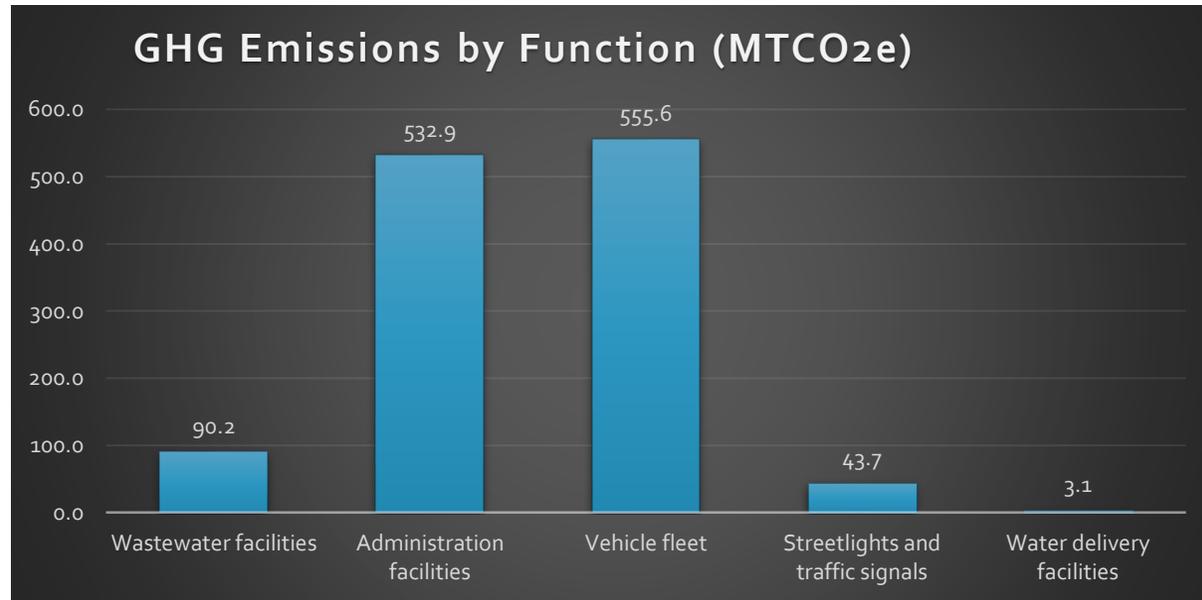
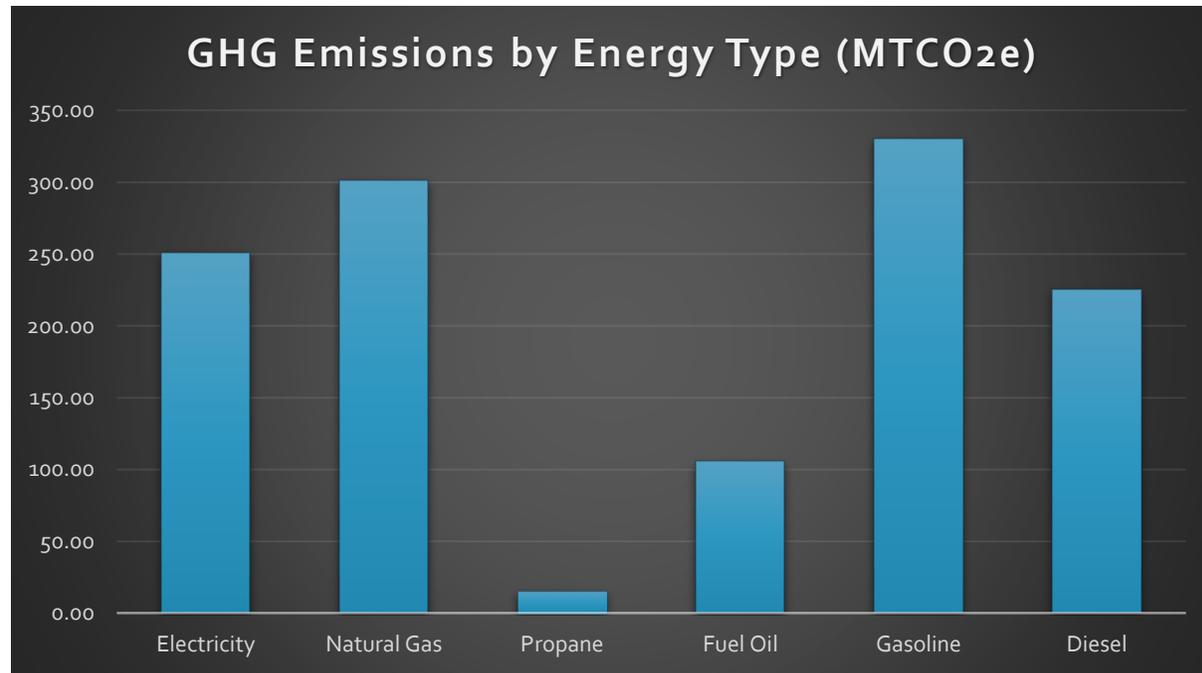
# 2016-17 GHG Emissions Inventory



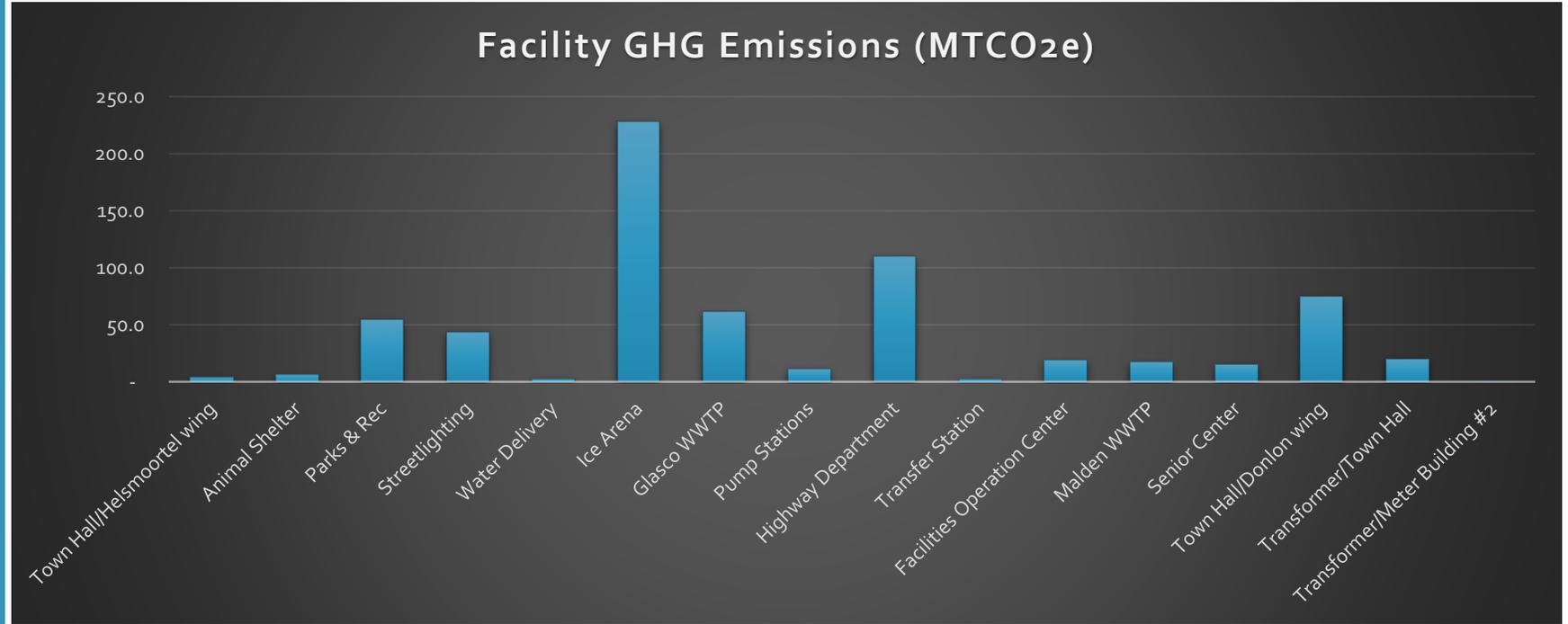
- Benefits
  - No grant application & reporting
  - Access to Resources
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    - Bulk utility data
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Process
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    - Gas & Electric bulk data
    - Tank fuels
    - Fleet fuels



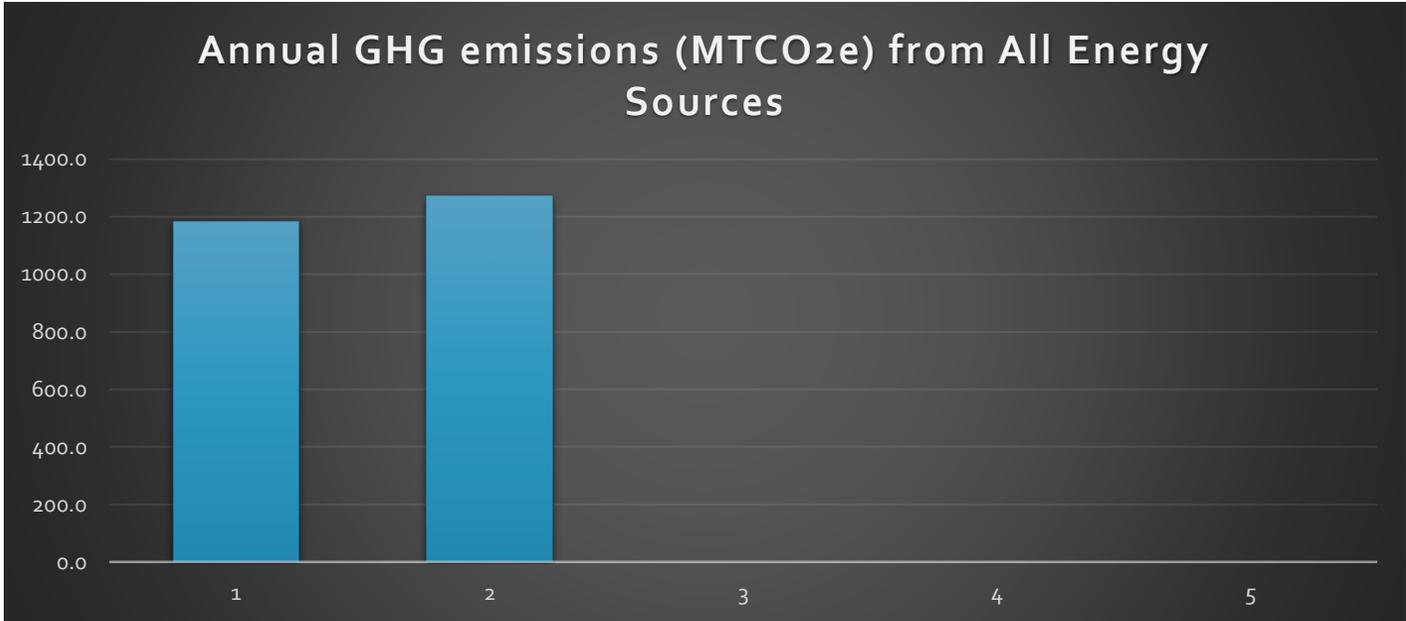
# 2016-17 GHG Emissions Inventory



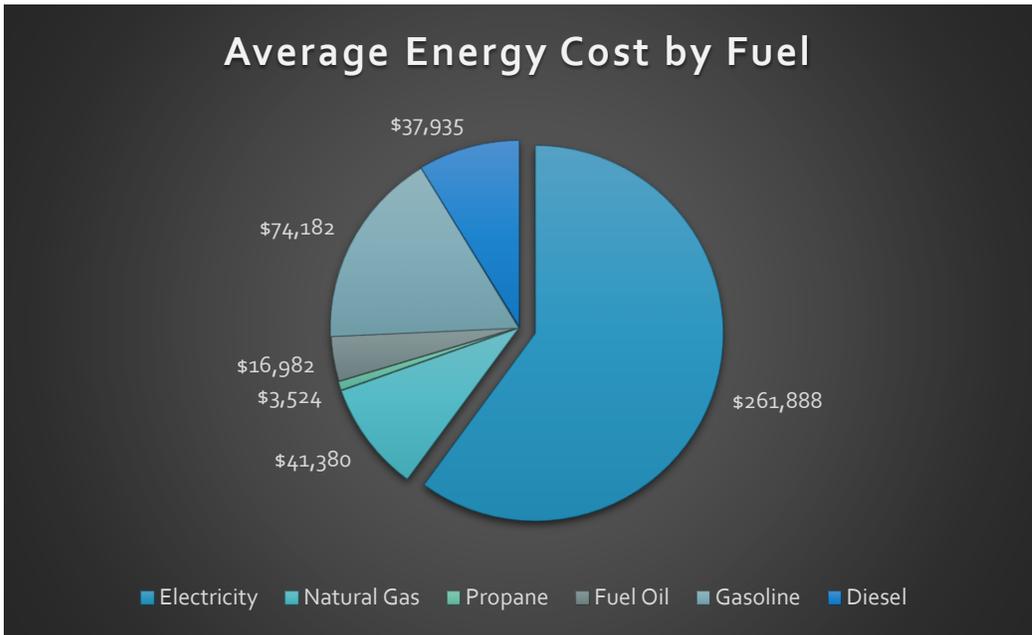
# 2016-17 GHG Emissions Inventory



# 2016-17 GHG Emissions Inventory



Annual Emissions Trends (2016-17)



# 2016-17 GHG Emissions Inventory



- Presentation to Board and the public
  - April 17, 2019
- Climate Action Plan
  - Where to focus emissions reductions
    - Vehicles used by the Police Department and the Highway Department provided the largest source of MTCO<sub>2</sub>e, with 48% of the total Municipal GHG emissions. Our focus is on replacing cars with, at minimum, 6 EVs and 11 hybrids and gradually replace large equipment with more energy efficient models by 2025.
    - Administration Facilities, particularly those using electricity & natural gas, were the next largest emitter of greenhouse gases, with 43%. We plan to convert to 100% LED streetlights, purchase offsets from the solar farm at our closed landfill, and seek funding to help purchase a more energy efficient chiller for our ice arena by 2025.
- CSC Task Force Initiatives
  - [www.climatesmatsaugerties.com](http://www.climatesmatsaugerties.com) to educate the public
  - Go Smart Go Green fair (May 4)
  - CSC Certification (July 2019)



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Contact

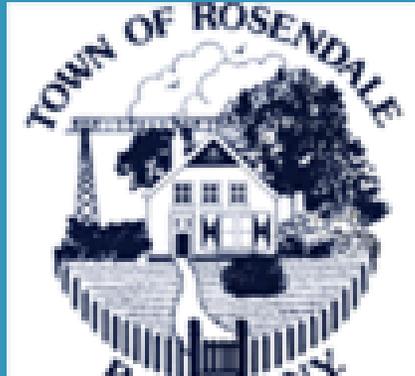
THANK YOU



*Patti Kelly*  
*CSC Task Force member*  
[ckelly513@hvc.rr.com](mailto:ckelly513@hvc.rr.com)



Town of Saugerties



# ROSENDALE NEW YORK

GHG Emissions Inventory Update.

		Stationary Combustion of Fossil Fuels	Building / Facility Electricity Consumption	Mobile Combustion of Fossil Fuels (Fleet)	Solid Waste Disposal	Wastewater Treatment	Employee Commutes	Additional Emission Sources
<b>1</b>	<b>Municipal</b>	Gas / Oil						
	Town Hall	X	X				X	
	Dog Warden						X	
	Code Enforcement							
	Planning Department	X	X					
	Building Department	X	X	X			X	
	Assessor	X	X	X			X	
<b>2</b>	<b>Highway</b>							
	Highway Department	X	X	X			X	
<b>3</b>	<b>Recreation</b>							
	Rec Center (including pool house)	X	X				X	
	Youth Center	X	X	X			X	
	Pavillion		X					
	Pool		X					
	Baseball field lights / Buildings	X	X					
<b>4</b>	<b>Justice - court and police</b>							
	Court	X	X				X	
	Police	X	X	X			X	
<b>5</b>	<b>Street Lights</b>							
	Street Lights	X	X					

		Stationary Combustion of Fossil Fuels	Building / Facility Electricity Consumption	Mobile Combustion of Fossil Fuels (Fleet)	Solid Waste Disposal	Wastewater Treatment	Employee Commutes	Additional Emission Sources
7	<b>Building/Grounds</b>							
				X				
8	<b>Rosendale Water</b>							
	Rosendale Water treatment plant (Stillwater pond, & filtration plant)	X	X	X		X		
	Pump station 1 - Name?	X	X					
	Pump station 2 - Name?	X	X					
9	<b>High Falls Water</b>							
	Pump Station	X	X					
	WWTP - Water Department		X	X		X		
10	<b>Rosendale Sewer / Septic</b>							
	WWTP sewer plant	X	X	X		X		
	Pump station 1	X	X					
	Pump station 2	X	X					
	Pump station 3	X	X					
11	<b>Rosendale Water / Sewer</b>							
	Combined data for both water and sewer	X	X	X		X	X	
	Misc							

# Emissions Guidelines

## Stationary Combustion of Fossil Fuels -

The on-site combustion of fuels to produce power, electricity, or heat, using equipment in a fixed location.

**Examples:** Wood stove, pellet stove, generator, oil tank, propane tank,

### Needed Data:

- Department / Facility
- Fuel Type / Unit
- Usage
- Price per unit

<b><u>Fuel Type</u></b>	<b><u>Unit</u></b>
Natural Gas	mcf
Digester Gas	mcf
Diesel	gallons
LPG	gallons
Gasoline	gallons
Residual fuel oil #5	gallons
Residual fuel oil #6	gallons
Propane	gallons
Butane	gallons
Jet Fuel	gallons
Bituminous coal	short tons

# Emissions Guidelines

## Building / Facility Electricity Consumption -

### Needed Data:

- Fuel Type / Unit
- Usage
- Price per unit
- Estimated or measured
- Department / facility

<u>Fuel Type</u>	<u>Unit</u>
Electricity	kWh

## Employee Commute -

### Needed Data:

- Fuel Type (gasoline or diesel):
- Fuel Unit (gallons):
- Miles Tracked (daily, monthly, etc.) **commute or work travel?**
- Average miles per gallon of vehicle:
- Department / Facility
- Employee

# Emissions Guidelines

## Mobile Combustion of Fossil Fuels -

**Vehicle Type / Model** (passenger car, light truck (vans, pick up trucks, SUV), heavy duty vehicle, motorcycle, agricultural/construction/utility/recreation equipment, locomotive, ship boat, aircraft)

### Needed Data:

- Fuel Type / Unit
- Fuel Consumed
- Average MPG
- VMT (vehicle miles traveled)

<b><u>Fuel Type</u></b>	<b><u>Unit</u></b>
Gasoline	gallons
Diesel	gallons
Biodiesel (B5)	gallons
Biodiesel (B20)	gallons
Ethanol (E5)	gallons
CNG	G.G.E.
LPG	gallons
Jet Fuel	gallons
Aviation Gasoline	gallons
Residual fuel (boat)	gallons

### Facility Info Collection Sheet

Facility/Group Name

Individual Facility Name

ICLEI GHG Reporting Sector Address

Contact Person

Contact Phone Number

Energy Provider Accounts / Numbers (Energy Source, Vendor / Provider)

Account	Account Number
Central Hudson	

Fuel Types

Units Used for each fuel type

# Rosendale, NY

## Steps Taken to Reduce Energy Use as a Climate Smart Community

### 1. **Build a climate-smart community**

1.2 Create a CSC Task Force. Environmental Commission serves as CSC Task Force.

1.3 Name a CSC Coordinator. The first coordinator was new NY State Senator Jen Metzger!

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

2.1 Develop a Government Operations GHG Inventory. Created for 2010. Now being updated to 2017 with the support of CAPI.

2.2 Develop a Community GHG Inventory. Rosendale participated in the 2010 Mid-Hudson Tier II Regional Greenhouse Gas (GHG) Emissions inventory.

### 3. **Decrease energy use**

3.1 Government Building Energy Audits. Audits have been done on 10 municipal buildings.

3.2 Interior Lighting Upgrades. Completed for 10 municipal buildings and facilities.

3.3 HVAC Upgrades. Installed mini-splits (air exchange) in the Municipal Center.

3.32 Energy Benchmarking for Government Buildings. Does electrical benchmarking.

3.15 LED Street Lights. Town-wide street light assessment led to an audit and decommissioning of unneeded lights. Rosendale is now in the process of purchasing and converting current streetlights to LED.

# Rosendale, NY

## Steps Taken to Reduce Energy Use as a Climate Smart Community

### 4. **Shift to clean, renewable energy**

4.1 Green Power Procurement Policy. Rosendale has contracted with Natural Power Group to procure up to 100% of its electrical power from green, local hydroelectric power.

4.5 Geothermal Installation. Rosendale's new Community Center has geothermal heating.

4.6 Solar Energy Installation. The Community Center also has a 10 kW solar array on the pavilion roof.

### 5. **Use climate-smart materials management**

5.6 Resource Recovery Center. The Town operates a source separated recycling center and trash collection facility.

5.9 Recycling Program for Public Places and Events. In 2018, the Rosendale Chamber of Commerce installed recycling containers for public use throughout the town.

### 6. **Implement climate-smart land use**

6.3 Renewable Energy Ordinance. The Town adopted the NYS unified solar permit.

6.10 Planning and Infrastructure for Bicycling & Walking. The Town completed a "Wayfinding Study" to interconnect town resources including walking and biking trails.

6.11 Alternative-fuel Infrastructure. Rosendale installed two EV charging stations in the Willow Kiln Park and two EV charging stations at the Municipal Center.

# Rosendale, NY

## Steps Taken to Reduce Energy Use as a Climate Smart Community

6.17 Natural Resources Inventory. The Environmental Commission completed a Natural Resources Inventory in 2010.

6.19 Zoning for Natural Resource Preservation. Concerns about environmental impact and the requirements for environmental impact statements for development projects appear throughout the Zoning Board regulations.

### **7. Enhance community resilience to climate change**

7.1 Climate Vulnerability Assessment. Rosendale received NY Rising Community Reconstruction Program funding to complete a risk assessment (primarily associated with flooding) and received \$3 million dollars to improve the community's resiliency with respect to increased flood hazards possibly associated with changing climate.

7.5 Climate Resiliency in Local Plans & Projects. The Natural Resource Inventory serves as valuable resource for watershed assessment and other water-related studies.

### **8. Support a green innovation economy**

8.2 Green Vendor Fairs. Earth Day celebrations held for several years allowed green vendors to advertise their services and products to the local community.

8.6 Farmers' Markets. A Farmer's Market is held every Sunday during the summer months and monthly during the winter.

# Rosendale, NY

## Steps Taken to Reduce Energy Use as a Climate Smart Community

### 9. **Inform and inspire the public**

9.1 Climate Change Education and Engagement. Rosendale is a Municipal Separate Stormwater Sewer System (MS4) town and carries out education and code enforcement in keeping with this status.

9.3 Climate-related Public Events. Rosendale's Earthfest, held for several years, included exhibits on energy efficiency, alternative energy, green building, resource conservation, and local food production. The town has co-sponsored forums with the Rosendale-based non-profit Citizens for Local Power (CLP) and worked with Sustainable Hudson Valley and CLP on a solarize campaign.

### 10. **Engage in an evolving process of climate action.**

3.31 GHG Tracking System. There is annual benchmarking of town buildings and facilities.

10.3. Partnerships with Other Entities. Rosendale participated in the Mid-Hudson's regional sustainability planning process.

### **In addition to CSC standards**

Clean Energy Community. Rosendale became a Clean Energy Community in June, 2017, in recognition of high-impact actions taken by the Town: 1) adoption of the unified solar permit process; 2) updated energy code training for the Code Enforcement Office; 3) installation of an EV station in the town parking lot; 4) adoption of a benchmarking process for all Town departments. The designation resulted in a \$50,000 grant, which will help offset the cost of purchasing and converting the town's streetlights to LED.

# DEC Contact Info

- DEC Office of Climate Change
- 518-402-8448
- Certification:  
[climatesmart@dec.ny.gov](mailto:climatesmart@dec.ny.gov)
- CSC Grants:  
[cscgrants@dec.ny.gov](mailto:cscgrants@dec.ny.gov)
- ZEV Rebates:  
[ZEVrebates@dec.ny.gov](mailto:ZEVrebates@dec.ny.gov)

**CSC Funding Programs (Grants & ZEV Rebates):**

<http://www.dec.ny.gov/energy/109181.html>

**CSC Certification Portal:**

<https://climatesmart.ny.gov>

**Sign up for CSC emails (“DEC Delivers”):**

<https://www.dec.ny.gov/energy/76910.html>

**Webinar slides & recordings:**

<http://www.dec.ny.gov/energy/84359.html>



Climate Smart  
Communities



Department of  
Environmental  
Conservation

# Climate Action Planning Institute

## Q&A



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Discussion