2021

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 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 gathered and maintained by the Department of the Environment for this report and for subsequent trend analysis.

## 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, 2021, the County's active inventory included 469 vehicles in 23 departments/divisions. This number includes all vehicles in Ulster County's vehicle fleet and transit fleet. This total does not include construction equipment, unpowered fleet assets and non-road vehicles.

### New Vehicles

Ulster County added 31 new vehicles to its fleet in 2021. 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.

### Retired/Auctioned Vehicles

A total of twenty-nine (29) vehicles were retired in 2021. Thirteen (13) of these were auctioned. The remainder are awaiting disposition. These vehicles are not included in the fleet inventory. A detailed list of auctioned vehicles is included as Appendix C.

TABLE 1: VEHICLES AUCTIONED AND NEW TO SERVICE (2021)

| Green Fleet Class | Auctioned in 2021 | New to Service in 2021 |
|---|---|---|
| Passenger Vehicle | 5 | 2<br>(2) Passenger sedan - Sheriff |
| Light Duty Truck | 0 | 6<br>(1) Ford Transit – Veterans<br>(3) Jeep Cherokee – DA Office<br>*(2) Toyota Sienna – Probation & DSS |
| Medium Duty Vehicle | 6 | 20<br>(1) Chevrolet Suburban – Sheriff<br>(3) Chevrolet Tahoe – Emergency Services<br>*(3) Chrysler Pacifica – DSS/Probation<br>(12) Dodge Durango – Sheriff<br>(1) Dodge Ram 1500 - DPW |
| Heavy Duty Vehicle | 1 | 3<br>*(3) New Flyer XE35 - UCAT |
| Total | 13 | 31 |

Note: * indicates new vehicles meeting the Sustainable Green Fleet Policy definition of a Green Vehicle

### Green Vehicle Integration

of December 31st, 2021, the County fleet included 44 Green vehicles, per the policy definition, including:

- (4) hybrid transit buses,
- (3) battery electric (BEV) transit buses
- (14) hybrid passenger vehicles
- (22) plug-In hybrid (PHEV) passenger vehicles

- (4) plug-in hybrid light duty trucks
- (6) plug-in hybrid medium duty vans
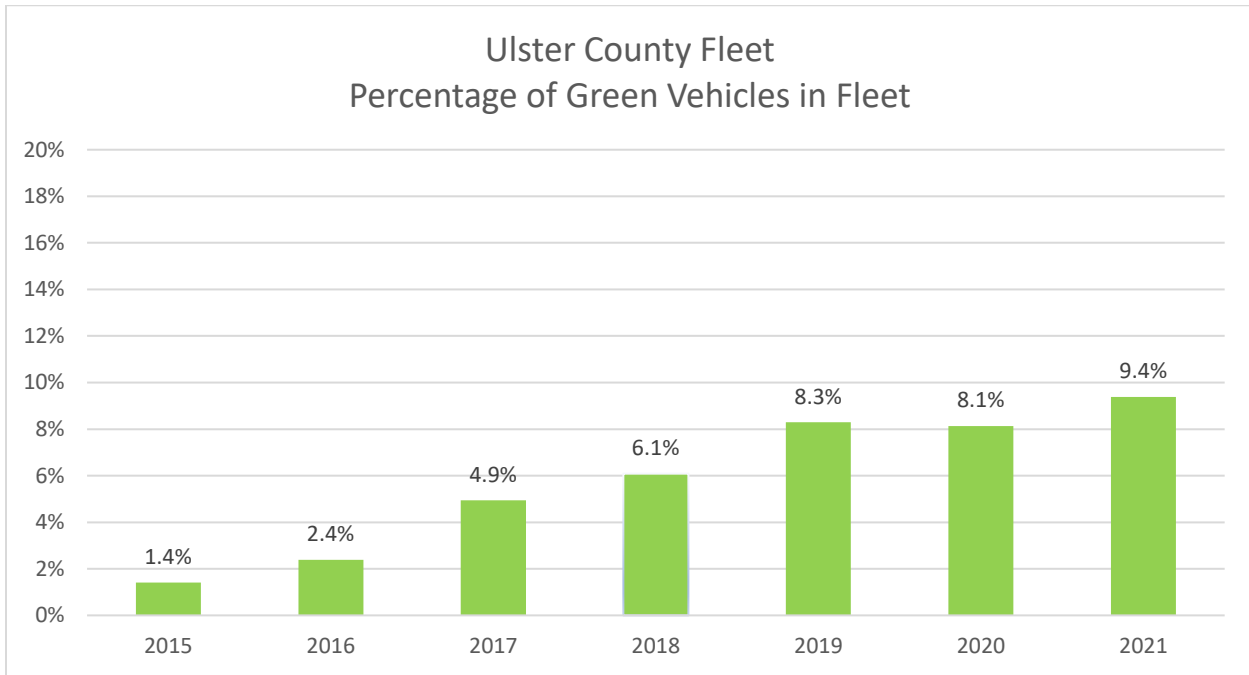- (1) BEV passenger vehicle



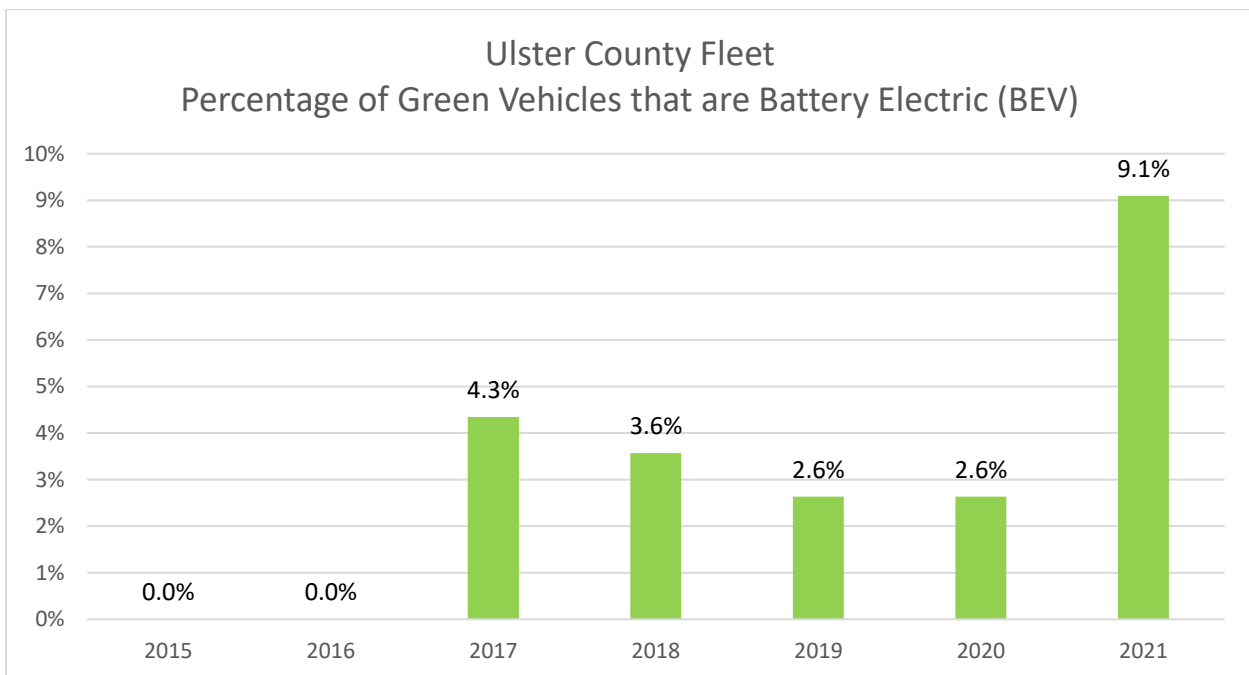**FIGURE 1: PERCENTAGE OF GREEN VEHICLES IN ULSTER COUNTY FLEET AS OF DECEMBER 31, 2021**



**FIGURE 2: PERCENTAGE OF GREEN VEHICLES THAT ARE BATTERY ELECTRIC (BEV) AS OF DECEMBER 31,2021**

## 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 occasionally UCAT 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 – ALL REPORTING YEARS

| Fuel Type | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|
| Diesel (gallons) | 286,963 | 260,584 | 269,670 | 276,476 | 301,466 | 218,628 | 276,263 |
| Biodiesel (gallons) | - | 3,986 | 3,226 | 3,521 | 2,610 | - | 3,150 |
| Gasoline (gallons) | 220,950 | 243,530 | 226,218 | 239,060 | 249,513 | 228,165 | 232,559 |
| Ethanol (gallons) | 24,550 | 27,059 | 25,135 | 26,562 | 27,724 | 24,933 | 25,840 |
| Electricity (gallons equivalent) | - | 66 | 172 | 239 | 608 | 473 | 414 |
| Total | 532,463 | 535,225 | 524,421 | 545,858 | 581,921 | 472,198 | 538,225 |

Notes:

1. Fuel usage is the total fuel dispensed to vehicles 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. In 2020, the UCAT fleet did not use biodiesel blend fuel due to a large reduction in usage of diesel fuel in the spring and summer months and the need to ensure tanks were filled with conventional diesel fuel in the fall and winter months (to reduce the possibility of fuel gelling).
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 2021 for fleet operations was 13,319 kWh.

TABLE 3: FLEET FUEL PURCHASED (2021)

| Fleet | Fuel Type | Purchases (gallons) | Cost ($) |
|---|---|---|---|
| Vehicle | E10 Gasoline | 215,609.1 | $522,229.51 |
| | Diesel | 144,667.9 | $327,422.11 |
| | Electricity | 414 (gallons equivalent) | $1,478.48 |
| Transit | E10 Gasoline | 38,359.0 | $89,344.80 |

| | | | |
|---|---|---|---|
| | Diesel | 72,502.3 | $151,061.17 |
| | B5 Biodiesel Blend | 64,735.2 | $174,201.18 |
| Non-Road | E10 Gasoline | 4,675.3 | $17,601.05 |
| | Diesel | 5.4 | $14.00 |
| Total | All Fuels | 541,968.1 | $1,283,352.30 |

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 estimated average blended electricity cost for UC Buildings with EV charging stations installed is $0.106/kWh.
3. Non-Road fuel usage consists of fuel used by:
   a) 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.
   b) Sheriff's Department for boats. This fuel is purchased from local marinas.

## 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.
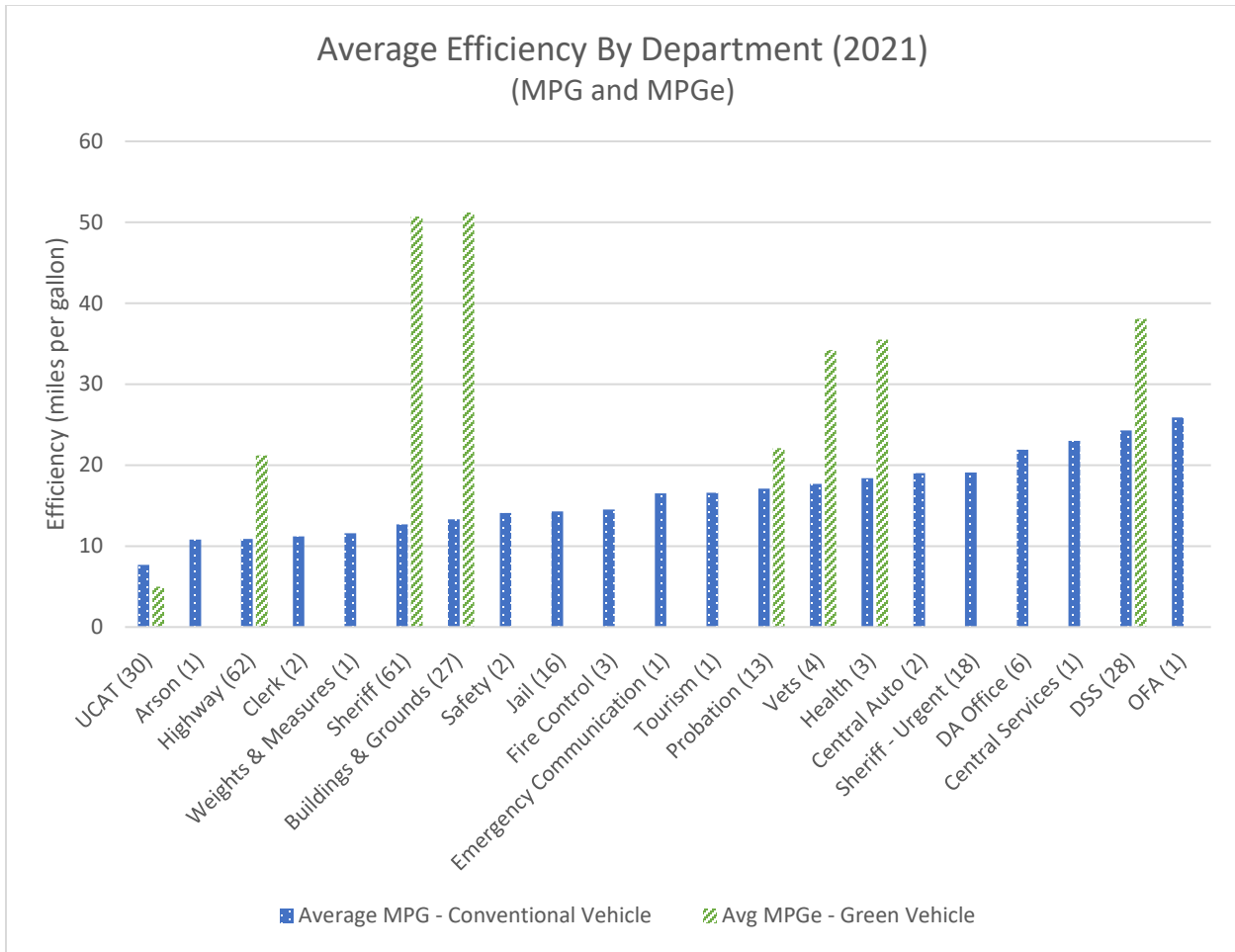
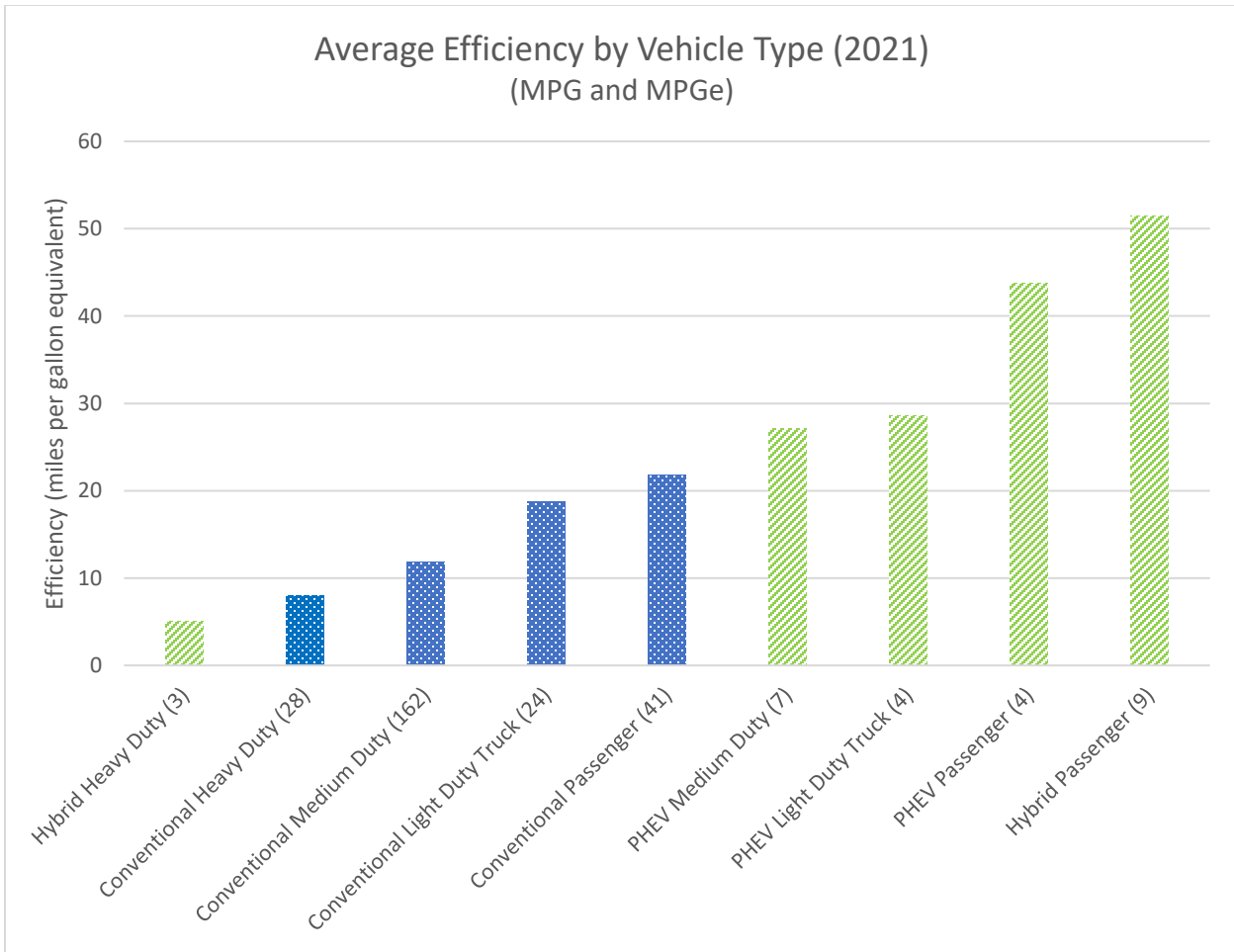FIGURE 3: AVERAGE EFFICIENCY BY DEPARTMENT (2021)

**FIGURE 4: AVERAGE EFFICIENCY BY VEHICLE CLASS (2021)**

Notes:

1. The number listed in parentheses beside each department name indicates the number of vehicles with accurate mileage data reported.
2. Plug-in electric vehicles in the fleet charge primarily using Ulster County's ChargePoint® network. Usage totals have not been adjusted to account for 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).

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[1] Local Governments for Sustainability (ICLEI), Local Government Operations Protocol Version 1.1, 2010

Ulster County uses emissions factors published by the EPA in the document *Emissions Factors for Greenhouse Gas Inventories*[2] (last modified 4/1/2021).

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 (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 emission factors were multiplied by 0.1% for CH4 and 1.8% for N2O to obtain 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 |
| 2020 | 4,318.2 | 1.8 |
| 2021 | 4,353.6 | 1.9 |

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 2021, 96.1% 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 2021, biogenic emissions from biofuel combustion totaled 178.3 metric tons of CO2e.

Per the EPA's carbon equivalencies calculator, Ulster County's 2020 fleet emissions quantity (without offsets) is equivalent to that released by burning 24 railcars worth of coal or 10,084 barrels of oil. Alternatively, this amount of carbon could be offset through the annual carbon sequestration of 5,336 acres of U.S. Forest land.[5] However, as discussed, 100% of these emissions are offset through the purchase of carbon credits.

## 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

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[2] Available here: https://www.epa.gov/sites/default/files/2021-04/documents/emission-factors_apr2021.pdf
[3] Available here: https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html
[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

equivalent to 1 gallon of conventional gasoline[6]. 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.

In 2021, the green vehicles in the Ulster County vehicle fleet achieved an average efficiency of 37.0 MPGe over 264,131 miles traveled in 2021.

TABLE 5: AVERAGE EFFICIENCY OF GREEN FLEET VEHICLES (2021)

| Vehicle Type | 2021 Sample Size | Average Efficiency (MPGe) |
|---|---|---|
| Hybrid Passenger | 9 | 51.5 |
| Plug-In Hybrid (PHEV) Passenger | 4 | 43.8 |
| Plug-In Hybrid (PHEV) Light Duty Truck | 4 | 28.6 |
| Plug-In Hybrid (PHEV) Medium Duty | 7 | 27.1 |
| Hybrid Transit Bus | 3 | 5.0 |

Figure 5 below shows the relative proportions of average gasoline and electricity usage for each green vehicle model in 2021, for vehicles with accurate mileage data available. Note: these totals do not include electricity from EV charging outside of the County's network.

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[6] More information here: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-revisions-and-additions-motor-vehicle-fuel
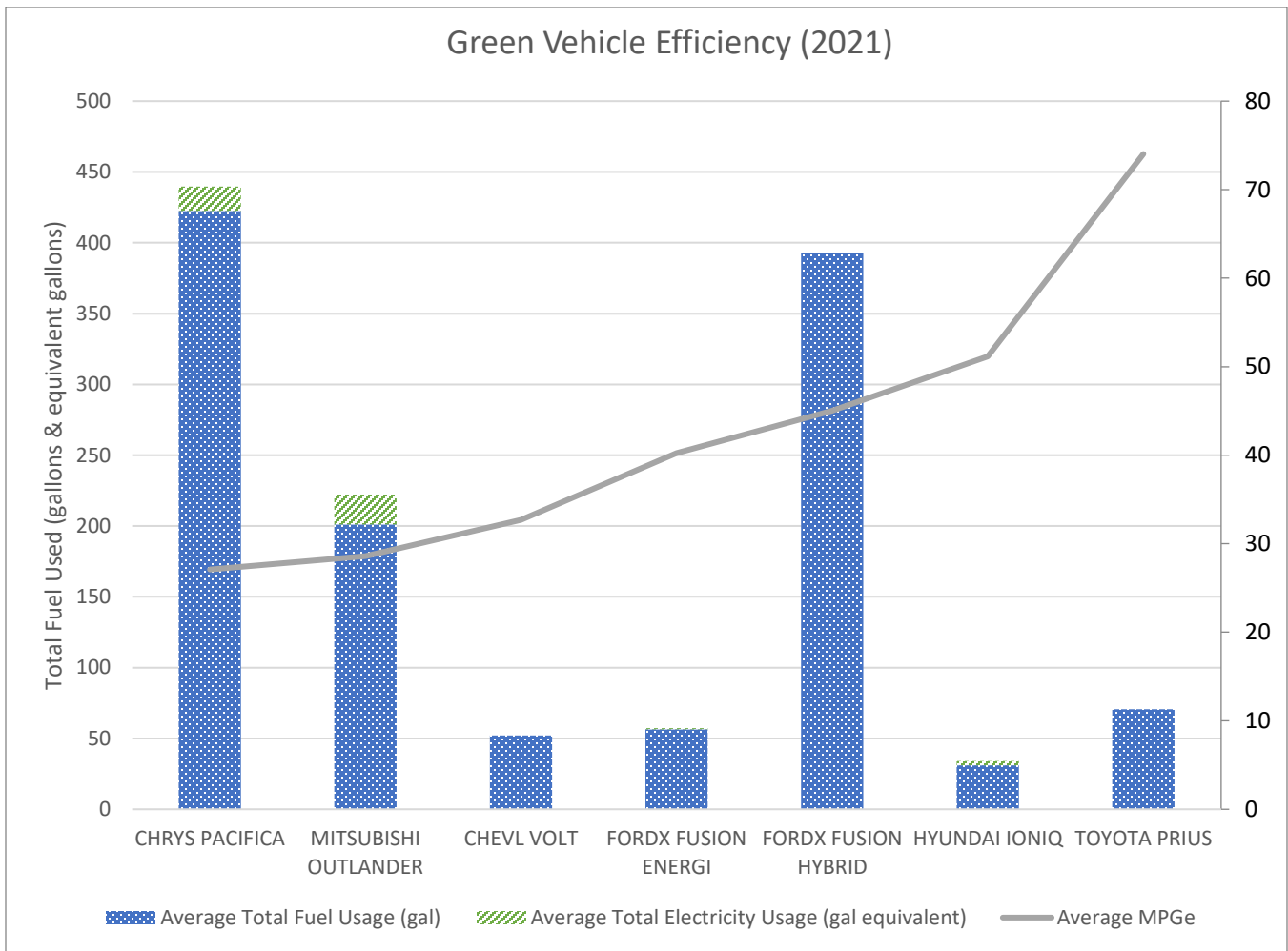
**FIGURE 5: GREEN VEHICLE EFFICIENCY (2021)**

## Electric Vehicle Infrastructure

Ulster County hosts a total of forty (40) publicly-available Level 2 (240V) EV 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 19% of energy dispensed from Ulster County stations in 2021. 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 a 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.

Starting in 2020, Ulster County initiated a fee for charging model, charging no fee for the first two hours and $0.50 per hour beyond 2 hours. In 2021, public charging fees yielded $3,109 in revenue.

In 2021, the Ulster County charging network hosted a total of 517 unique users from the public. This number increased significantly from prior years, reaching 180% of the average total of unique users from the period 2018-2020).

TABLE 6: ULSTER COUNTY ELECTRIC VEHICLE CHARGING NETWORK (AS OF 12/31/21)

| 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 | 4 |
| Ulster County Office Building | 2 |
| Ulster County Office Complex /Dept. of Social Services | 6 |
| Ulster County Pool | 2 |
| **Total** | **40** |

## EV Charging Station Usage

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 of electricity 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.
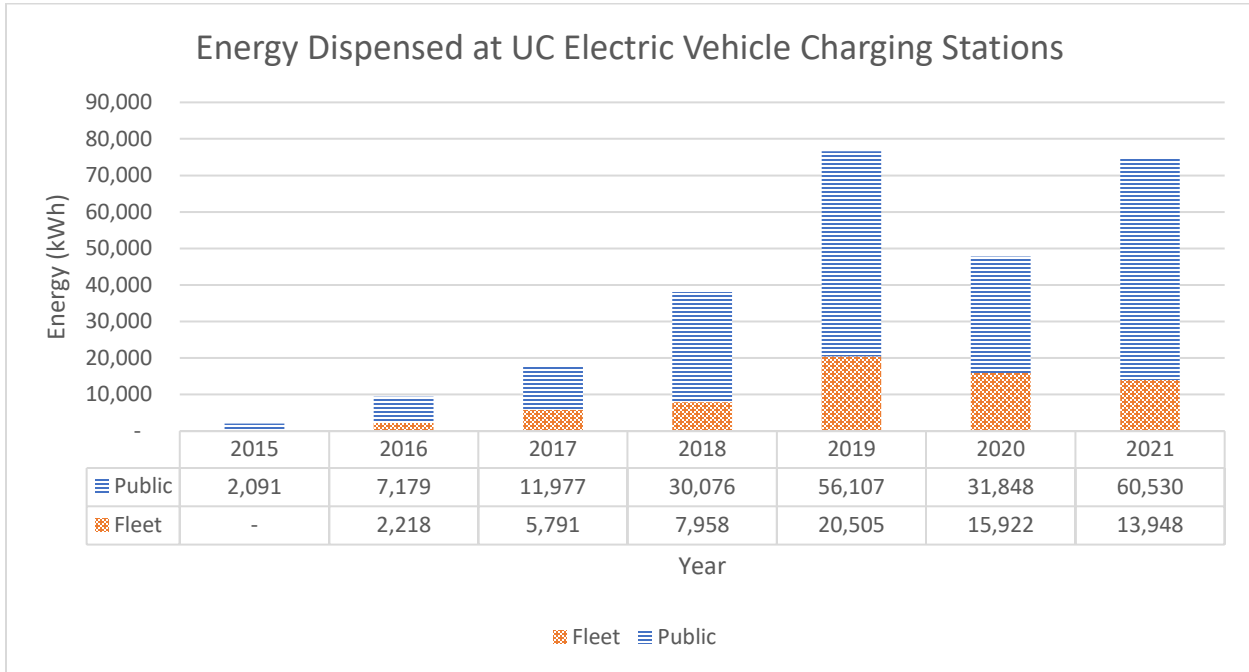
## Energy Dispensed at UC Electric Vehicle Charging Stations

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|
| Public | 2,091 | 7,179 | 11,977 | 30,076 | 56,107 | 31,848 | 60,530 |
| Fleet | - | 2,218 | 5,791 | 7,958 | 20,505 | 15,922 | 13,948 |

FIGURE 5: ENERGY DISPENSED AT UC ELECTRIC VEHICLE CHARGING STATIONS (2015-2021)

## Number of Charging Sessions at UC Electric Vehicle Charging Stations

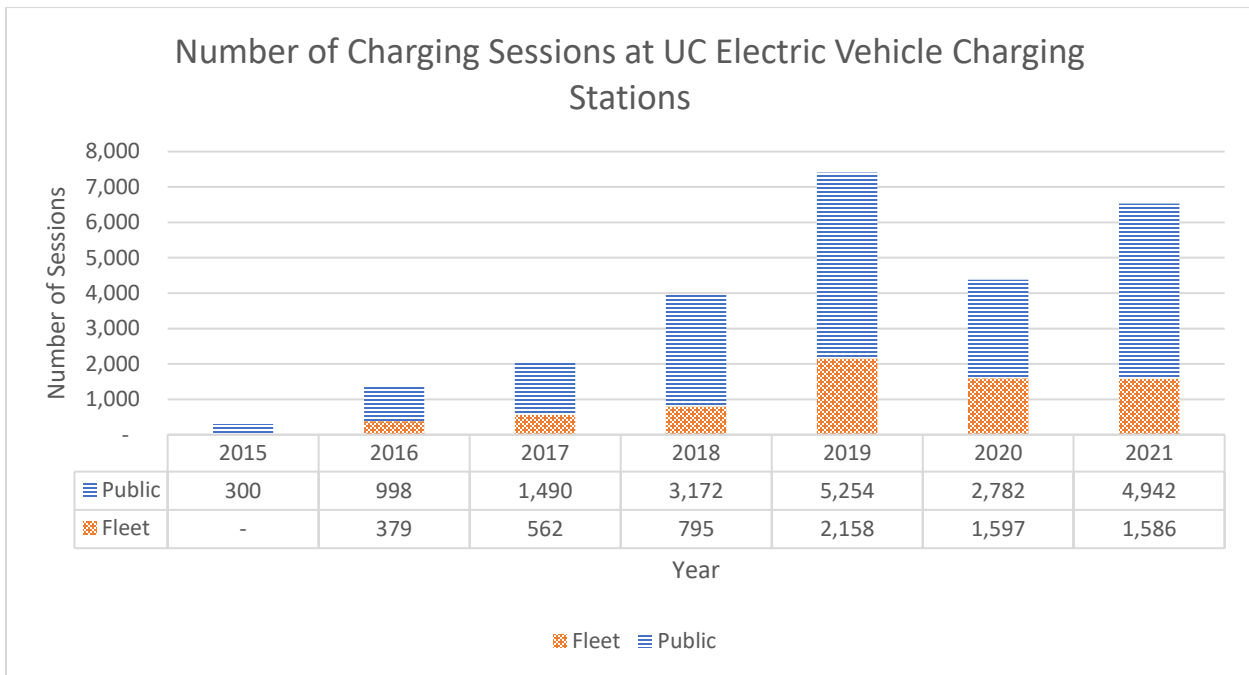| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|
| Public | 300 | 998 | 1,490 | 3,172 | 5,254 | 2,782 | 4,942 |
| Fleet | - | 379 | 562 | 795 | 2,158 | 1,597 | 1,586 |

FIGURE 6: NUMBER OF SESSIONS AT UC CHARGING STATIONS (2015-2021)

## 7. Initiatives

### Bus Fleet Electrification

The Ulster County Department of the Environment, in coordination with UCAT and the Planning Department, completed a Transit Electrification Feasibility Study[7] that was partially funded by NYSERDA under the Public Transit Technology and Innovation Program (PON 3914). This study assessed the viability of replacing the UCAT fleet with electric vehicles over a 10-year planning window. The study yielded some critical insights and considerations for fleet electrification including: 1) the necessity of on-route charging infrastructure to support UCAT's longer distance, rural routes, 2) the budget impacts of electric power load when conducting vehicle charging in the bus depot and 3) the impact of cold ambient temperatures on battery capacity and effective range.

In 2021, UCAT took delivery of three (3) New Flyer XE35 battery-electric transit buses. These vehicles were put into service in early 2022. The buses were partially funded by the New York Truck Voucher Incentive Program (NYTVIP) and based on the recommendations from the Transit Electrification Study will initially place them on routes serving the City of Kingston.

### 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.

### Fleet Vehicle Use Assessment & Alternatives Analysis

To assist with right sizing of the fleet, the County's Fleet Manager has implemented a vehicle capital purchase assessment process that Departments use when requesting new vehicles. This process entails 1) specifying the service requirements of the requested vehicle, 2) documenting in-service and efficiency information for the vehicle to be replaced (if applicable), 3) assessing commercially available green vehicle models that will fit the service requirements. Based on this information, the Fleet Manager assigns a vehicle make/model to the Department and initiates procurement. This assessment process is required for all vehicle purchases as part of the Environmental Considerations Checklist for Capital Projects standard operating procedure that was implemented in 2021.

### Updating vehicle mileage data collection methods and vehicle efficiency calculation methodology

For this report and previous reports, annual vehicle mileage readings were determined using data reported from the Wex and Fuelmaster fueling systems. To use these systems, County vehicle users must input the vehicle's odometer reading each time the vehicle is fueled. Using the last fueling record of each calendar year, the Department determines the vehicle miles traveled during the year.

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[7] Available here:
https://ulstercountyny.gov/sites/default/files/documents/environment/Ulster%20County%20-%20UCAT%20Bus%20Fleet%20Electrification%20-%20Final%20Report%20-%209.23.21.pdf

However, as battery electric vehicles enter the fleet in greater numbers, this data will not be available. In order to correctly calculate vehicle usage and emissions, the Department of the Environment will work with the Fleet Manager to develop an end-of-year odometer reporting system to gather mileage data.

Additionally, to reduce costs associated with EV charging system network fees, the County intends to utilize non-networked EV charging stations to support certain fleet activities. In these cases, vehicle-specific fuel use data will not be available. For future reports, the Department of the Environment will rely on EPA fuel economy ratings to determine vehicle efficiency for BEV.

## 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, in partnership with the Department of Public works, 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. Installation of additional Level 2 EV Charging stations was included in the 2022-2027 Ulster County Capital Plan.

# 8. Appendices

# Appendix A: Fleet Usage Summary

TABLE 7: FLEET USAGE SUMMARY (2021)

| 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 | 1 | 1 | 8,791 | 813 | $1,907.78 | $ 0.22 |
| Buildings & Grounds | 31 | 27 | 121,722 | 10,037 | $25,471.80 | $ 0.21 |
| Central Auto | 10 | 2 | 15,514 | 818 | $1,980.93 | $ 0.13 |
| Central Services | 2 | 1 | 445 | 19 | $34.67 | $ 0.08 |
| Clerk | 3 | 2 | 5,640 | 452 | $1,054.27 | $ 0.19 |
| DA Office | 11 | 6 | 70,418 | 3,128 | $7,495.97 | $ 0.11 |
| DSS | 35 | 28 | 228,105 | 7,795 | $19,167.00 | $ 0.08 |
| Emergency Communication | 5 | 1 | 674 | 41 | $108.43 | $ 0.16 |
| Environment | 1 | 0 | - | - | - | - |
| Exec | 1 | 0 | - | - | - | - |
| Fire Control | 4 | 3 | 18,419 | 1,415 | $3,250.73 | $ 0.18 |
| Health | 14 | 3 | 32,021 | 1,270 | $3,189.21 | $ 0.10 |
| Highway | 142 | 62 | 750,381 | 72,952 | $175,834.45 | $ 0.23 |
| Information Services | 6 | 0 | - | - | - | - |
| Jail | 18 | 16 | 124,510 | 8,516 | $21,052.81 | $ 0.17 |
| OFA | 6 | 1 | 6,666 | 258 | $566.15 | $ 0.08 |
| Planning | 1 | 0 | - | - | - | - |
| Probation | 18 | 13 | 39,880 | 2,273 | $5,630.14 | $ 0.14 |
| Public Defender | 1 | 0 | - | - | - | - |
| Safety | 3 | 2 | 6,407 | 457 | $1,075.81 | $ 0.17 |
| Sheriff | 74 | 61 | 903,024 | 67,872 | $163,741.63 | $ 0.18 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Sheriff - Urgent | 22 | 18 | 292,036 | 14,271 | $35,175.79 | $ 0.12 |
| Tourism | 1 | 1 | 1,013 | 61 | $155.25 | $ 0.15 |
| UCAT | 50 | 30 | 795,924 | 127,019 | $307,879.74 | $ 0.39 |
| Vets | 6 | 4 | 37,847 | 2,250 | $5,272.54 | $ 0.14 |
| Weights & Measures | 2 | 1 | 7,971 | 686 | $1,633.52 | $ 0.20 |

**Note:** Only vehicles with valid mileage data are included in the totals reported above.

## 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 (2021)

|  | Fleet | Public | Total |
|---|---|---|---|
| Total Energy Usage (kWh)* | 13,948 | 60,530 | 74,478 |
| Total Energy Cost to County** | $1,586 | $4,942 | $6,528 |
| Revenue from Public Charging Fees | - | $3,019 | $3,019 |
| Number of Charging Sessions | 1,586 | 4,942 | 6,528 |
| Average Energy Dispensed per Session (kWh) | 8.8 | 12.2 | - |
| Average Electricity Cost per Session | $0.93 | $1.30 | - |
| Greenhouse Gas Avoided (kg CO2e)*** | 5,858 | 25,423 | 31,281 |
| Gallons of Gas Saved*** | 1,750 | 7,595 | 9,345 |
| Median Time Charging | 2:16 | 1:58 | 2:03 |
| Number of Unique Users | 22 | 517 | 539 |

*Sessions drawing less than 0.1 kWh of electricity have been removed
**Based on average blended cost of electricity for previous year - $0.106/kWh
***Calculated using conversions provided by ChargePoint, Inc.

**TABLE 9: NUMBER OF CHARGING SESSIONS AT UC EVSE NETWORK (2015-2021)**

| Station & Session Type | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|
| ULSTER COUNTY / CARR BUILDING | | | | 139 | 268 | 182 | 281 |
| Fleet | | | | 95 | 73 | 79 | 50 |
| Public | | | | 44 | 195 | 103 | 231 |
| ULSTER COUNTY / COURTHOUSE 1 | 99 | 337 | 573 | 1162 | 1353 | 590 | 943 |
| Fleet | 0 | 0 | 5 | 0 | 5 | 2 | 1 |
| Public | 99 | 337 | 568 | 1162 | 1348 | 588 | 942 |
| ULSTER COUNTY / COURTHOUSE 2 | | | | | 146 | 525 | 730 |
| Fleet | | | | | 0 | 0 | 0 |
| Public | | | | | 146 | 525 | 730 |
| ULSTER COUNTY / DSS 1 | 21 | 62 | 169 | 37 | 554 | 345 | 280 |
| Fleet | 0 | 36 | 132 | 2 | 412 | 313 | 149 |
| Public | 21 | 26 | 37 | 35 | 142 | 32 | 131 |
| ULSTER COUNTY / DSS 2 | | | | 206 | 500 | 304 | 402 |
| Fleet | | | | 195 | 431 | 287 | 319 |
| Public | | | | 11 | 69 | 17 | 83 |
| ULSTER COUNTY / DSS 3 | | | | 48 | 482 | 365 | 265 |
| Fleet | | | | 12 | 377 | 339 | 112 |
| Public | | | | 36 | 105 | 26 | 153 |
| ULSTER COUNTY / HALL OF RECORDS | | | | | 13 | 84 | 426 |
| Fleet | | | | | 0 | 0 | 0 |
| Public | | | | | 13 | 84 | 426 |
| ULSTER COUNTY / HEALTH DEPT 1 | 3 | 369 | 545 | 474 | 472 | 245 | 305 |
| Fleet | 0 | 169 | 285 | 230 | 244 | 164 | 279 |
| Public | 3 | 200 | 260 | 244 | 228 | 81 | 26 |
| ULSTER COUNTY / HEALTH DEPT 2 | | | | 44 | 320 | 149 | 180 |
| Fleet | | | | 30 | 243 | 116 | 141 |
| Public | | | | 14 | 77 | 33 | 39 |
| ULSTER COUNTY / HEALTH DEPT 3 | | | | 37 | 288 | 188 | 311 |
| Fleet | | | | 7 | 155 | 132 | 189 |
| Public | | | | 30 | 133 | 56 | 122 |
| ULSTER COUNTY / HUTTON BUILDING | | | | 209 | 65 | 60 | 101 |
| Fleet | | | | 186 | 55 | 59 | 99 |
| Public | | | | 23 | 10 | 1 | 2 |
| ULSTER COUNTY / OFFICE BUILDING | 78 | 389 | 409 | 610 | 999 | 450 | 585 |
| Fleet | 0 | 171 | 135 | 36 | 20 | 12 | 10 |
| Public | 78 | 218 | 274 | 574 | 979 | 438 | 575 |
| ULSTER COUNTY / POOL | | | | | 1 | 22 | 78 |
| Fleet | | | | | 0 | 0 | 3 |
| Public | | | | | 1 | 22 | 75 |
| ULSTER COUNTY / PROBATION DEPT | 15 | 31 | 98 | 300 | 470 | 151 | 328 |
| Fleet | 0 | 0 | 0 | 0 | 72 | 65 | 200 |
| Public | 15 | 31 | 98 | 300 | 398 | 86 | 128 |
| ULSTER COUNTY / PUBLIC WORKS | 15 | 75 | 165 | 330 | 534 | 159 | 256 |
| Fleet | 0 | 0 | 3 | 0 | 43 | 23 | 28 |
| Public | 15 | 75 | 162 | 330 | 491 | 136 | 228 |
| ULSTER COUNTY / SUNY EXTENSION | 12 | 32 | 62 | 282 | 452 | 330 | 537 |
| Fleet | 0 | 1 | 3 | 2 | 3 | 0 | 0 |
| Public | 12 | 31 | 59 | 280 | 449 | 330 | 537 |
| ULSTER COUNTY / SUNY ULSTER | | | | | 216 | 104 | 161 |
| Fleet | | | | | 1 | 0 | 0 |
| Public | | | | | 215 | 104 | 161 |
| ULSTER COUNTY / TRUDY RESNICK | 59 | 86 | 37 | 88 | 166 | 147 | 355 |
| Fleet | 0 | 2 | 0 | 0 | 7 | 4 | 5 |
| Public | 59 | 84 | 37 | 88 | 159 | 143 | 350 |
| ULSTER COUNTY / UCLEC 1 | 0 | 1 | 1 | 1 | 18 | 5 | 1 |
| Fleet | 0 | 0 | 0 | 0 | 18 | 2 | 1 |
| Public | 0 | 1 | 1 | 1 | 0 | 3 | 0 |
| ULSTER COUNTY / UCLEC 2 | | | | | | 0 | 1 |
| Fleet | | | | | | 0 | 0 |
| Public | | | | | | 0 | 1 |

## Appendix C: Fleet Vehicles Auctioned in 2021

TABLE 10: FLEET VEHICLES AUCTIONED IN 2021

| VEHICLE# | YEAR, MAKE, MODEL |
|---|---|
| 29 | 1998 Midland Trailer |
| 66 | 2004 Chevrolet Cavalier |
| 70 | 2005 Chevrolet Express |
| 153 | 2004 Chevrolet Express |
| 178 | 2007 Ford Taurus |
| 324 | 2004 Ford E-350 |
| 334 | 2005 Chevrolet Express |
| 364 | 2002 Chevrolet Express |
| 382 | 2004 Kubota RTV |
| 453 | 2013 Chevrolet Caprice |
| 611 | 2008 Dodge Charger |
| 1540 | 2008 GMC 2500HD |
| 2640 | 2004 Sterling L9500 |
| 3600 | 2006 Cam Superline Trailer |
| 4450 | 2001 International 4800 |
| 4550 | 1970 SICAR EB5000X |