

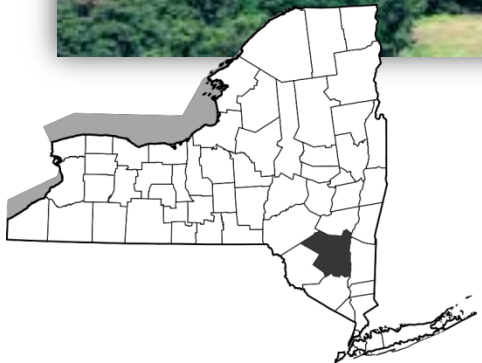


GREENER BY DESIGN:
***ULSTER COUNTY FLEET SUSTAINABILITY
& EV CHARGING INITIATIVE***

Central Hudson EV Summit
October 30, 2018

Amanda LaValle, Coordinator
UC Department of the Environment

Ulster County

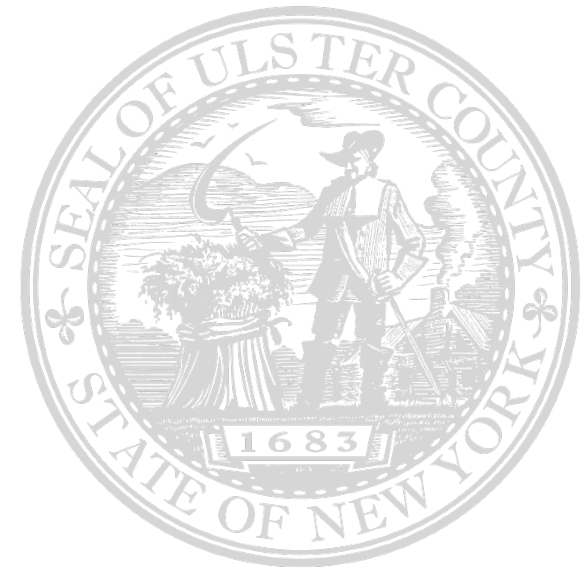


- 183,000 Residents
- 1271 Employees in County Work Force
- ~\$330 million annual budget



Outline for Presentation

1. Big Picture County Environmental Goals & Initiatives
2. Green Fleet Initiative
3. Electric Vehicle Charging Station Initiative



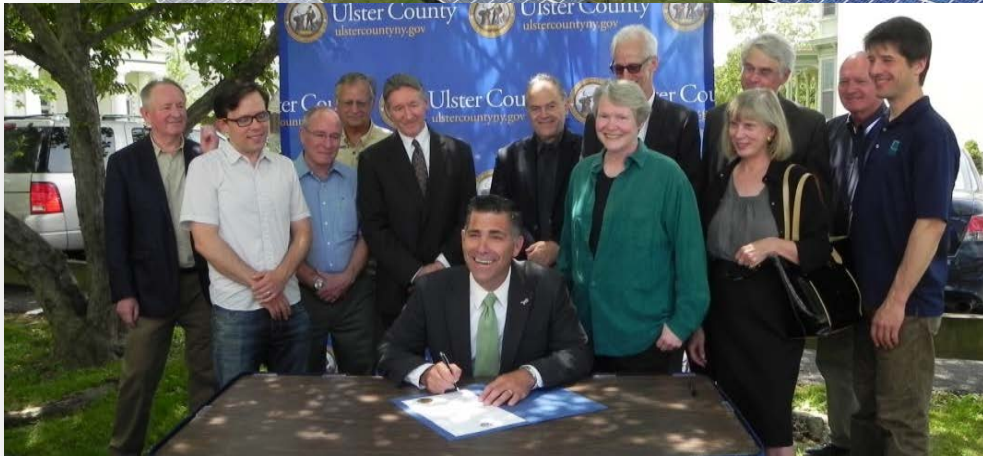
1. Demonstrating Environmental Leadership



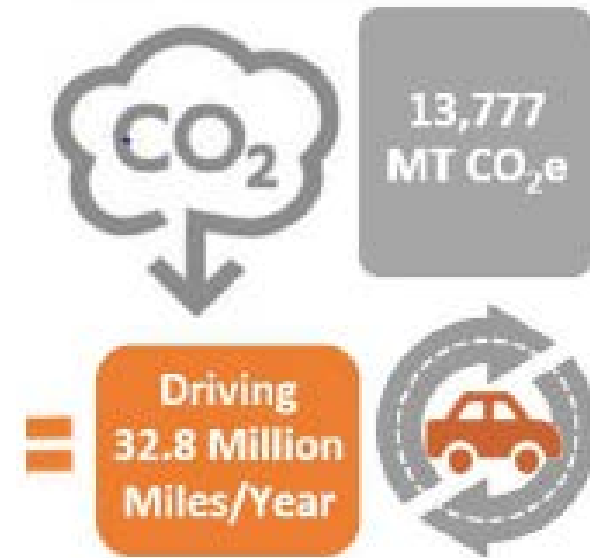
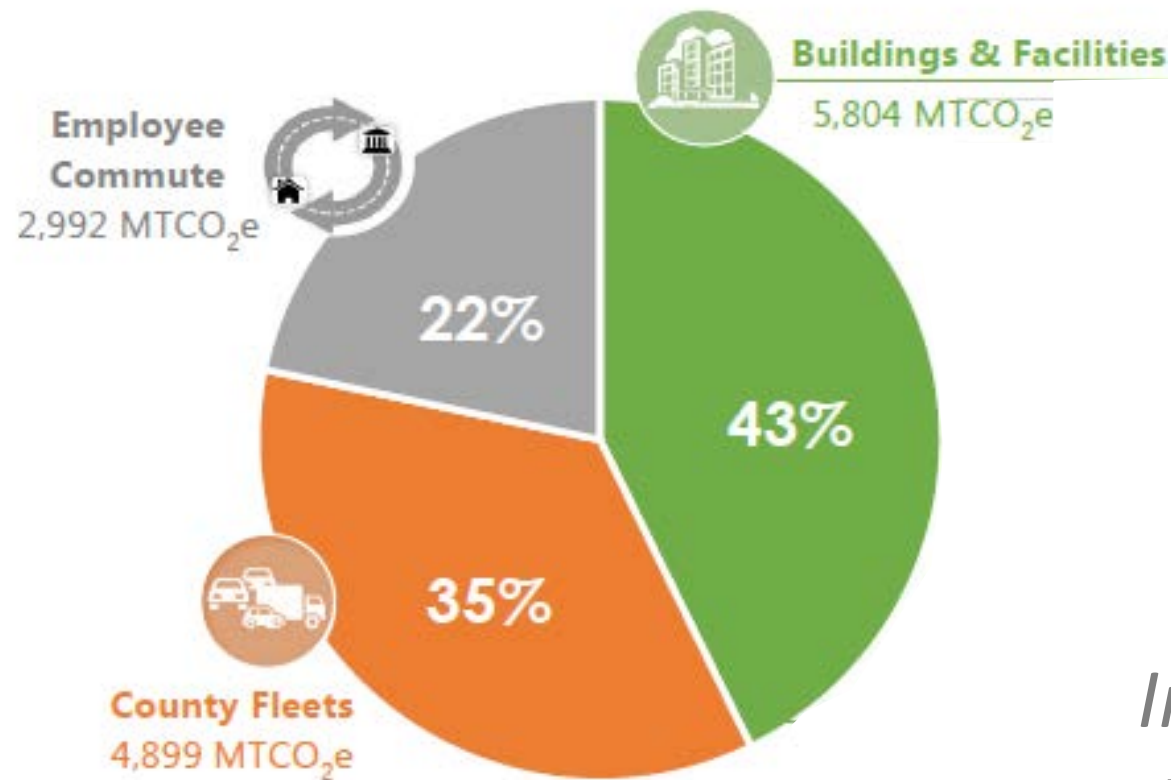
*Ulster County receives NYS DEC Climate Smart Communities Certification
September 2016*



Ulster County Government Operations Greenhouse Gas Reduction Goal

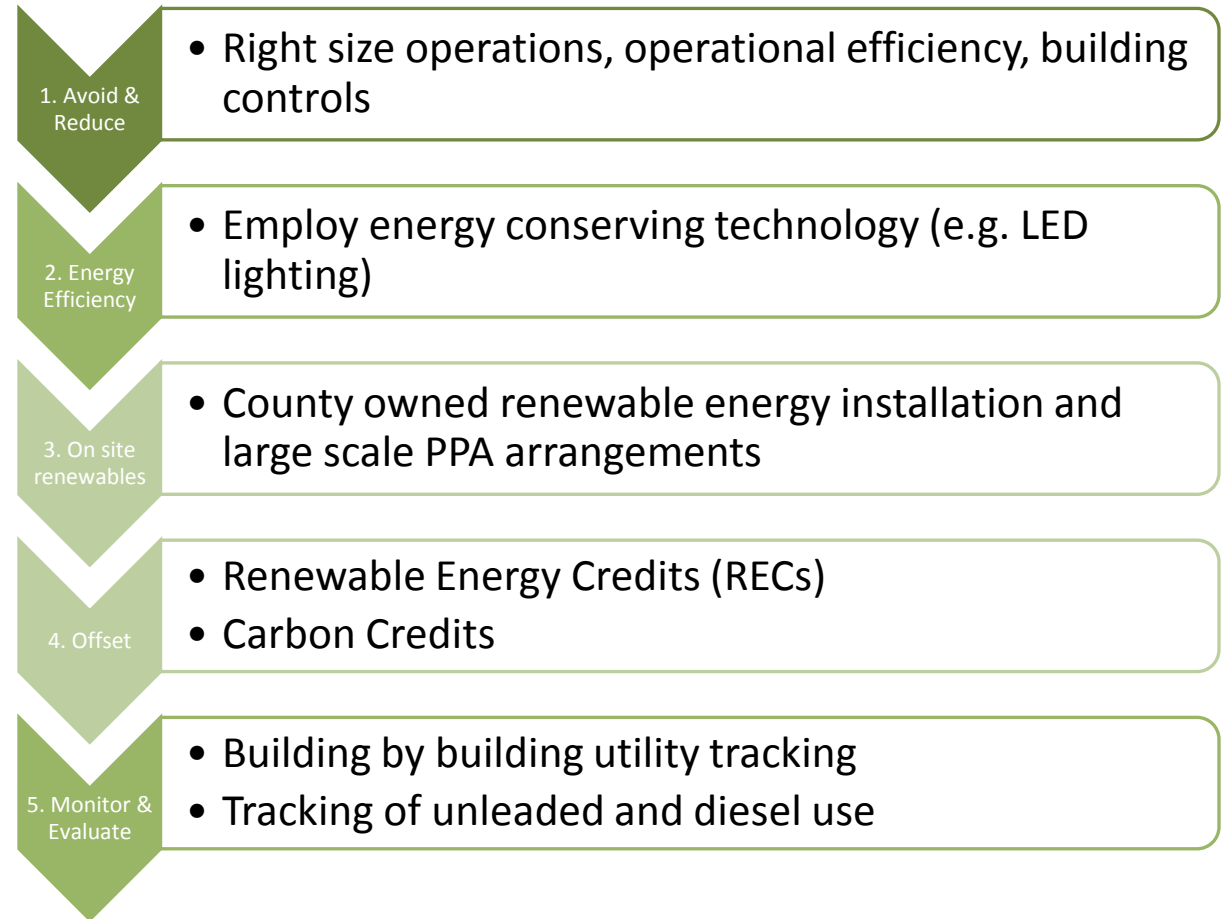
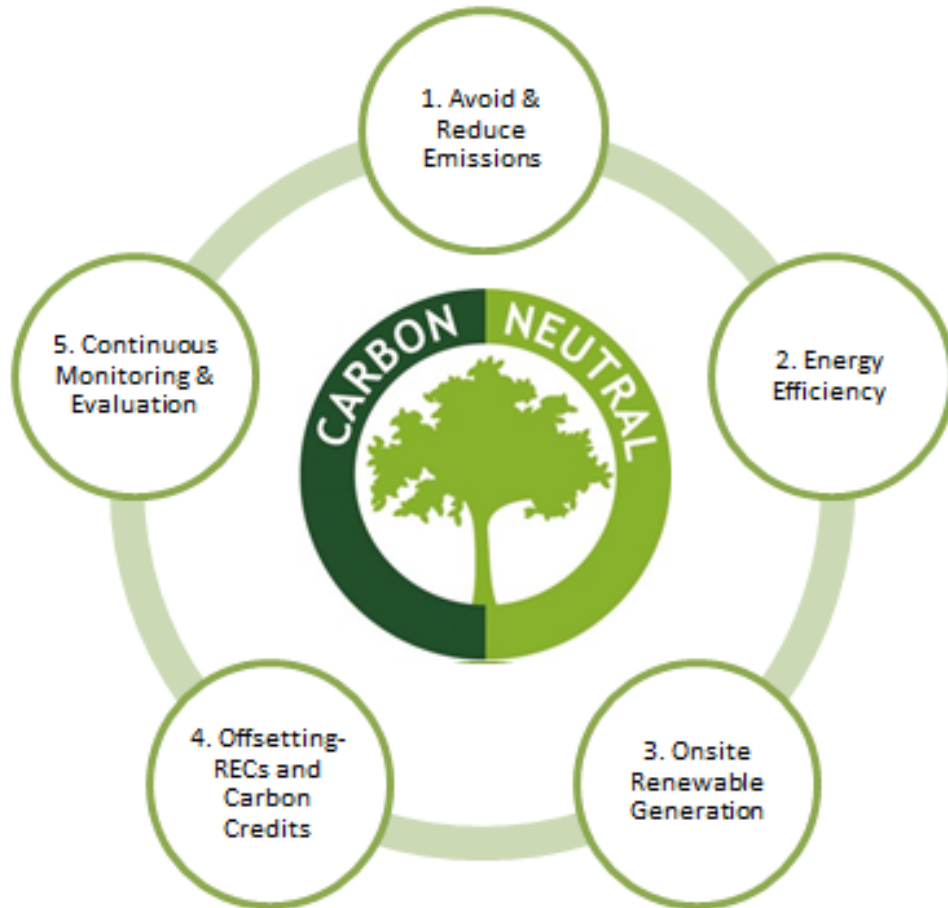


Ulster County Government Operations Greenhouse Gas Inventory (2012)



In 2017, Ulster County used for fleet operations over 524,000 gallons of fuel at a cost of \$976,000.

Ulster County Energy Use and Emissions Reduction Framework



2. ULSTER COUNTY GREEN FLEET INITIATIVE

- Road Maintenance (paving, plowing)
- UCAT bus service
- Social Services, visits to elderly, transport of veterans to medical appointments
- Sheriff Road Patrol, inmate transport



Maintenance

Vehicle Research

Equipment

Fuel

N.Y. County Official Calls Propane Autogas Plan a 'Step Backwards'

February 25, 2015

Like 0

Tweet 0

G+ 0

in Share 0

Share 1

Print



File photo

Ulster County (N.Y.) Executive Mike Hein vetoed a resolution to spend \$25,000 to convert five transport vans from unleaded gasoline to propane autogas. The resolution had been passed by the county legislature.

Ulster County Green Fleet Policy



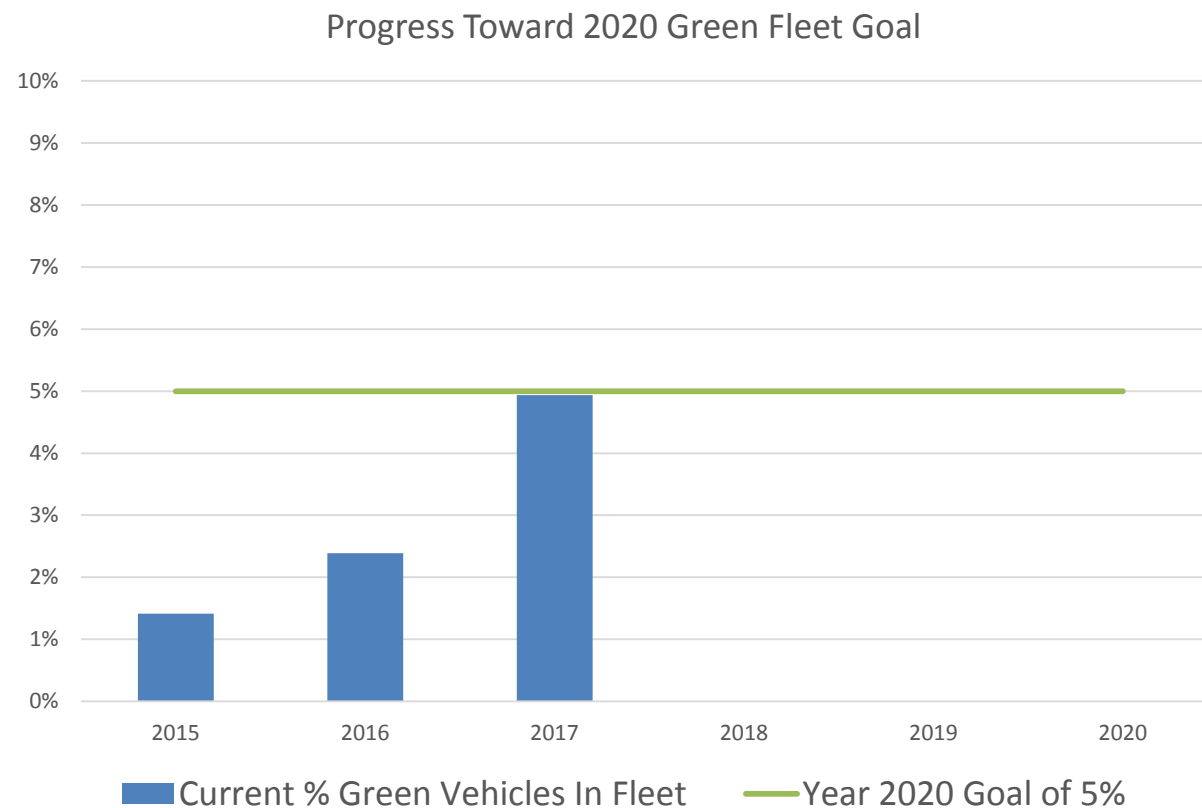
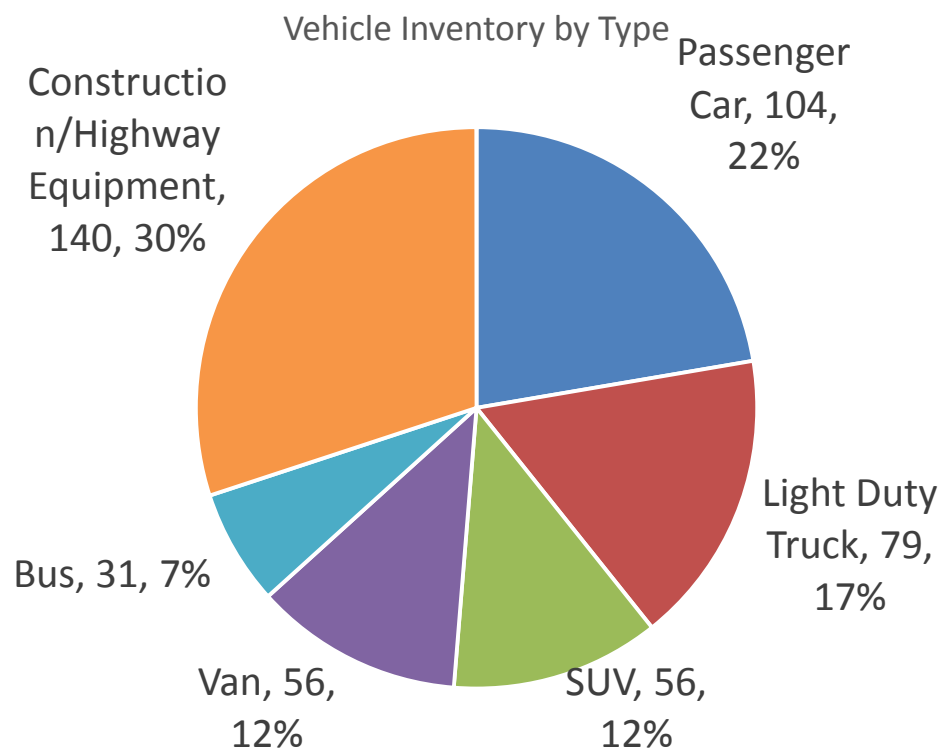
- Collaborative effort between UC Executive (Public Works Fleet Manager and Environment) and Legislature
- Formalized efficiency and conservation efforts
- Made sure reporting and tracking was implementable
- Set aspirational but achievable goals

Ulster County Green Fleet Policy

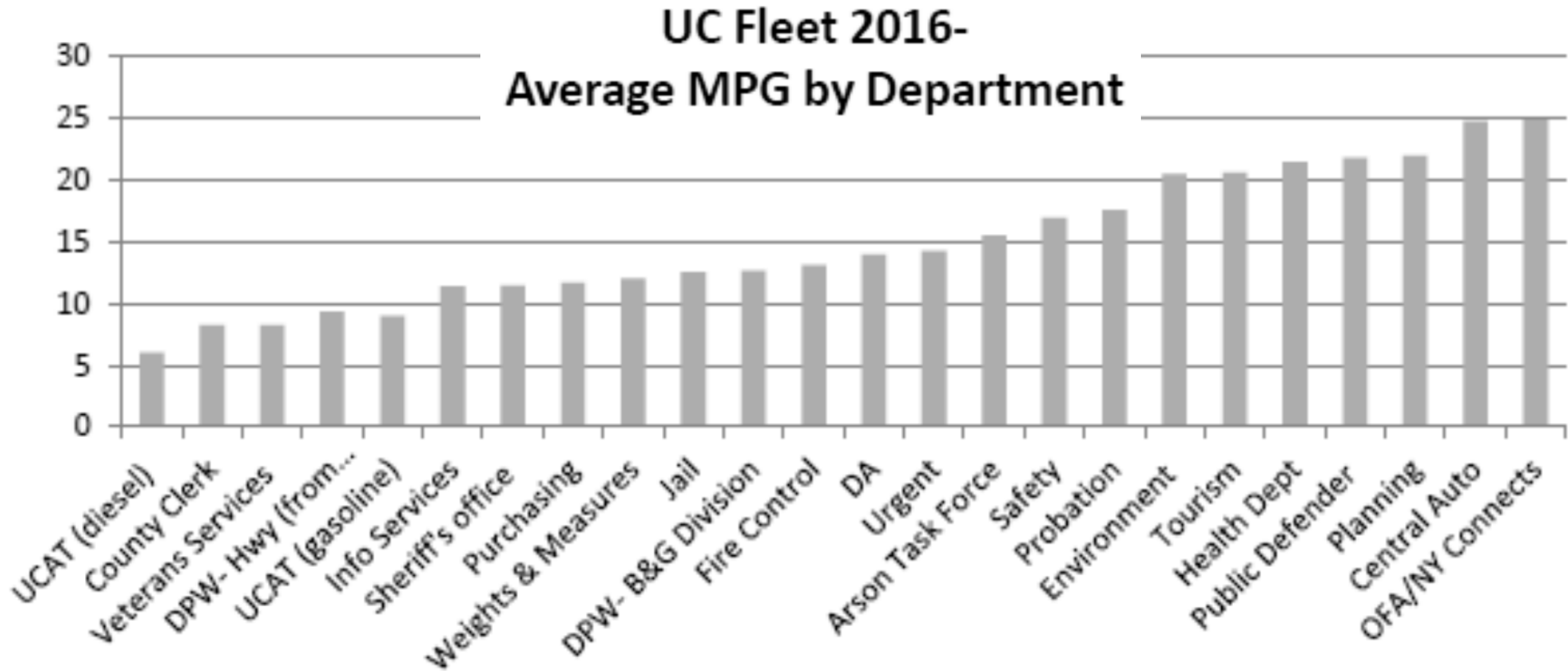
- **Inventory, Monitoring, Right-sizing & Employee Education**
- **Green Vehicle Definition:**

Any vehicle that employs technology that reduces fuel consumption or emission 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)
- **Goals**
 - 5% of the fleet will be Green Vehicles by 2020
 - After 2020, 20% of new passenger vehicle purchases will be Green Vehicles
- Will use a team approach; must produce **annual report**
- *Conservation, Efficiency, Renewables*

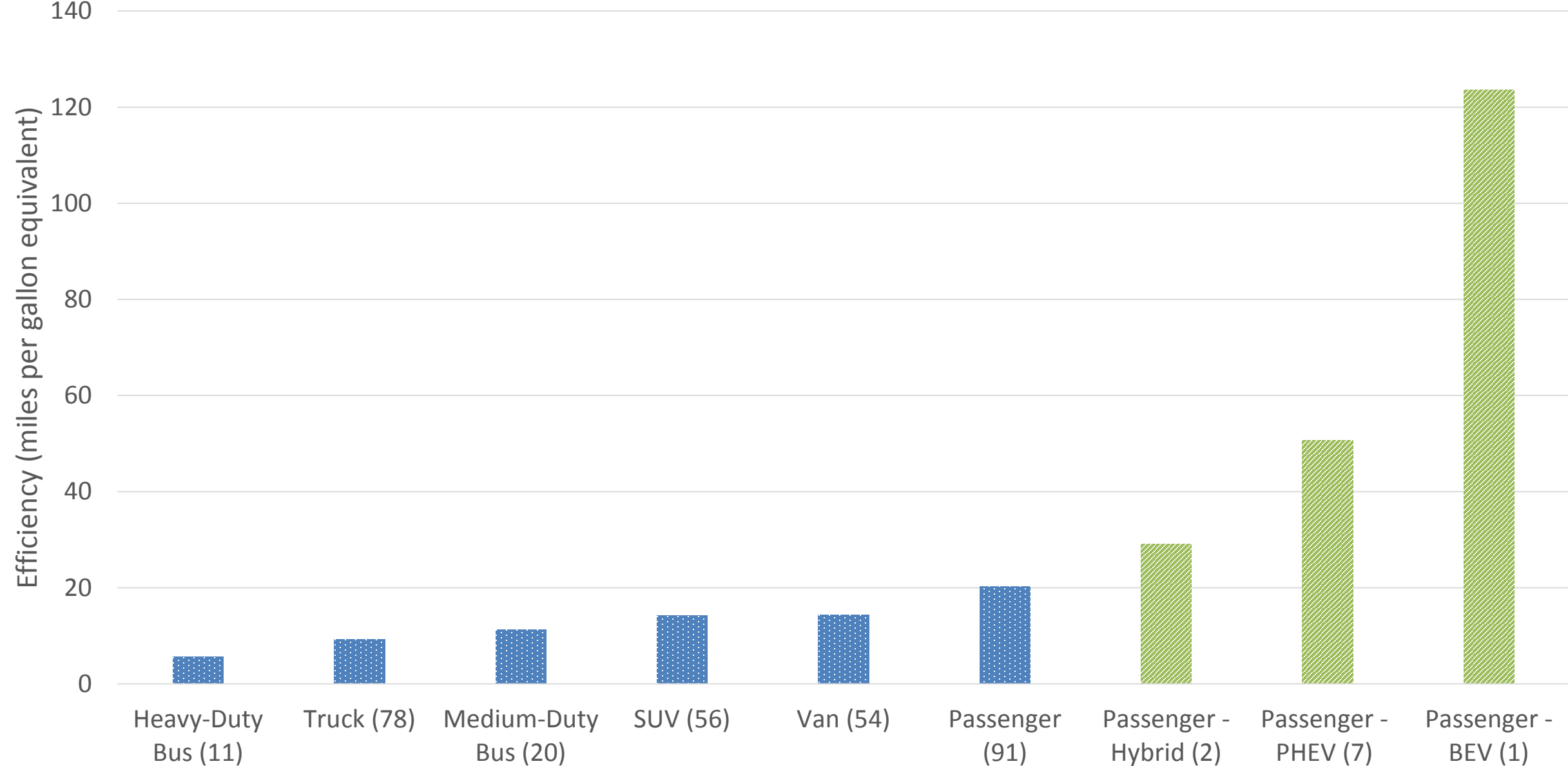
Ulster County Green Fleet Progress



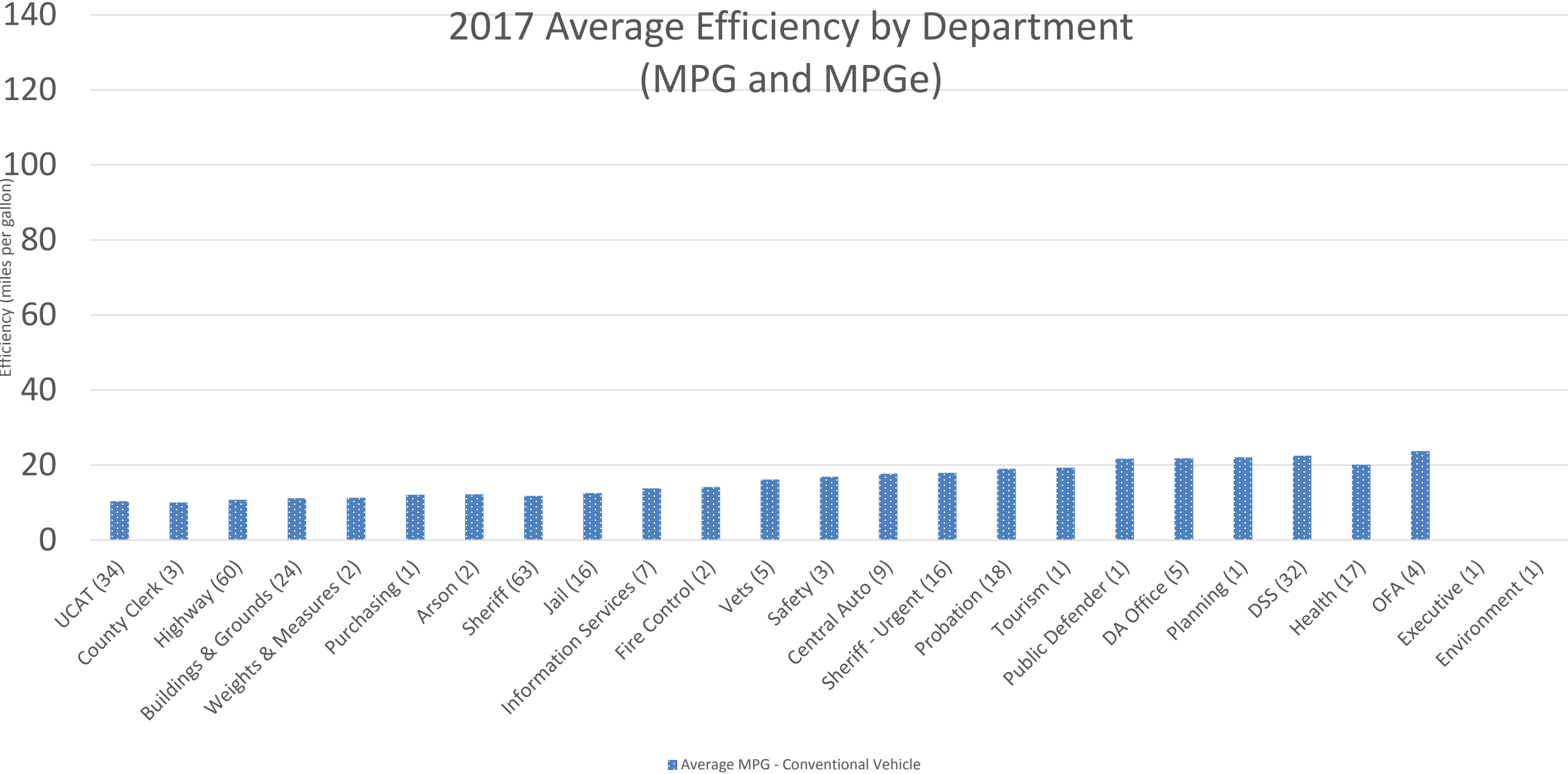
Ulster County Green Fleet Progress



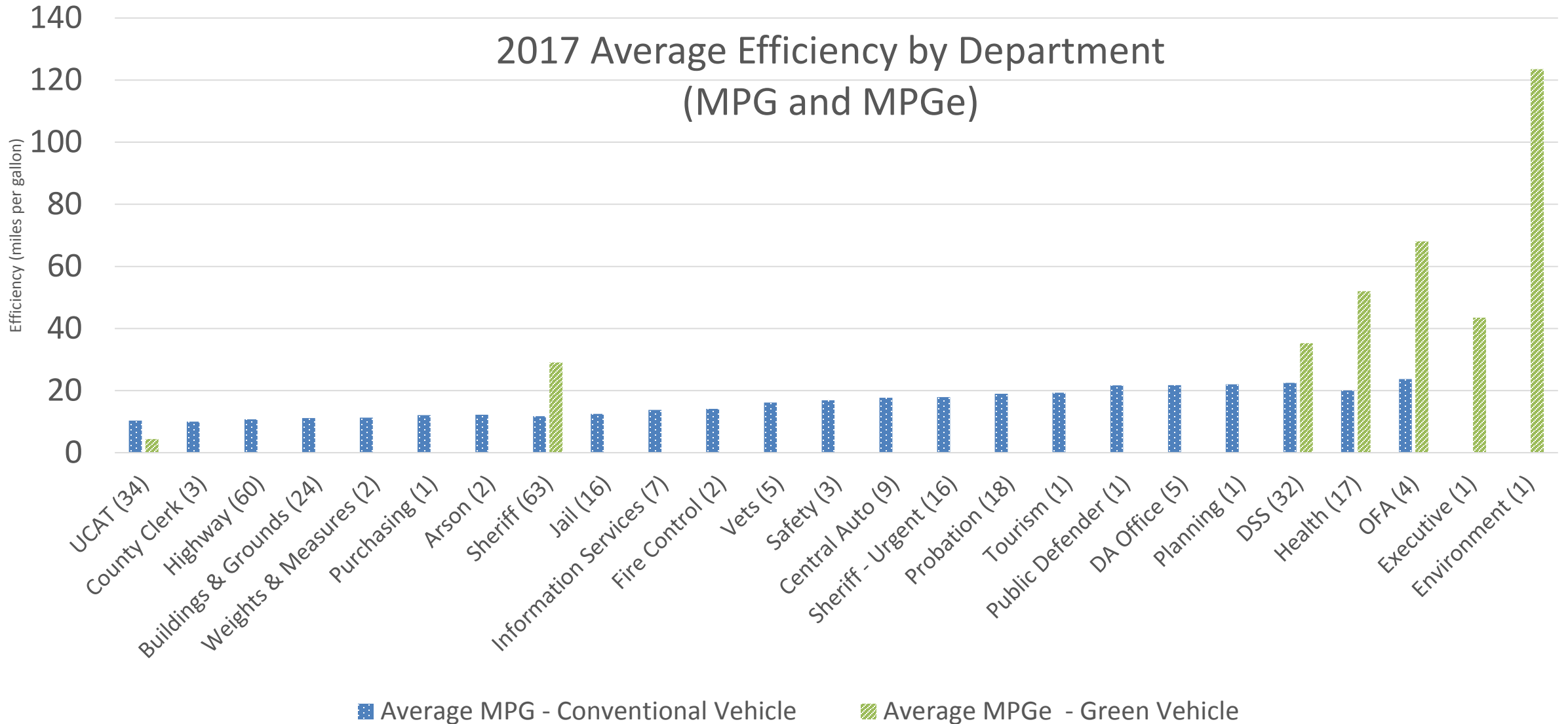
2017 Average Efficiency by Vehicle Type (MPGe)



Ulster County Green Fleet Progress

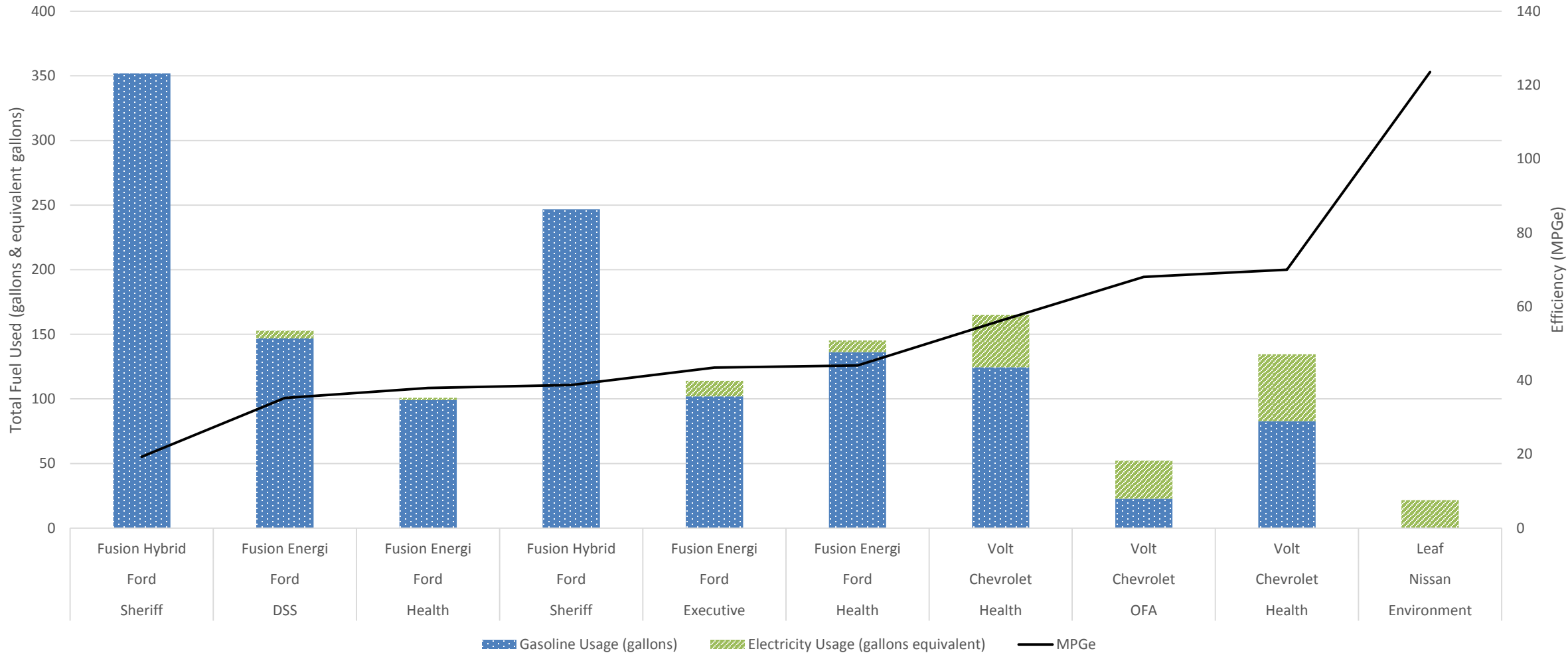


Ulster County Green Fleet Progress



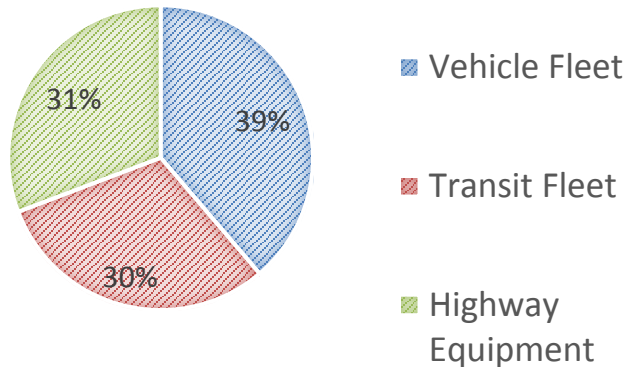
Ulster County Green Fleet Progress

2017 Green Vehicle Efficiency

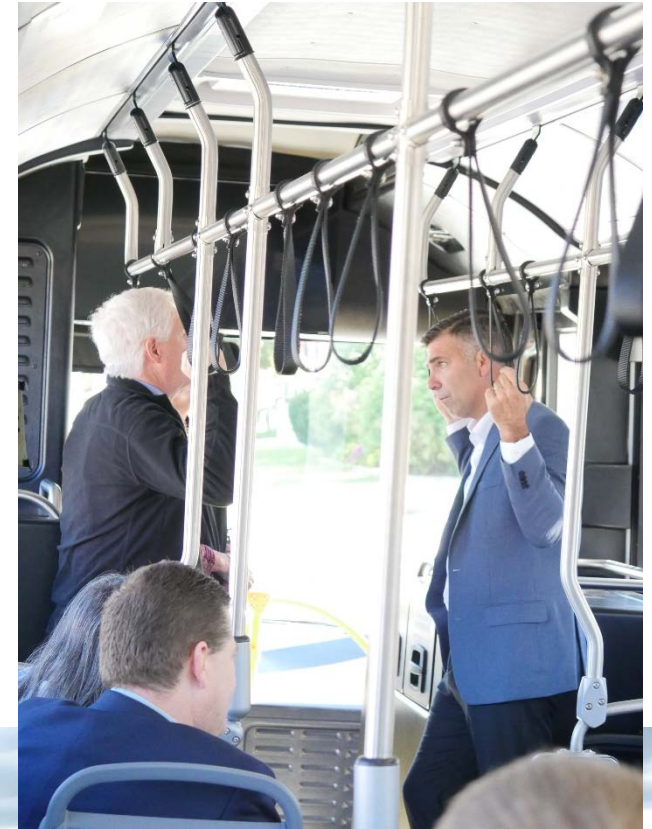


Green Fleet Next Steps

- Moving beyond passenger vehicles...
 - Transit buses? Transport vans? Road Patrol?
- All require additional charging infrastructure...
 - e.g. DC fast charging, 60-150kw “depot” charging for buses
- Tracking and monitoring



2017 EMISSIONS (MT CO₂E)



3. ELECTRIC VEHICLE CHARGING STATIONS

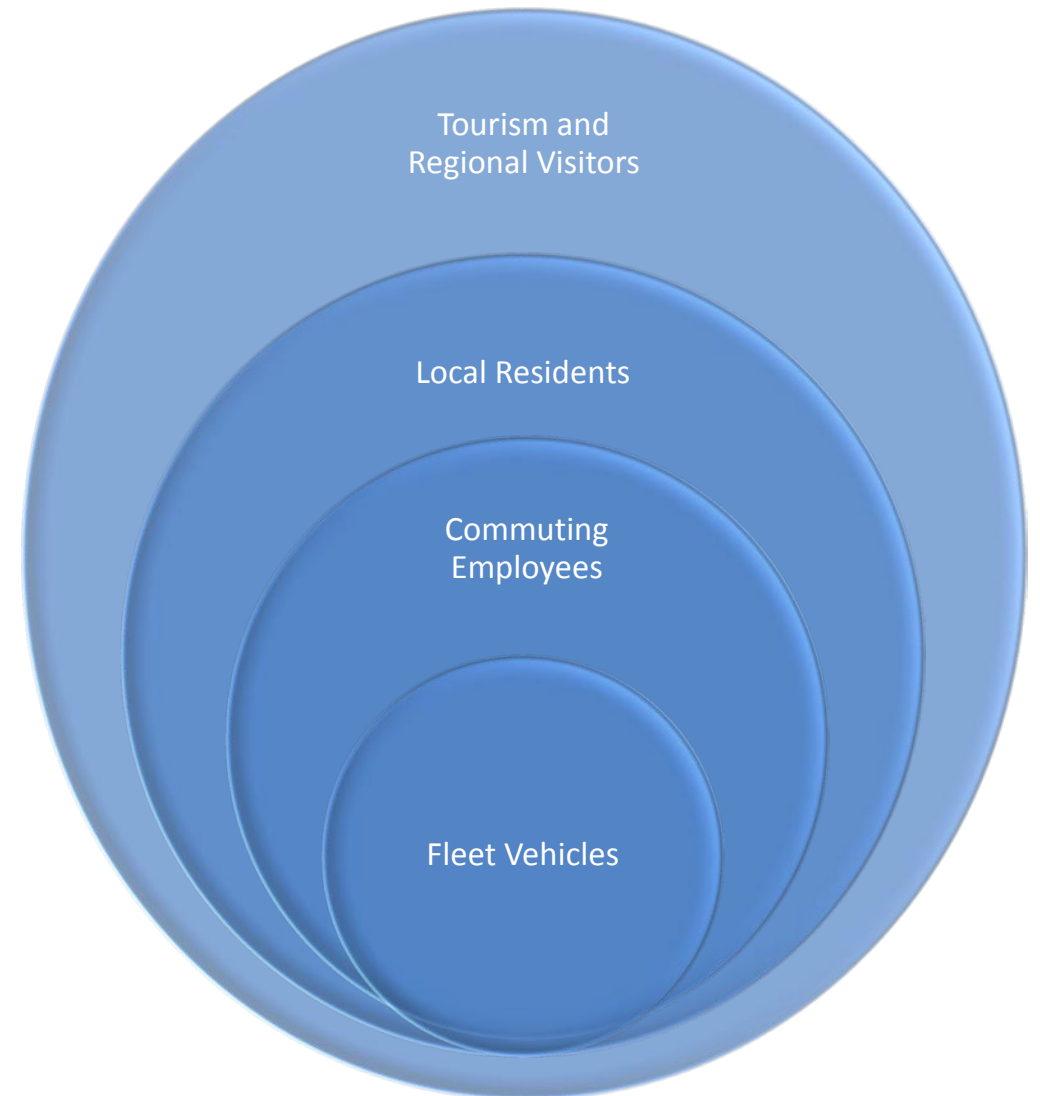


- First installed in 2015
- Opportunity to use ChargeNY funding for the charging stations
- Decided to go ahead and implement, using local knowledge, rather than to do additional planning to determine sites

Build it and they will come...

Electric Vehicle Charging Stations

- One project with multiple layers of potential benefit, reaches far beyond the UC Fleet!
- Takes advantage of the location of many county buildings as logical EVSE sites.
- Provide environmental and economic benefit
- Demonstrates the equipment and technology to the public.



Station Siting and Installation



- Each station has two ports; Cable can reach beyond proximate two spaces next to the charger. Flexibility to designate more spaces in the future.

- 2015: Installed charging stations at 9 sites.
- 2016-2018 Installed additional six units
- Worked with vendor and Ulster Co DPW to identify best sites.
- UC DPW did the site work, electrical panel work required for installation.



Station Siting and Installation



DOWNTOWN CLUSTER

Downtowns, including main streets and central business districts, offer strong potential as an EVSE cluster, with their combination of municipally managed parking lots and garages, longer dwell times for local shopping and leisure, and accessibility to all driver demographics.



RETAIL CLUSTER

Retailers have good incentive to install EVSE as a customer amenity. Cutting-edge firms that attract or would like to attract customers fitting the early EV adopter profile can deploy EVSE to aid their marketing and branding efforts. Food markets, shopping malls and other retail operations with longer customer dwell times will experience the best early opportunities for EVSE.



WORKPLACE CLUSTER

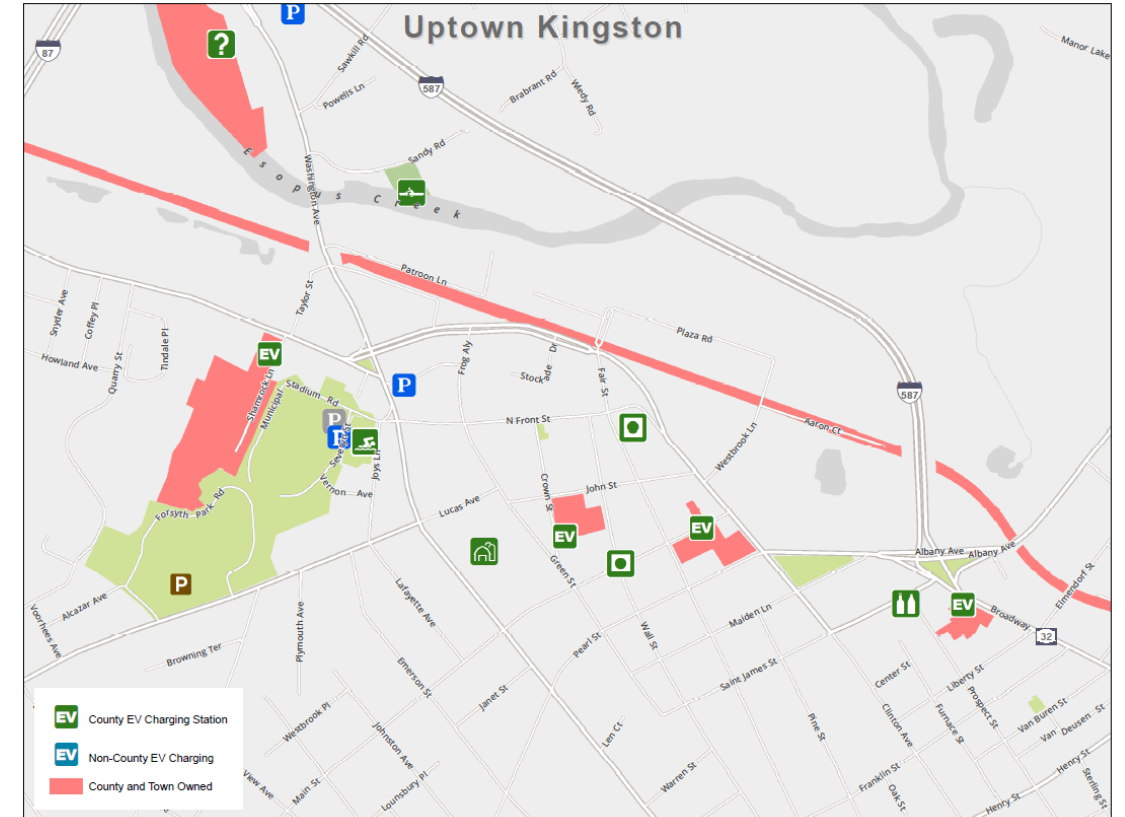
Many offices, particularly those engaged in the technology sector, can offer EVSE as an employee benefit while also representing themselves as a cutting-edge firm. Workplace charging is seen as the second most important opportunity for EV drivers, after overnight charging at home.



LEISURE DESTINATION CLUSTER

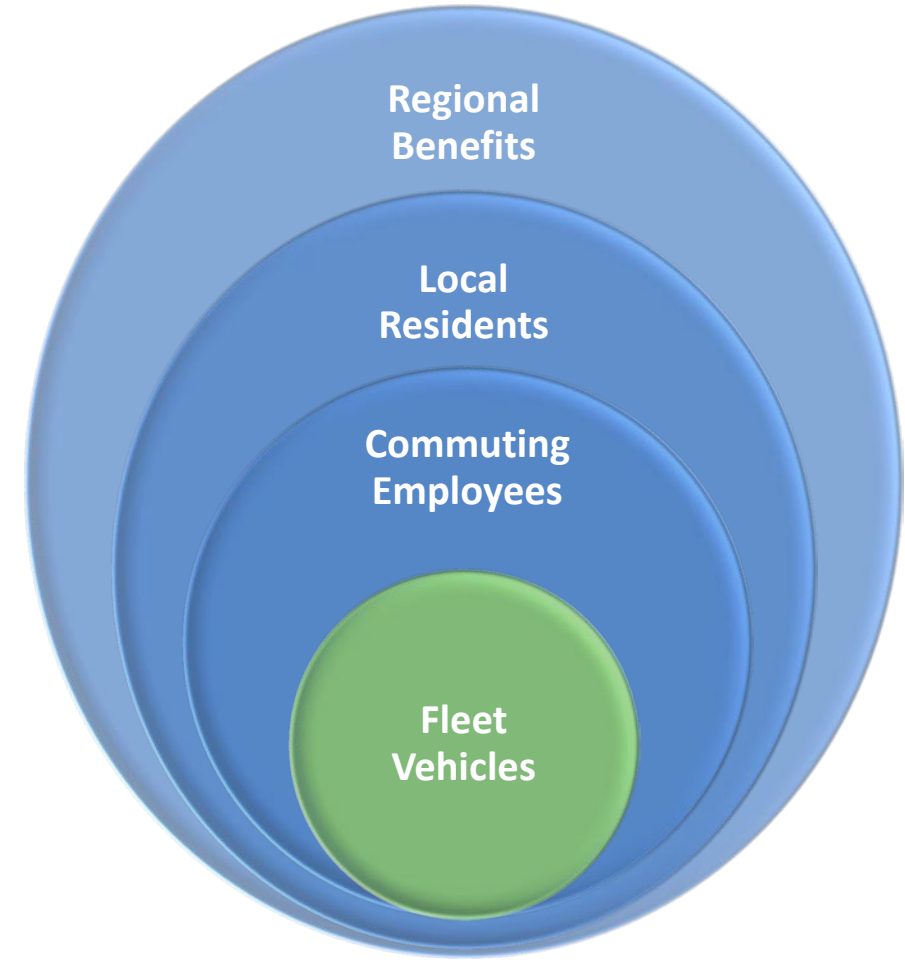
Wildlife parks, botanical gardens, museums, science centers, sports stadiums and other major cultural institutions in major metropolitan areas are all examples of leisure destinations that offer growing EV early adopter demand and good EV exposure. National and state parks and vacation destinations such as ski resorts in more rural areas offer opportunities for EVSE deployment as well. Siting EVSE in this cluster extends vehicle range throughout the region.

Graphics exerted from *EVSE CLUSTER ANALYSIS Electric Vehicle Supply Equipment Support Study* December 2012



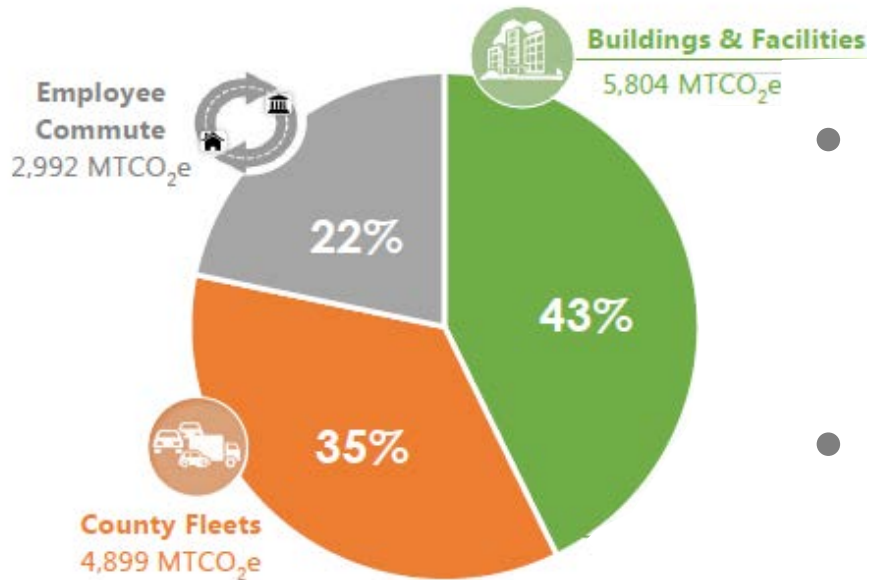
Ulster County Fleet

- Significant number of passenger vehicles in fleet
- Green Fleet Policy sets goal of 5% of overall fleet must be a green vehicle by 2020. Thereafter 20% of new purchases (passenger) must be green vehicles.
- Started in 2015 with purchase of four plug-in hybrid sedans.
- Deployed in departments where we can identify both advantageous driving patterns and willing “champions”
- Charging Stations at all our main public buildings, provide necessary infrastructure as well as flexibility to try vehicles with other departments.
- Increasing availability of cost-competitive plug-in hybrids and BEVs.

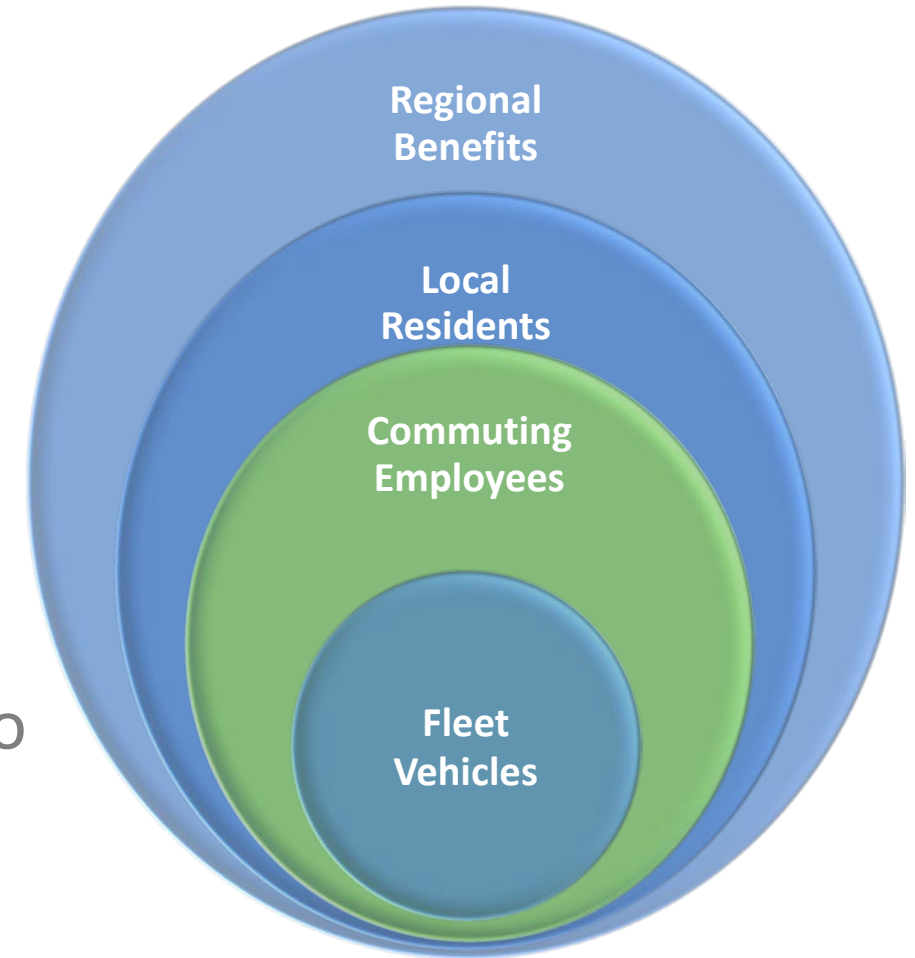


Commuting Employees

- Employee commutes are 22% of our total GHG emission (2012)
- 96% of employees work in a location with access to EVSE



- Environmental benefits extend beyond commute to work
- Recruiting and retention tool



Commuting Employees

- Outreach highlights various ways to reduce environmental impact of commuting (e.g. UCAT bus, RideShare, EV Charging)

3 Ways To Make Your Employee Commute Greener

Did you know? Ulster County employees commute approximately 22 miles round trip every day. In an effort to lesson Ulster County's carbon footprint, we need your help! Here are some ways that you can reduce your commuter footprint, while saving gas and money:



ULSTER COUNTY AREA TRANSIT (UCAT)

Ulster County Area Transit (UCAT) bus rides are only **30 cents per ride for all County employees!** Just show your County employee ID badge to the bus driver and enjoy this efficient, inexpensive and environmentally-kind commute.

All of the UCAT buses run on clean **biodeisel**. All UCAT buses are equipped with bike racks.

Please call (845) 340-3333 for further information. Or you can download the 'UCAT' APP, which will give you the bus schedule *and* show you exactly where your bus is in transit. Search for 'UCAT' on the App Store or Google Play to download this APP.

SUSTAINABLE ULSTER COUNTY — COUNTY EXECUTIVE MICHAEL P. HEIN — GREENER COMMUTING

3 Ways To Make Your Employee Commute Greener

Did you know? Ulster County employees commute approximately 22 miles round trip every day. In an effort to lesson Ulster County's carbon footprint, we need your help! Here are some ways that you can reduce your commuter footprint, while saving gas and money:

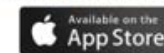


ULSTER COUNTY AREA TRANSIT (UCAT)

Ulster County Area Transit (UCAT) bus rides are only **30 cents per ride for all County employees!** Just show your County employee ID badge to the bus driver and enjoy this efficient, inexpensive and environmentally-kind commute.

All of the UCAT buses run on clean **biodeisel**. All UCAT buses are equipped with bike racks.

Please call (845) 340-3333 for further information. Or you can download the 'UCAT' APP, which will give you the bus schedule *and* show you exactly where your bus is in transit. Search for 'UCAT' on the App Store or Google Play to download this APP.



See more at: <http://ulstercountyny.gov/ucat/ulster-county-area-transit#sthash.rBxxv8vA.dpuf>



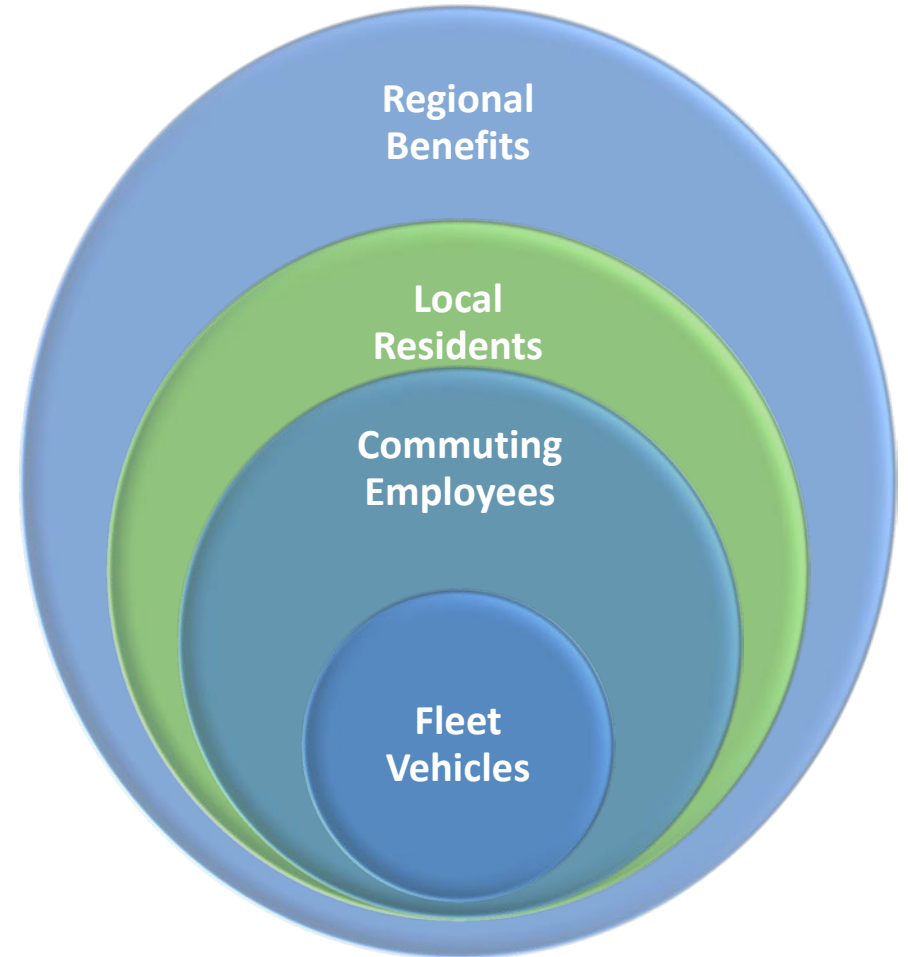
ELECTRIC VEHICLE CHARGING STATIONS

Ulster County recently installed Electric Vehicle (EV) charging stations at nine County facility parking lots, making it the largest municiple network of charging stations in the State of New York, including NYC. Now, 94% of all Ulster County employees have access to an EV charging station. The stations are to power the County fleet, as EVs start to replace aged-out County vehicles. The charging stations are also available for County employees and the public to use (non-commercial vehicles only), free of charge.

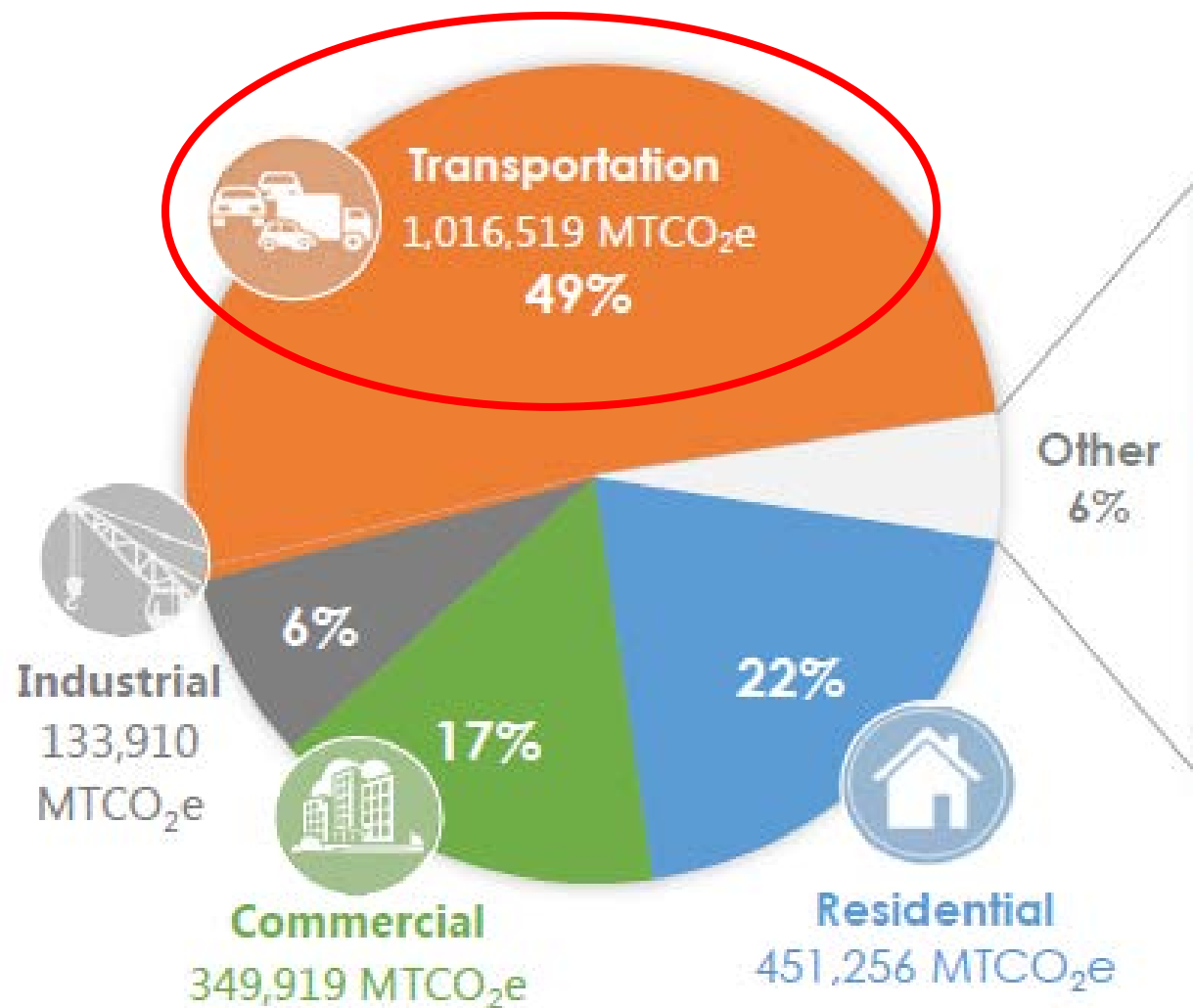
We hope County employees as well as the public consider electric vehicles and hybrid plug-ins (EVs) when purchasing new vehicles. Although EVs are often perceived as being 'too

Local Residents

- Provides local public health and environmental benefits
- More charging stations leads to more EV drivers
- Highlights and demonstrates technology to public

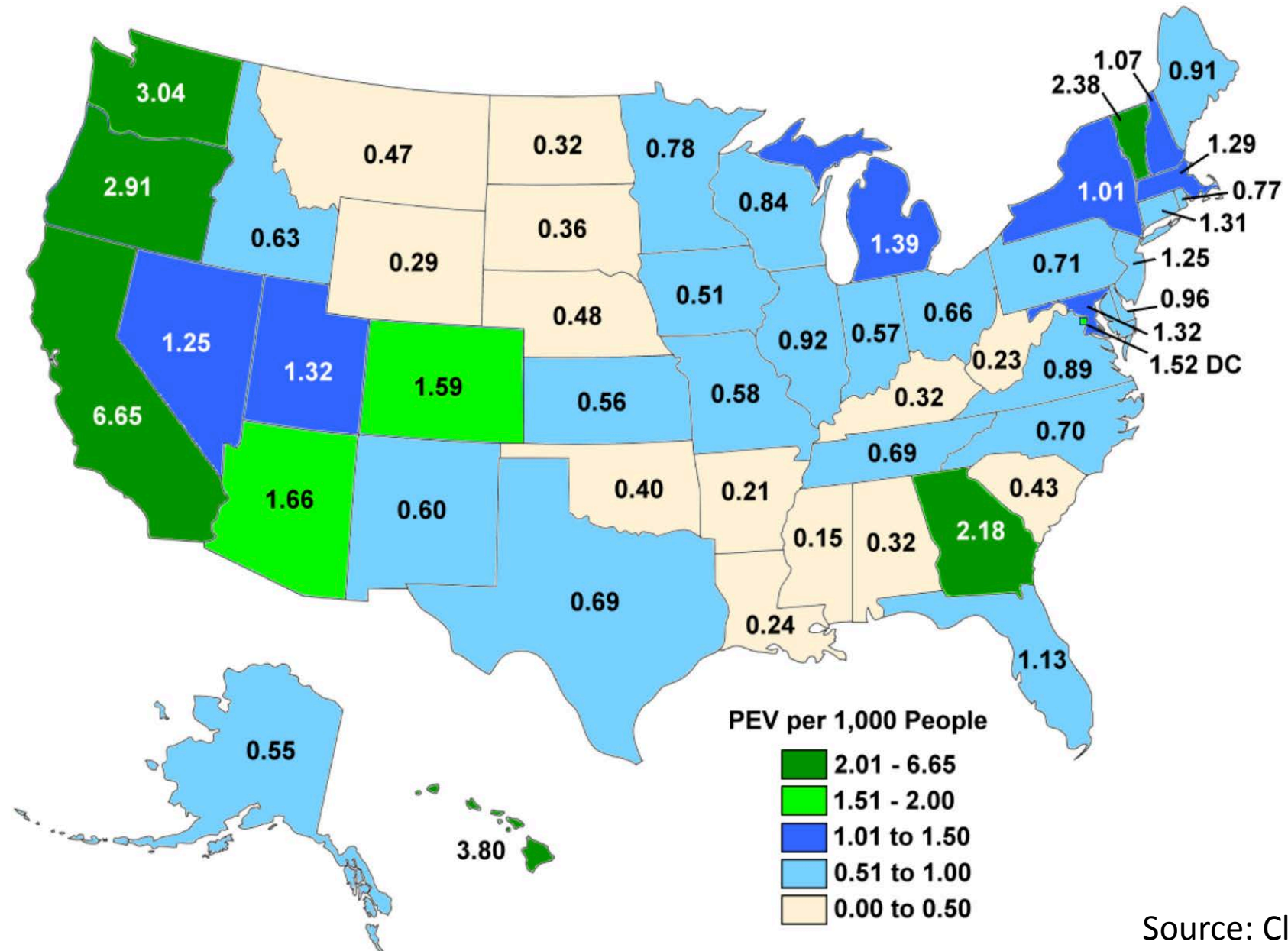


Local Residents



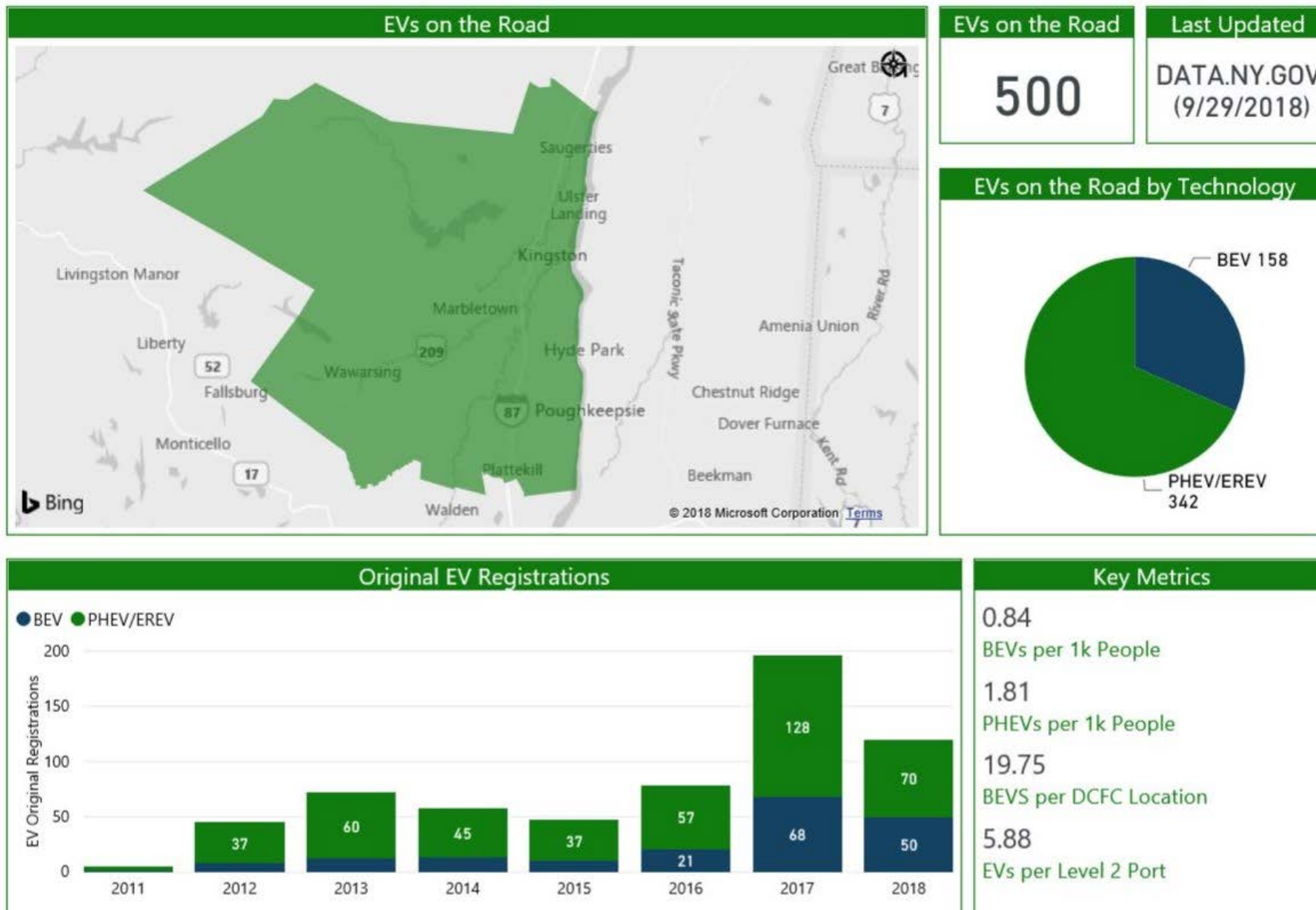
Ulster County-wide GHG Emissions by Sector (2010)

PEV Registrations per 1,000 People by State, 2016



Source: Cleantechnica.com

Ulster County EV Ownership



<https://www.nyserda.ny.gov/All-Programs/Programs/ChargeNY/Support-Electric/Map-of-EV-Registrations>

Ulster County has installed 9 electric car-charging stations, and they can be used for free



By [Patricia Doxsey](#), *Daily Freeman*

POSTED: 08/09/15, 12:56 PM EDT

UPDATED: 4 WEEKS, 1 DAY AGO

38 COMMENTS

KINGSTON >> With a gas station on almost every corner, finding a place to get a fill up is no problem for most motorists.

For those driving electric cars, however, finding a place to recharge the battery after a day of traveling can be more difficult.

Ulster County is looking to change that.

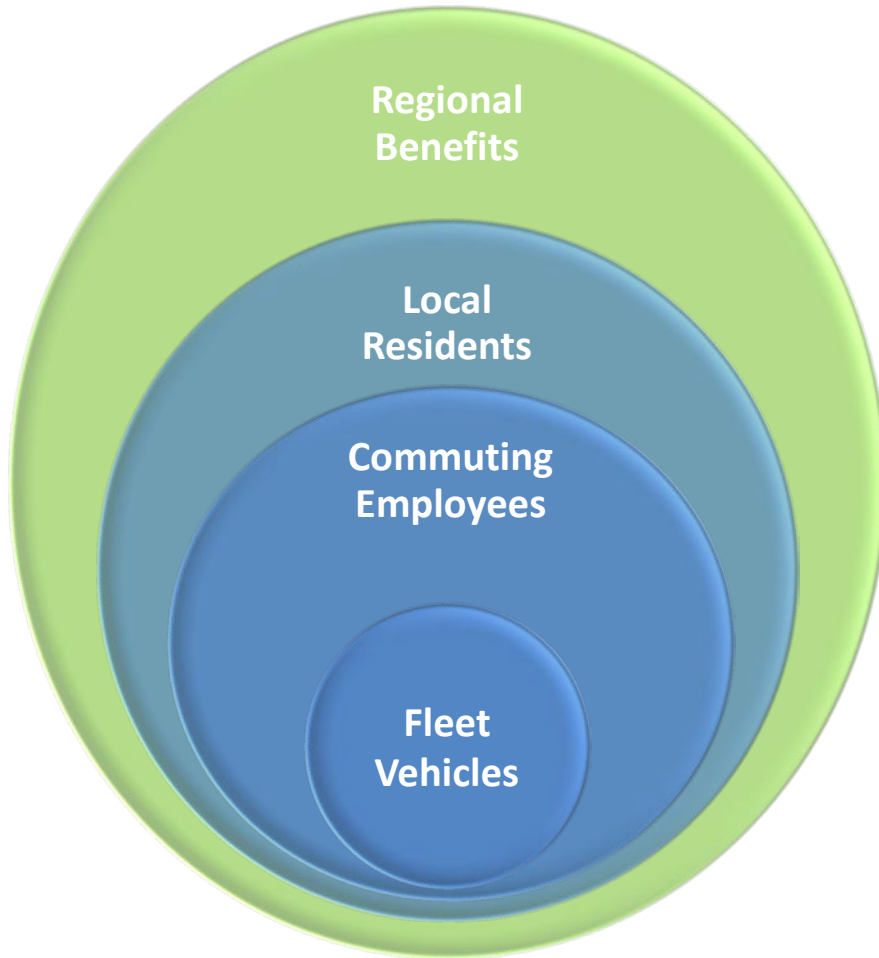
VIDEO: ULSTER COUNTY OFFERS ELECTRIC CAR CHARGING STATIONS.



Ulster County Executive Mike Hein and Amanda LaValle, coordinator of the Ulster County Department of Environmental Conservation, stand in front of an electric vehicle charging station in the Ulster County Building parking lot on Main Street in Kingston.

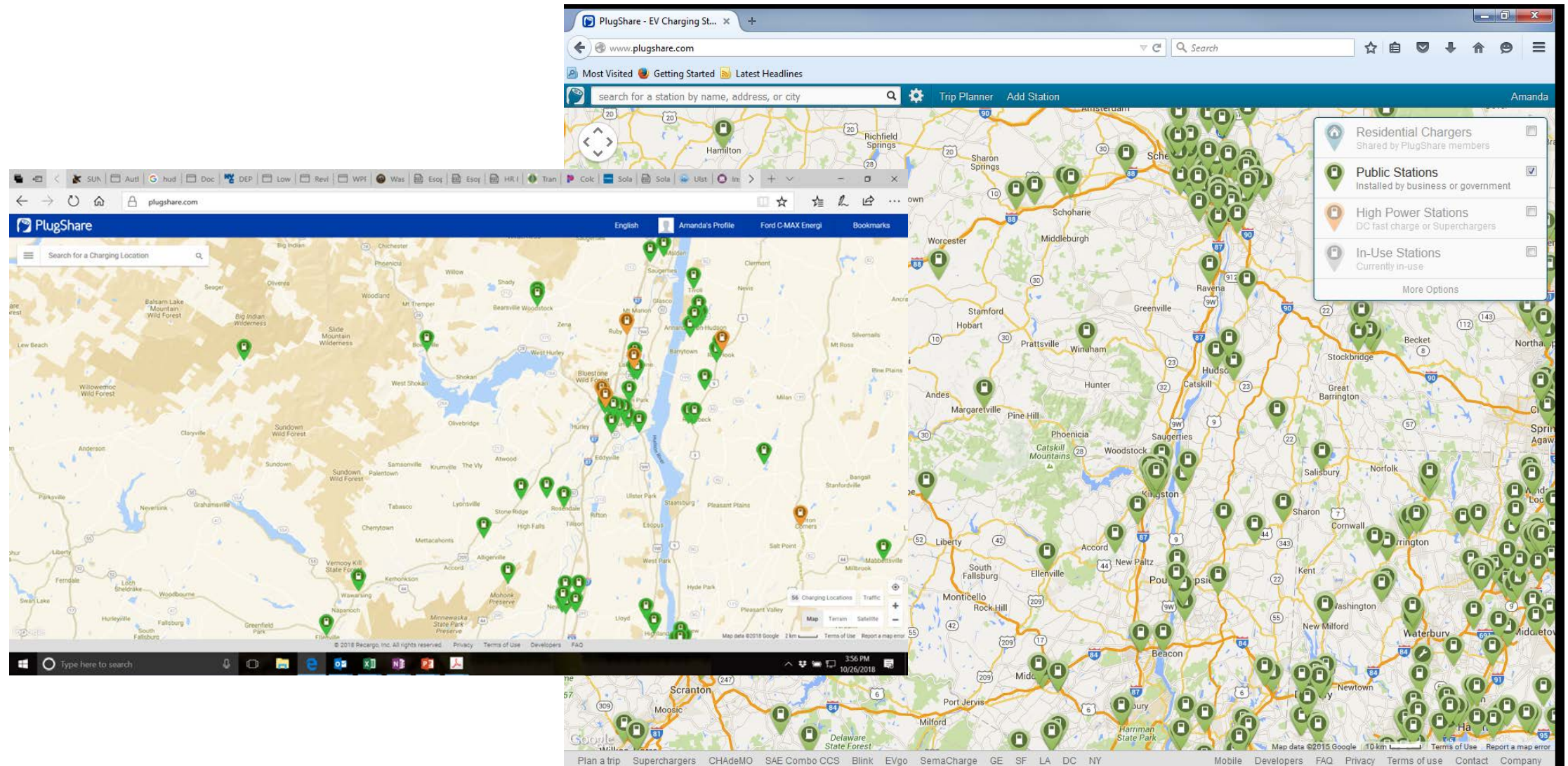
Tania Barrickio—*Daily Freeman*

Tourism/Regional Benefits



- Electric Vehicle Community- Growing and they are looking for places to plug-in
- They don't sit in their cars while charging. Dining, shopping, attractions...

Regional EV Charging Stations





Mike Kamm

September 6 at 10:28pm · Edited

I located and plugged into all 8 new Ulster County chargers in Kingston today. I have to applaud Ulster County for going big and peppering Kingston with high quality, user friendly, ChargePoint chargers. My favorite one was located at 1 Development Ct. It was walking distance to various fast food places and also King's Valley diner.



Like Comment

You and 8 others like this.

Seen by 35



Chris Neff Nice Mike. The ones just off Crown St I saw were ICE'd - it was during the Farmers Market. I took a pic and shot it to the town council people so they are aware. I did not see any EV ONLY signs - just EV charging signs. The ones at the municipal building on Main are prob less prone to ICEing until they work this all out. Either way Kingston is really doing awesome here



Members Events Photos Files Search this group

Add Photo / Video Ask Question Add File

LaValle Genson

at 10:14pm · Kingston, NY

Vehicle Drivers! I'm a plug-in hybrid owner in Ulster excited to know that this group exists. Sharing some Ulster news with you all.



Ulster County has installed 9 electric car-charging stations, and they can be used for free

With a gas station on almost every corner, finding a place to get a fill up is no problem for most motorists.

COM

MEMBERS 22 members (4 new)

Add People to Group



Message · Invite by Email

DESCRIPTION

Drivers and enthusiasts of EVs (Electric Vehicles)

See More

CREATE NEW GROUPS

Groups make it easier than ever to share with friends, family and teammates.

Create Group

RECENT GROUP PHOTOS

See



SUGGESTED GROUPS

See



Amanda LaValle Genson

September 3 at 10:57am · Kingston, NY

Some EV Charging Station news from Ulster County. Stations are on the ChargePoint network and are also listed on Plugshare. We are excited about this project and hope you come to visit us in Ulster County!



Ulster County has installed 9 electric car-charging stations, and they can be used for free

KINGSTON >> With a gas station on almost every corner, finding a place to get a fill up is no problem for most motorists.

DAILYFREEMAN.COM

Like Comment Share

You and 12 others like this.

Seen by 51

View 3 more comments



Chris Neff Look who I met today 😊 Amanda LaValle Genson and Ken - that is my i3 - These chargers rock, really nice town area along Wall St. The Farmers market was hopping



September 6 at 9:38pm · Edited · Like



Amanda LaValle Genson Thanks again for coming to check out the project. Uptown Kingston is a happening place on Saturdays. Glad you got to see the Kingston Farmer's Market in full swing!

Yesterday at 6:38am · Edited · Like · 2

Green Economy

- “When I drive through that area heading north in my EV (BMW i3) that is just about where I'm looking for a quick boost...I'm also with my family and I guarantee they won't want to sit in the car for an hr, **they will want to eat and shop.** These two factors alone make Kingston a destination for me instead of just a sign we pass along the Thru-way. We are looking forward to visiting soon - being free has really little to do with it.”
- “... By installing these stations at minimal cost Ulster County is looks to the future in **providing a service desired by forward-thinking, often younger talented people,** that will want to live in Ulster County. It also provides an incentive for residents to buy electric cars...Thank you Ulster County for showing the world that we are looking forward and languishing with our heads stuck in the not stuck in the 20th Century oil sands.”
- “Instead of driving right past Kingston as I have done for the past 30 years, **I pulled off at exit 19 and stopped for lunch** at King's Diner [that I previously never knew existed] yesterday. You can thank the Development Ct. charger installation. Yes, these chargers do attract passers-through to stop and spend money in town, instead of passing it by.”
- “This is definitely a major step in the right direction for Ulster County, who before this was a black hole on the EV charging infrastructure map. **I look forward to charging, shopping and eating in the area on my way to and from Albany.**”

The screenshot shows a web page from Green Car Reports. At the top, there's a navigation bar with links for News, First Drives, Guides, Electric, Car Types, Video, and Follow. Below this is a featured banner for the Toyota RAV4 Hybrid. The main article headline is "2018 Chevy Bolt EV makes successful 2,000-mile road trip". The article is dated August 15, 2018, and has 114 comments. The article text describes a road trip starting in New York City, passing through Kingston and New Paltz, and ending in Kingston. It mentions challenges like finding charging stations and parking. The article is written by David Read and is part of a two-page series. On the right side of the article, there are promotional banners for Green Car Reports (available for iPhone & iPad) and a voice command "Alexa, show me the nursery".

Green Car Reports
The ultimate guide to clean, greener driving

News First Drives Guides Electric Car Types Video Follow

TOYOTA RAV4 Hybrid
ELECTRIC HYBRID BLUE MORE COLORS

Home / News / News / 2018 Chevy Bolt EV makes successful 2,000-mile road trip

2018 Chevy Bolt EV makes successful 2,000-mile road trip

Internet Brands 114 Comments Aug 15, 2018

Take Us With You!
Green Car Reports
All-Now for iPhone & iPad
Download Now!

"Alexa, show me the nursery"

Days 8 through 10—to, and in, New York City

No need to charge. Parking a car in New York is challenging enough, getting a charge as well would be very difficult so we just parked the car for the duration in the garage under our friends' co-op.

Day 11—to Kingston and New Paltz, New York—about 110 miles

Paramus Chevrolet was supposed to have a DC fast charger but it turned out to be a Level 2; spent an hour instead of 20 minutes. In Kingston, we got a free Level 2 charge but had to pay \$1.45 for parking. One hour of free Level 2 in Rosendale, New York courtesy of the New York Energy Research and Development Authority (NYSERDA). Plugged into the 110-volt outlet I put in myself 20 years ago at our old house in New Paltz.

Day 12 and 13—to Kingston, New York—local driving miles

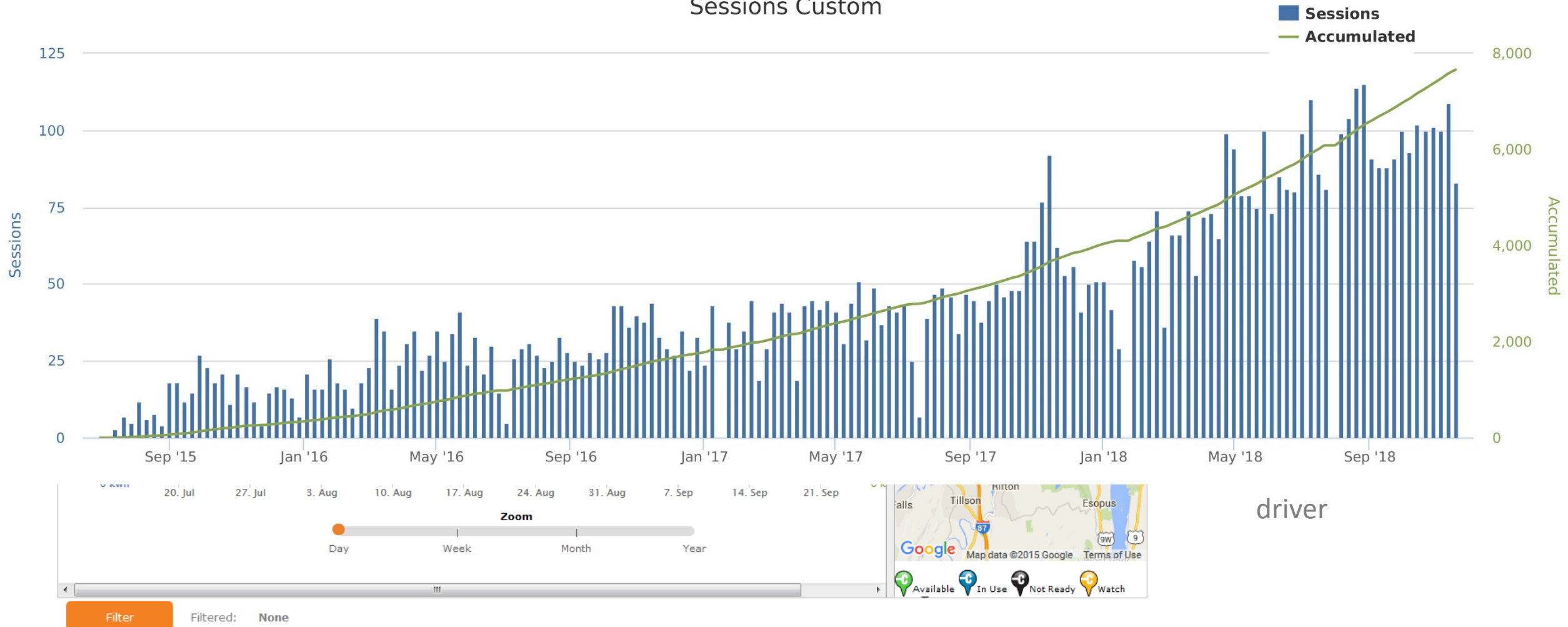
In New Paltz, we found a free Level 2 charger by the village hall, which we used while having brunch. We returned to the car to find it being filmed for educational videos. We found another free Level 2 charger at the Ulster County Department of Public Works, and topped off both nights while staying at the Super 8.

Page 1 of 2 1 2 Next >

Tracking Use



Sessions Custom



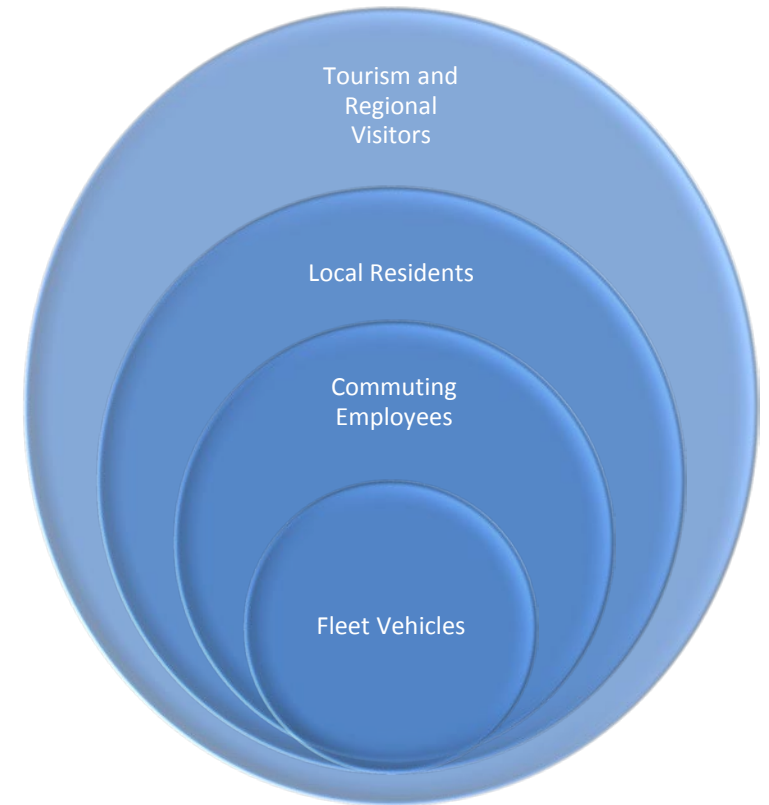
Charging Station Stats

- Since July 2015 to October 2018, UC has hosted 7,692 sessions, delivering 58.8 MWh of electricity. Avoiding 7,400 gallons of gas, 25,000kg of carbon emissions
- Cost of public charging is offset by sponsorship by Ulster Regional Chamber of Commerce.
- County buys Renewable Energy Credits (green power) for all our electricity = zero emissions electricity
- Users from New York State, East Coast and beyond...



Costs and Benefits

- Traditional Paradigm
 - Cost of Stations vs Fee to Charge....
- Our View
 - Cost of Stations (install & maintenance) vs. fuel savings for County vehicles, employee availability, sales tax revenue, tourism draw, tourism economic multipliers, environmental benefits for county government, environmental benefits for region



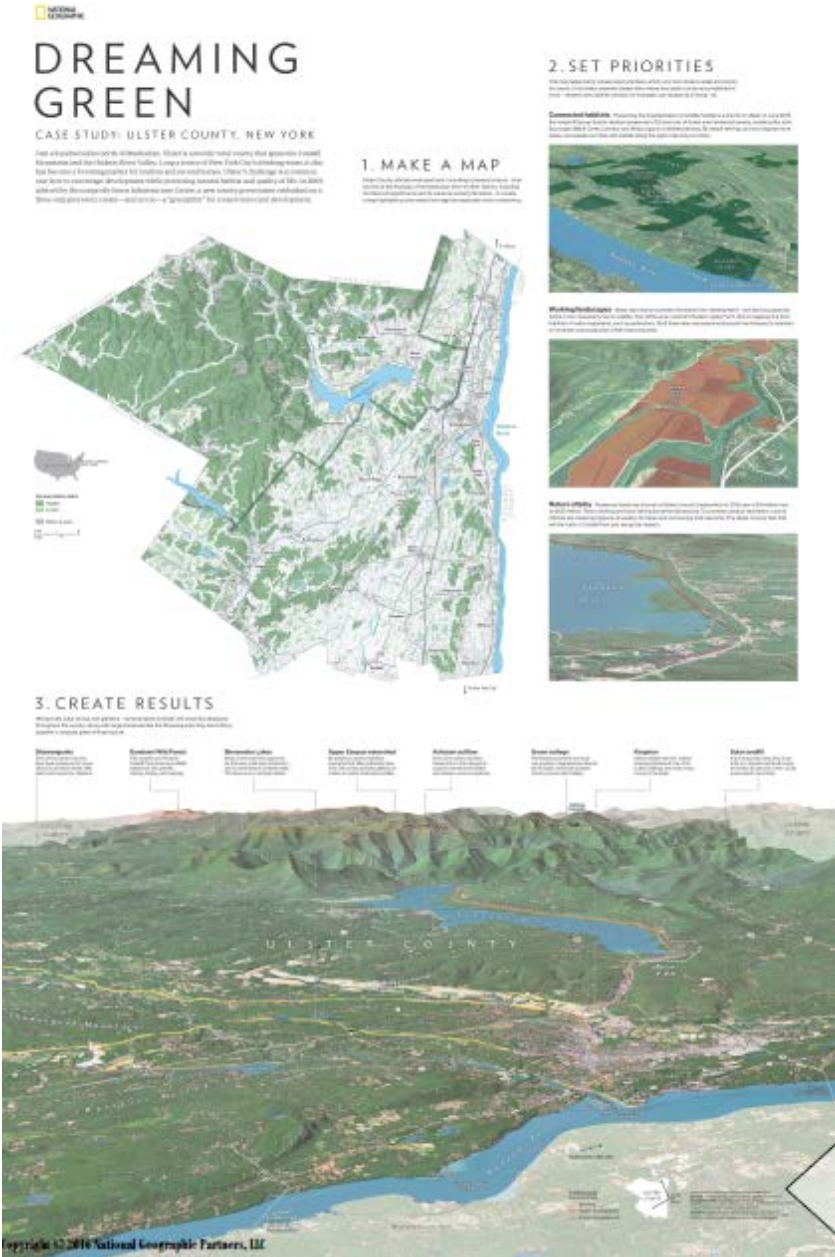
Emerging Project

- Lack of public familiarity with electric vehicles and charging. Often public erroneously equates charging battery with filling a gas tank.
- Ulster County is committed to offering free charging for now, we will reevaluate as the project matures and usage changes.
- Subscription Costs...
- Outreach material and resources- seems to be a lack of data and resources that hit on what we are finding to be key project aspects or guide municipalities to pursue similar projects.

Summary

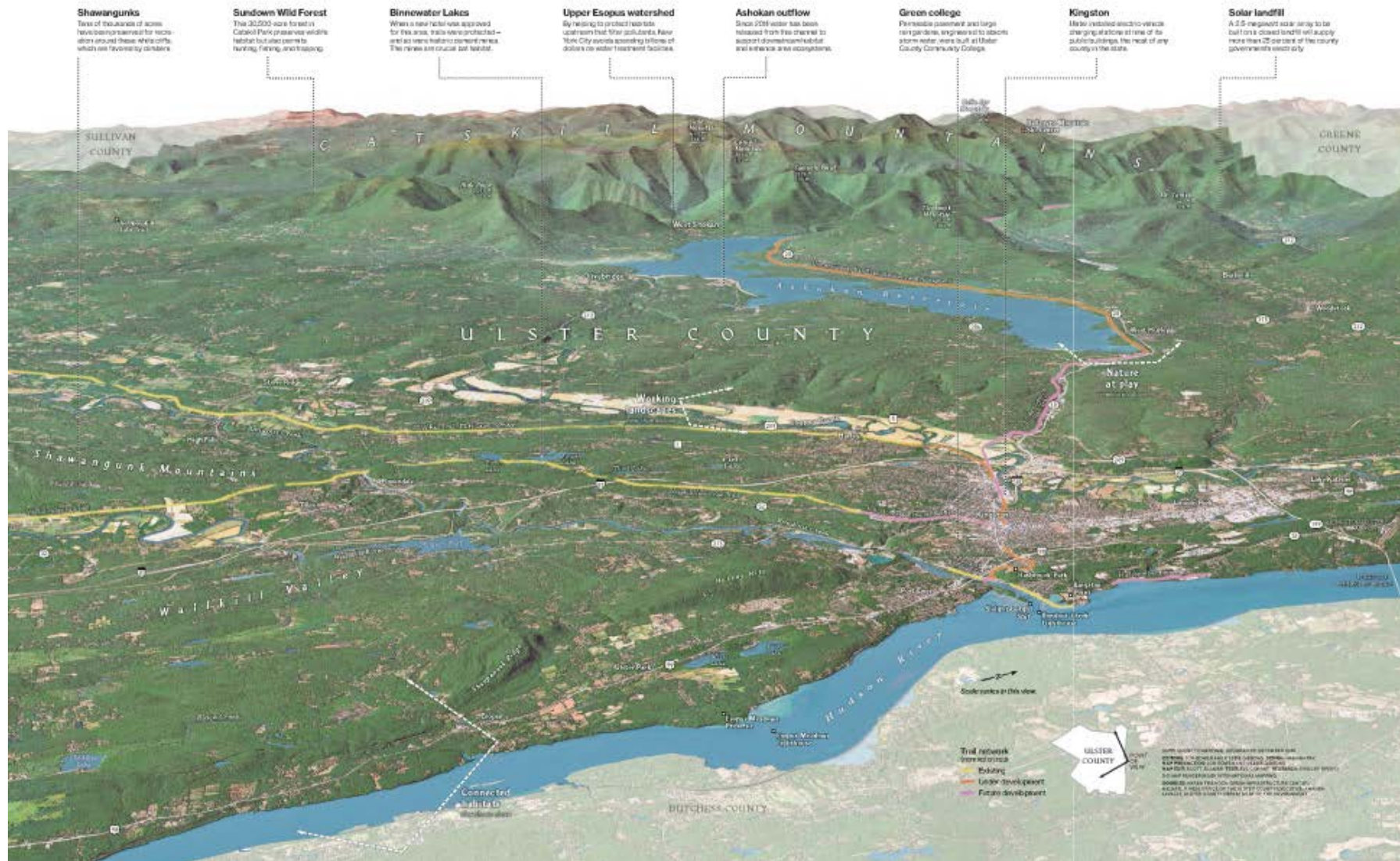
- Fleet is a major cost as well as source of GHG emission
- Fleet operation cuts across county government departments, must use a team approach to manage
- Focus on projects that can effectively demonstrate sustainable technology, foster environmental stewardship and action beyond county government operations

National Geographic Recognizes Ulster County



3. CREATE RESULTS

Hiking trails, solar arrays, rain gardens – some projects in Ulster are small. But deployed throughout the county, along with large preserves like the Shawangunks, they are knitting together a uniquely green infrastructure.



SUSTAINABLE ULSTER COUNTY

— COUNTY EXECUTIVE MICHAEL P. HEIN —

GREENER BY DESIGN

Amanda LaValle, Coordinator
UC Department of the Environment
alav@co.ulster.ny.us
845-338-7455