Ulster County 2021 Climate Smart Communities Recertification Documentation

PE3 Action: Fleet Efficiency Policy

Background: The Ulster County Sustainable Green Fleet Policy was adopted by the Ulster County Legislature in August of 2015 and approved by the County Executive in September of 2015. The Green Fleet Policy recognizes the environmental and economic impact of County government fleet operations and details ways in which to reduce these costs and impacts. The law sets forward requirements to inventory the fleet, monitor fleet fuel usage and optimize the usage application of existing vehicles.

It also requires the purchase of new green fleet vehicles to meet a green fleet goal; ensuring that a minimum of 5% of the fleet by 2020 are Green vehicles, and 20% of passenger vehicles purchased, leased or otherwise obtained thereafter will be Green.

Documentation:

- Ulster County Local Law #9 of 2015, Establishing a Sustainable Green Fleet Policy: https://legislature.ulstercountyny.gov/sites/default/files/Local%20Law%20No.%209%20of%202015%20-%20Sustainable%20Green%20Fleet_0_0.pdf (included in documentation packet)
- Ulster County Green Fleet Initiative webpage: https://ulstercountyny.gov/environment/sustainability-energy/green-fleet-initiative
    - GREEN FLEET ANNUAL REPORT: The Green Fleet Policy requires an annual report to be filed on or before March 1st with the County Executive and the Ulster County Legislative Standing Committee assigned with the Department of the Environment and any other Committee as determined by the Clerk of the Legislature. Annual reports are available on the webpage dating back to 2015.
        - 2019 Green Fleet Report (included in documentation packet)
        - 2018 Green Fleet Report
        - 2017 Green Fleet Report
        - 2016 Green Fleet Report
        - 2015 Green Fleet Report

Proposed Local Law No. 3 Of 2015

County Of Ulster

A Local Law Establishing A Sustainable Green Fleet Policy

BE IT ENACTED, by the Legislature of the County of Ulster, as follows:

SECTION 1. LEGISLATIVE INTENT AND PURPOSE.

The Ulster County Legislature finds that government must be innovative, efficient, and cost effective.

Ulster County recognizes that energy use associated with the operation of its motor vehicle fleets exacerbates local air quality problems and results in greenhouse gas emissions that contribute to global climate change. While the operation and maintenance of the County vehicle fleet is essential to the ability to provide a wide range of services to the public, the fleet represents a significant environmental and financial cost to Ulster County.

In 2012, the County's baseline year for its Greenhouse Gas (GHG) Inventory, the fleet consumed 201,000 gallons of gasoline and over 306,000 gallons of diesel fuel and was responsible for the emission of approximately 4,899 metric tons of CO2 equivalent or approximately 35% of the County's total GHG emissions.

Energy costs represent a significant amount of spending for Ulster County government and Ulster County desires to continue in its leadership role in environmental stewardship. The County's energy costs totaled $4,178,670 in fiscal year 2014 of which $1,734,637 is vehicle energy costs.

Ulster County recognizes that its agencies and/or departments have a significant role to play in improving local air quality and reducing greenhouse gas emissions by improving the energy efficiency of its Fleet and reducing emissions from fleet operations.

Ulster County recognizes that improving the energy efficiency of its fleet can lead to significant long-term monetary savings.

Ulster County wishes to exercise its power as a participant in the marketplace to ensure that purchases and expenditures of public monies are made in a manner consistent with the policy of improving local air quality and reducing greenhouse gas emissions.

Ulster County wishes to establish a "Green Fleet" policy addressing the vehicles of the fleet under the control of the County in order to improve vehicle fuel efficiency and reduce greenhouse gas emissions.

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A Local Law Establishing A Sustainable Green Fleet Policy

A Green Fleet Policy involves a number of different steps to reduce emissions, decrease costs, and increase efficiency. These steps include:

a. the downsizing of vehicles
b. the optimization of vehicle use
c. incorporate efficiency into bid specifications
d. maximize vehicle efficiency through maintenance and operation
e. the elimination of vehicles
f. where possible encourage the use of transit systems, bike riding, walking, & telecommuting

Ulster County is committed to using electric, hybrid-electric, hybrid and sustainable green vehicles across the fleet. Any initiative to introduce alternative fuel technologies will consider the sustainability of the fuel including lifecycle energy and emissions, as well as the renewability of the fuel source.

Additionally Ulster County seeks to move toward zero emission vehicles by promoting the use of electric, hybrid-electric, hybrid, and sustainable green vehicles by residents and will do so by:

1. Giving priority to purchasing hybrid, hybrid-electric, and sustainable green vehicles; and

2. Installing electric vehicle charging stations at County-owned facilities.

3. Supporting initiatives and research which will lead to the further deployment of electric, hybrid-electric, hybrid, and sustainable green vehicles across the community.

SECTION 2. DEFINITIONS.

1. "**Green Vehicle**" refers to any vehicle that employs technology that reduces fuel consumption or emissions and shall include, but is not limited to, vehicles that have electric drive trains (EVs), hybrid-electric, and hybrid vehicles that use both a rechargeable energy storage system and combustible fuel (HVs).

2. "**Passenger Vehicle**" means any motor vehicle designed primarily for the transportation of persons and having a design capacity of twelve persons or less.

3. "**Light Duty Truck**" means any motor vehicle, with a manufacturer's gross vehicle weight rating of 6,000 pounds or less, which is designed primarily for purposes of transportation of property or is a derivative of such a vehicle, or is available with special features enabling off-street or off-highway operation and use.

4. "**Medium Duty Vehicle**" means any vehicle having a manufacturer's gross vehicle weight rating of 14,000 pounds or less and which is not a light-duty truck or passenger vehicle.

5. "**Heavy Duty Vehicle**" means any motor vehicle, licensed for use on roadways, having a manufacturer's gross vehicle weight rating greater than 14,000 pounds.

SECTION 3. FLEET INVENTORY.

1. In order to establish a baseline of data so that the "Green Fleet" policy can be established, implemented, and monitored, the Fleet Manager, in consultation with the Coordinator of the Department of Environment, shall develop an inventory and assessment of the fleet vehicles within each department or agency. This inventory shall include:

    a. Number of vehicles classified by the model year, make, model, engine size, vehicle identification number (VIN), drivetrain type (2-wheel drive or 4-wheel drive), and the rated vehicle weight and classification (light- duty, medium-duty, heavy-duty);

    b. Miles per gallon (or gallon equivalent) per vehicle;

    c. Type of fuel (or power source, e.g., electricity) used;

    d. Average cost per gallon (or gallon equivalent) of fuel;

    e. Average fuel cost per mile;

f. Annual miles driven per vehicle;

g. Total fuel (or power) consumption per vehicle;

h. Vehicle function (i.e., the tasks associated with the vehicle's use);

i. Estimated emissions per mile for each pollutant by vehicle type/class based on EPA tailpipe standards for the following: Carbon Monoxide (CO), Nitrogen Oxides (NOx), and Particulate Matter (PM).

j. Carbon Dioxide (CO2) calculations based on gallons (or gallon equivalent) of fuel consumed.

2. Once the Fleet Inventory from each department is submitted, an assessment on vehicular use will be performed by the Fleet Manager, in consultation with the Coordinator of the Department of Environment. The assessment will examine;

   a. vehicle needs;

   b. the use of the smallest, most efficient vehicle to carry out necessary tasks; and

   c. replacing existing vehicles with Green vehicles that will accomplish substantially the same tasks.

SECTION 4. THE ULSTER COUNTY GREEN FLEET POLICY.

It is the policy of Ulster County:

1. to purchase, lease, or otherwise obtain the most energy efficient and cost effective vehicles possible that meet the operational needs of the County.

2. to purchase vehicles that are appropriately sized for the purposes to which they are intended.

3. to manage and operate its fleet in a manner that is energy efficient and minimizes emissions.

4. that all County employees in Ulster County owned vehicles at any time, or in personal vehicles while on County property during work shifts, shall not allow a vehicle to be left to idle for any period of time greater than five minutes. This policy shall not apply during times of emergency response or for vehicles which require longer idling periods for equipment operations needs.

SECTION 5. GREEN FLEET POLICY STRATEGIES.

In order to accomplish the goals stated in Section 4 above, the following policies shall be implemented:

1. Include a minimum efficiency standard in miles per gallon (or gallon equivalent) for each vehicle class for which the County has a procurement specification for and include such a standard in any new vehicle procurement specification.

2. Include a minimum emissions standard for each vehicle class for which the County has a procurement specification for and include such a standard in any new vehicle procurement specifications.

3. Ensure a minimum of 5% of the fleet by 2020 are Green vehicles. Thereafter, annually, a minimum of 20% of passenger vehicles purchased, leased or otherwise obtained will be Green and Green vehicles that qualify in another vehicle weight class may, for the purposes of this requirement, qualify as a passenger vehicle on a one vehicle for one vehicle basis.

4. Review all vehicle procurement specifications and modify them as necessary to ensure that the specifications are written in a manner flexible enough to allow the purchase or lease of green vehicles.

5. Review every new vehicle purchase request and modify them as necessary to ensure that the vehicle class to which the requesting vehicle belongs is appropriate for the duty requirements that the vehicle will be called upon to perform.

6. Review the fleet inventory taken in Section 3 above to identify older vehicles that are used infrequently (or not at all), as well as those vehicles that are disproportionately inefficient, and schedule their elimination or replacement.

7. Implement a program that will train County employees to drive efficiently and utilize efficient operating techniques such as route optimization.

8. Reduce motor vehicle use by the utilization of fleet-management software, optimizing vehicle use, the selection of the right vehicle for the employees' tasks, and encourage transit use, bicycle riding, walking, and ride sharing and telecommuting where feasible.

9. Maximize efficiency of the vehicles by having them regularly maintained and checking tire pressure and keeping them aerodynamic (putting racks, ladders and tools on vehicle roofs only when necessary).

10. Procure and utilize Green vehicles when their use is appropriate to the application and a life-cycle cost analysis demonstrates the procurement and utilization of the vehicle to be economically feasible.

11. Purchase the right size vehicle for the job.

12. Keep apprised of the technological advances and product innovations for fleet vehicles such as, but is not limited to, the use of low rolling resistance tires and using nitrogen to inflate tires.

SECTION 6. MONITORING OF THE GREEN FLEET POLICY.

In order to determine whether the goals outlined in Section 4 above and the actions outlined in Section 5 above, have been reached, and/or whether or not they should be modified or amended, annually, on or before March 1st of each year, a report, prepared by the Coordinator of the Ulster County Department of the Environment, in conjunction with the Ulster County Fleet Manager and any other department of the County that the Coordinator of the Department of Environment may deem necessary, shall be filed with the County Executive and the Ulster County Legislative Standing Committee assigned with the Department of the Environment and any other Committee as determined by the Clerk of the Legislature.

The annual report shall include, but not be limited to:

a. Information addressing the criteria of Sections 1, 3 and 5 above;
b. Documentation of the fuel use and emissions associated with the ulster county fleet;
c. An assessment of whether or not the goals set forth in the policy have been attainable; and if not, the reasons relevant;
d. Recommendations regarding actions to be taken in order to meet the goals set forth in the Policy; and
e. Recommendations as to specific changes or modifications to the Policy that would promote the goals of the Policy.

The Legislative Standing Committee(s) as designated, having reviewed the information and recommendations set forth in the annual report, shall, if it deems necessary, propose to the full Legislature any changes or modifications to this Policy.

SECTION 7. WAIVER

The County Executive may request a waiver of the purchase requirements of Section 5 of this Law by resolution of the County Legislature if he/she determines that such a waiver is in the best interest of the
taxpayers and residents of Ulster County. No such waiver shall take effect unless such a resolution is deemed passed with a majority of the County Legislature voting in the affirmative.

SECTION 8. SEVERABILITY.

If any clause, sentence, paragraph, subdivision, section, or part of this Local Law or the application thereof to any person, individual, corporation, firm, partnership, entity, or circumstance shall be adjudged by any court of competent jurisdiction to be invalid or unconstitutional, such order or judgment shall not effect, impair, or invalidate the remainder thereof, but shall be confined in its operation to the clause, sentence, paragraph, subdivision, section, or part of this regulation, or its application to the person, individual, corporation, firm, partnership, entity, or circumstance directly involved in the controversy in which such order of judgment shall be rendered.

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A Local Law Establishing A Sustainable Green Fleet Policy

SECTION 9. EFFECTIVE DATE

This local law shall take effect immediately upon filing with the New York State Secretary of State.

Adopted by the County Legislature: August 18, 2015

Approved by the County Executive: September 17, 2015

The recertification requirements are the same as the initial certification requirements.

2019
Green Fleet Annual Report

1. Introduction

Background

Local Law #9 of 2015, establishing a Sustainable Green Fleet Policy, was adopted by the Ulster County Legislature in August of 2015 and approved by the County Executive in September of 2015. The Green Fleet Law recognizes that, while vital to the operation and function of County Government, fleet operations represent a significant environmental and economic cost to Ulster County. The law outlines ways to reduce these costs and impacts and includes requirements to inventory the fleet, monitor fuel use, optimize use of existing vehicles, and purchase green vehicles to meet a defined green fleet goal.

Reporting Requirements

The Green Fleet Law requires an annual report to be filed with the County Executive and the designated Ulster County Legislative Standing Committee(s) on or before March 1st.

The report shall include but not be limited to:

- Information addressing the intent and purpose of the law (Section 1), the fleet inventory (Section 3), and the Green Fleet Policy implementation strategies (Section 5);
- Documentation of fuel use and emissions associated with the fleet;
- Assessment of goals as outlined in policy and whether they have been attained; and
- Recommendations regarding actions to be taken to meet the goals as well as recommendations as to specific changes or modifications to the policy.

Methodology

The monitoring and implementation of the Green Fleet Law is a collaborative effort between various Executive Departments, including the Department of the Environment and the Department of Public Works (Fleet Manager) as well as UCAT, the UC Purchasing Department and others.

The Green Fleet Policy requires extensive monitoring and detailed analysis of fleet composition and fuel consumption. The information in this report was compiled from several data sources to determine the average efficiency of the Ulster County fleet by individual vehicle, vehicle class and Ulster County department. The data contained within is maintained by the Department of the Environment for ongoing trend analysis.

As procedures continue to be refined to track and report fleet activity, the report accuracy and ability to describe operations at any one point in time will continue to improve. This report is intended to provide an overview of fleet size and performance over the course of time as fleet function and size changes. Such changes may occur due to reduction, transfer or merger of departmental functions, such as the UCAT expansion of service in the City of Kingston in 2019.

Green Vehicle Definitions

Per the Local Law, “Green Vehicle” refers to any vehicle that employs technology that reduces fuel consumption or emissions and shall include, but is not limited to:

- Hybrid vehicles (HEV): HEVs have electric components but use a combustible fuel source (such as gasoline) to power the vehicle. The battery can only be recharged by operating the vehicle (i.e. no plug).
- Plug-in hybrid vehicles (PHEV): PHEVs have a larger battery that will enable a portion of driving range available as "all-electric" mode. The batteries can be recharged by plugging the vehicle into an electric power source.
- Battery electric vehicles (BEV): BEVs are powered solely by electricity stored in batteries and have no internal combustion engine in the vehicle.

2. Fleet Size and Composition

Number of Vehicles

As of December 31st, 2019, the County's inventory included 458 vehicles in 27 departments/divisions. This number includes all vehicles in Ulster County's operational vehicle fleet and transit fleet but does not include non-road vehicles (e.g. trailers) and construction equipment operated by the Department of Public Works.

New Vehicles

The UC DPW Fleet Manager continues to work with departments to review the intended use and need for each vehicle request selecting the most efficient vehicle practicable for the application, ensuring "right-sizing" of the fleet as older vehicles are replaced. Using a "right-sizing" approach, the County can improve the average efficiency of the fleet, even if the size of the fleet increases due to increased operational requirements. Each year, additional types and models of BEVs and PHEVs are brought to market. As these vehicles become available, they will be evaluated for deployment in the fleet.

In 2019, UCAT expanded its service to the City of Kingston, adding six vehicles to its fleet and three new routes to its operations. This expansion of service has resulted in increased fuel usage and greenhouse gas emissions in 2019.

Retired/Auctioned Vehicles

A total of 63 vehicles were retired in 2019. Forty-three (43) of these were auctioned. The remainder are located at the Central Auto garage awaiting auction. These vehicles are included in the fleet inventory. A detailed list of auctioned vehicles is included as Appendix C.

TABLE 1: VEHICLES RETIRED AND NEW TO SERVICE (2019)

Type	Retired in 2019	New to Service in 2019
Passenger Vehicle	22	4 (1) Dodge Charger (2) Hyundai Ioniq – Green Fleet (1) Scion tC
Light Duty Truck	1	7 (1) Chevrolet Colorado (2) Jeep Cherokee (4) Mitsubishi Outlander – Green Fleet
Medium Duty Vehicle	15	21 (2) Chevrolet Express (2) Chevrolet Silverado (1) Chevrolet Tahoe (1) Chevrolet Traverse (6) Chrysler Pacifica – Green Fleet (5) Dodge Durango (2) Ford E-450 Phoenix (1) Ford Explorer (1) Ford F-350

Heavy Duty Vehicle	25	9 (1) Gillig G27E102N2 (4) Gillig G29B1D2N4 (1) Freightliner MT55 (3) International HV507 SFA 4x2
Total	63	41 (including 12 Green Fleet)

Green Vehicle Integration

The Green Fleet Policy mandates that 5% of the fleet will be Green vehicles by 2020. As of December 31st, 2019, the County fleet included 38 Green vehicles, per the policy definition, including: (5) hybrid transit buses, (12) hybrid passenger vehicles, (10) plug-In hybrid (PHEV) passenger vehicles, (4) plug-in hybrid light duty trucks, (6) plug-in hybrid medium duty vans and (1) battery electric (BEV) passenger vehicle. The County exceeded the 2020 Green Fleet goal in 2018.

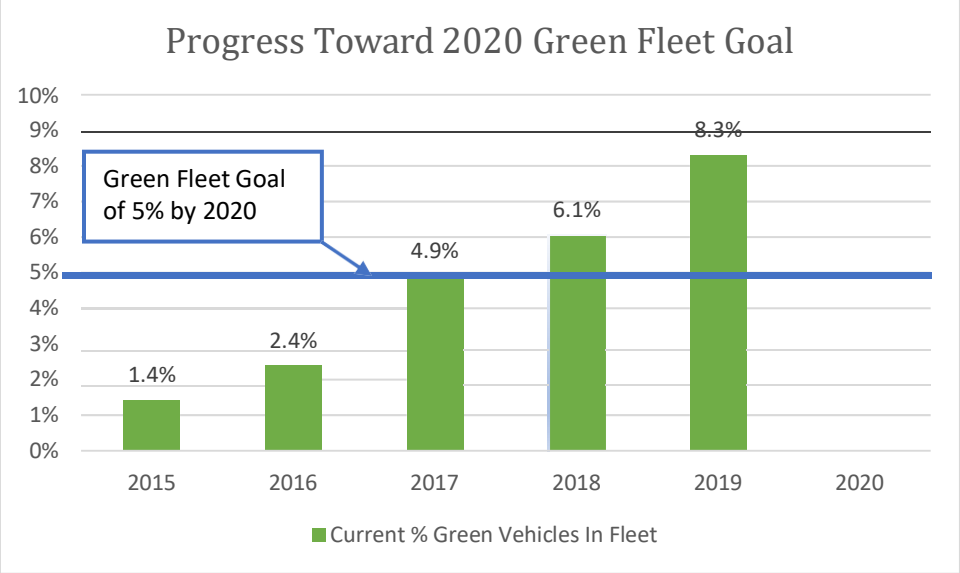

FIGURE 1: PROGRESS TOWARD 2020 GREEN FLEET GOAL

3. Fuel Consumption and Cost

Fleet fuel is purchased and tracked using the following systems:

- WexOnline: WexOnline® is a credit card procurement system that allows vehicle drivers to purchase fuel at commercial service stations. This system tracks transaction data including vehicle, mileage, user and department.
- FuelMaster: DPW maintains diesel fuel tanks at the Quarry and various Highway Substations for use with Heavy Duty vehicles and equipment. These tanks are filled by the County's diesel fuel vendor or through pickup at a local fuel terminal with a County-owned fuel truck. The Fuelmaster system provides data on fuel dispensed at these tanks.
- UCAT Gasoline and Diesel Tanks: UCAT maintains diesel and gasoline tanks on site for operation of the UCAT bus fleet. UCAT vehicles fuel from these tanks to the maximum extent possible, though occasionallyUCAT

vehicles use the WexOnline® system for fueling. UCAT's fueling management system provides data on fuel dispensed from these tanks.

- SUNY New Paltz Fuel: Ulster County used approximately 8,000 gallons of diesel fuel from pumps at SUNY New Paltz for the New Paltz bus loop. This usage is reported quarterly to the County and is included in the fuel usage totals in this report.

TABLE 2: TOTAL FUEL USAGE BY TYPE (2019)

Fuel Type	2015	2016	2017	2018	2019
Diesel (gallons)	286,963	260,584	269,670	276,476	301,466
Gasoline (gallons)	220,950	243,530	226,218	239,060	249,513
Ethanol (gallons)	24,550	27,059	25,135	26,562	27,724
Biodiesel (gallons)	-	3,986	3,226	3,521	2,610
Electricity (gallons equivalent)	-	66	172	239	608
Total	532,463	535,225	524,421	545,858	581,921

Notes:

1. Fuel usage is the total fuel dispensed to a vehicle in the calendar year reported. This accounting methodology was updated in 2019. Totals prior to 2019 are for fuel purchased, not necessarily fuel used.
2. UCAT began using biodiesel in 2015 and began reporting usage in 2016.
3. Gasoline purchased at local filling stations is assumed to be (on average) an E10 blend of 90% conventional fossil-derived gasoline and 10% renewable ethanol. The Gasoline delivered to UCAT tanks is an E10 blend of 90% conventional gasoline and 10% ethanol.
4. Ulster County put its first electric vehicles into service in 2016.
5. Gasoline equivalent was calculated using the EPA conversion estimate of 33.7 kWh per gallon of gasoline. Total electricity use in 2019 for fleet operations was 20,505 kWh.
6. For part of the year, UCAT uses a B5 Biodiesel blend fuel, containing 95% conventional diesel fuel and 5% biodiesel. In 2019, the UCAT fleet used this biodiesel blend approximately 34% of the time.
7. Non-Road usage consists of fuel used by DPW Buildings & Grounds division for grounds maintenance and other tasks using small engine equipment. This fuel is purchased through the WexOnline system and transported in gas cans or the equipment.

TABLE 3: FLEET FUEL PURCHASED (2019)

Fleet	Fuel Type	Consumption (gallons)	Cost ($)
Vehicle	E10 Gasoline	234,789.6	$483,097.07
	Diesel	133,479.9	$301,847.41
	Electricity	608.5 (gallons equivalent)	$2,235.03
Transit	E10 Gasoline	40,132.3	$88,789.53
	Diesel	92,027.9	$202,128.24
	B5 Biodiesel Blend	52,206.0	$113,404.10
Non-Road	E10 Gasoline	2,314.7	$5,400.14
	Diesel	107.6	$285.95
Total	All Fuels	555,666.4	$1,197,187.47

Notes:

1. Fuel purchased is fuel delivered to an Ulster County-owned tank or purchased through the Wex fueling system. This number differs from fuel usage above due to the tank levels at the end of the year and fuel acquired from other sources.
2. The average blended electricity cost for UC Buildings with EV charging stations installed is $0.109/kWh. (2018 electricity cost data, UC Department of the Environment)

4. Fleet Efficiency

Fuel efficiency was calculated for all fleet vehicles with accurate annual mileage data. This analysis includes vehicles tracked in the WexOnline system, the FuelMaster system and UCAT vehicles, but does not include vehicles without accurate mileage data available. Annual miles traveled is calculated using either: 1) user reported odometer readings in the Wex fleet system, 2) odometer readings recorded in the FuelMaster system and 3) end of year mileage readings compiled by UCAT for transit vehicles. An annual efficiency value cannot be calculated where odometer information is missing, incomplete or inaccurate. A summary of fleet fuel efficiency is contained in the following charts.

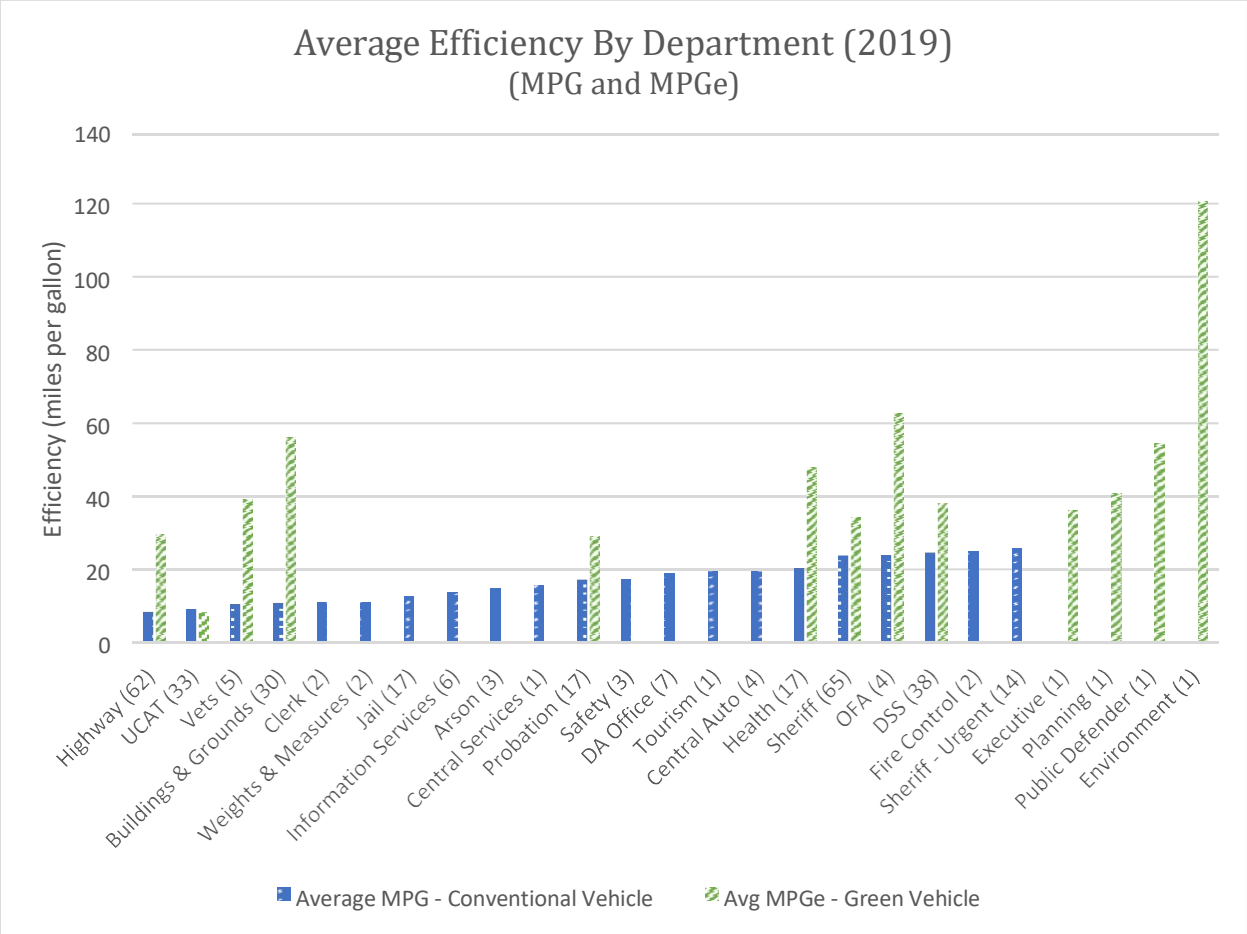

FIGURE 2: AVERAGE EFFICIENCY BY DEPARTMENT (2019)

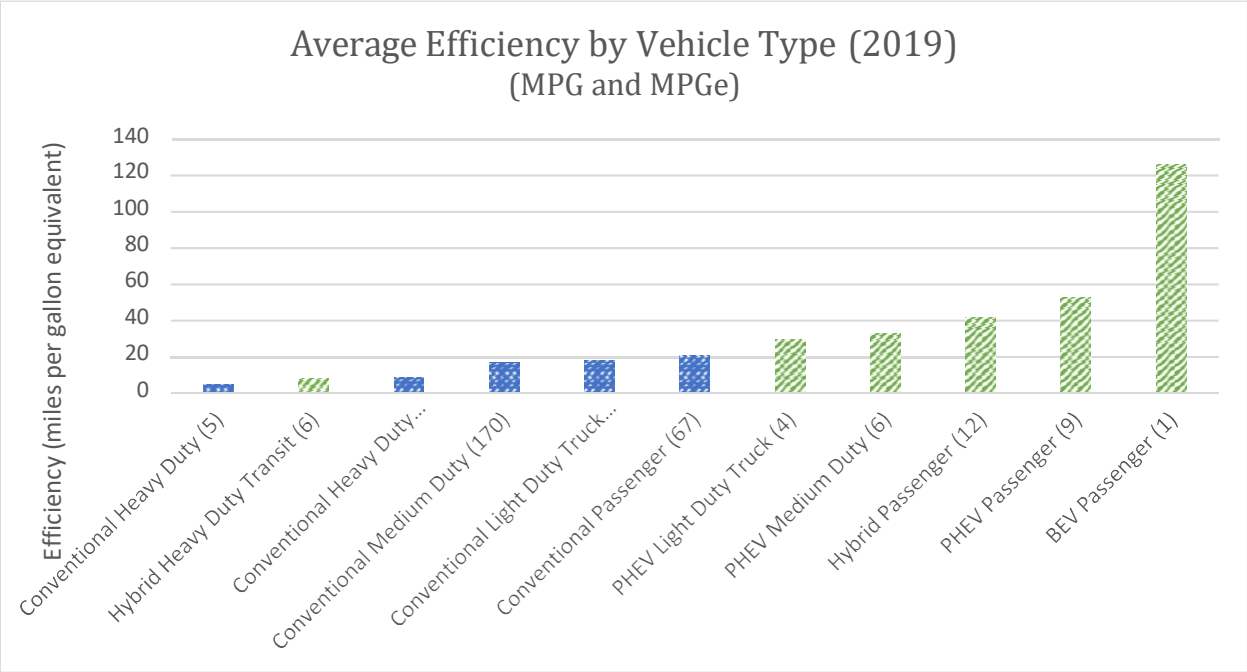

FIGURE 3: AVERAGE EFFICIENCY BY VEHICLE CLASS (2019)

Notes:

1. The number listed in parentheses beside each department name indicates the number of vehicles with valid mileage data reported.
2. Plug-in electric vehicles in the fleet charge primarily using Ulster County's Chargepoint network. The BEV used by the UC Department of the Environment also charges on other networks; 15% has been added to the electric usage to account for this out of network charging.

5. Greenhouse Gas Emissions

Ulster County offsets 100% of its emissions through the purchase of carbon credits and renewable energy credits (RECs), including all Scope 1 and 2 emissions associated with fleet operations. However, the practice of purchasing offsets to reduce greenhouse gas (GHG) emissions does not contribute toward the achievement of other Ulster County Green Fleet Policy goals such as increased efficiency, reduced costs and improved local air quality. To measure source emissions reductions over time, this report includes fleet emissions quantities (below) that do not include the application of carbon offsets or renewable energy credits.

Emissions Factors Disclosure:

Ulster County accounts for GHG emissions in accordance with the Local Government Operations Protocol[1] developed by Local Governments for Sustainability (ICLEI).

Ulster County uses emissions factors published by the EPA in the document *Emissions Factors for Greenhouse Gas Inventories*[2] (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.[3]

Ulster County does collect and maintain data on vehicle miles traveled (VMT) for vehicle fleet and transit fleet vehicles to the extent possible. However, to simplify the accounting process for mobile combustion, Methane

[1] Local Governments for Sustainability (ICLEI), Local Government Operations Protocol Version 1.1, 2010
[2] Available here: https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf
[3] Available here: https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html

(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).[4] To do so, CO2 emissions factors were multiplied by 0.1% for CH4 and 1.8% for N2O to obtain an emission factors for these greenhouse gases.

TABLE 4: FLEET GREENHOUSE GAS EMISSIONS, SCOPE 1 & 2

Year	Total Scope 1 - Direct Combustion Emissions (metric tons CO2e)	Total Scope 2 Emissions (metric tons CO2e)
2015	5,076.5	N/A
2016	4,883.1	0.4
2017	4,761.2	1.0
2018	5,015.3	1.1
2019	5,372.1	2.8

Emissions from purchased electricity are considered Scope 2 - Indirect Combustion emissions. However, as discussed above, these emissions are also offset 100% through the County's purchase of renewable energy credits.

In 2019, 96.7% of fleet emissions resulted from the combustion of fossil fuels, with the bulk of the remaining portion of emissions resulting from combustion of biomass-based, or biogenic, fuels. In accordance with the ICLEI protocol, this type of carbon is not included in Scope 1 emissions as the carbon concerned is of biogenic origin and would have been emitted to the atmosphere through the natural process of decay. In 2019, biogenic emissions from biofuel combustion totaled 184.1 (metric tons of CO2e).

Per the EPA's carbon equivalencies calculator, Ulster County's 2019 fleet emissions quantity (without offsets) is equivalent to that released by burning 29.6 railcars worth of coal or 12,444 barrels of oil. Alternatively, this amount of carbon could be offset through the annual carbon sequestration of 5,904 acres of U.S. forest land. [5] However, as discussed, 100% of these emissions are offset through the purchase of carbon credits.

Due to the expansion of services to the City of Kingston in 2019, Ulster County's emissions in the transit sector increased 20.4% over the historic average since 2012. For the 2019 Ulster County Greenhouse Gas inventory update, this difference of 327.7 metric tons CO2e will be added to the 2012 GHG baseline to adjust for the new area of government jurisdiction, per the methodology defined in the Ulster County Climate Action Plan.[6]

6. Electric Vehicle Implementation

Fleet Electric Vehicle Performance

For plug-in hybrids and battery electric vehicles, an efficiency value of MPGe (miles per gallon equivalent) can be calculated using both gasoline and electricity consumption data, using the EPA's assumption that 33.7 kWh is equivalent to 1 gallon of conventional gasoline[7]. The MPGe efficiency value is a standardized way to quantify the total amount of energy required to operate the vehicle and compare its efficiency to vehicles that use only conventional fuel.

[4] Available here: https://www.dec.ny.gov/docs/administration_pdf/ghgguide.pdf
[5] Calculator available here: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator
[6] Available here: https://ulstercountyny.gov/environment/
[7] More information here: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-revisions-and-additions-motor- vehicle-fuel

In 2019, UC Fleet usage of electricity increased 154% above the 2018 value. The green vehicles in the Ulster County vehicle fleet achieved an average efficiency of 37.8 MPGe over 329,367 miles traveled in 2019. In general, the PHEV and BEV passenger vehicles in the fleet attained higher efficiency performance than hybrid vehicles.

TABLE 5: AVERAGE EFFICIENCY OF GREEN FLEET VEHICLES (2019)

Vehicle Type	2019 Sample Size	Average Efficiency (MPGe)
Hybrid Passenger	12	39.1
Plug-In Hybrid (PHEV) Passenger	9	52.7
Plug-In Hybrid (PHEV) Light Duty Truck	4	29.4
Plug-In Hybrid (PHEV) Medium Duty	6	32.7
Hybrid Transit Bus	6	6.9
Battery-Electric (BEV) Passenger	1	120.5

The chart below shows the relative proportions of gasoline and electricity usage for each green vehicle model in 2019:

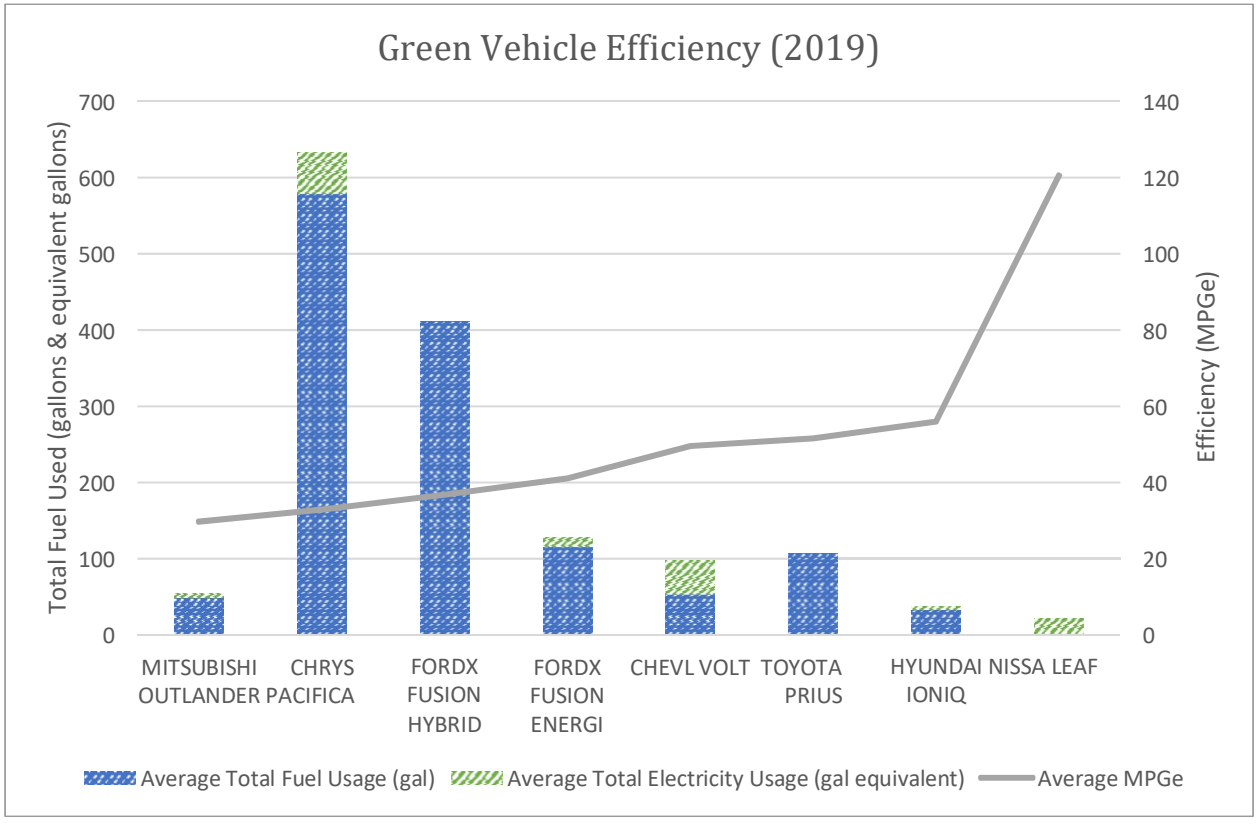

FIGURE 4: GREEN VEHICLE EFFICIENCY (2019)

Electric Vehicle Infrastructure

Ulster County added 4 new charging ports in 2019, for a total of 38 charging ports County-wide. The charging station network is used by three distinct groups:

- employees operating fleet vehicles
- employees and contract employees charging personal vehicles at work
- the public (Ulster County residents and visitors)

Ulster County fleet charging sessions accounted for 26.8% of energy dispensed from Ulster County stations in 2019. These totals are included in Appendix B. The cost of this energy is included in the electricity bills of the Ulster County properties where charging stations are located and is reported in the annual building benchmarking report, as it cannot be separated accurately from the cost of the electricity consumed to operate the building. Electricity costs contained in this report are estimated based on the average cost of electricity at properties where EV charging stations are installed.

The County's charging network provides access to workplace charging for 97% of the County's workforce. Currently, workplace charging does not represent significant portion of usage, however, access to infrastructure is an important first step to ensure that Ulster County employees can consider the purchase of a green vehicle. When an employee purchases a green vehicle, the benefit of decreased emissions extends beyond the commute—a benefit to the entire community. Workplace charging not only reduces the County's carbon footprint but leads to wider community and regional benefits. Ulster County is invested in increasing the rate of employee electric vehicle adoption. Ulster County includes Scope 3 GHG emissions associated with employee commuting in its GHG inventory, and offsets these emissions through the purchase of carbon credits in accordance with the Net-Zero Government Operations policy. In 2018, employee commutes led to the emission of approximately 2,127 metric tons of CO2-equivalent greenhouse gases—18.7% of all measured government operations emissions.

The largest user group, both in number of individual charging sessions and energy dispensed, are public users. From 2016 through 2019, the Ulster County Regional Chamber of Commerce has sponsored the electricity cost of public charging sessions, allowing the energy to be offered to the public at no charge. In 2019, the Ulster County charging network hosted a total of 327 unique public drivers.

TABLE 6: ULSTER COUNTY ELECTRIC VEHICLE CHARGING NETWORK (AS OF 12/31/19)

Location	# of Ports
Carr Building	2
Department of Public Works	2
Golden Hill Office Building / Health Department	8
Hall of Records	2
Kingston SUNY Extension	2
Probation Department	2
SUNY Ulster	2
Trudy Resnick Farber Building	2
Ulster County Courthouse	4
Ulster County Law Enforcement Center	2
Ulster County Office Building	2
Ulster County Office Complex /Dept. of Social Services	6
Ulster County Pool	2
Total	38

EV Charging Station Usage

The County charging station network, which became operational in July of 2015, has experienced increased use in 2019. The charts below show the rate of charging station utilization by year. To ensure accurate reporting of the number of charging sessions, any sessions drawing less than 0.1 kWh have been removed from the data.

Detailed information on the usage of the County's network of stations (by the public and the UC fleet) is included as Appendix B.

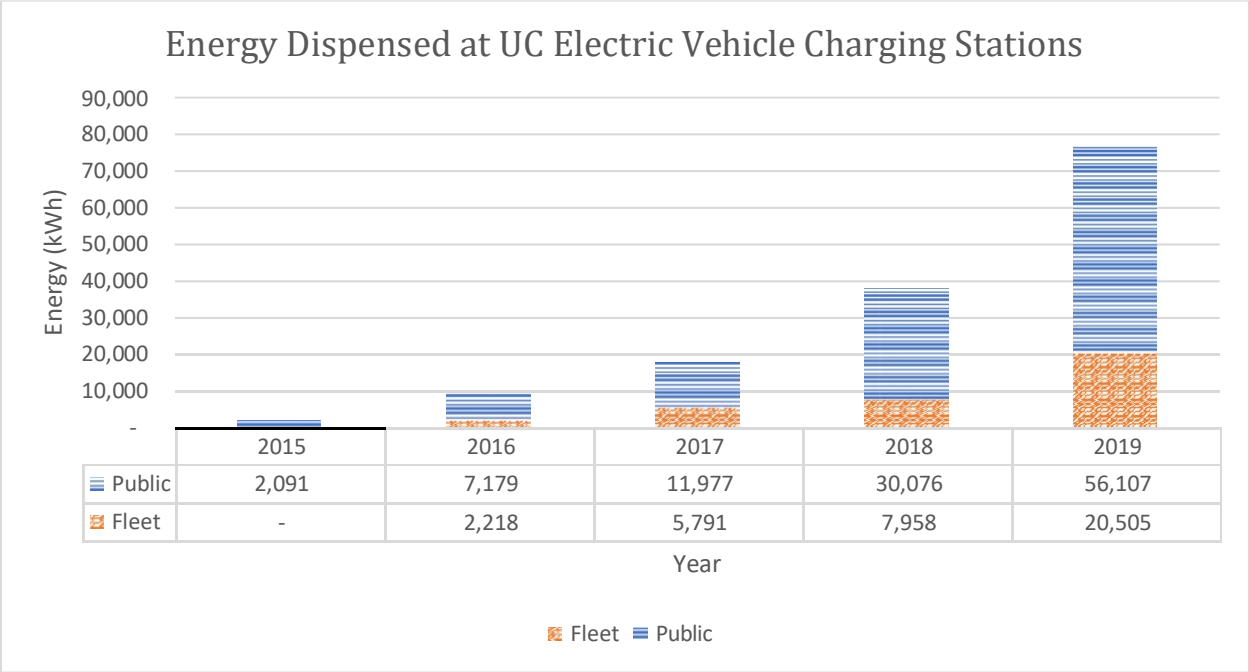

FIGURE 5: ENERGY DISPENSED AT UC ELECTRIC VEHICLE CHARGING STATIONS (2015-2019)

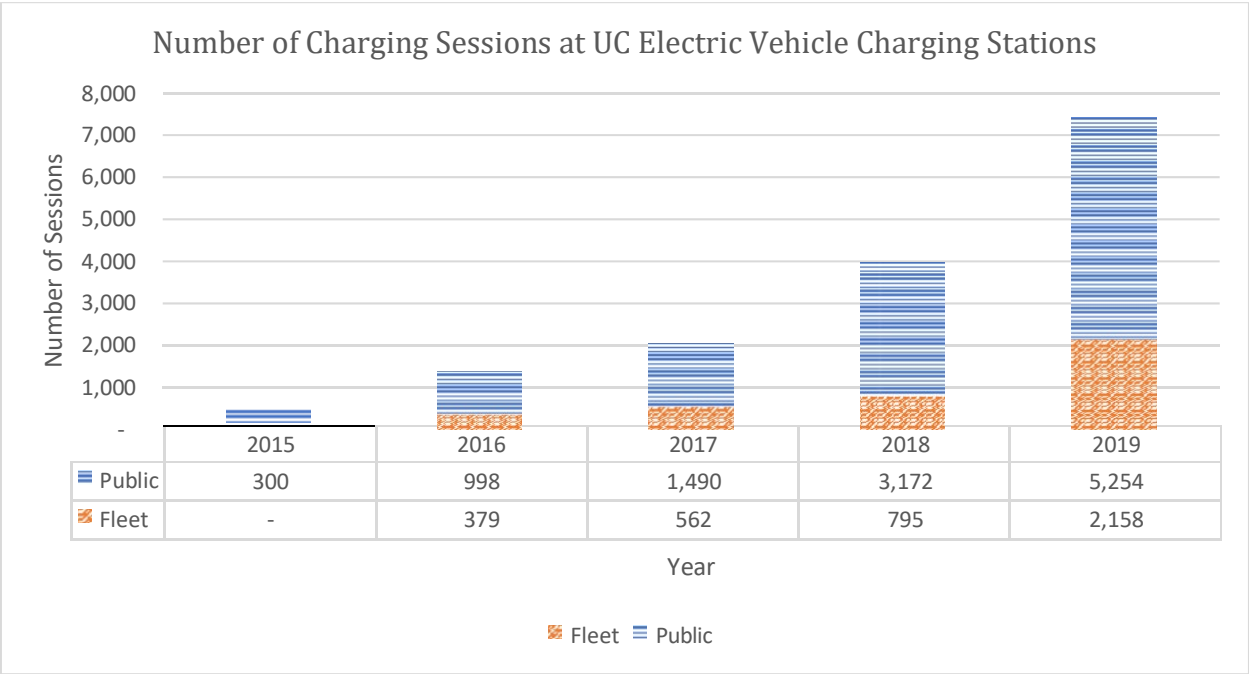

FIGURE 6: NUMBER OF SESSIONS AT UC CHARGING STATIONS (2015-2019)

7. Initiatives

Right-Sizing of the Fleet

The Fleet Manager continues to actively manage the fleet for efficiency. Older, less-efficient vehicles are retired from the fleet as they reach the end of service life. Vehicles are then auctioned as documented in Appendix C. When acquiring new vehicles, the Fleet Manager works with departments to determine their needs and provides vehicles of an appropriate vehicle-class and type for the job, targeting optimum fuel efficiency for the application. As more and more models of electric vehicles, plug-in hybrids and hybrids become available, there will be additional options for a green vehicle to be used as a replacement to an existing vehicle.

Use of Biodiesel B5 Blend

The County continues to use biodiesel blend (B5) at UCAT when operationally feasible. Biodiesel has a higher gelling temperature, and if used during cold weather it will clog and block fuels lines. Biodiesel is derived from plant and animal sources versus conventional fossil-derived diesel fuel which is refined from crude petroleum. Biodiesel is generally considered a greener, more sustainable alternative to conventional diesel since it is not fossil-fuel based and the subsequent regeneration of the plant and animal stock sequesters the CO2 emissions associated with the burning of the biodiesel product. Ulster County's use of biodiesel blend fuel for transit fleet operations reduced greenhouse gas emissions (CO2e) by 26.7 metric tons in 2019.

Education and Presentations

Departments receiving electric vehicles receive training on the use of the cars, charging stations, the goals of the Green Fleet Policy. This training also covers charging station policy, the availability of workplace charging and other ways to green the employee's daily commute (including reduced UCAT fares for County employees and ride sharing resources). This training program will continue with the addition of new vehicles to new departments in 2020.

In addition, the County's has presented details on its Green Fleet efforts to audiences across the state through NYS DEC and NYSERDA sponsored forums including webinars and conferences. Ulster County Department of the Environment staff also presented at Central Hudson's Electric Vehicle Summit on December 5th. This presentation highlighted the implementation of Green Fleet initiatives through Ulster County's Climate Action Plan.

On September 14th, 2019, Ulster County hosted the 4th annual Ulster County National Drive Electric Week event in Kingston at the County courthouse parking lot. This event featured a wide variety of electric vehicles and provided an opportunity for the public to learn about Ulster County's Green Fleet initiatives.

Bus Fleet Electrification

The Ulster County Department of the Environment received funding from NYSERDA under the Public Transit Technology and Innovation Program (PON 3914) solicitation for a Transit Electrification Feasibility Study.

UCAT will use VW settlement money to help fund electrified fleet buses as well as funding the charging infrastructure at the UCAT garage for the buses. Ulster County is actively working with the New York Power Authority to develop this charging infrastructure to support the first electric transit buses in the fleet.

Technical Assistance

The County continues to provide technical support to municipalities in Ulster County on electric vehicles and charging station initiatives. The Department of the Environment has worked with the following municipalities on

efforts to install municipally sponsored charging stations: Woodstock, Gardiner, City of Kingston, Rosendale, Marbletown, Wawarsing, Village of New Paltz, and Town of New Paltz.

Strategic Deployment of Electric Vehicle Infrastructure

The expansion of Ulster County's municipal charging infrastructure will increasingly require long range planning and coordination. The Ulster County Department of Environment will continue to assess fleet charging needs to prioritize siting of future electric vehicle charging stations. As available locations and suitable electrical circuits become occupied with deployed stations, the Department of the Environment will continue to work with the Department of Public Works and the local utility to find the best locations for additional stations.

8. Appendices

Appendix A: Fleet Usage Summary

TABLE 7: FLEET USAGE SUMMARY (2019)

Department	Number of Vehicles	Number of Vehicles Reporting Valid Mileage	Total Distance Driven (miles)	Total Fuel Usage (gallons equivalent)	Total Fuel Cost	Average Energy Cost per Mile
Arson	3	2	13,655	1,055	$2,121.88	$0.16
Buildings & Grounds	34	30	115,989	10,806	$23,627.94	$0.20
Central Auto	20	5	22,302	1,149	$2,314.18	$0.10
Central Services	1	1	7,146	457	$885.30	$0.12
Clerk	2	2	5,414	492	$959.94	$0.18
DA Office	9	7	58,091	2,958	$6,032.15	$0.10
DSS	41	38	494,876	16,855	$34,216.75	$0.07
Elections	1	0	-	-	-	-
Emergency Communication	2	0	-	-	-	-
Environment	1	1	2,625	22	$80.01	$0.03
Executive	1	1	2,895	80	$163.39	$0.06
Fire Control	3	2	22,471	1,364	$2,747.60	$0.12
Health	17	17	125,686	5,079	$10,699.46	$0.09
Highway	165	67	636,683	84,382	$113,215.41	$0.18
Information Services	6	6	12,549	942	$1,844.54	$0.15
Jail	20	17	135,073	10,671	$22,230.62	$0.16
OFA	6	4	12,791	404	$862.01	$0.07
Planning	1	1	1,688	42	$86.58	$0.05
Probation	22	18	98,152	5,677	$11,756.47	$0.12
Public Defender	1	1	4,210	78	$161.11	$0.04
Safety	3	3	16,245	983	$1,988.99	$0.12
Sheriff	71	66	929,795	71,636	$148,274.92	$0.16
Sheriff - Urgent	21	16	218,423	9,295	$19,088.88	$0.09
Tourism	1	1	4,055	210	$423.88	$0.10
UCAT	43	34	1,127,700	137,349	$302,394.58	$0.27
Vets	6	5	69,385	5,283	$10,279.26	$0.15
Weights & Measures	2	2	17,143	1,557	$3,025.37	$0.18

Appendix B: Ulster County Electric Vehicle Charging Stations

Detailed Usage Report - Pursuant to Resolution No. 332 of 2015

TABLE 8: ULSTER COUNTY CHARGING STATION USAGE (2019)

	Fleet	Public	Total
Total Energy Usage (kWh)*	20,505	56,107	76,612
Total Cost to County**	$2,235	$6,124	$8,359
Number of Charging Sessions	2,158	5,254	7,412
Average Energy Dispensed per Session (kWh)	9.5	10.7	-
Average Electricity Cost per Session	$1.04	$1.16	-
Greenhouse Gas Avoided (kg CO2e)***	8,612	23,565	32,177
Gallons of Gas Saved***	2,573	7,040	9,613
Median Time Charging	2:18	1:56	2:05
Number of Unique Users	21	327	348

*Sessions drawing less than 0.1 kWh of electricity have been removed
**Based on average blended cost of electricity for previous year - $0.109/kWh
***Calculated using conversions provided by Chargepoint, Inc.

Unique User Zip Codes (total 126):

Fitchburg MA, Stow MA, Brookline MA, Chilmark MA, Winooski VT, Waterbury VT, Shoreham VT, Meriden CT, Harwington CT, Danbury CT, Fairfield CT, Bloomfield NJ, Edgewater NJ, Maplewood NJ, Montclair NJ, Verona NJ, Jersey City NJ, Woodcliff Lake NJ, Sayreville NJ, New York NY, Staten Island NY, Bedford NY, Chappaqua NY, Dobbs Ferry NY, Katonah NY, Mahopac NY, Ossining NY, Cortlandt Manor NY, West Harrison NY, Yonkers NY, Hastings on Hudson NY, Goshen NY, Monroe NY, New Hampton NY, Nyack NY, Brooklyn NY, Oakland Gardens NY, Bellerose NY, Glen Cove NY, Locust Valley NY, Seaford NY, Athens NY, Averill Park NY, Ballston Spa NY, Cohoes NY, Delanson NY, Delmar NY, Clifton Park NY, Guilderland NY, Ravena NY, Albany NY, Schenectady NY, Kingston NY, Accord NY, Arkville NY, Bearsville NY, Big Indian NY, Boiceville NY, Catskill NY, Chichester NY, Cottekill NY, Ellenville NY, Glenford NY, High Falls NY, Hurley NY, Kerhonkson NY, Lake Katrine NY, Lexington NY, Margaretville NY, Olivebridge NY, Rosendale NY, Saugerties NY, Shandaken NY, Shokan NY, Stone Ridge NY, Tillson NY, Ulster Park NY, West Hurley NY, West Park NY, West Shokan NY, Woodstock NY, Beacon NY, Clintondale NY, Copake NY, Cornwall NY, Cornwall-on-Hudson NY, Gardiner NY, Highland NY, Hopewell Junction NY, Hudson NY, Hyde Park NY, Millbrook NY, Montgomery NY, Newburgh NY, New Paltz NY, Pine Bush NY, Poughquag NY, Red Hook NY, Rhinebeck NY, Tivoli NY, Wallkill NY, Poughkeepsie NY, Callicoon NY, Hurleyville NY, South Fallsburg NY, Woodridge NY, Wurtsboro NY, Saratoga Springs NY, Cooperstown NY, Delhi NY, Rochester NY, Rochester NY, Jamestown NY, Ithaca NY, Watkins Glen NY, Hummelstown PA, Muncy PA, Mount Pocono PA, Brookhaven PA, Wayne PA, Bel Air MD, Pikesville MD, Baltimore MD, Frederick MD, Chapel Hill NC, Lakewood OH, Lafayette CA

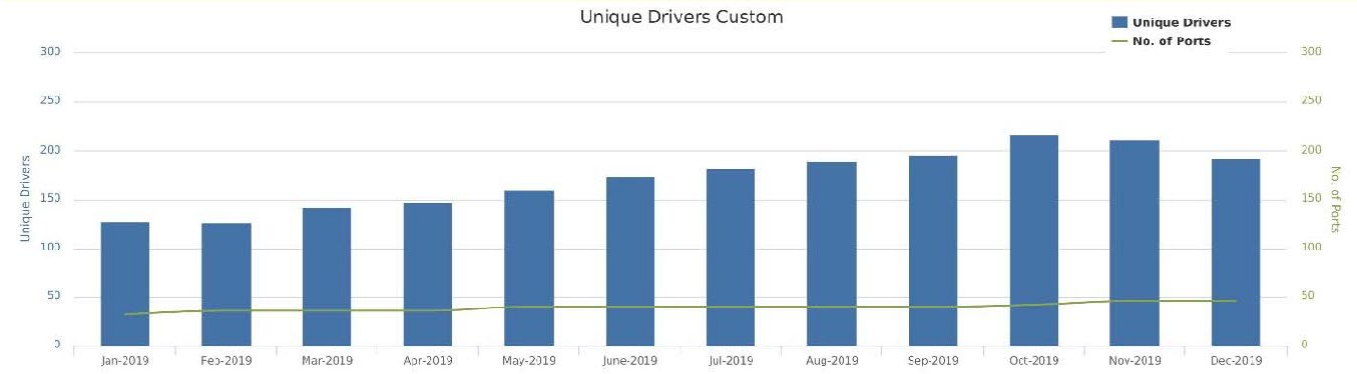

FIGURE 7: NUMBER OF UNIQUE DRIVERS USING ULSTER COUNTY CHARGING EQUIPMENT IN 2019 (SOURCE - CHARGEPOINT)

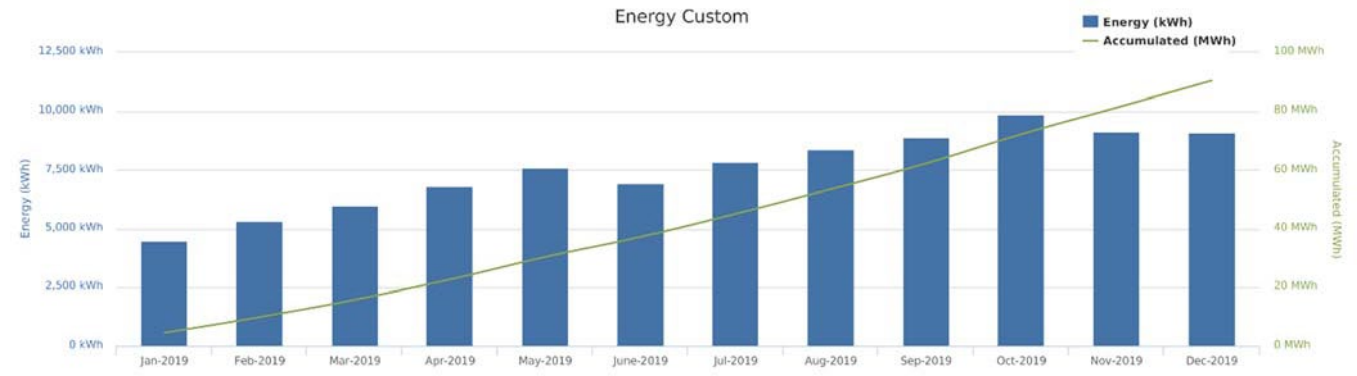

FIGURE 8: ENERGY DISPENSED AT ULSTER COUNTY CHARGING EQUIPMENT IN 2019 (SOURCE - CHARGEPOINT)

TABLE 9: NUMBER OF CHARGING SESSIONS IN 2019 AT UC EVSE NETWORK

Station & Session Type	2015	2016	2017	2018	2019
ULSTER COUNTY / CARR BUILDING				139	268
Fleet				95	73
Public	0	0	0	44	195
ULSTER COUNTY / COURTHOUSE 1	99	337	573	1162	1353
Fleet	0	0	5	0	5
Public	99	337	568	1162	1348
ULSTER COUNTY / COURTHOUSE 2					146
Fleet					0
Public					146
ULSTER COUNTY / DSS 1	21	62	169	37	554
Fleet	0	36	132	2	412
Public	21	26	37	35	142
ULSTER COUNTY / DSS 2				206	500
Fleet				195	431
Public				11	69
ULSTER COUNTY / DSS 3				48	482
Fleet				12	377
Public				36	105
ULSTER COUNTY / HALL OF RECORDS					13
Fleet					0
Public					13
ULSTER COUNTY / HEALTH DEPT 1	3	369	545	474	472
Fleet	0	169	285	230	244
Public	3	200	260	244	228
ULSTER COUNTY / HEALTH DEPT 2				44	320
Fleet				30	243
Public				14	77
ULSTER COUNTY / HEALTH DEPT 3				37	288
Fleet				7	155
Public				30	133
ULSTER COUNTY / HUTTON BUILDING				209	65
Fleet				186	55
Public				23	10
ULSTER COUNTY / OFFICE BUILDING	78	389	409	610	999
Fleet	0	171	135	36	20
Public	78	218	274	574	979
ULSTER COUNTY / POOL					1
Fleet					0
Public					1
ULSTER COUNTY / PROBATION DEPT	15	31	98	300	470
Fleet	0	0	0	0	72
Public	15	31	98	300	398
ULSTER COUNTY / UC PUBLIC WORKS	15	75	165	330	534
Fleet	0	0	3	0	43
Public	15	75	162	330	491
ULSTER COUNTY / SUNY EXTENSION	12	32	62	282	452
Fleet	0	1	3	2	3
Public	12	31	59	280	449
ULSTER COUNTY / SUNY ULSTER					216
Fleet					1
Public					215
ULSTER COUNTY / TRUDY RESNICK	59	86	37	88	166
Fleet	0	2	0	0	7
Public	59	84	37	88	159
ULSTER COUNTY / UCLEC	0	1	1	1	18
Fleet	0	0	0	0	18
Public	0	1	1	1	0

Appendix C: Fleet Vehicles Auctioned in 2019

TABLE 10: FLEET VEHICLES AUCTIONED IN 2019

VEHICLE#	YEAR, MAKE, MODEL
11	2001 Dodge Ram 2500
41	2002 Ford F-450
61	2002 Chevrolet Impala
64	2004 Chevrolet Cavalier
189	2007 Ford Taurus
228	2007 Dodge Charger
229	2007 Dodge Charger
230	2007 Dodge Charger
259	2008 Chevrolet Impala
368	2008 Ford Expedition
446	2013 Dodge Grand Caravan
462	2014 Ford F-150
467	2005 Chrysler Sebring
487	2014 Ford Explorer
490	2006 Chrysler Town & Country
516	2000 BMW 323
561	2011 Chevrolet Traverse
605	2018 Ford Fusion Hybrid
01DMV	1999 Blue Bird TFB32 Mobile Home
1370	2003 Chevrolet 2500HD Pickup
1380	2003 Chevrolet 2500HD Pickup
1780	2008 Chevrolet 3500 Pickup with Dump Body
1800	2005 GMC 3500 Pickup with Dump Body
1860	2006 GMC 3500 Pickup with Dump Body
2540	2002 Sterling L9511 Dump Truck
2550	2002 Sterling L9511 Dump Truck
2560	2002 Sterling L9511 Dump Truck
2590	2004 Sterling L9511 Dump Truck
2600	2004 Sterling L9511 Dump Truck
2610	2004 Sterling L9511 Dump Truck
2620	2004 Sterling L9511 Dump Truck
2630	2004 Sterling L9511 Dump Truck
2640	2004 Sterling L9511 Dump Truck
2650	2004 Sterling L9511 Dump Truck
2940	2002 Sterling Fuel Truck
3110	1986 Mack DM686SX
4440	1999 International Sander
4480	2008 Sterling LT9500
4500	2009 Sterling L9500
4520	2009 Sterling L9500
5220	1988 Cat IT18B Loader
5280	2002 Cat IT28G
5300	2002 Cat IT28G

PE3 Action: Fleet Efficiency Policy

2 Points 3 Points

A. Why is this action important?

A vehicle fleet efficiency policy sets a fuel-efficiency standard for municipal vehicle acquisitions whenever they are commercially available and practicable. The policy provides vehicle fleet managers with the guidelines and requirements to improve the fuel efficiency of government fleets, thereby reducing fuel costs and greenhouse gas (GHG) emissions.

B. How to implement this action

As part of a larger vehicle-based, GHG-reduction strategy, the Climate Smart Communities (CSC) program recommends that local governments implement these actions in this order: Begin by completing an inventory (as per *PE3 Action: Fleet Inventory*) and developing a fleet efficiency policy (as per *PE3 Action: Fleet Efficiency Policy*). Then conduct a rightsizing initiative (as per *PE3 Action: Fleet Rightsizing*), followed by an effort to replace traditional vehicles with advanced vehicles (as per *PE3 Action: Advanced Vehicles*).

Local governments can develop a standalone fleet efficiency policy or incorporate fleet efficiency into a larger environmentally preferable purchasing policy. Research best practices and models to imitate, including Massachusetts Green Communities Green Fleet Example Policy and New York State policies on fleet efficiency (such as Executive Order 111).

Use the website http://www.fueleconomy.gov/ to find information on vehicle fuel efficiency that can inform the development of local minimum efficiency levels. The minimum efficiency levels established in the policy must represent an improvement compared to the level of efficiency that was measured when the baseline fleet inventory was completed (as per *PE3 Action: Fleet Inventory*).

Develop and include within the fleet efficiency policy the following components:

- A directive for maintaining an inventory of all four-wheeled vehicles owned or operated by the local government (including leased vehicles) and a schedule for updating the inventory on a regular basis (e.g., annually)
- Definitions for different vehicle types (This might be defined in the inventory conducted under *PE3 Action: Fleet Inventory*)
- Minimum efficiency levels for different vehicle types (In addition, this section can include policies requiring the purchase of certain types of advanced vehicles, such as plug-in hybrid vehicles, battery-electric vehicles, compressed natural gas vehicles, and hydrogen fuel cell vehicles.)
- Exemptions for certain types of vehicles (The local government should consider whether to include medium- and heavy-duty vehicles, machinery such as bulldozers, non-traditional vehicles such as boats, specialty vehicles such as busses, and emergency vehicles such as ambulances and fire trucks in fleet-greening activities. Most communities exempt such vehicles from municipal fleet-greening activities because low-emission alternatives that perform as well as their traditional counterparts can be difficult to find.)
- A minimum fleet efficiency level for the entire fleet
- Guidelines for periodically revisiting the minimum efficiency standards as technology evolves
- A vehicle replacement plan (This plan should include a schedule for increasing the percentage of new vehicles that meet fuel efficiency standards; requirements for tracking mileage and fuel consumption; and requirements for annual review of the replacement schedule to adjust for new, more efficient, vehicle

availability.)

As with any change in local laws and policies, local governments should consult with their attorney for guidance on drafting and enacting the new legislation or policy.

C. Time frame, project costs, and resource needs

Developing a vehicle fleet efficiency policy can take approximately two to four months to draft, finalize, and adopt, depending the political support for such a policy. The costs for developing the policy are primarily related to staff time.

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 any local government that owns and manages a fleet of vehicles. The department with responsibility for managing the local government's vehicle fleet, typically within the public works department, often in collaboration with the chief elected official's office, would be responsible for drafting this policy.

E. How to obtain points for this action

To be eligible for points, the vehicle efficiency policy must be consistent with the guidelines above. To receive full credit for this CSC action, the policy must also include the following:

	POSSIBLE POINTS
Specify a short-term deadline (within two years) by which a minimum percentage of new vehicles will be fuel-efficient or a medium-term deadline (within five years) for attainment of a minimum fleet fuel-efficiency standard for the entire fleet	2
Require that 100% of new vehicles in local fleet are fuel-efficient by a certain year*	1

*Local governments may designate exempted vehicles, as described above (in the *How to Implement* section), to be excluded from this percentage calculation.

F. What to submit

Provide a copy of the vehicle efficiency policy that is consistent with the guidelines above. Submit signed documentation of the policy's adoption and enactment by the local government. The policy may have been adopted at any time prior to the application date but the local government must be actively implementing it.

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 examples

- DEC CSC Reduce Municipal Energy Use for Transportation
- New York State Alternative Fuel Vehicles policies
- New York State Executive Order 111
- Massachusetts Green Communities Green Fleet Example Policy
- Massachusetts Electric Vehicle Incentive Program
- Energy Aware Planning Guide: Local Government Fleet Efficiency
- NYSERDA Clean Transportation Program
- NYSERDA Transpiration Technology Program

H. Recertification requirements