



Ulster County 2021 Climate Smart Communities Recertification Documentation

Performance Action: Reduce GHGs from Government Facilities

25 POINTS DOCUMENTED

Background: Ulster County achieved a reduction of 24.7% at government facilities between its baseline year of 2012 and 2020. This reduction includes baseline changes but does not include offsets (RECs/carbon credits) procured for Ulster County's Carbon Neutral Government Operations program.

This reduction includes changes from the following three reporting sectors:

Sector	2012 Emissions (MT CO ₂ e)	2020 Emissions (MT CO ₂ e)
Buildings and other Facilities	4,702	3,537
Streetlights and Traffic Signals	5	2
Water Delivery Facilities	10	11
Total	4,717	3,550

Ulster County attributes this reduction to the following factors:

- **Energy Efficiency Measures:** implemented between 2012 and 2020 per the attached table
- **Change in electricity emissions rate:** The average electricity generation emission intensity decreased by 43% between 2012 and 2020.

NYUP/NPCC Upstate NY subregion total output emission rate

2012 inventory: eGRID2012 - 410.3 lb CO₂e/MWh

2020 inventory: eGRID2019 - 233.0 lb CO₂e/MWh

- **Operational changes in 2020 due to COVID 19:** The impact of this factor has not been fully quantified, however, the GHG emissions from government facilities in 2020 was 14% lower than the average emissions from the prior three years. This estimate does not account for other factors such as weather, efficiency, etc.

Average 2017-2019 emissions: 4,124 MT CO₂e

2020 emissions: 3,550 MT CO₂e

The GHG emissions totals reported are not weather normalized. However, regional weather during the reporting years did not contribute to the emissions reduction reported. Based on NYSERDA data, the region experienced 6,415-degree days in 2012 and 6,841-degree days in 2020.

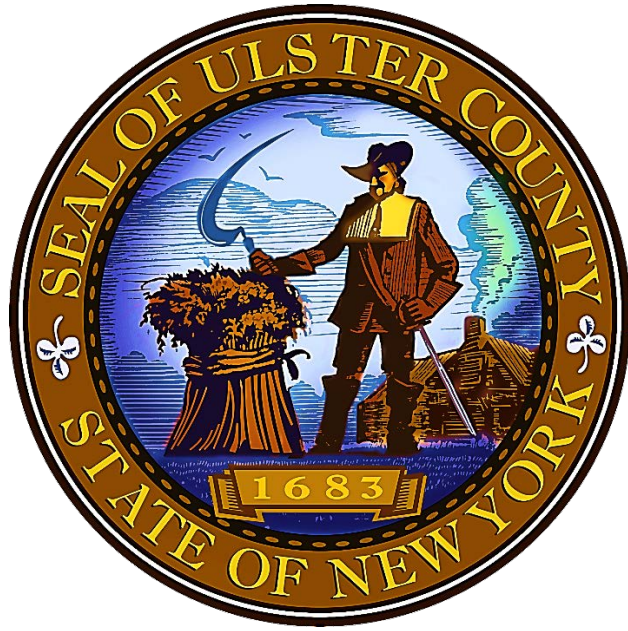
(Source: NYSERDA Monthly Cooling and Heating Degree Day Data, Albany data,

<https://www.nyserda.ny.gov/about/publications/ea-reports-and-studies/weather-data/monthly-cooling-and-heating-degree-day-data>)



Documentation:

- Ulster County 2020 Carbon Neutral Government Operations report
Available here: <https://ulstercountyny.gov/environment/climate-mitigation>
- Energy efficiency measures implemented between 2012 and 2020
- Table of changes to 2012 baseline inventory
- Activity data table from EPA Portfolio Manager, 2012 and 2020



2020
Carbon Neutral Government
Operations Report

1. Introduction

Resolution 315 of 2019¹ was adopted by the Ulster County legislature in September of 2019 to establish a policy regarding Ulster County's use of renewable energy. This policy reinforces Executive Order 1 of 2019 signed by the County Executive in June of 2019.

The resolution commits Ulster County to:

- Purchase 100% of the County's electricity for government operations directly from local renewable energy sources, or as an interim solution only, by obtaining Green-e Energy certified Renewable Energy Certificates (RECs).
- Continue to operate a net carbon neutral government.
- Decrease greenhouse gas emissions associated with its operations by 25 by the year 2025 and 80 by the year 2050 using the County's 2012 greenhouse gas emission inventory as a baseline.
- Ulster County shall supply 100% of its annual building and fleet electricity usage from locally generated renewable energy sources by the year 2030.
- Endeavor to achieve the Department of Environmental Conservation's Gold Climate Smart Community designation by the year 2025.
- Assist and support our towns and communities in increasing the use of green power and decreasing community wide greenhouse gas emissions by 80% by the year 2050.

The following report, prepared by the Ulster County Department of the Environment, is submitted to detail the status of each of these goals, and to inform whether these goals remain attainable and whether they should be modified or amended.

This report builds on data collection and analysis for the Annual Green Fleet Report, due for submittal by March 1st for the prior year of data, and the Building Benchmarking report, due for submittal by September 1st for the prior year of data.

2. Renewable Electricity Usage

Per Executive Order 1-2019, Ulster County purchases 100% of its electricity for government operations from renewable sources through a combination of on-site generation, distributed generation, renewable energy certificates and utility green power products. Per Resolution 315 of 2019, Ulster County distinguishes between local renewable electricity and non-local renewable electricity acquired through the purchase of RECs. Ulster County defines local generation as generation from a renewable source that occurs within the same utility territory and NY Independent System Operator (NYISO) zone as the load it serves. This includes generation from community distributed generation (CDG) sites.

¹ Available here: https://legislature.ulstercountyny.gov/sites/default/files/315.1%20-%2019_0.pdf

Local Renewable Generation

In 2020, purchased approximately 19.4% of its electricity from local renewable sources. This electricity was generated at the following locations:

Table 1: Sources of Local Generation

Site	System capacity	Type	Installation year	Ownership
New Paltz Substation Salt Shed	30.6 KW DC	Behind the meter	2011	Ulster County
Town of Ulster Landfill ²	1.9 MW DC	Remote net metering	2018	Third Party
Natural Power Group Hydroelectric Facility – Wallkill	0.5 MW	CDG subscription agreement	1988	Third Party

Table 2 below shows the local electricity generation used by Ulster County government operations per year since the GHG inventory baseline year.

Table 2: Total Local Renewable Electricity

Year	Local Renewable Electricity Used (kWh)
2020	2,138,000 ³
2019	2,021,961
2018	927,285
2017	37,447
2016	42,164
2015	37,793
2014	36,862
2013	40,358
2012	31,203

Renewable Energy Credits

Since June of 2014, Ulster County has purchased RECs to ensure 100% of the electricity used for government operations is renewable. The renewable claim is made through the purchase and retirement of RECs certified by Green-e[®], a third-party verification firm. Because they were not locally generated, these offsets are not counted as actual reductions in emissions (i.e. as progress toward GHG reduction goals). The GHG accounting in this inventory report assumes the absence of all offsets.

Table 3 shows the quantity of RECs retired each year to ensure Ulster County is using 100% renewable electricity for its government operations. RECs retired are a mixture of Green-e national renewable certificates and New York Generation Attribute Tracking System (NYGATs) certificates.

Table 3: Renewable Energy Credits Retired for Ulster County Government Operations

Year	RECs Retired (MWH)
2020	9,242
2019	9,378

² Generation data available here: <http://s44709.mini.alsoenergy.com/Dashboard/2a566973496547374143454b772b71413d>

³ Estimated due to time delay on data from vendor

2018	10,803
2017	11,914
2016	12,217
2015	12,215
2014	6,000

3. Greenhouse Gas Inventory

In 2020, Ulster County produced 7,870 metric tons of CO₂-equivalent (CO₂e) emissions. The following tables detail the County's emissions by scope and sector respectively.

Table 4: 2020 Government Operations Emissions by Scope (Metric Tons CO₂e)

	CO ₂ e ⁴	CO ₂	CH ₄	N ₂ O
SCOPE 1 – Direct Emissions				
Mobile Combustion	4,318	4,235	4	78
Stationary Combustion	2,394	2,389	2	4
SCOPE 2 – Indirect Emissions				
Purchased Electricity	1,157	1,152	2	3
TOTAL	7,870	7,777	8	85

Table 5: 2020 Government Operations Emissions by Sector (Metric Tons CO₂e)

	SCOPE 1	SCOPE 2
Buildings and Other Facilities		
Purchased Electricity	0	1,149
Stationary Combustion	2,388	0
Streetlights and Traffic Signals		
Purchased Electricity	0	2
Transit Fleet:		
Mobile Combustion	1,191	0
Vehicle Fleet		
Mobile Combustion	3,127	0
Purchased Electricity	0	2
Water Delivery Facilities		
Purchased Electricity	0	4
Stationary Combustion	7	
TOTAL	6,713	1,157

Biogenic Emissions

In 2020, Ulster County emitted 143 metric tons of CO₂e from biogenic sources. These emissions are entirely attributed to the mobile combustion of ethanol and biodiesel.

Table 6: 2020 Biogenic Emissions (Metric Tons CO₂e)

Sector	Biogenic Emissions (MT CO ₂ e)
Transit Fleet	17
Vehicle Fleet	126
TOTAL	143

⁴ Carbon dioxide equivalent or CO₂e is calculated by adjusting the emissions of non-CO₂ greenhouse gases using the global warming potential of each gas.

Optional Scope 3 Emissions

In 2020, Ulster County estimated the anthropogenic Scope 3 emissions attributed to employee commutes as 2,117 MT CO₂e.

Table 7: 2018 Scope 3 Emissions (Metric Tons CO₂e)

	CO ₂ e	CO ₂	CH ₄	N ₂ O
SCOPE 3				
Mobile Combustion	2,117	2,075	2	40

Progress Toward GHG Reduction Goals

Between the baseline year of 2012 and the most recent GHG inventory for 2020, Ulster County's emissions from government operations decreased by 20.3%.

The following figure compares Ulster County's 2020 emissions to the levels required to meet the County's 2025 and 2050 reduction goals.

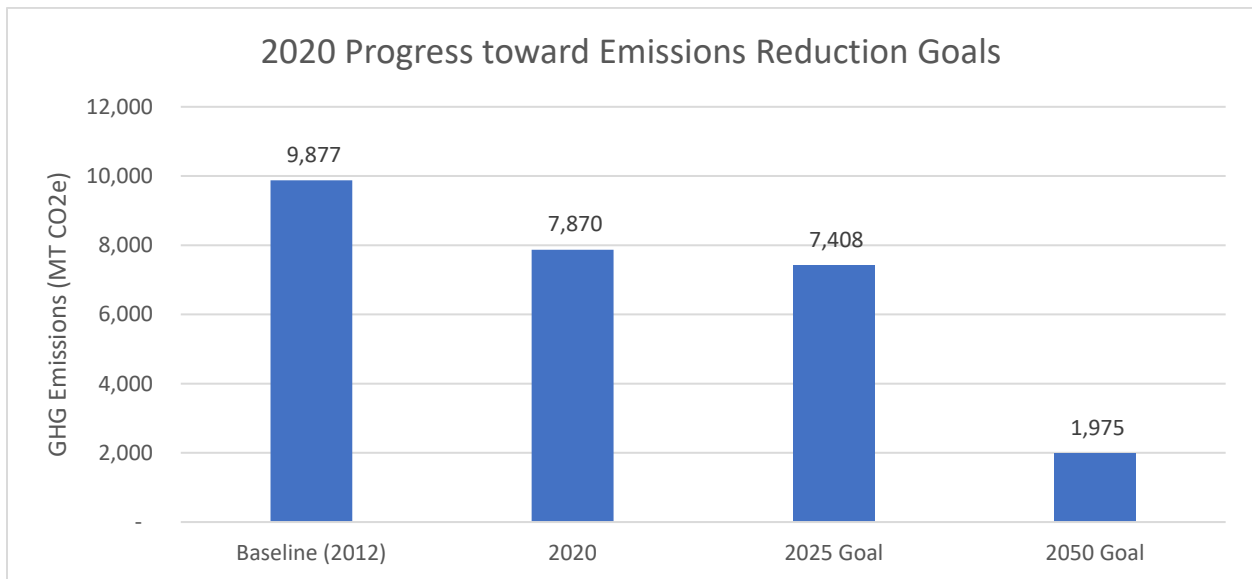


Figure 1: Progress Compared to 2025 and 2050 Goals

Figures 2 and 3 below show emissions trends by sector and energy type respectively.

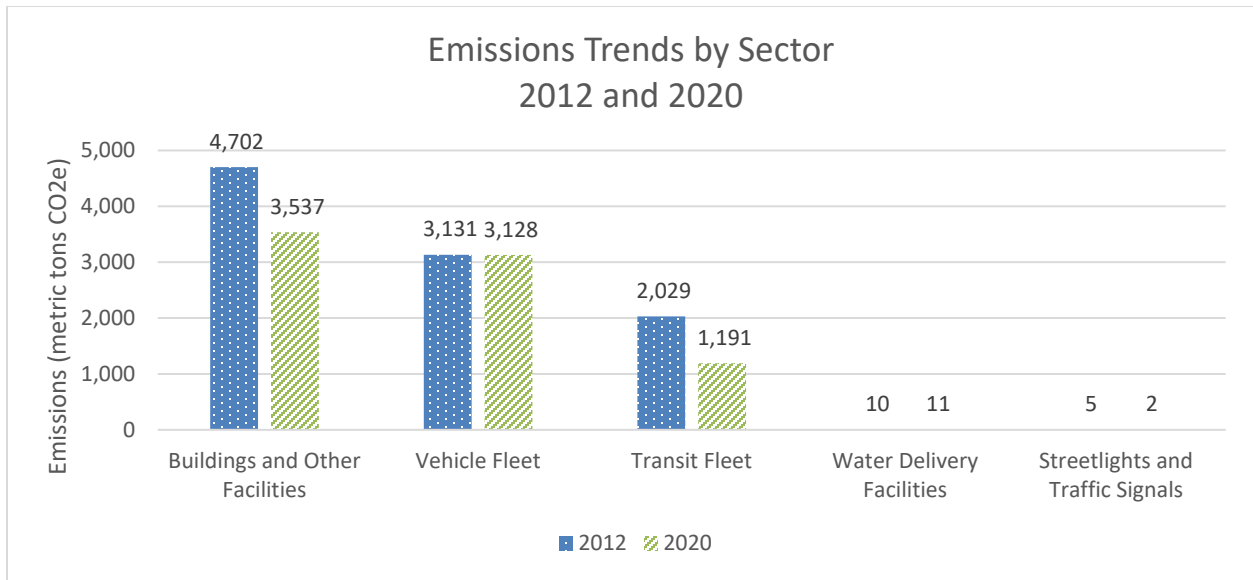


Figure 2: Emissions Trends by Sector

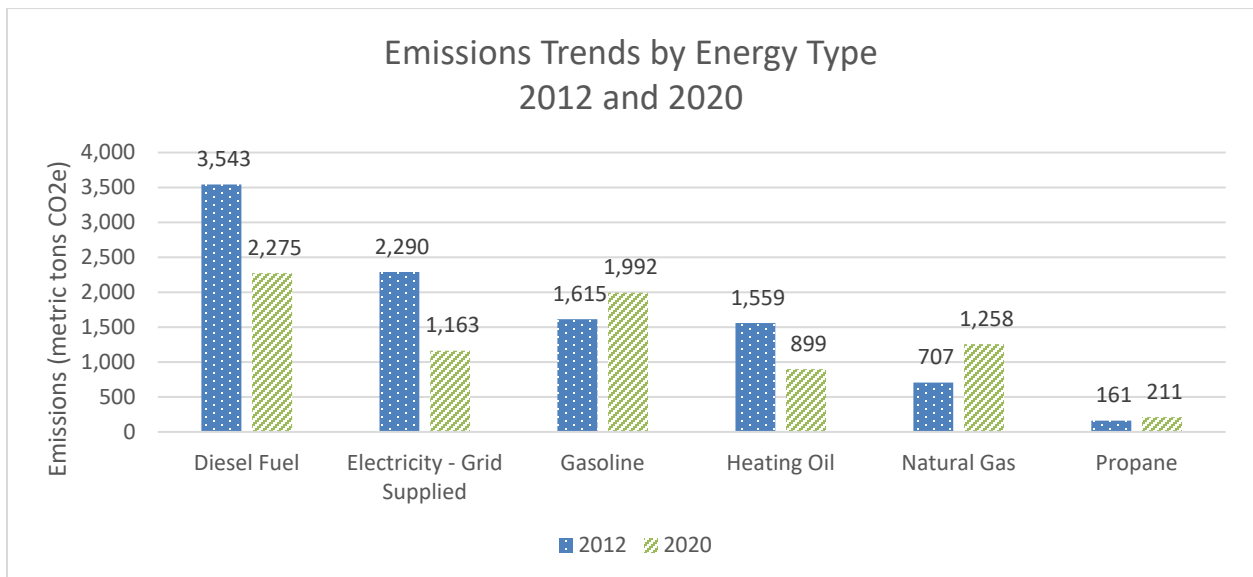


Figure 3: Emissions Trends by Energy Type

4. Carbon Neutral Government Operations

Ulster County achieves net carbon neutrality through the purchase of offsets. Since 2015, Ulster County has purchased carbon offsets on the voluntary market to offset 100% of Scope 1 emissions and Scope 3 emissions attributed to employee commutes. Scope 2 emissions are offset by the purchase of Renewable Energy Credits (RECs). These offsets are not counted as actual reductions in emissions (i.e. as

progress toward GHG reduction goals). The GHG accounting in Section 3 of this inventory report assumes the absence of all offsets.

Table 8: Distinction between GHG measures as applied toward reduction goals

Mitigation Type	Measure
Avoided emissions (counts toward operational goals)	<ul style="list-style-type: none"> Onsite generation (behind the meter) Remote Net Metering NYGATS RECs Community Distributed Generation (CDG)
Offsets (counts toward carbon neutral government initiative only)	<ul style="list-style-type: none"> National Green-e Renewable energy credits (RECS) Carbon credits

Table 9: 2020 Net Zero Emissions Compared to Adjusted 2012 Baseline (Metric Ton CO2e)

Category	2012	2020	% Change
Total Government Activity Emissions¹	9,877	7,870	-20.3%
Avoided emissions	0	-207	
Actual Government Emissions	9,877	7,623	-22.8%
RECs	0	-954	
Carbon Credits	0	-6,669	
Net Government Operations Carbon Emissions	9,877	0	-100%

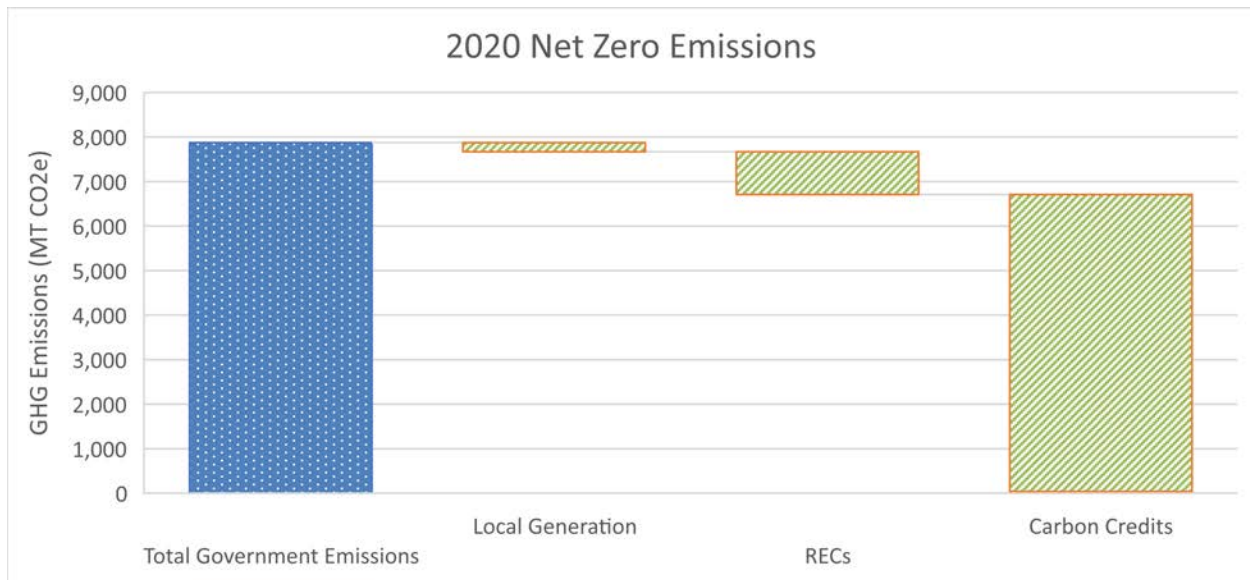


Figure 4: 2018 Net Zero Carbon Emissions

The following table details the offsets retired to meet the carbon neutral government operations mandate and the equivalent social cost of carbon per the EPA’s methodology. The table includes offsets for 100% of Scope 1 and 2 emissions only.

Table 10: Offsets and Social Cost of Carbon

Year	2020
Carbon Offsets Retired (MT CO2e)	6,669

RECs Retired (MT CO2e)	954
Social Cost of Carbon ⁵	\$387,553

5. Climate Smart Communities Certification Status

Ulster County is currently Silver certified in the New York State Department of Environmental Conservation's Climate Smart Communities⁶ program. The County received its original certification at the Bronze level in September of 2016 with a score of 264 points earned from completing 63 actions. The certification was increased to the Silver-level automatically when the DEC revised the program rules in 2018. Ulster County's certification is valid for 5 years and will expire on August 31, 2021.

Appendices

Appendix A: GHG Inventory Methodology and Assumptions

To track progress toward our GHG emissions goals, all energy usage is monitored and tracked by the Ulster County Department of the Environment. The annual GHG emissions inventory is calculated by aggregating this data by sector, scope, source and type and converting to metric tons of CO₂-equivalent (MTCO₂e) using EPA conversion factors.

Ulster County Government Operations GHG Inventory Methodology

The County references the Local Government Operations Protocol, Version 1.1 (LGOP) as a standard for accounting and reporting GHG emissions from government operations. This protocol was developed by Local Governments for Sustainability (ICLEI).

To the extent possible, Ulster County sets organizational boundaries for emissions accounting using the operational control approach. Per the ICLEI definition, Ulster County has operational control over a building or facility if either of these two conditions exist:

- Ulster County owns the building or facility, OR
- Ulster County has full authority to introduce and implement operational and health, safety and environmental policies.

The County accounts for leased facilities where it is possible to obtain the necessary data. Currently, the County does not estimate emissions for spaces where only part of the building is leased and the space is not sub-metered.

ICLEI Reporting Sectors

The County currently reports the following sectors and scopes:

- Buildings and Other Facilities: Scope 1 & 2
- Streetlights and Traffic Signals: Scope 2
- Transit Fleet: Scope 1

⁵ Social Cost of Carbon values taken from the EPA's Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 (May 2013, Revised July 2016)

⁶ The DEC's program website is available here: <https://climatesmart.ny.gov/>

- Vehicle Fleet: Scope 1 & 2
- Water Delivery Facilities Scope 1 & 2

Ulster County does not own or operate facilities in the following sectors:

- Wastewater Facilities
- Port Facilities
- Airport Facilities
- Power Generation Facilities
- Solid Waste Facilities

Other Process and Fugitive Emissions

Ulster County currently does not collect data or estimate values for process and fugitive emissions.

Biogenic source emissions

CO₂ Emissions from biofuel usage are not included as Scope 1 emissions in this inventory in accordance with ICLEI protocol, as the carbon concerned is of biogenic origin and would have been emitted to the atmosphere through the natural process of decay. Biogenic emissions totals from combustion of biofuels are tracked and reported as supplemental information in this report.

Ulster County assumes all gasoline purchased for fleet, transit and non-road purposes is an E10 ethanol blend (10% ethanol). Since 2015, the Ulster County transit fleet has used a B5 biodiesel (5% biodiesel) blend in the summer months.

Optional Scope 3 Emissions

Ulster County currently reports one Scope 3 source: Employee Commute. Usage data was estimated for each reporting year based on current number of employees and assumptions based on employee home of record data.

Emissions Factors Disclosure

Ulster County uses emissions factors published by the EPA in the document *Emissions Factors for Greenhouse Gas Inventories*⁷ (last modified 3/9/3018).

100-year global warming potential (GWP) multipliers were applied as published in the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report.⁸

Ulster County does collect and maintain data on vehicle miles traveled (VMT) for vehicle fleet and transit fleet vehicles. However, to simplify the accounting process for mobile combustion, methane (CH₄) and nitrous oxide (N₂O) emissions were estimated on a per-gallon basis as described in the New York Community and Regional GHG Inventory Guidance (Version 1.0, September 2015). To do so, the CO₂ emission factors were multiplied by factors of 0.001 for CH₄ and 0.18 for N₂O to obtain an emissions factor.

⁷ Available here: https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf

⁸ Available here: <https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter2-1.pdf>

Appendix B: 2012 Baseline GHG Inventory

Ulster County completed its first GHG inventory for government operations in 2012, which was subsequently set as the baseline year. The 2012 report included emissions from purchased electricity, stationary fuel combustion, mobile combustion from government vehicle fleets, as well as emissions from County employee commutes.

Baseline adjustments

The scope of Ulster County government operations has undergone structural changes since the 2012 baseline inventory. To accurately compare current operating conditions to the baseline year and quantify GHG increases or decreases over time, Ulster County normalizes its baseline to account for changes that are due to a change in the services provided by the government.

For example, in 2013, the Golden Hill Health Care center was sold to a private service provider and the County no longer needed to provide this service to its constituents. This change reduced the County's purchase of utilities and fleet fuel significantly, saving approximately 3.5 MWh of electricity use, 53,000 gallons of fuel oil, and 1,500 gallons of fleet fuels per year. Because this was a divestiture of services, the 2012 baseline GHG inventory was updated to remove the emissions from this property and government function.

For its GHG inventory, the County uses the following set of rules to determine whether a baseline adjustment is warranted:

Table 11: Baseline Adjustment Methodology

Structural change	Baseline Adjustment?
New areas of government jurisdiction (or insourcing)	Yes
Acquisitions of property due to growth	No
Divestitures of property due to change in jurisdiction (or outsourcing)	Yes
Divestitures of property due to consolidation or efficiency of services	No
Access to energy use data that was not previously available	Yes

Table 11 shows the baseline adjustments that have been made to date.

Table 12: Adjustments to Normalize 2012 GHG Baseline

Baseline change	Effective Year	Reporting Sector	Scope	Change to Baseline Quantity (MT cO2e)
Golden Hill Health Care Center	2012	Buildings and Other Facilities / Vehicle Fleet	1 & 2	-1,216.4
Patriot's Project—Veteran's Housing	2014	Buildings and Other Facilities	1 & 2	+19.3
Sheriff's Substation—Wawarsing	2015	Buildings and Other Facilities	1 & 2	+6.5
Family and Child Advocacy Center	2016	Buildings and Other Facilities	1 & 2	+10.2
UCAT Kingston Expansion of Service	2019	Transit Fleet	1	+358.4

Table 12 shows the 2012 baseline GHG inventory as updated for 2020.

Table 13: 2012 Baseline Government Operations Emissions by Scope (2020 Update)

	CO ₂ e	CO ₂	CH ₄	N ₂ O
SCOPE 1 – Direct Emissions				
Mobile Combustion	5,160	5,062	5	93
Stationary Combustion	2,426	2,420	2	5
SCOPE 2 – Indirect Emissions				
Purchased Electricity	2,290	2,282	2	6
TOTAL	9,877	9,763	9	104

Table 14: 2012 Baseline Government Operations Emissions by Sector (2020 Update)

	SCOPE 1	SCOPE 2
Buildings and Other Facilities		
Purchased Electricity	0	2,279
Stationary Combustion	2,423	0
Streetlights and Traffic Signals		
Purchased Electricity	5	5
Transit Fleet:		
Mobile Combustion	2,029	0
Vehicle Fleet		
Mobile Combustion	3,131	0
Purchased Electricity	0	0
Water Delivery Facilities		
Purchased Electricity	0	6
Stationary Combustion	4	0
TOTAL	7,586	2,290

Appendix C: Activity Data

The following table shows the quantities of energy purchased by Ulster County in 2020. These quantities form the basis for the greenhouse gas inventory.

Table 15: 2018 Activity Data

Energy Type	2020 Usage
Biodiesel (gal)	0
Diesel (gal)	221,242
Electricity (kWh)	10,937,314
Ethanol (gal)	24,932
Gasoline (gal)	228,164
Heating Oil (gal)	87,764
Natural Gas (CCF)	230,806
Propane (gal)	37,004

Appendix D: Climate Action Plan Implementation

Table 16 lists action items from the 2019 Ulster County Government Operations Climate Action Plan⁹ that are either completed, in-progress or ongoing.

Table 16: Climate Action Plan Implementation Status

Action Number	Description	Status
BF-1	Conduct additional building energy audits	Ongoing —Completed two (2) energy audits at 1 Pearl Street and 17 Pearl Street. Audits were completed as a residential home energy report due to the structure type of both buildings. The audits included a training component with DPW staff. (3/2020) —Completed a targeted geothermal audit and conceptual design at the Ulster County Office Building as Stage 3 of the Geothermal Clean Energy Challenge (10/2020)
BF-2	Implement lighting controls in County owned buildings	In progress —Purchased eighty (80) wall switch occupancy sensors for the Ulster County Law Enforcement Center (12/2020). Installation is in progress by Public Works staff in 2021. —Added the Development Court LED Lighting Retrofit project to the 2021-2026 Capital Improvement Program. The scope of the project includes implementation of improved/additional lighting controls at the facility. Design is planned to start in 2021.
BF-6	Complete interior lighting upgrades for 100% of building area	In progress —Added the Development Court LED Lighting Retrofit project to the 2021-2026 Capital Improvement Program. Design is planned to start in 2021.
BF-11	Upgrade HVAC equipment	In progress —Conducted an HVAC equipment inventory in 2020. —DPW added a block program capital replacement project to the 2021-2026 Capital Improvement Program for HVAC/Weatherization at various County buildings. Implementation is ongoing.
BF-13	Complete renewable energy feasibility studies	Ongoing —Ulster County completed a geothermal design and feasibility study as part of Stage 3 of the Geothermal Clean Energy Challenge (10/2020)
BF-19	Offset Scope 1 and 2 emissions from buildings and facilities	Ongoing —Ulster County continues to procure RECs and carbon credits as part of its Carbon Neutral Government Operations program.
PP-4	Improve vehicle inventory	Completed —The format of the Ulster County annual vehicle inventory was updated for the 2020 Green Fleet Report to comply with NYS DEC Climate Smart Communities requirements. All further inventories will be generated using the new format.
PP-6	Track building energy efficiency upgrades	Ongoing —The Ulster County Department of the Environment continues to track

⁹ Available here:

https://ulstercountyny.gov/sites/default/files/documents/environment/Ulster%20County%20Government%20Operations%20Climate%20Action%20Plan%202019_web.pdf

		building energy efficiency upgrades. All upgrades that are eligible for utility incentive programs are submitted for rebate reimbursement.
PP-12	Encourage green business travel	In progress —The coronavirus pandemic required that most green business travel requirements be conducted remotely. The Information Services department supported this effort by providing equipment necessary for County employees to conduct business remotely as able. This shift in practices and capabilities will allow for more streamlined implementation of this action.
PP-13	Encourage UC Employee commuting on UCAT	Ongoing —Ulster County offers a reduced fare of \$0.30/trip for Ulster County employees using the UCAT service.
PP-17	Update the County's environmentally preferable purchasing policy	In progress —The Department of the Environment and Purchasing Department initiated a project to update the County's Green Purchasing policy in 2020 (11/2020).
PP-23	Adopt a PV-Ready construction standard	Completed —This action was completed in 2019 by the UC Legislature's adoption of Resolution No. 416.2 of 2019: Establishing A Policy For Consideration Of Solar Arrays On All New Or Renovated/Replaced Roofs On Ulster County Buildings (12/2019)
S3-8	Offset emissions from employee commutes	Ongoing —Ulster County continues to offset Scope 3 emissions from employee commutes through its Carbon Neutral Government Operations program.
TF-1	Complete a Transit Fleet Electrification Study	In progress —Ulster County commenced work on its transit fleet electrification study in 2020 and will complete the study in 2021. The study is partially funded through a NYSEDA grant. Ulster County has selected Creighton-Manning Engineering as the project consultant through a competitive procurement process.
TF-4	Install DC fast charging equipment at UCAT facilities for bus charging	In progress —Ulster County commenced a project in 2019 to install three (3) DC fast charging stations at the UCAT facility. The County has partnered with the New York Power Authority to complete the work using NYS DEC-administered Volkswagen Settlement funds. The project is schedule to be complete in October 2021.
TF-10	Offset Scope 1 and 2 emissions from transit operations	Ongoing —Ulster County continues to offset Scope 1 emissions from transit operations through the purchase of carbon credits.
VF-6	Install additional EV charging stations to support fleet operations	In Progress —Ulster County included a project for additional EV charging station installations in the 2021-2026 Capital Improvement Program. The project is planned to start in 2021.
VF-11	Offset Scope 1 and 2 emissions from vehicle fleet operations	Ongoing —Ulster County continues to offset Scope 1 and Scope 2 emissions from vehicle fleet operations though the purchase of RECs and carbon credits.

Property	Measure Type	Energy Conservation Measure	Completion Date
Golden Hill Office Building	HVAC Equipment	Cooling Tower Replacement	2/29/2012
Public Works	HVAC Equipment	Cooling Tower Replacement	2/29/2012
Crown Street Lighting	Lighting	Exterior lighting	12/12/2014
Trudy Resnick Farber	Lighting	Exterior lighting	12/12/2014
Ulster County Office Building	Lighting	Exterior lighting	12/12/2014
Golden Hill Office Building	Lighting	Exterior lighting	12/16/2014
Heavy Vehicle Maintenance/Quarry	Lighting	Exterior lighting	12/26/2014
Public Works	Lighting	Exterior lighting	12/31/2014
Ulster Avenue Office Complex	Lighting	Exterior lighting	12/31/2014
Ulster County Law Enforcement Center	Lighting	Exterior lighting	1/30/2015
Probation Department	Lighting	Exterior lighting	12/10/2015
Carr	Lighting	Interior Lighting Upgrade	12/15/2015
Court House	Lighting	Interior Lighting Upgrade	12/15/2015
Dept of Environment	Lighting	Interior Lighting Upgrade	12/15/2015
Emergency Management	Lighting	Interior Lighting Upgrade	12/15/2015
Golden Hill Office Building	Lighting	Interior Lighting Upgrade	12/15/2015
Probation Department	Lighting	Interior Lighting Upgrade	12/15/2015
Public Works	Lighting	Interior Lighting Upgrade	12/15/2015
Records Storage	Lighting	Interior Lighting Upgrade	12/15/2015
Trudy Resnick Farber	Lighting	Interior Lighting Upgrade	12/15/2015
Ulster County Area Transportation (UCAT)	Lighting	Interior Lighting Upgrade	12/15/2015
Ulster County Law Enforcement Center	Lighting	Interior Lighting Upgrade	12/15/2015
Ulster County Office Building	Lighting	Interior Lighting Upgrade	12/15/2015
Ulster County Law Enforcement Center	Scheduling	Building Scheduling	12/31/2015
Carr	HVAC Equipment	DHW Heater Replacement	12/31/2015
Court House	Lighting	Exterior Lighting	12/31/2015
Records Storage	Lighting	Exterior lighting	12/31/2016
Court House	HVAC Equipment	Replaced cooling tower	4/30/2018
Ulster County Area Transportation (UCAT)	Lighting	Exterior lighting	7/12/2018
Ulster County Area Transportation (UCAT)	Lighting	Interior Lighting: emergency exit lights LED	7/12/2018
Quarry Mechanics Complex	HVAC Equipment	Install radiant system boiler(s) and controls	9/20/2018
Restorative Justice Center	HVAC Equipment	Install HVAC/air exchange equipment	10/3/2018
Ulster County Law Enforcement Center	HVAC Equipment	HVAC renovation: new RTUs, VRF system and ERV	10/3/2018
Ulster County Law Enforcement Center	Lighting	Interior Lighting Upgrade	10/15/2018
Restorative Justice Center	Lighting	Full interior lighting renovation - LED	10/31/2018
Golden Hill Office Building	HVAC Equipment	Replaced multiple water source heat pump units	12/27/2018
Quarry Welding Shop	HVAC Equipment	Install HVAC/air exchange equipment	12/31/2018
Records Storage	HVAC Equipment	Replaced 4x rooftop units	3/13/2019
Records Storage	Lighting	Emergency lights LED upgrade	2/11/2020
Ulster Avenue Office Complex	HVAC Equipment	Replaced 4x rooftop units	7/1/2020
Information Services	HVAC Equipment	Rooftop unit replacement 30 ton	7/1/2020
Ulster County Law Enforcement Center	HVAC Equipment	Boiler conversion - Fuel oil to natural gas	8/31/2020

Baseline change	Effective Year	Reporting Sector	Scope	Change to Baseline Quantity (MT CO2e)
Golden Hill Health Care Center	2012	Buildings and Other Facilities / Vehicle Fleet	1 & 2	-1,216.4
Patriot's Project - Veteran's Housing	2014	Buildings and Other Facilities	1 & 2	19.3
Sheriff's Substation Wawarsing	2015	Buildings and Other Facilities	1 & 2	6.5
Family and Child Advocacy Center	2016	Buildings and Other Facilities	1 & 2	10.2
UCAT Kingston Expansion of Service	2019	Transit	1	358.4
Previously unreported natural gas and fuel oil usage incorporated in baseline year	2020	Buildings and Other Facilities	1	53.7

Property Id	Property Name	Parent Property Id	Parent Property Name	Year Ending	Electricity Use - Grid Purchase (kWh)	Natural Gas Use (therms)	Fuel Oil #2 Use (kBtu)	Diesel #2 Use (kBtu)	Propane Use (kBtu)
2339861	Carr Building	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	46424.8	35.0637878	Not Available	Not Available	Not Available
2339861	Carr Building	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	37618.1	3292.604959	Not Available	Not Available	Not Available
2351653	Community Corrections	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	114640.7	Not Available	Not Available	0	434976
2351653	Community Corrections	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	111010	Not Available	Not Available	Not Available	262255.2
2351769	Ulster County Courthouse	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	701929.5	18759.5156	Not Available	Not Available	Not Available
2351769	Ulster County Courthouse	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	690332.8	11120.58584	Not Available	Not Available	Not Available
2352097	Heavy Vehicle Maintenance	2352097	Heavy Vehicle Maintenance	12/31/2020	146131.9	25754.10644	195063	Not Available	Not Available
2352097	Heavy Vehicle Maintenance	2352097	Heavy Vehicle Maintenance	12/31/2012	185033.9	9043.352702	1538630.9	Not Available	Not Available
2352106	Information Services	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	394516.6	4679.540627	Not Available	Not Available	Not Available
2352106	Information Services	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	730798.6	4579.098437	Not Available	Not Available	Not Available
2352400	Golden Hill Office Building	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	568909.3	6225.270898	Not Available	0	Not Available
2352400	Golden Hill Office Building	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	613613.3	5618.717861	Not Available	Not Available	Not Available
2352413	Old Ulster County Jail	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	214402.3	Not Available	Not Available	Not Available	Not Available
2352413	Old Ulster County Jail	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	164820	Not Available	Not Available	Not Available	Not Available
2352437	Ulster County Pool	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	94843.6	Not Available	144610.2	Not Available	Not Available
2352437	Ulster County Pool	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	64834.8	Not Available	100105.2	Not Available	Not Available
2352665	Probation Campus	2352665	Probation Campus	12/31/2020	252337.6	7838.876868	Not Available	Not Available	Not Available
2352665	Probation Campus	2352665	Probation Campus	12/31/2012	213719.7	6998.852929	Not Available	Not Available	Not Available
2352875	Public Works Building	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	185367.1	6252.76328	Not Available	Not Available	Not Available
2352875	Public Works Building	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	168977.9	2141.473228	Not Available	Not Available	Not Available
2352905	Old Jail Storage Garage	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	101966	Not Available	Not Available	Not Available	Not Available
2352905	Old Jail Storage Garage	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	61739	Not Available	Not Available	Not Available	Not Available
2352920	Trudy Resnick Farber	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	228094.9	Not Available	1371761.5	0	Not Available
2352920	Trudy Resnick Farber	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	300179	Not Available	1546372.8	Not Available	Not Available
2352952	Ulster County Office Building	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	776651.9	26895.05963	Not Available	Not Available	Not Available
2352952	Ulster County Office Building	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	977833.2	25507.84168	Not Available	Not Available	Not Available
2352969	Ulster County Records Center	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	397920.6	13496.83474	Not Available	0	Not Available
2352969	Ulster County Records Center	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	554023.2	11887.69945	Not Available	Not Available	Not Available
2353030	UCAT	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	290960.3	13052.14239	Not Available	0	Not Available
2353030	UCAT	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	332393.3	13738.1418	Not Available	Not Available	Not Available
2363441	Ulster County Office Complex	2363441	Ulster County Office Complex	12/31/2020	1302217.1	53174.55656	Not Available	Not Available	Not Available
2363441	Ulster County Office Complex	2363441	Ulster County Office Complex	12/31/2012	1315644.1	21549.2439	Not Available	Not Available	Not Available
2363735	Ulster County Law Enforcement Center	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	4215588.3	49995.88879	9522000.3	295692.6	1035257.6
2363735	Ulster County Law Enforcement Center	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	4997319.4	Not Available	14490690.2	Not Available	1758800.7
2720578	Highway Substation - New Paltz	2720578	Highway Substation - New Paltz	12/31/2020	29918.3	Not Available	Not Available	Not Available	Not Available
2720578	Highway Substation - New Paltz	2720578	Highway Substation - New Paltz	12/31/2012	33121.3	Not Available	70504.2	Not Available	Not Available
6111621	Department of the Environment	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	9727.9	1544.247211	Not Available	Not Available	Not Available
6111621	Department of the Environment	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	12238.3	1924.954329	Not Available	Not Available	Not Available
6174329	Highway Substation - Plattekill	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	21452.3	Not Available	Not Available	Not Available	93499.6
6174329	Highway Substation - Plattekill	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	24433	Not Available	202584	Not Available	Not Available
6174330	Highway Substation - Shandaken	6174330	Highway Substation - Shandaken	12/31/2020	15651.8	Not Available	Not Available	Not Available	250700
6174330	Highway Substation - Shandaken	6174330	Highway Substation - Shandaken	12/31/2012	7157.2	Not Available	324355.2	Not Available	Not Available
6174333	Highway Substation - Shawangunk	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	11202.4	Not Available	Not Available	Not Available	163695.6
6174333	Highway Substation - Shawangunk	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	12659.1	Not Available	185016.6	Not Available	Not Available
6174334	Highway Substation - Sundown	6174334	Highway Substation - Sundown	12/31/2020	9651.7	Not Available	Not Available	Not Available	279753.6
6174334	Highway Substation - Sundown	6174334	Highway Substation - Sundown	12/31/2012	11134.3	Not Available	233385.6	Not Available	920
6174336	Highway Substation - Saugerties	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	23333.1	Not Available	Not Available	Not Available	188094
6174336	Highway Substation - Saugerties	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	25172.7	Not Available	216135.6	Not Available	Not Available
6174342	Persen House	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	1271.2	Not Available	Not Available	Not Available	Not Available

6174342	Persen House	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	2020.9	0	Not Available	Not Available	Not Available
6174343	Emergency Management	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	159688.4	799.0256488	Not Available	Not Available	38152.4
6174343	Emergency Management	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	153849.1	362.947546	Not Available	Not Available	10635.2
6174349	Hutton Building	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	1701.9	Not Available	Not Available	Not Available	Not Available
6174349	Hutton Building	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	1731.9	0	Not Available	Not Available	Not Available
6174350	Sojourner Truth Ulster Landing Park	6174350	Sojourner Truth Ulster Landing Park	12/31/2020	4836.5	Not Available	Not Available	Not Available	77206.4
6174350	Sojourner Truth Ulster Landing Park	6174350	Sojourner Truth Ulster Landing Park	12/31/2012	9223.1	Not Available	Not Available	Not Available	74842
6174351	Veterans Transitional Housing Facility	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	14479.7	2557.611947	Not Available	Not Available	Not Available
6174351	Veterans Transitional Housing Facility	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	Not Available	Not Available	Not Available	Not Available	Not Available
6174362	Van Dale Garage - Fabrication Shop	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	49863.8	Not Available	520246.2	Not Available	Not Available
6174362	Van Dale Garage - Fabrication Shop	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	48851.3	Not Available	486726	Not Available	Not Available
6174363	Sheriff's Substation - Warwarsing	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	11309.1	Not Available	Not Available	Not Available	79515.6
6174363	Sheriff's Substation - Warwarsing	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	Not Available	Not Available	Not Available	Not Available	Not Available
6180562	Streetlights and Traffic Signals	6180562	Streetlights and Traffic Signals	12/31/2020	19909.3	Not Available	Not Available	Not Available	Not Available
6180562	Streetlights and Traffic Signals	6180562	Streetlights and Traffic Signals	12/31/2012	25807.6	Not Available	Not Available	Not Available	Not Available
6188739	Highway Substation - Boiceville	6188739	Highway Substation - Boiceville	12/31/2020	26946	Not Available	Not Available	Not Available	269836
6188739	Highway Substation - Boiceville	6188739	Highway Substation - Boiceville	12/31/2012	29907.4	Not Available	Not Available	Not Available	237875.2
6188752	Highway Substation - Ulster Heights	6188752	Highway Substation - Ulster Heights	12/31/2020	13324.4	Not Available	Not Available	Not Available	298825.2
6188752	Highway Substation - Ulster Heights	6188752	Highway Substation - Ulster Heights	12/31/2012	26104.2	Not Available	174418.2	Not Available	118790.4
6188767	Highway Substation - Accord	6188767	Highway Substation - Accord	12/31/2020	32921.3	Not Available	Not Available	Not Available	Not Available
6188767	Highway Substation - Accord	6188767	Highway Substation - Accord	12/31/2012	36597.5	Not Available	Not Available	Not Available	Not Available
6457025	Water Delivery Facilities	6457025	Water Delivery Facilities	12/31/2020	37634.9	Not Available	Not Available	0	88954.8
6457025	Water Delivery Facilities	6457025	Water Delivery Facilities	12/31/2012	32371.4	Not Available	Not Available	Not Available	57638
6571127	Other Facilities	6571127	Other Facilities	12/31/2020	59069	Not Available	Not Available	Not Available	36275.6
6571127	Other Facilities	6571127	Other Facilities	12/31/2012	54569.2	Not Available	Not Available	Not Available	3220
9866949	Public Safety Training Center	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2020	8444	Not Available	111724.8	Not Available	69644
9866949	Public Safety Training Center	Not Applicable: Standalone Property	Not Applicable: Standalone Property	12/31/2012	Not Available	Not Available	Not Available	Not Available	Not Available
10011885	Closed Buildings	10011885	Closed Buildings	12/31/2020	40133.2	2533.605324	246081.6	Not Available	Not Available
10011885	Closed Buildings	10011885	Closed Buildings	12/31/2012	657676.3	11595.26839	1435669.3	Not Available	Not Available

Performance: Reduce GHGs from Government Facilities

15 — 45 Points

A. Why is this action important?

Government-owned facilities are typically one of the largest sources of greenhouse gas (GHG) emissions in most government operations GHG inventories. Energy-efficiency upgrades to government facilities reduce GHG emissions and save taxpayer money. In addition, when local governments make measurable reductions in GHG emissions that are directly under their control, they demonstrate leadership and take responsibility for the emissions that cause climate change. The cumulative impact of many local governments across New York State achieving GHG reductions adds up to a significant statement that can inspire further action in other sectors of the economy.

B. How to implement this action

This Climate Smart Communities (CSC) performance action focuses on reducing GHG emissions from government-owned buildings and facilities. These may include municipal office buildings, public works facilities, fire stations, police precincts, parks facilities, water treatment plants, water delivery pumps, street lights, and traffic signals.

Note that the scope of this CSC action does not cover emissions from government-owned vehicles; for the action related to vehicle-emission reductions, see [Performance: Reduce GHGs from Government Vehicles](#).

Local governments implement this action by completing three basic steps:

1. Create a baseline measurement of Scope 1 and Scope 2 GHG emissions from government-owned facilities.
2. Implement actions that reduce GHG emissions from government-owned facilities.
 - CSC certification actions under Pledge Elements 3 and 4 provide a range of suggested actions that reduce GHG emissions. Such actions may include upgrades to heating and cooling equipment and other energy efficiency improvements, such as better insulation or switching interior lighting over to light-emitting diodes (LEDs). In addition, switching to clean, renewable sources of energy will bring down GHG emissions from facilities. Note that purchasing green power or renewable energy certificates (RECs) may not be applied as a reduction to Scope 2 GHG emissions (see more information below).
3. Measure the reductions in GHG emissions resulting from the upgrades to government-owned facilities. To be eligible for CSC points, the measurement of the reductions must have taken place within ten years of the application date.

The tools that local governments use to track GHG emissions range from simple spreadsheet tools that narrowly focus on buildings and are available for free (such as the [US EPA ENERGY STAR Portfolio Manager](#)) to sophisticated software tools covering a wide range of sectors that require a paid subscription (such as the ICLEI [ClearPath](#) tool). Local governments should evaluate which type of tool is most appropriate for their needs and consult with NYSERDA Clean Energy Communities Coordinators about the options for tracking GHG emissions from government facilities. These coordinators can be reached at cec@nyserda.ny.gov.

Tools used to calculate GHG emissions for this CSC action must be consistent with relevant provisions of the [Local Government Operations Protocol \(LGOP\)](#), a standardized set of guidelines for quantifying and reporting the GHG emissions associated with government operations. Whichever tool is chosen, confirm with the creators of the tool that it conforms with the LGOP.

As mentioned above, some local governments purchase green power or renewable energy certificates (RECS); see [PE4 Action: Renewable Energy Credits](#). For this CSC action, a local government may not deduct these purchases from Scope 2 emissions because doing so would constitute double counting, as per section 6.2.4 of the LGOP. The reason behind this is that the renewable energy portion of a utility’s power supply is already accounted for in the GHG emission factor for the region in which the electricity is generated. The CSC program encourages local governments to include information about these purchases in their government operations GHG inventory reports, but they should not be included in GHG calculations.

More details about GHG tracking tools are available in the descriptions for the following actions:

- [PE2 Action: Government Operations GHG Inventory](#)
- [PE3 Action: Energy Benchmarking for Government Buildings](#)
- [PE10 Action: GHG Tracking System](#)

C. Time frame, project costs, and resource needs

The time frame, costs, and resource needs depend on the type of actions implemented, as outlined in Pledge Elements 3 and 4. Project costs may include staff and consultant time, where applicable. Some local governments may also choose to use a GHG tracking tool that involves a fee.

D. Which local governments implement this action? Which departments within the local government are most likely to have responsibility for this?

This action is applicable to all types of local governments. The department with responsibility for managing government-owned facilities, typically the department of public works, would probably be involved in implementing this action. Staff members that maintain and update the government’s GHG emissions inventories would likely be responsible for doing the calculations for this action.

E. How to obtain points for this action

Points this action are tiered based on the amount of the reduction in GHG emissions from government-owned facilities over a period of no longer than 10 years prior to the application date.

	POSSIBLE POINTS
Reduce GHG emissions from government facilities by 10-14%	15
Reduce GHG emissions from government facilities by 15-19%	20
Reduce GHG emissions from government facilities by 20-24%	25
Reduce GHG emissions from government facilities by 25-29%	30
Reduce GHG emissions from government facilities by 30-34%	35
Reduce GHG emissions from government facilities by 35-39%	40
Reduce GHG emissions from government facilities by 40% or more	45

F. What to submit

Submit documentation that describes the three steps involved in this action: the baseline GHG measurement for Scope 1 and 2 emissions, a summary of the actions implemented to reduce GHG emissions from municipal facilities, and the

calculations behind the percentage of GHG reductions. These materials should include dates, since points are only eligible for upgrades and GHG measurements completed over a period of no longer than 10 years prior to the application date.

All CSC action documentation is available for public viewing after an action is approved. Action submittals should not include any information or documents that are not intended to be viewed by the public.

G. Links to Additional Resources or Best Practices

- [US EPA ENERGY STAR Portfolio Manager](#)
- [US EPA ENERGY STAR Portfolio Manager, Videos and Training Resources](#)
- [CSC guide Developing a Local Government Operations Greenhouse Gas Inventory](#)
- [US EPA Local GHG Inventory Tools](#): Download free tools (for conducting government operations and communitywide GHG inventories) and sign up for updates.
- [ICLEI - Local Governments for Sustainability USA, Inc.](#): ICLEI has a comprehensive GHG tool called [ClearPath](#) for conducting GHG inventories, forecasts, and monitoring at the community or government-operations scale. Membership in ICLEI involves an annual fee based on municipal size and includes access to ClearPath.

H. Recertification requirements

The recertification requirements are the same as the initial certification requirements. The endpoint of the previous local government operations GHG inventory action will become the new baseline.