



2025

**BUILDING ENERGY
BENCHMARKING REPORT**

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EXECUTIVE SUMMARY

Buildings represent one of the greatest challenges, and most significant opportunities, in our community's approach to climate change. On the one hand, the energy used to heat, cool, power, is a significant obstacle to mitigation: this energy accounts for 40% of greenhouse gas emissions at both the community level and for County government operations. On the other hand, buildings are a vital piece of our built infrastructure that can serve as a foundation for climate adaptation and host incredible new energy technologies.

Ulster County is taking bold steps towards realizing the potential of our built infrastructure, starting with government buildings. Weatherization projects like the Department of Environment office keep heat inside when we want it and outside when we don't, critical to keeping buildings comfortable and efficient as extreme heat events become more common. High efficiency heat pump systems, recently installed at the Restorative Justice Center in Kingston, are able to move heat energy indoors with amazing efficiency, moving up to 4 kilowatts of heat for every kilowatt used. Rooftop solar projects like the UCAT Bus Garage of the Future produce a large portion of the building's energy demand, reducing costs and reliance on the grid.

These projects bring clear benefits: In 2025, the County sourced 7% of total energy from zero-emission solar panels, totaling 2.1 MW of capacity. Per-building energy use has declined by an average of 22% since 2012. A shift in energy sources has led to a 32% reduction in Greenhouse gas emissions since 2012, with some buildings reducing emissions by 40-60%. These investments have also kept the energy bills flat for over a decade, despite the rising cost of energy. Further, projects tied to County building operations improvements and clean energy upgrades contributed approximately 70 points towards the County's 2026 [NYS Climate Smart Communities Program](#) Recertification application, a program where the County has achieved at a Silver-level status since it was first awarded in 2016.

This substantial impact is the result of careful planning and historic investments, including the County's 2023 Building Decarbonization Fund, which set aside 18 million dollars to invest in high-efficiency, clean energy buildings. The judicious use of this investment in high-priority projects will result in additional benefits to County operations and serve as a model for energy-conscious municipalities and commercial entities in the region.

This report includes eight recommendations to further improve building efficiency and ensure maximum return on investment in building projects. Recommendations include the implementation of dozens of Energy Control Measures with a payback period of less than one year, investigations into cost-competitive solar installations, and funding mechanisms tied to benchmarking performance. With these recommendations and through the ongoing implementation of major capital projects tied to energy efficiency, the County will keep its forward momentum towards a green future.

INTRODUCTION

Summary

Ulster County’s government buildings are running more efficiently than ever before. In 2025, the County used 125,000 MMBtu to power its 36 buildings across 850,000 square feet of floor space. This resulted in greenhouse gas emissions of 3,114 metric tons of CO2 equivalent.

Compared to the baseline year of 2012, Ulster County’s buildings decreased energy use by 15% and greenhouse gas emissions by 32% in 2025, primarily a result of shifts in energy sources from fuel oil #2 to natural gas and local, zero-emissions electricity. This 32% reduction in greenhouse gases surpasses the 25% goal outlined in the 2019 Ulster County Government Operations Climate Action Plan.

Investments in energy efficiency, lighting upgrades, weatherization, electrification, and onsite solar generation are paying off: the County spent just 1.68 million dollars to power its buildings in 2025, keeping energy costs relatively constant compared to \$1.7 in 2017, despite inflation and the significant increase in energy supply costs.

Summary of Ulster County Building Energy Use

Buildings benchmarked	36 Buildings
Total gross floor area	850,592 square feet
<i>Energy used to heat, cool, and power buildings</i>	
Onsite energy (Equivalent to	63,400,000 kBtu 18,000 MWh)
Source energy (Equivalent to	125,600,000 kBtu 36,800 MWh)
Cost of energy purchased	\$1,677,000
Greenhouse gas emissions	3,114 Metric Tons CO2e

Onsite Building Energy Use

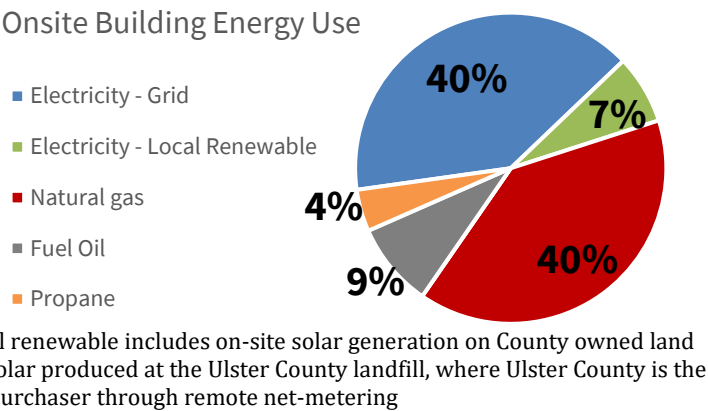
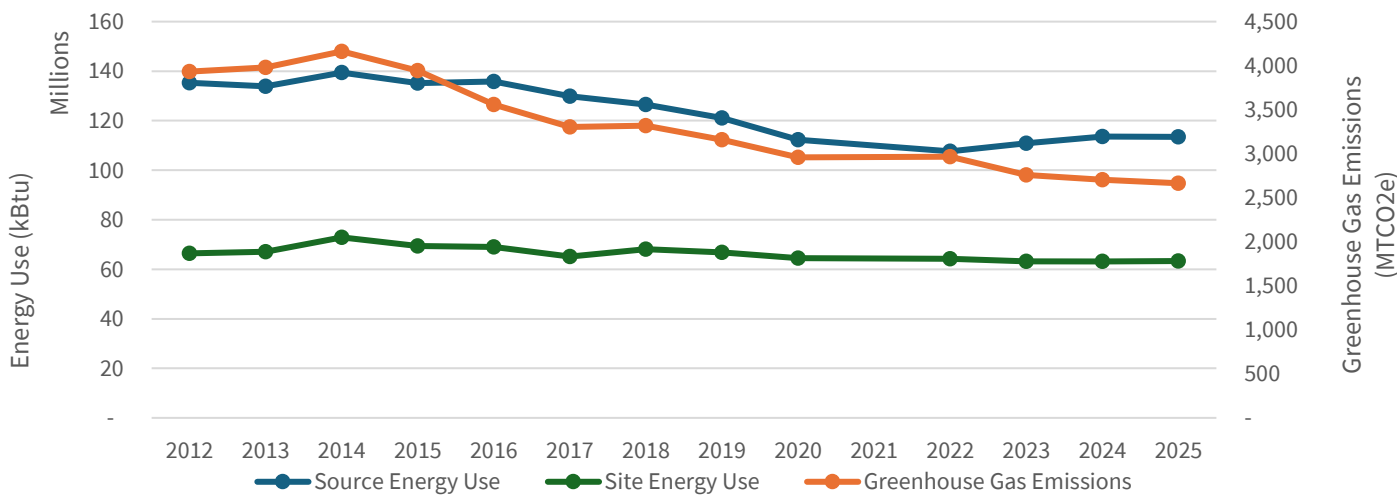


Figure 1: Energy Use and Greenhouse Gas Emissions - Core Buildings



Background & Reporting Requirements

[Resolution No. 447 of 2016](#) requires Ulster County government to publicly report annual building energy consumption and benchmarking information for County-owned or occupied buildings greater than 1,000 square feet in size.¹ The annual Benchmarking Report is prepared by the Department of the Environment (DoE) and published on the DoE's [webpage](#).

Building energy benchmarking informs the County's strategies to achieve greenhouse gas (GHG) emissions reduction goals and reduce energy costs. This process assists the County in:

- Tracking and monitoring of energy use and GHGs associated with the County's building inventory to better inform operations and planning activities, identify cost-effective interventions, and reduce costs.
- Assessing weather-normalized energy metrics across time periods to understand the impact of building efficiency improvements.
- Aligning with a national standard (EPA ENERGY STAR®) to identify outlier properties within the Ulster County building portfolio.
- Communicating opportunities for energy efficiency improvements through public policy and building management practices and upgrades.

This report provides the following summary statistics for covered buildings via EPA's EnergyStar Portfolio Manager software:

- **Energy Use Intensity (EUI)** - Energy Use Intensity is the primary energy performance metric used by the EPA's ENERGY STAR program. EUI is the energy use per square foot at a property (kBtu/square foot). Energy intensity may vary yearly based on the building's activities, level of occupancy, and energy efficiency measures like insulation, climate control, or more efficient appliances. This metric is used to compared buildings of different sizes.
- **Weather Normalized EUI** - Weather normalized EUI is the energy a property would have used under average weather conditions (also referred to as "climate normals"). In a given year, weather may be warmer or colder than the building's average climate; weather normalized energy accounts for this difference. This metric allows comparison of buildings across years where weather may impact the energy intensity.
- **Annual Greenhouse Gas (GHG) emissions** - Annual GHG emissions is the amount of carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) gases emitted into the atmosphere from the burning of fossil fuels, typically provided in units of carbon dioxide equivalents (CO₂e). GHG emission metrics provide insight into the impact of human activity on the environment and the climate.
- **Energy Performance Score** (where available) - EPA PM calculates an "ENERGY STAR Score" for building performance by normalizing properties by climate and operations and comparing them nationally (Appendix A). This process requires highly specific data about a building's operations, including hours of operation, number of computers, workers per shift, and more. Energy Performance Scores for individual buildings help the County prioritize measures for additional energy upgrades and improvements.

¹ Resolution 447 of 2016 is provided, in full, in Appendix G.

Methodology

This report benchmarks building energy using [EPA's ENERGY STAR Portfolio Manager](#) (EPA PM) application, an online tool with the capability to track energy, water, and waste consumption and which calculates a variety of energy performance metrics as well as GHG emissions. The tool also calculates weather normalized metrics and allows for the comparison of the impacts of weather-related differences year-to-year. More details about the EPA PM application are provided [at Energy Star's Portfolio Manager Technical Reference document for Greenhouse Gas Emissions](#).

Ulster County measures its progress towards GHG emission reductions using data from 2012 as its baseline value. The following section explains how data is compiled and how buildings are selected for benchmarking.

- **Data Compilation and Entry, EPA PM Report Exports:** Energy usage and cost data is obtained directly from fuel vendors through web-based portals or data requests, and/or from the County Department of Public Works (DPW), and is then compiled by DoE staff and re-formatted for entry into EPA PM. The data for each individual utility bill and tank fuel delivery, etc. are manually entered in EPA PM for each fuel type and associated account or meter at each County facility. Summary reports are exported from EPA PM and used to develop the charts and figures included in each annual Building Energy Benchmarking Report.
- **Electric Vehicle (EV) Charging Stations:** Sixteen Ulster County properties have EV charging stations on site, both for public use and Ulster County Fleet use. EV charging stations may be configured to draw energy directly from the building electrical panel (i.e. not separately metered or sub-metered). To avoid attributing EV charging station electricity usage to a building's total energy use, the electricity usage from EV charging station(s) is deducted from building electricity meters in EPA PM. EV charging station data is collected from charging networks and web-based portals. Ulster County government's vehicle fleet and public EV charging station electricity use is reported in the Ulster County Green Fleet Annual Report viewable on the DoE's [webpage](#).
- **On-site Solar Energy Generation:** In 2025, active onsite solar energy generation projects include rooftop solar panels on the county-owned New Paltz Highway Substation salt shed located at the Ulster County Fair Grounds, and the newly installed UCAT rooftop solar array as part of the "Bus Garage of the Future" project. Additionally, the "Ulster Landfill Solar Project", a 1.9 MW DC array at the former landfill site in the Town of Ulster supplies the Ulster County Law Enforcement Center (UCLEC) with local renewably electricity through a remote net metering arrangement. Both the onsite solar arrays and Ulster Landfill Solar Project are considered *Local Renewable* production, and energy produced at these sites count for zero emissions in current methodology. More information about the solar arrays can be found in the solar section below.
- **Fixed Usage Area Lighting:** Eighteen Ulster County properties are billed monthly for utility-provided outdoor area lighting, which is reflected as "*Flat Charge*" usage on the utility invoice for the account and is billed by Central Hudson according to Service Classification Number 5 rates. The cost includes fees for the rental of the lighting equipment from Central Hudson. Where applicable, a property use-type of parking and parking area square footage estimate are entered into EPA PM for improved accuracy in calculating energy use metrics and total greenhouse gas emissions. Per a recommendation from EPA PM, energy use for area lighting is omitted from building energy use. As such, fixed area lighting meters are created and tracked separately in EPA PM for each respective building.

- **Factors and Conversions:** The EPA Portfolio Manager application converts all fuel types to a common energy unit—thousands of British thermal units (kBtu)—to allow for aggregation to calculate whole-building energy use. To do so, EPA PM applies standard thermal conversion factors (Table 1). This conversion allows the comparison of relative magnitudes of energy use across fuel types and buildings.

Table 1: Energy Conversion Factors

Fuel Type	Input Unit	Conversion Factor
Electricity	kWh	3.412 kBtu/kWh
Natural Gas	CCF	102.6 kBtu/CCF
Propane	Gallons	92 kBtu/gal
Fuel Oil (No. 2)	Gallons	138 kBtu/gal
Diesel	Gallons	138 kBtu/gal
Wood	Tons (US)	17,480 kBtu/ton

Adapted from EPA ENERGYSTAR Portfolio Manager

- **Selection of Buildings for inclusion in the Benchmarking Profile:** Ulster County occupies 53 properties as owner, lessee, and lessor.² The 2025 report includes 36 buildings in the *all-building energy snapshot* and tracks 19 buildings as part of a *core buildings* list.
 - **Building Energy Snapshot:** includes all properties with available data for the current year. This includes buildings that were decommissioned or brought online partway through the year. Following previous methodology, this list does **not** include properties where Ulster County leases office space without submetering. In these cases, energy use data for the leased spaces cannot be separated from whole building energy use.
 - **Core Buildings List:** includes buildings with square footage greater than 1,000 feet with sufficient historical data for year-over-year analysis. Core buildings function as office space, public service centers like the DMV and Courthouse, and as law enforcement space, such as the probation office and the Law Enforcement Center. The core buildings account for 85% of all building energy use and have the greatest potential for efficiency upgrades.

For more additional details about this report’s methodology, including how the approach used in 2025 differs from that which was used in 2024, see Appendix A.

² A full list of buildings can be found in Appendix F.

BUILDING ENERGY USE

Energy Sources

Ulster County uses different types of energy for heating, cooling, and powering its buildings. This energy is provided in several forms by 6 different suppliers (Table 2). The County uses electricity to run air conditioning, heating using high efficiency heat pumps, lighting, office equipment like computers and printers, and to power building functions like lighting and elevator equipment. Fossil fuels are used primarily for heating, but also for powering backup generators at critical buildings in the event of a power outage.

Table 2: Energy Type & Suppliers

Energy Type	Supplier	Delivery	Data source
Electricity	Constellation NewEnergy, Inc.	Central Hudson	Web access and bulk data download
	Madison Energy	NYSEG	Web access and bulk data download
Natural Gas	Great American Gas & Electric,	Central Hudson	Web access and bulk data download
Fuel Oil	Bottini Fuel	Bottini Fuel	Customer service request
Propane	Nolan Energy & Sons	Nolan Energy	Customer service request
Diesel	Bottini Fuel	Bottini Fuel	Customer service request

In 2025, 47% of energy used in County buildings was from electricity (40% grid purchase, 7% renewable generation at County facilities). Natural gas supplied 40% of energy used. A small amount of propane (4%) was used, mostly at highway substations and in machine shops. A sizeable portion (10,000 gallons) of Fuel Oil #2 was purchased for UCLEC in advance of the end of year Winter Storms, however only a tenth of this fuel was actually used. A negligible amount of diesel was used to fuel building generators. Over 7% of total energy usage came from renewable electricity generated on site or purchased locally from the Town of Ulster Landfill Solar Array (Figure 1).

Table 3: Annual Fuel Use for 2025 Buildings

Fuel Type	Annual Site Energy Use (kBtu)
Electricity - Grid	28,904,252
(kWh equivalent)	(8,471,352)
Electricity - Local renewable	5,159,029
(kWh equivalent)	(1,512,025)
Natural Gas	28,547,392
*Fuel Oil #2	6,333,924
Propane	3,144,744

*Fuel oil #2 energy use represents energy purchased in 2025, not necessarily energy used. Actual energy use for this fuel is closer to 1.5 million kBtu.

Figure 2: Breakdown of Energy Type

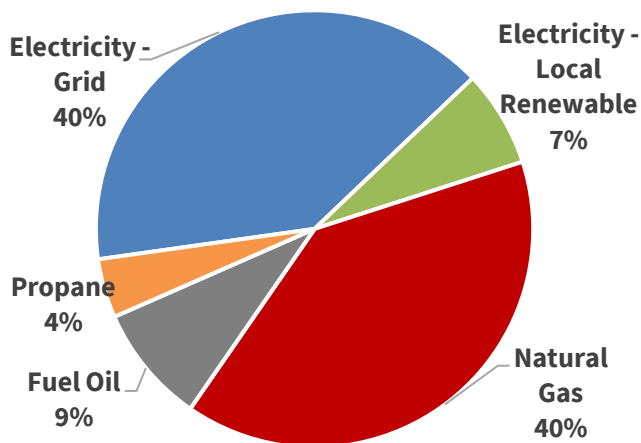


Table 4: Summary of Energy Performance for 36 County Properties

Property Name	Floor Area (sqft)	Source Energy Use (kBtu)	Source EUI (kBtu/ft ²)	Weather Normalized Source EUI (kBtu/ft ²)
21 Elizabeth St	5,742	4,330	1	1
368 Broadway	31,683	2,209,979	68	68
Board of Elections	12,511	749,853	60	60
Carr Building (1 Pearl St.)	5,438	707,077	130	133
County Courthouse	43,650	9,526,587	218	220
County Office Building	62,396	10,384,437	166	168
County Pool / Fairgrounds	7,126	1,670,335	234	236
DSS	74,000	8,740,716	118	120
Emergency Management 911	3,537	1,266,111	358	359
Environment (17 Pearl St.)	4,229	311,591	74	76
Family Court	43,977	6,795,960	155	156
Golden Hill Complex	4,437	292,754	66	67
Golden Hill Office Building	39,600	4,839,941	122	123
Hall of Records	22,550	5,103,587	226	229
Highway Substations Group	53,854	4,226,857	116	118
Information Services	13,174	3,936,201	299	301
Persen House	6,405	41,991	7	7
Probation Office	10,224	2,590,080	253	254
Public Safety Training Center	6,804	334,154	49	50
Public Works Building	10,740	2,018,064	188	190
Quarry Complex	35,000	5,102,916	146	150
Restorative Justice Center	7,370	811,922	110	111
Sojourner Truth Ulster Landing Park	3,198	142,480	45	45
Trudy Resnick Farber	20,732	2,699,686	130	130
UCAT	23,413	4,030,929	172	176
UCLEC (Law Enforcement Center)	277,000	45,791,701	165	167
Van Dale Garage - Fabrication Shop	15,146	859,302	57	57
Veterans Transitional Housing Facility	6,656	449,611	68	70
Building Total	850,592	125,639,151	-	-
Building Average	-	-	148	149

Annual EUI is color-coded based on energy efficiency. Buildings with high energy intensity are marked with red. The average annual EUI for all buildings (bottom row) is calculated by dividing the total building energy use by the total benchmarked square footage.

Building average EUI is calculated by dividing total energy use by total square footage.

Energy Snapshot – 2025

The 36 buildings included in this benchmarking report used a total of 125.6 million kBtu of source energy (compared to 72 million kBtu of site energy; Appendix C). This energy use, applied across the 850,000 square feet of included floor space, equates to an average Energy Use Intensity (EUI) of 148 kBtu/sqft. The weather normalized EUI, which adjusts EUI based on variations in annual weather, was 149 kBtu/sqft, indicating that buildings used slightly less power in 2025 than they typically would have in an average year.

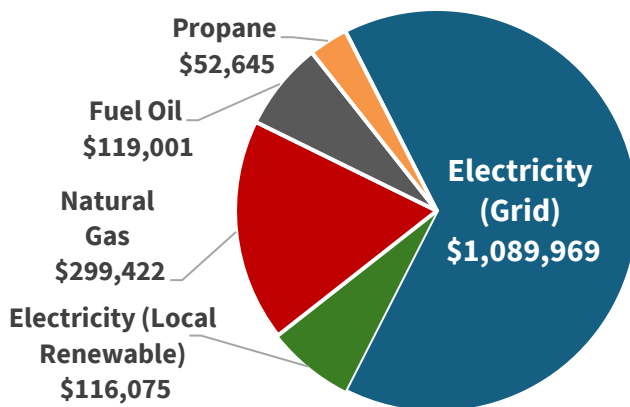
As expected, the three buildings with the largest absolute energy use are also the three biggest buildings: the Ulster County Law Enforcement Center (UCLEC), Department of Social Services (DSS) -excluding the adjacent Family Court building, and the County Office Building at 244 Fair St. in Kingston (Table 4). These three buildings account for nearly 60% of all County building energy use and half of total floor space. The top eight highest use buildings account for 80% of all building energy use.

Some buildings in Ulster County’s portfolio are more energy-intensive than others, on both a building-by-building and square footage basis. These include Emergency Management, the Hall of Records, Information Services, and UCLEC. These buildings have a higher-than-average EUI because building hours are longer than average and/or building needs are generally more energy intensive than others in the County portfolio.

As in previous years, the County operates 18 outdoor lights in parking lots and public spaces. These “fixed area lights” are LEDs that operate continuously at nighttime throughout the year. Central Hudson charges a fixed cost per light. In 2025, the 18 fixed area lights used 94,300 kWh of grid electricity (322,000 kBtu) and cost \$36,500. This energy use is not directly associated with building energy use. For comparison, this energy use amounts to the equivalent of 0.26% of the County’s total building energy use.

Energy cost

Figure 3: Energy Cost by Type



The County spent \$1,677,112 on energy for building operations in 2025. Electricity accounted for the largest share of these costs, totaling \$1,206,043 between grid purchased electricity through Central Hudson and Energy Service Company (ESCO) agreements, community distributed generation (CDG) agreements, and the power purchase agreement with the Ulster County Landfill Solar Array. Fossil fuels accounted for the remaining \$471,000 in expenses (Figure 3).

In 2025, all bulk-delivery fossil fuels (propane, fuel oil, and diesel) were more expensive per unit of energy than either electricity or natural gas. Of these two fuels, natural gas is less expensive than grid purchased electricity.

The most cost-effective energy source is onsite generated solar, which, after a 7-to-10-year payback period, provides power at no added cost for the remainder of its lifespan. Many new solar systems can achieve an average cost of \$0.04 per kWh over their 30-year lifespan. Further efforts to reduce reliance on delivered fuels and transition to onsite and locally sourced electric energy will create savings in the County's operational budget.

Energy cost projections for next year (2026)

Renewable electricity is an important component of a price stable energy supply, both now and in the future. Looking forward to 2026, natural gas supply prices increased dramatically from an average 2025 cost of \$0.64 per hundred cubic feet (ccf) to \$1.03 per ccf in February 2026. Prices remained over a dollar through July 2026. At a 61% increase in just two months, this dramatic swing in price indicates the vulnerabilities of reliance on volatile fossil fuels, and we expect the County will spend more on natural gas in 2026 than any other year. This issue of price volatility also affects other delivered fossil fuels and can in turn affect an electric grid overly reliant on fossil fuel generation.

The 2025 electric grid is also subject to price instability due to system constraints; during the June 2026 heat wave, the price per MWh of grid electricity jumped from \$43/MWh to over \$453 for several hours. Until additional transmission lines are built to alleviate grid stress and reduce so-called "congestion pricing," from periods of peak demand, the most price stable form of energy supply will to be local renewable energy.

Trends in Energy Use – Core Buildings

Buildings that largely house essential County operations, services and programming are considered “core buildings.” Nineteen core buildings were identified for this report and were chosen because of access to reliable historical data, completion of energy efficiency and electrification projects, the opportunity for future projects, and significance in the total energy use of the entire building portfolio. Energy use was analyzed for each for all available years since 2012. These buildings serve as a proxy for tracking trends in energy use and cost over time and thus are the subject of closer analysis and recommendations.

Some of Ulster County’s most energy-intensive buildings show remarkable improvements in energy efficiency. For example, the Information Services (IS) building, has halved its energy use since 2012. Additional progress can be expected through the continued implementation of the recommendations from the County’s Onsite Energy Manager (OsEM) project (Appendix I), and through further implementation of Executive Order 1 of 2023.

Reductions in both site energy and source energy demonstrate that Ulster County is making significant steps toward reaching its sustainability goals through building efficiency and choices in energy source. Between 2012 and 2025, site energy EUI declined by 10% and source energy EUI declined by 22% over the same period (Figure 4).

A decline in site energy use indicates that individual buildings are operating more efficiently, using less energy to heat, cool, and power operations. In Ulster County’s buildings, this trend is due to weatherization improvements, which keep building heat inside in the winter and keep heat outside in the summer, high efficiency appliances like heat pumps, which operate two to five times more efficiently than conventional heating systems, LED lighting replacements, and building management strategies which reduce energy consumption during non-essential hours.

Reductions in source energy indicate that, in addition to reductions in on-site energy use, the upstream energy required to deliver energy to County buildings has decreased significantly. This is due to the development of more efficient power plants in the electric grid, and shifts towards more sustainable energy choices at the County level (Table 5). Most notable is onsite solar generation, which transfers 100% of generated power to onsite energy use.

Figure 4: Annual Energy Use Intensity

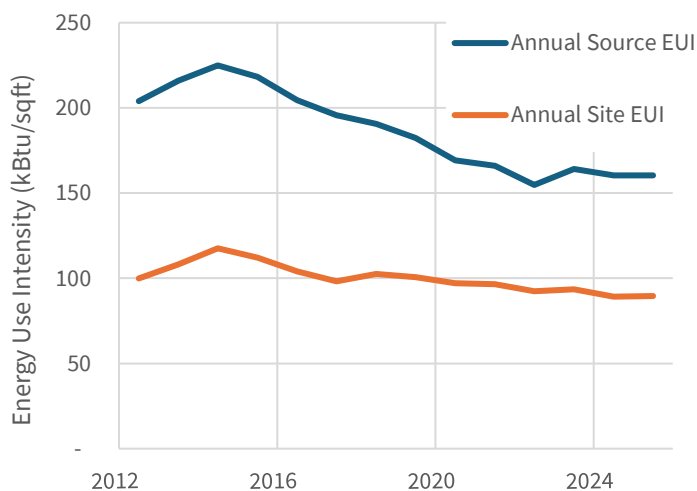
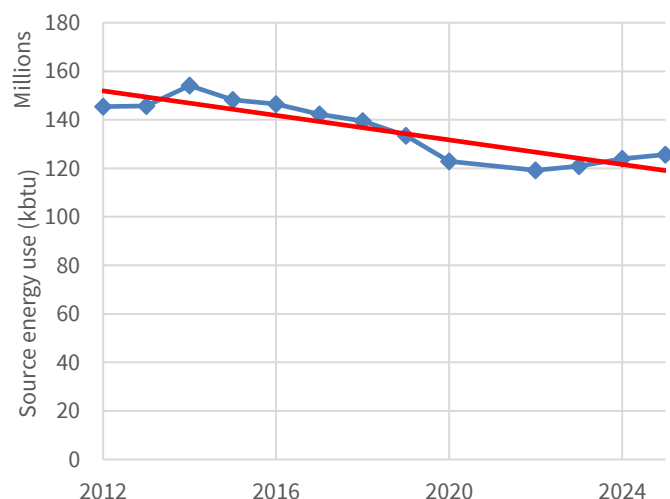


Figure 5: Source Energy Use by Year



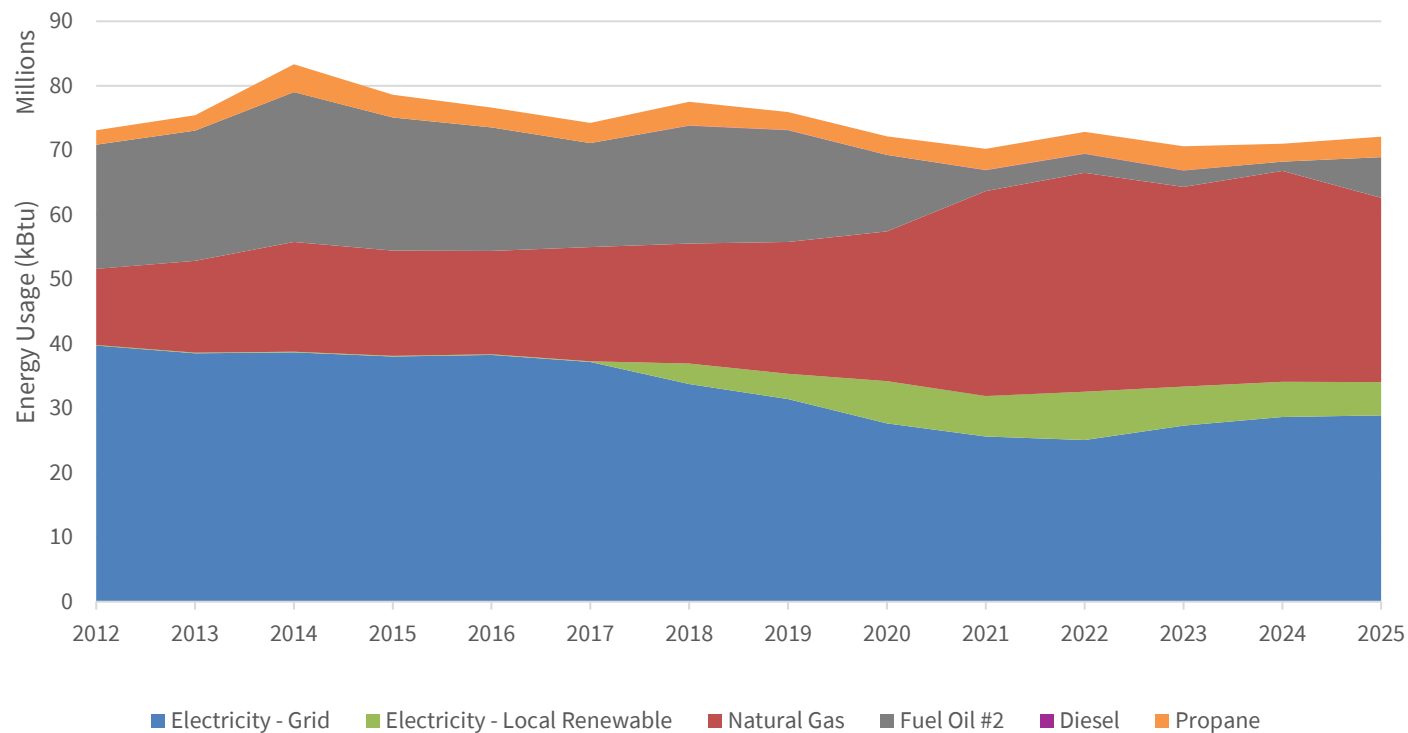
Since 2012, the County has seen a significant shift away from delivered fossil fuels, especially Fuel Oil #2, a heating oil (Table 5). Fuel Oil #2 has been almost entirely replaced by natural gas heating and energy-efficient electric heating systems at buildings across the County. This shift began in 2019 (Figure 6), and today only four buildings use Fuel Oil #2. The upcoming electrification project at Trudy Resnick Farber will see a further reduction in annual fuel oil purchases by 48%.

Table 5: Energy Use Breakdown 2012 vs 2025

Energy type	2012	2025
Electricity - Grid	54%	40%
Electricity - Onsite solar	0%	1%
Electricity - Local purchase	0%	6%
Natural Gas	16%	40%
Fuel Oil #2	26%	9%
Propane	3%	4%
Diesel	0%	0%

In advance of the 2025 winter storm, the building manager at UCLEC purchased 10,000 gallons of Fuel Oil #2 to use as backup heating in the event that the natural gas delivery systems failed. Because Portfolio Manager considers purchases as energy use, this resulted in an apparent increase in fuel oil #2 usage in 2025. In reality, only 10% of purchased fuel oil was used in 2025.

Figure 6: Energy Use History Year over Year



Local Solar Investments

The County has developed significant solar capacity, beginning with a 25 kW rooftop solar system at the New Paltz substation in 2011. The County then commissioned a 1,900 kW solar array located in the Town of Ulster in 2018. The County owns the Renewable Energy Credits (RECs) generated by this array, and purchases electricity from the supplier at a discounted price. These RECs are retired by the County in the New York Generation Attribute Tracking System (NYGATS) annually. In 2025, the County installed rooftop solar at the Ulster County Area Transit (UCAT) bus station. This solar array is rated at a capacity of 204kW-DC, and generated 135,000 kWh of electricity between May and December of 2025. As of December 2025, the County owns solar generation equal to 2.3 GW-DC.

Additional rooftop solar projects have been installed in 2026 including a 100 kW rooftop array at the Hall of Records. In 2027, onsite solar arrays will be installed at DSS (447kW), Trudy Resnick Farber Center (96kW), the Department of Public Works building (125kW), and the upcoming Emergency Communications Center in New Paltz (213 kW-combined rooftop and ground-mount). The capacity of active and planned onsite County solar projects totals 1,231 kW and would be capable of generating an estimated 1.5 million kWh per year.

- The solar panels on the salt shed at the New Paltz Substation (installed in 2011) account for approximately 75% of the annual energy demand of the facility through a net-metering agreement with Central Hudson. The County receives credits for kWh generated beyond what is attributed to building energy usage. Due to Central Hudson's protocol for tracking net metering in 2025, actual energy usage data was unattainable for the New Paltz Substation. As a result, building energy usage data and annual solar production is estimated year to year. It is anticipated through newly established protocol for analog meter reading, the 2026 Building Benchmarking Report will include actual annualized electricity generation from the panels.
- In 2018, the County commissioned the Ulster Landfill Solar Project, a 1.9 MW DC array at a closed landfill site in the Town of Ulster. The electricity generated by the array is applied to County utility invoices through a remote net metering arrangement. In 2025, the array generated enough electricity to cover 33% of the Ulster County Law Enforcement Center's (UCLEC) electricity needs, or approximately 15% of all electricity usage for benchmarked buildings and 7% of energy usage for benchmarked buildings. The array is owned and maintained by Madison Energy Infrastructure and the decommissioned landfill site is owned by Ulster County Resource Recovery Agency (UCRRA). This project is a successful model for utilizing closed brownfield sites for renewable energy projects and solar energy generation. Read more about County renewable energy generation projects on the County's [website](#).
- In 2020 the County launched a NYPA managed "Bus Depot of the Future Project" at its Ulster County Area Transit (UCAT) headquarters on Golden Hill in Kingston. In addition to 12 DC (level 3) fast charging stations and four dual level 2 charging stations, the project included installation of a 204kW DC rooftop solar system for renewable electricity generation, and a 400kW back-up generator for resiliency in case of power outages. The rooftop solar array became active in April 2025 and provided 37% of the UCAT building electricity demand for the year. The "Bus Depot of the Future" project is supported by NYSERDA, NYS Department of Environmental Conservation (NYSDEC), Dormitory Authority and the Central Hudson EV Make Ready program funding.

Table 6: Source EUI Year over Year

Building	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
368 Broadway	0	0	0	0	0	0	0	0	0	0	10	0	60	68
Board of Elections	0	0	0	0	0	0	0	0	0	0	0	8	64	60
County Courthouse	178	176	179	188	176	180	204	216	196	241	214	208	201	218
County Office Building	192	203	206	202	188	186	191	184	163	153	159	162	160	166
County Pool / Fairgrounds	94	101	156	107	117	100	132	116	144	190	150	114	91	234
DSS	125	137	144	135	143	146	153	160	141	144	143	139	134	118
Emergency Management 911	426	457	435	435	436	414	468	479	463	538	396	392	415	358
Environment (17 Pearl St.)	75	111	108	97	76	83	79	63	60	71	83	76	71	74
Family Court	0	0	0	0	0	0	0	157	161	0	183	166	182	155
Golden Hill Office Building	163	166	169	185	156	157	175	161	154	98	145	136	137	122
Hall of Records	290	333	351	320	288	238	258	241	231	0	210	209	211	226
Information Services	566	558	543	535	531	454	436	364	323	0	318	289	282	299
Probation Office	249	291	283	241	209	201	239	233	227	217	194	210	214	253
Public Works Building	171	171	184	167	149	177	186	221	226	232	220	230	185	188
Restorative Justice Center	31	25	35	46	53	61	65	112	123	136	107	123	121	110
Trudy Resnick Farber	214	204	213	230	178	177	167	175	171	162	117	114	131	130
UCAT	197	214	230	226	198	212	198	168	163	137	167	189	174	172
UCLEC (Law Enforcement Center)	232	234	247	236	234	221	201	177	161	181	146	164	166	165
Building Average	191	189	197	191	192	183	179	171	159		152	157	160	160

*Averages for 2021 are excluded due to lack of available data.

**When calculating the annual average, only the 19 core buildings were included. Buildings that came online late in this time series, like Family Court, 368 Broadway, and the Board of Elections, only contribute to the annual average in years where energy was expended on site (>0). These buildings did not contribute energy use or square footage to the 2012 average, for example.

Building Highlights

Information Services

Information Services has shown one of the most significant improvements in energy efficiency of any building in the County's portfolio. Since 2012, the building's site energy use intensity has fallen from about 224 kBtu per square foot to about 130 kBtu per square foot in 2025, a decline of roughly 42 percent. Most of these improvements took place between 2016 and 2019, when energy use intensity dropped sharply before leveling off at a lower level in the years since. Emissions from the building followed the same pattern, falling by close to 60 percent since 2012.

This progress is largely the result of system and technology upgrades made at the building over time. Both electricity and natural gas use have declined together across the years, suggesting the improvements were not limited to a single fuel type or system, but reflect broader upgrades to the equipment and technology serving the building.

This is demonstrative of how procurement of energy efficient equipment can positively impact building health and performance. As one of the County's more energy intensive properties due to its extended operating hours and technological needs, Information Services stands out as an example of how targeted upgrades can meaningfully reduce a building's energy footprint over time, even when the building's function requires more energy per square foot than a typical office.

UCAT

Site Energy Use rose from about 2.1 million kBtu in 2024 to about 2.5 million kBtu in 2025, largely tied to the abnormal energy demands caused by a cold winter. Looking at the weather normalized source energy use tells a more accurate story. That metric, which adjusts for year-to-year swings in weather, declined slightly from about 4.2 million kBtu in 2024 to about 4.1 million kBtu in 2025, continuing a broader downward trend since 2012, when the building used close to 5 million kBtu. This suggests that much of the apparent increase in raw energy use is tied to weather variation and the timing of new electric equipment coming online, rather than the building becoming less efficient.

Figure 7: Information Services Site EUI

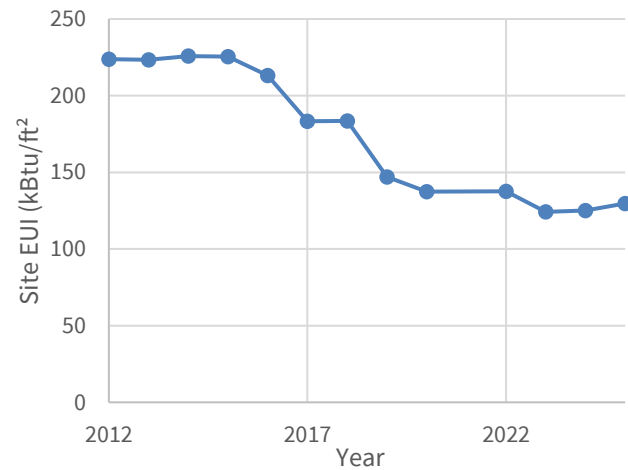


Figure 8: UCAT Weather Normalized Source Energy Use

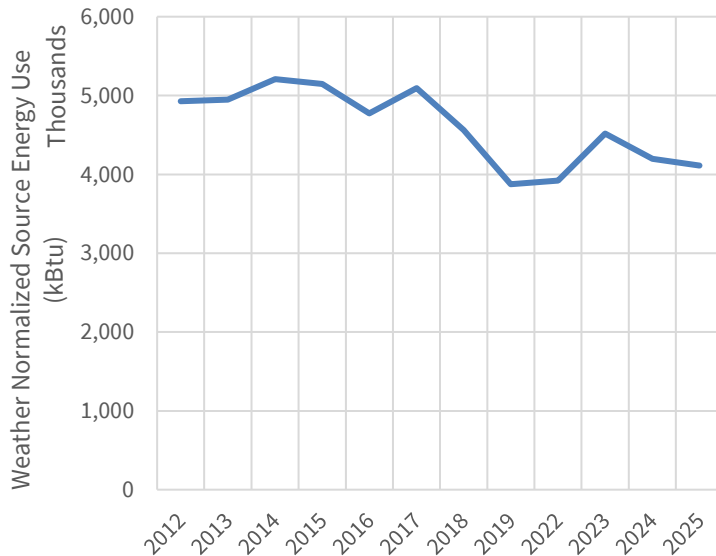
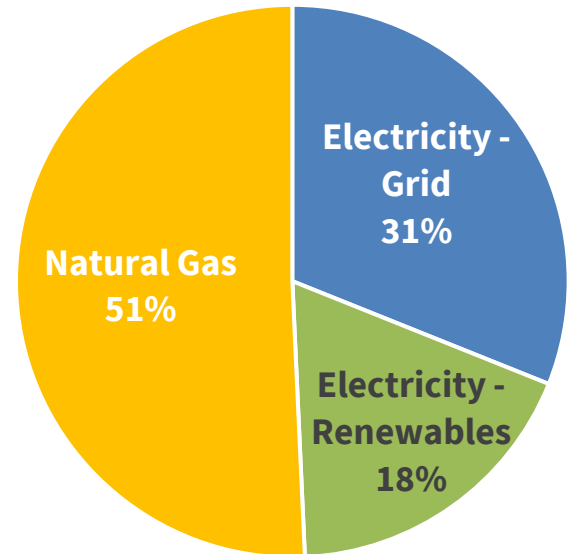


Figure 9: UCAT 2025 % Energy use



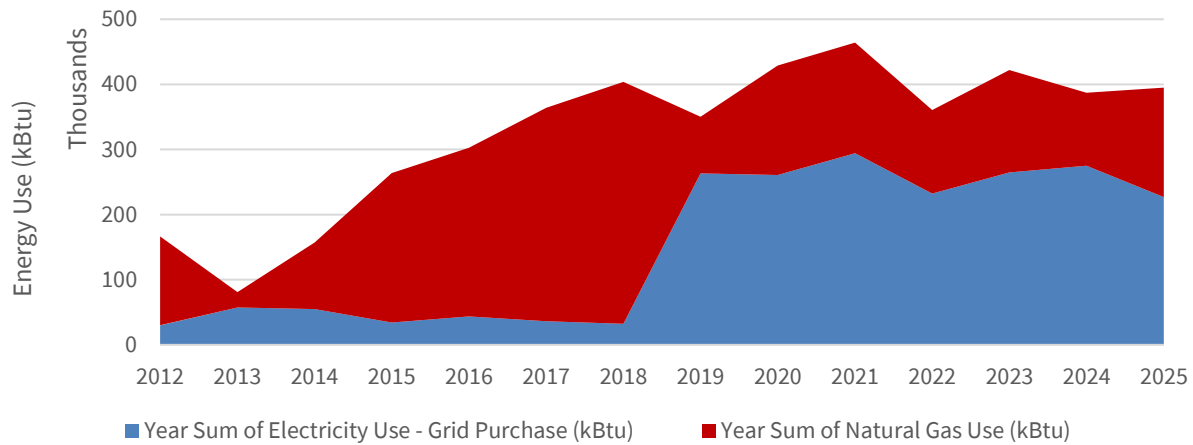
The addition of a 204kW DC rooftop solar panel array at the UCAT facility, a component of the Bus Depot of the Future project, adds an important piece to this story. In 2025, the building began generating 32% of its electricity needs on site through the solar array. Total greenhouse gas emissions ticked up slightly from about 90 metric tons in 2024 to about 94 metric tons of carbon dioxide equivalent (CO₂e) in 2025 largely due to natural gas usage. However, greenhouse gas emission offsets from the onsite solar generation did help keep that increase modest as the solar generation offset 15 metric tons of CO₂ equivalent from the building's total greenhouse gas emissions. Emissions in 2025 are well below the levels seen in prior years when the building produced upward of 140 to 150 metric tons of GHG emissions annually, demonstrating the County is on a year-over-year trend of lowering emissions.

The Bus Depot of the Future Project provides a strong foundational approach of synergistic investments in both renewable energy through the rooftop solar array and electrification infrastructure through installation of electric bus and passenger vehicle chargers. 2026 brings on the first full year to observe this now complete project in action. UCAT is well positioned to see further reductions in both energy use and GHG emissions in the years ahead.

Restorative Justice Center

The Restorative Justice Center has one of the relatively smaller energy footprints among the buildings highlighted in this report, but is an exemplary story for electrification improvements. Electricity use at the building rose sharply starting in 2019, climbing from roughly 50,000 kBtu from 2012 to 2018 to over 260,000 kBtu from 2019 onward. This sharp increase in electricity usage is contributed by [increased programming and remodeling](#) of the building in 2018 into the active community asset it is today. Natural gas use shows an increasing trend from 2012 onwards, peaking in 2017 and 2018 and then shifting downwards. This shift reflects the building's transition toward electric heating and cooling equipment in place of fossil fuel systems through heat pump installations. As a result, the building's overall energy use pattern looks different today than it did a decade ago, with electricity now making up the majority of its energy use rather than natural gas. The overall increase in total greenhouse gas emissions, reflects the increased total energy usage due to expanded engagement.

Figure 10: Restorative Justice Center Energy Use by Year and Energy Type



In 2025, the County invested in heat pump upgrades to the Restorative Justice Center and adjoining Probation Building with installations occurring from June 2025 to January 2026. The combined cost of the project amounted to approximately \$800,000 and was largely funded through the County's Decarbonization Capital Reserve Fund established in 2023, as laid out in the 2024-2029 proposed Capital Improvement Program. As older gas-based heating equipment has been phased out in favor of electric systems, the building has become far less reliant on fossil fuels for day-to-day operation. As it stands, in 2025, the Restorative Justice Center and Probation Buildings are the only two County owned facilities utilizing air source heat pumps as its primary heating and cooling system.

The Restorative Justice Center is a strong example of how electrification can reshape a building's energy profile, trading a fossil fuel heavy usage pattern for one built around cleaner electric equipment, and it points to the kind of progress the County hopes to see as similar upgrades are extended to other buildings in its portfolio. For 2026 onwards, the County has projects to expand this technology to other buildings and reduce reliance on fossil fuels.

UCLEC

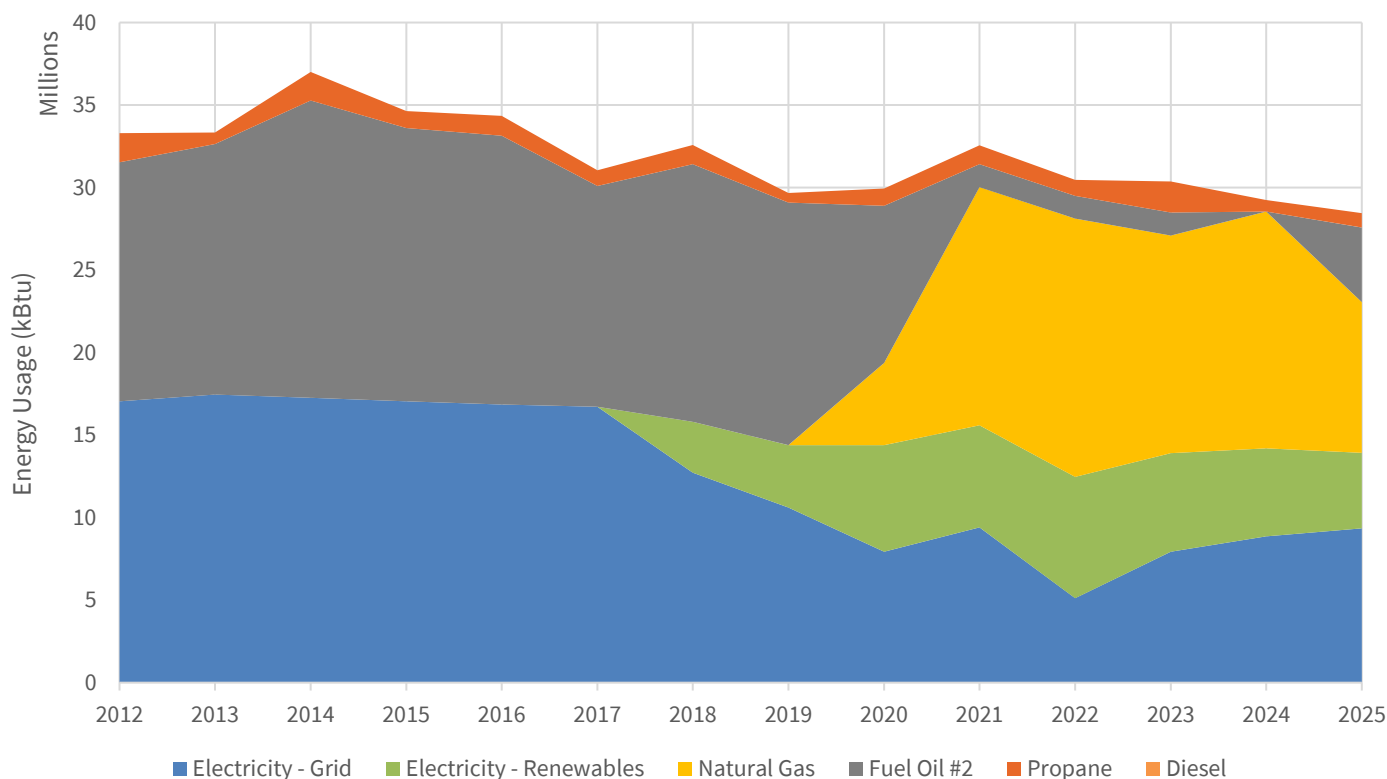
The Ulster County Law Enforcement Center (UCLEC) remains the single largest energy user in the County's entire building portfolio, by a wide margin. At 277,000 square feet, the facility is roughly four times larger than the second largest building in the County's inventory, and its 24/7 operation results in relatively high levels of energy consumption. The building's greenhouse gas emissions substantially exceeds other County properties, as well. Consequently, even modest improvements or work on efficiency at UCLEC yield substantial reductions in energy consumption and cost, underscoring the facility's high significance to the County's broader energy management efforts.

A central factor in UCLEC's improved emissions performance is the commissioning of the Ulster Landfill Solar Project, a 1.9-megawatt array placed at a former landfill site in the Town of Ulster, owned by Ulster County Resource Recovery Agency. The solar array became active in 2018 through a remote net metering agreement with the then provider. Since initial activation, electricity generation from the solar array has grown to represent a substantial share. In 2025 this amounted to 16% of the UCLEC building's overall energy usage, with the solar array generating approximately 4.5 million kBtu of renewable electricity. This local generation accounted for an impressive 59% of the building's total electricity needs in 2025. The 4.5

million kBtu of electricity generated equates a reduction in greenhouse gas emissions of 145 metric tons of CO₂ equivalent from the County's total emissions. The Ulster Landfill solar project is very significant to the County as the electricity generated locally from solar power would otherwise be purchased from the grid. Along with the large cost saving, there are no direct emissions associated with generating electricity from solar.

Through a contract with the solar energy provider Madison Energy, the County owns the rights to the renewable energy credits (RECs) of the Ulster Landfill Solar Project, which are retired annually through the New York Generation Attribute Tracking System (NYGATS). NYGATS renewable energy credits can be retired and offset greenhouse gas emissions for the County building portfolio. Thus, the integration of locally generated solar into UCLEC's building operations has meaningfully reduced UCLEC's green house gas footprint, even as the facility continues to operate at a consistently high level of energy demand.

Figure 11: UCLEC Energy Use by Year and Energy Type



In addition to the Ulster Landfill Project, a systematic phase out of fuel oil #2 as an energy source is underway at UCLEC and other County buildings. Fuel oil #2, a heavy heating oil requiring onsite storage tanks and periodic tanker deliveries, is both more carbon intensive and more costly than natural gas, historically running roughly two to three times the cost per unit of energy at UCLEC. In 2012 fuel oil #2 usage totaled approximately 14.5 million kBtu, second to only grid purchased electricity, to roughly 1.4 million kBtu between 2021 and 2023. In 2025, it rose back up to 3.5 million, attributable to unusually severe weather during the year rather than any reversal of this underlying trend. Even with this uptick, fuel oil #2 use remains down nearly 69% from the 2012 baseline. Taken together, the addition of local solar generation and the reduction of fuel oil #2 use account for much of the sustained decline in UCLEC's greenhouse gas emissions, which fell from 2113.5 metric tons of CO₂e in 2012 to 1175.6 metric tons in

2025, a reduction of 44%, while the facility’s source energy use intensity declined by nearly 29 percent over the same time period.

GREENHOUSE GAS EMISSIONS

This report assesses the climate impact of building operations through the County’s annual greenhouse gas emissions. Per Executive Order 1 of 2023, the County’s goal is to reduce its building greenhouse gas emissions by 85% by 2050.

Methodology

Greenhouse gas (GHG) emissions estimates were calculated using EPA standard emissions factors (Table 6). These factors assume a 100-year global warming potential and convert the climate impact of various GHGs to the carbon dioxide equivalent (CO2e).³ These factors are applied to the site energy consumption values to calculate annual emissions.

Table 6: GHG Emissions Conversion Factors in 2025⁴

Fuel Type	Conversion Factor (kg CO2e/MMBtu)*
Electricity (eGRID Region: NYUP, 2023 data)	32.27
Electricity (onsite and local renewable Green Power)	0.00
Natural Gas	53.11
Heating Oil (No. 2)	74.21
Propane	64.25
Diesel Fuel	74.21

*1 MBBtu = 1,000 kBtu

Findings

GHG emissions from benchmarked Ulster County buildings decreased 32% since 2012 (Table 7). Most buildings have made significant improvements in the intervening years, with common reductions of 30% or greater. Crucially, a heating retrofit at the Ulster County Law Enforcement Center reduced its emissions by 44%, accounting for a reduction of over 1,000 MTCO2e annually. Only five buildings produce more emissions in 2025 than they did in 2012 (Table 7). Yet, today, these buildings offer more services to the public than in the early 2010s, and the cumulative increase in GHGs is just 66 MTCO2e.

³ The 2023 emissions factor, which is the most up-to-date factor, can be used in 2025 as part of a standard EPA benchmarking methodology.

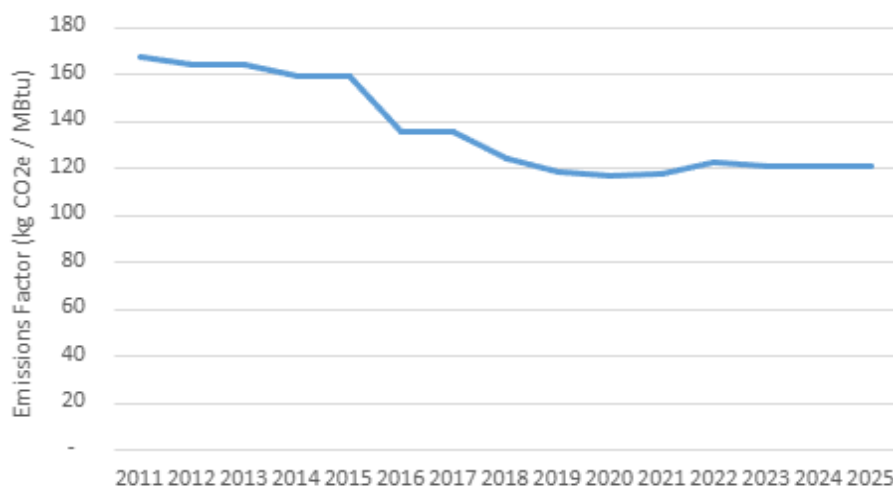
Since 2012, Grid-purchased electricity has become cleaner as less power is generated from coal. The 2023 electricity generation emissions factor is an improvement over 2022, when electricity became more carbon-intensive following the closure of Indian Point nuclear facility.

⁴ Retrieved from: <https://portfoliomanager.energystar.gov/pdf/reference/Emissions.pdf>

Fossil fuel emissions factors remain constant year-to-year: one MBBtu of diesel will always release greenhouse gases equivalent to 74.21 kilograms of CO2. The emissions factor for grid electricity, however, changes annually based on the fuel sources used for electricity generation in the New York Upstate (NYUP) grid. This report uses the NYUP emissions factor from 2023, the most currently available as of the writing of this report. In 2023, 32.27 kilograms of CO2e were produced for each MBBtu of electricity generated.

Ulster County sources its grid electricity from the New York Upstate (NYUP) grid. This grid has seen significant improvements to its greenhouse gas emissions since 2012 (Figure 12). As a result, the County is well-poised to reduce its GHG footprint through further electrification upgrades and retrofits, as the NYUP electricity emissions factor is significantly lower than any fossil fuel alternative (Table 6).

Figure 12: Greenhouse Gas Emissions Factor for NYUP Grid



Data retrieved from <https://www.epa.gov/climateleadership/ghg-emission-factors-hub>

Decarbonization Fund

In 2023, the Ulster County Legislature approved Resolution No. 702-2023, establishing the Decarbonization Capital Reserve. The eighteen million dollar fund supports capital projects included in the 2024-2029 Capital Improvement Program that upgrade aging fossil-fuel infrastructure, electrify county buildings, and improve energy efficiency. The resolution requires that energy reporting data is included in this annual report (Appendix I).

Projects supported by Decarbonization Capital Reserve include:

- Development Court Office Complex: onsite solar array (447kW) in the amount of \$1,139,613.00;
- Department of Public Works Office Building: solar array (125kW) in the amount of \$335,387.00;
- 733 Broadway/Restorative Justice Center & Probation: HVAC improvements in the amount of \$1,870,000;
- Hall of Records Building: rooftop solar array (100 kW) in the amount of \$120,000.00;
- Trudy Resnick Farber Building: rooftop solar array (96kW) in the amount of \$275,000.00

Table 7: Greenhouse Gas Emissions at Core Buildings (MTCO2e)

Building	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	% change 2012-2025
368 Broadway	-	-	-	-	-	-	-	-	-	-	8	-	34	45	-
Board of Elections	-	-	-	-	-	-	-	-	-	-	-	4	14	13	-
County Courthouse	188	192	187	197	156	163	191	203	173	213	213	197	181	204	9%
County Office Building	316	350	334	321	270	277	262	248	225	208	195	215	203	214	-32%
County Pool / Fairgrounds	19	24	51	23	26	19	25	19	21	23	14	14	15	34	84%
DSS	222	266	292	259	250	265	262	288	248	265	254	240	246	243	10%
Emergency Management	31	34	29	31	25	25	26	23	24	27	24	21	23	22	-29%
Environment	12	18	17	15	12	12	12	10	9	10	13	12	11	11	-14%
Family Court	137	-	-	-	138	120	97	151	167	-	204	167	192	143	4%
Golden Hill Office Building	144	151	149	172	114	116	117	102	94	69	102	89	89	81	-44%
Hall of Records	166	200	205	186	141	113	113	120	114	-	109	100	100	114	-31%
Information Services	160	160	148	148	117	101	93	68	67	-	75	62	64	65	-59%
Probation Office	68	85	79	65	51	49	55	55	51	49	50	43	47	52	-24%
Public Works Building	43	47	48	42	32	44	42	55	53	55	55	52	35	38	-11%
Restorative Justice Center	9	4	8	14	15	19	21	13	17	18	15	17	15	16	83%
Trudy Resnick Farber	171	176	183	205	152	151	134	132	126	109	85	62	80	99	-42%
UCAT	135	151	145	139	110	119	104	100	83	72	102	94	90	94	-30%
UCLEC	2,114	2,122	2,287	2,128	1,950	1,712	1,767	1,574	1,487	1,428	1,451	1,369	1,264	1,176	-44%
Grand Total	3,934	3,979	4,162	3,945	3,559	3,305	3,319	3,160	2,958	2,547	2,967	2,759	2,703	2,665	-32%

This table compares GHG emissions for the benchmarked County buildings from 2012 to 2025. As of 2025, Total building GHG emissions have been reduced by 1,269 metric tons of CO2e per year. The final column in this table shows the percentage change from the baseline year 2012. Most properties reduced their GHG emissions (highlighted in green).

* Actual emissions at UCLEC in 2025 are lower than depicted in Table 8. Just 10% of the Fuel Oil #2 purchased in 2025 was used.

RECOMMENDATIONS FOR BUILDING ENERGY EFFICIENCY IMPROVEMENTS AND UPGRADES

- **RECOMMENDATION #1:** Implement high-priority recommendations from the 2025 Onsite Energy Manager (OsEM) Report

Per Resolution No. 117 of 2023, Ulster County obtained services of an Onsite Energy Manager (OsEM) to improve energy efficiency and reduce greenhouse gas emissions in County buildings by “delivering energy, process, and operational improvements.” The County contracted with Guth DeConzo Consulting Engineers P.C. as the OsEM through a NYSERDA-funded pilot program. This project was 75% funded by NYSERDA and 25% funded by Ulster County.

The goal of the project was to attain a 3% reduction in electricity usage and a 3% savings in fossil fuel energy usage (Appendix H). To achieve this, the OsEM identified Energy Conservation Measures (ECMs) that could be implemented by the County to reduce energy use. In collaboration with the County’s Department of Public Works (DPW), the OsEM project began implementing cost-effective EMCs. By the time of the project’s completion in late 2024, the County had surpassed its project goals, reducing electricity usage by 5.4% and fossil fuel usage by 8.1%, leading to an annual dollar savings of \$111,900.

While the OsEM project exceeded initial goals, the OsEM report identified many additional ECMs that the County could pursue. Combined, the ECMs identified in the OsEM report could reduce electricity usage by 19.4% and fossil fuel use by 25.5%, saving the County \$384,000 annually. **The Department of the Environment recommends the following strategies as top priorities, due to the quick return on investment and ease of implementation:**

- Scheduling Building Management Systems (BMS) to operate heating, cooling, and lighting in “unoccupied modes during hours of limited or no occupancy.” This would reduce energy expenditure during hours when energy use is not necessary.
- Ensure that BMS contractors are meeting agreed upon contractual requirements and maintaining systems for effective energy efficiency.

The OsEM report recommends dozens of ECMs with a payback period of less than one year. If prioritized by County staff and implemented, these projects could significantly reduce energy usage and save on operational costs within a year of implementation (Appendix H).

- **RECOMMENDATION #2:** Investigate the constraints of parking lot solar arrays, and develop strategies to address these challenges

The County has access to dozens of parking lots. These spaces can be well-suited for solar arrays, because the spaces are already disturbed and often receive many hours of direct sunlight. The County should research the specific constraints involved with developing, installing, and maintaining solar arrays in parking lots, and subsequently develop strategies to overcome the constraints. These strategies could involve changing parking lot development requirements in County funded projects

to future-proof the space and allow for the possibility of a future solar installation. The “[Black Gold](#)” program developed by Westchester County could serve as a model.

- **RECOMMENDATION #3:** When economically practicable, pursue additional Power Purchase Agreements with third party producers to develop local renewable energy systems.

The electricity currently purchased through the grid costs an average of \$0.13 per kWh. The Power Purchase Agreement (PPA) at the Ulster County landfill allows the County to purchase electricity for \$0.08 per kWh. By pursuing additional projects of this scope, the County can save 39% on grid electricity, reduce emissions to zero, and lower transmission losses for a more efficient grid system.

- **RECOMMENDATION #4:** Pursue low cost onsite solar development and track cost-competitive levelized cost of energy.

Levelized Cost of Energy (LCOE) is the average lifetime cost per kWh for an energy system, including cost of construction and operations. New utility-scale solar arrays have an LCOE as low as \$0.03/kWh, and average \$0.05/kWh, with residential systems ranging between \$0.08 and \$0.14/kWh. The County should determine opportunities for cost savings in solar installations and leverage its purchasing power to achieve cost competitive LCOEs in solar installations wherever possible. The Department of the Environment should work closely with Department of Public Works and the Department of Finance to identify factors that lead to the current LCOE in current and future County-funded projects.

- **RECOMMENDATION #5:** Continue to utilize and grow the Ulster County Restricted Capital Reserve Fund - Decarbonization Capital Reserve Fund

In 2023, the Ulster County legislature passed Resolution 702-23 to create a Decarbonization Capital Reserve Fund with the purpose to finance “capital projects that improve energy efficiency in County buildings and operations, or that replace fossil fuel-reliant HVAC and other equipment at the end of useful life with clean, energy-efficient technologies.” (Appendix I). This fund is a powerful mechanism to ensure capital projects are realized with comprehensive building health and climate considerations with reduced financial limitations. The fund can be utilized to implement the ECMs laid out in the OsEM project in fulfillment of Recommendation #1 of this Report. Lastly, as cost savings are calculated and realized from completed energy efficiency improvements and retrofits, consider attributing such savings, or a portion of, to the Decarbonization Fund to sustain fund longevity into the future.

- **RECOMMENDATION #6:** Develop a climate dashboard to display progress towards net zero emissions and showcase County projects

Ulster County's progress towards a net zero emissions government operations is substantial. The County's energy efficiency projects can serve as case studies for municipalities, local commercial entities, and members of the public.

- **RECOMMENDATION #7:** Utilize the building master spreadsheet to keep track of electrification projects so that specific analysis can be done to show impact of specific electrification or weatherization projects

Through the added capacity of a 2026 Climate Corps Program intern, the Department of the Environment has created a master spreadsheet that tracks each building and utility account across different sites. This system is designed to keep all relevant information for building benchmarking analysis in one easy-to-access location. The master spreadsheet is equipped to store the location, date, and type of energy efficiency/electrification project and other attributes on a building-by-building level. By utilizing this data management tool, the County's Annual Benchmarking Report will better be able to assess the energy and financial impacts of energy projects. This will require engagement with the County's Electrification Working Group and collaboration from various County departments within including the Department of Environment, Finance, and Department of Public Works.

- **RECOMMENDATION #8:** Create an internal building performance rating system

As shown in this report, some County buildings use significantly more energy per square foot than others, including Emergency Management, the Hall of Records, Information Services, and UCLEC. Currently, this information exists in the Benchmarking Report's tables, but there is no simple way to compare buildings at a glance or track how a building's standing changes from year to year. ENERGY STAR Portfolio Manager has an internal rating system, Energy Star Score, which can be faulty and needs very specific information to be completed, leading to further need for estimation. Ulster County could create its own broader internal rating system using the building-by-building energy data already gathered for the Benchmarking Report. Each building could be assigned a simple rating, for example, a letter grade or rating, based on its weather-normalized energy use per square foot compared to similar buildings in the County's portfolio. This rating would be recalculated each year, so that building managers, department heads, and County leadership can see immediately, in a tangible way, which buildings are performing well and which need attention, without needing to read through the full report tables. Over time, this rating could also be used to prioritize which buildings receive funding first for the kinds of upgrades described in Recommendation #1.

APPENDICES

Appendix A: Changes to Methodology

Changes from 2024 Methodology

- “Core Building List” created in order to refine year-over-year trends and track reductions over time. This list uses the buildings that have the most stable historical data and are capable of receiving energy efficiency improvements.
- Data cleanup and quality control
 - DSS energy use
 - Energy use in 2025 from July-December is estimated based on previous year’s data. Two electricity meters were taken offline during roof work in the summer of 2025. Data from the replacement meters was not accessible to the Department of the Environment within the timeline of this report.
 - Energy use in 2023 was corrected using bulk data retrieved this year. Previously, kWh usage had been entered for natural gas usage, resulting in a large spike in natural gas usage at this site.
 - Courthouse
 - Energy use at the Courthouse was updated for 2024. A small meter that collected electricity use at the guard shack was taken offline.
 - New Paltz Substation
 - Onsite energy generation was entered as solar generation in Portfolio Manager. As with previous years, this amount is estimated at 35MWh.
- EPA eGrid emissions factor remains 32.27 from 2023 energy production, the most recent dataset available.
- Addition of solar meters in PM in order to track onsite and renewable energy purchases
- Reorganized buildings in portfolio manager to disambiguate some buildings, and grouped some buildings together for ease of analysis (e.g., the highway stations)
- Fixed Area Lighting electricity use is now separate from direct building energy use, and is reported independently as a group called “fixed area lights.”
- Creation of master spreadsheet for consolidating data

Appendix B: Glossary and List of Acronyms

The following is a list of terms used throughout this report, including various acronyms:

BMS (Building Management System)

A computerized system that allows for the automatic regulation of building climate, including heating, ventilation, and air conditioning (HVAC).

Btu (British Thermal Unit)

A measure of energy. One Btu is defined as the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit. The Btu is a common measure of energy usage, allowing comparisons between thermal energy (burning fossil fuels) and electrical energy (from the grid).

kBtu

One thousand Btus. One cubic foot of natural gas can be burned to produce about 1 kBtu. One gallon of gasoline can be burned to produce 120 kBtu ([U.S. Energy Information Administration](#)).

MBtu

One million Btus. The average household in the U.S. Northeast uses 27 MBtu of energy each year to run heating, cooling, lighting, and other appliances.

ECM (Energy Conservation Measure)

Strategies and technologies aimed at enhancing system and building efficiency, particularly in HVAC systems, to reduce energy consumption and alleviate strain on electricity grids, especially during extreme weather events and peak energy demand.

Energy

Energy is the capacity to create change. In buildings, it is used to heat, cool, power lighting, and run various appliances. Energy in buildings can be generated on-site using fuels, solar panels, or sourced from the electric grid. Both fossil fuel use and electricity use are forms of energy use, and can be measured in Btus.

ENERGY STAR PORTFOLIO MANAGER (PM)

A free online software provided by the U.S. Environmental Protection Agency, Portfolio Manager allows clients to track energy use over time and generate key energy metrics for a set of buildings. The metrics that PM can calculate include Weather-Normalized Energy Use and a Comparison to National Average Energy Use for a given type of building.

Electricity Grid Purchase

This electricity, used to power buildings, is sourced through the local electric grid. The County purchases this electricity through ESCOs who operate transmission wires.

ESCO (Energy Service Company)

Site Energy

The amount of energy used on-site to heat, cool, power lighting, and run other building applications.

Source Energy

This energy metric accounts for more than Site Energy, including the additional energy expenditures associated with production, transmission, and delivery of the fuel to buildings.

Weather-Normalized Energy Use

Weather normalized energy use is the energy a property would have used under average weather conditions (also referred to as climate normals). In a given year, weather may be warmer or colder than the building's average climate; weather normalized energy accounts for this difference.

EUI (Energy Use Intensity)

A measure of energy use per square foot of floor space, allowing for comparisons to be made across buildings of different sizes. EUI can measure Site or Source energy. Measured in units of kBtu / sqft.

EVSE (Electric Vehicle Supply Equipment)

An electric vehicle charging station.

GHG (Greenhouse Gas)

Gases that trap heat in the Earth's atmosphere, raising the average temperature of the planet. Gases most associated with building energy use are Carbon dioxide (CO₂), Sulphur Dioxide (NO₂), and Nitrogen Oxides (NO_x). Each greenhouse gas traps heat with different levels of potency. In order to compare the impact of different gases, gases other than CO₂ are converted to CO₂-equivalent (CO₂e) based on their relative global warming potential.

MTCO₂e

Metric Tons Carbon Dioxide (CO₂) Equivalent. A standard measure of greenhouse gases based on the global warming potential of gases relative to CO₂.

Heat Pump (ASHP/GSHP)

A device that transfers heat from one space to another. A heat pump can both heat and cool buildings. These devices are very energy-efficient, making them a good choice for reducing energy use. Air Source Heat Pumps (ASHP) transfer heat between buildings and the surrounding air; Ground Source Heat Pumps (GSHP) transfer heat with a series of pipes underground.

kWh (kilowatt-hour)

A measure of electricity defined as the amount of energy delivered by one kilowatt of energy over one hour. The average refrigerator uses about one kWh of electricity each day.

MWh (megawatt-hour)

The amount of energy delivered by a megawatt (1,000 kilowatts) of energy over one hour.

Net Metering

A billing mechanism where a utility provider credits solar energy system owners for the electricity they generate to the grid through balancing energy usage on the system owner's electricity usage bill.

NYGATS (New York Generation Attribute Tracking System)

An online certificate -tracking system that records information about electricity generated, imported and consumed within New York State.

NYUP (New York Upstate)

The electricity grid that includes most of New York State, including Ulster County.

NYSERDA (New York State Energy Research & Development Authority)**NYSEG (New York State Electric and Gas)****OsEM (Onsite Energy Manager)**

An energy expert hired by the County to investigate best energy practices in County Buildings. The OsEM developed a report for the County, finished in 2025.

REC (Renewable Energy Certificate)

"A market-based instrument that represents the property rights to the environmental, social, and other non-power attributes of renewable electricity generation. RECs are issued when one megawatt-hour (MWh) of electricity is generated and delivered to the electricity grid from a renewable energy resource."⁵

Scope 1 Emissions

These emissions occur as the direct result of County operations, including on-site heating and vehicle use.

Scope 2 Emissions

These emissions occur as the *indirect* result of County operations, and include the emissions associated with electricity generation for electric energy used in County buildings and electric cars.

Sub-metering

Meters that track electricity use and natural gas consumption in a particular subsection of a building.

⁵ Source: [U.S. EPA, Renewable Energy Certificates \(RECs\)](#). Accessed November 3, 2025.

Appendix C: Site vs Source Energy Use

Site and Source Energy: The EPA ENERGY STAR® program distinguishes between **site** and **source energy**. **Site energy** is the usage as measured exclusively from the building, which is the quantity recorded in utility bills. **Source energy** accounts for the additional energy expenditures associated with production, transmission, and delivery of the fuel. The source energy metric allows the energy efficiencies of buildings to be compared without imparting a bias based on the type of fuel they consume (Table 8). National average ratios are used within the EPA ENERGY STAR scoring system to prevent any individual building from being penalized or credited due to the relative efficiency of its energy provider (Table 9)

Table 8: Comparison of Site vs Source Energy Use for 2025 benchmarking buildings

Property Name	Site Energy Use (kBtu)	Source Energy Use (kBtu)
UCLEC (Law Enforcement Center)	28,440,617	45,791,701
DSS	5,289,216	8,740,716
County Office Building	5,144,412	10,384,437
County Courthouse	4,835,306	9,526,587
Quarry Complex	4,039,381	5,102,916
Family Court	3,415,780	6,795,960
Highway substations	2,910,574	4,226,857
Hall of Records	2,665,351	5,103,587
UCAT	2,543,842	4,030,929
Golden Hill Office Building	2,116,337	4,839,941
Information Services	1,707,534	3,936,201
Trudy Resnick Farber	1,662,446	2,699,686
Probation Office	1,258,651	2,590,080
368 Broadway	1,085,666	2,209,979
Public Works Building	944,600	2,018,064
County Pool / Fairgrounds	749,701	1,670,335
Emergency Management 911	556,757	1,266,111
Carr Building (1 Pearl St.)	549,287	707,077
Van Dale Garage - Fabrication Shop	502,922	859,302
Restorative Justice Center	394,774	811,922
Veterans Transitional Housing Facility	341,233	449,611
Board of Elections	335,742	749,853
Environment (17 Pearl St.)	219,727	311,591
Golden Hill Complex	137,726	292,754
Public Safety Training Center	119,341	334,154
Sojourner Truth Ulster Landing Park	105,877	142,480
Persen House	14,997	41,991
21 Elizabeth St	1,546	4,330
Grand Total	72,089,341	125,639,150

Table 9: National Average Source-Site Ratios used in Portfolio Manager

Fuel Type	Source-Site Ratio (Source kBtu/Site kbtu)
Electricity (Grid Purchase)	2.80
Electricity (On-site Solar)	1.00
Natural Gas	1.05
Heating Oil (No. 2)	1.01
Propane	1.01
Diesel	1.01

Appendix E: Relevant Ulster County Plans and Electrification and Energy Conservation Projects

**Projects are not a compilation of every and all measures taken by Ulster County towards energy conservation improvements, building upgrades and electrification infrastructure expansion, but are highlights and examples of ongoing efforts.*

Annual Reports: The Ulster County Department of the Environment, with coordination from the Department of Public Works and other relevant departments, provides the following annual reports:

- **Green Fleet Report:** The Green Fleet Report documents the fuel use and emission associated with the County's vehicle fleet. Annual reports dating back to 2015 are published at <https://www.ulstercountyny.gov/Departments/Environment> under "Reports and Publications."
- **Building Energy Benchmarking Report:** The Building Energy Benchmarking Report documents the energy use and emissions associated with the County's building portfolio. Annual reports dating back to 2016 are published on the Department of the Environment website.
- **Government Operations Greenhouse Gas Emissions Inventory Report:** the Government Operations Greenhouse Gas Emissions Inventory Report documents a comprehensive greenhouse gas inventory for the county government's operations and is based on the methodologies and data provided from the Green Fleet and Building Energy Benchmarking Reports. Annual reports are published on the Department of the Environment website.⁶

2019 Government Operations Climate Action Plan (CAP): The 2019 CAP provides an implementation roadmap for energy use reduction and renewable energy projects across County government operations. County Executive Jen Metzger's [Executive Order No.1 of 2023](#) (EO1-23) additionally commits the County government to reducing GHG emissions in alignment with the 2019 New York State Climate Leadership and Community Protection Act ("NYS Climate Act") and establishing GHG emissions reduction goals of 40% by 2030 and 85% by 2050, with an interim target of 25% by 2025. The Government Operations CAP is viewable on the DoE's [webpage](#).

Onsite Energy Manager Final Report: This report is a culminating deliverable from the NYSERDA On-site Energy Manager (OsEM) Program which occurred in 2023 and 2024 and by which the County was provided services by an On-site Energy Manager through a contract with Guth DeConzo Consulting Engineers P.C. The project was 75% funded via NYSERDA and 25% funded by Ulster County. The project supported the improvement, operations, and performance of various mechanical and electrical equipment, and will ultimately result in energy savings for County government operations. The OsEM Project additionally provided oversight, coordination, savings and cost estimates, documentation of progress, and measurement and verification of energy savings for the 2024 calendar year, with a goal of achieving an annual savings of 6% of the total utility usage across County facilities (Appendix H).

⁶ The total annual GHG emissions from the operation of Ulster County buildings may differ from the emissions total from the Buildings & Other Facilities sector in the Ulster County Greenhouse Gas inventory due to the exclusion of "Other Facilities" from the Benchmarking report, which do not have a gross floor area greater than 1,000 square feet.

Building Management System (BMS) Control & HVAC Upgrades & Electrification: The BMS System Control Upgrades is a \$5.48 million project included in the County's 2025 – 2029 Capital Program. This project aims to implement the recommendations of the Ulster County Department of Public Works (DPW) in conjunction with findings from the *NYSERDA On-Site Energy Manager Final Report* to upgrade the building management systems (BMS) for nine properties of the County building portfolio. There are several HVAC systems upgrades and/or electrification projects underway or planned, including at the new Ulster County Wellness Center (368 Broadway, Kingston) and the Restorative Justice Center (733 Broadway, Kingston). (Appendix H)

Ulster County Area Transit “Bus Garage of the Future”: Ulster County Area Transit's "Bus Depot of the Future" first became operational in 2005. The two phase NYPA managed electrification project launched in 2020 and includes 12 DC (level 3) fast charging stations, four dual level 2 charging stations, five electric buses and other EVs, a 204kW DC rooftop solar system for renewable electricity, and a 400kW back-up generator for resiliency in case of power outages. Utility service was upgraded, and the project is “futureproofed” to accommodate additional buses and chargers (both fast charge and Level 2 chargers). The electrification project is anticipated to be completed in 2025.

The “Bus Depot of the Future” project is supported by NYSERDA, NYS Department of Environmental Conservation, Dormitory Authority and the EV Make Ready program funding.

Solar Assessments and Installations: Solar assessments and installations are ongoing at County facilities. In 2024, assessments were completed at 8 County buildings. In 2025 solar projects are under development at:

- Department of Social Services (Development Court)
- Emergency Management 911 (Golden Hill)
- Department of Public Works
- Hall of Records
- Trudy Resnick Farber Center
- Emergency Communications Center (New Paltz)

Onsite solar energy production systems will serve to offset onsite electricity consumption and reduce the amount of grid-supplied electricity purchased, thereby increasing localized renewable energy production.

Electric Vehicle (EV) Charging Infrastructure: The County's Sustainable Green Fleet Policy requires that a minimum of 20% of the fleet by 2025 are green vehicles, with at least 20% of those being zero-emission, and that after 2025, 100% of passenger and light duty truck vehicles purchased, leased or otherwise obtained will be zero-emission vehicles where technically feasible. The County continues to electrify the County vehicle fleet and several projects are underway to install EV charging stations and continue to expand both the fleet and public EV charging station networks located at County facilities.

EV infrastructure installations are planned for 2027 at 6 Ulster County government-owned locations:

- 368 Broadway (UC Wellness Center)

- Department of Public Works
- Joys Lane (Kingston Building Complex)
- Trudy Resnick Farber Center
- Ulster County Law Enforcement Center (UCLEC)

The County received delivery of a [Beam EV ARC mobile charging station](#) (with integrated battery and solar panel) in September 2024. This unit was initially placed at the County's Development Court facility and was then moved to the Ashokan Station trailhead parking lot. The purchase of the Beam EV ARC unit was largely funded via a Federal Department of Energy, Energy Efficiency Community Development grant allocation.

LED Lighting Retrofits: A large project spanning 2023-2024 converted over 1,000 lights and several hundred switches in the County's Department of Social Services (Development Court). This conversion from fluorescents to LEDs is expected to result in significant energy savings as well as an estimated total annual cost savings of \$31,500.

Building Weatherization: The Ulster County Department of the Environment is headquartered at 17 Pearl Street in Kingston. A project completed in 2024 included a comprehensive air-sealing initiative targeting the building envelope as well as upgrades in insulation. A NYSERDA Clean Energy Communities Program grant largely funded the work.

Whole Building Retrofit of Trudy Resnick Farber Center: Ulster County is moving forward with plans to enhance the infrastructure and accessibility of the Trudy Resnick Farber Center, located in Ellenville. A major redesign of the kitchen, dining room, and entrance will create a welcoming, public-facing section of the building for multipurpose community use. Design work is expected to be completed in late 2025, with construction beginning in 2026. Energy-related upgrades include the installation of eight EV charging stations, heat pumps, a new roof, and a rooftop solar array — supported by a NYSERDA grant and the County's Decarbonization Capital Reserve Fund. The EV chargers are anticipated to be completed in 2025, with other improvements phased in through 2026.

More details about Trudy Resnick Farber Center can be found at:
<https://www.ulstercountyny.gov/Facilities/Trudy-Center> .

Ulster County Emergency Communication Center (New Paltz): The County is in the process of constructing a new Emergency Communications Center (ECC). The 16,350-square-foot ECC, located on Paradies Lane in New Paltz, will house the Department of Emergency Services, including the Emergency-911 Center, which operates 24/7, an Emergency Operations Center to provide a rapid, coordinated response to natural disasters and larger emergencies, and the Divisions of Fire Services and Emergency Medical Services.

In 2025, Ulster County was awarded a \$2 million NYSERDA grant to support the facility's energy-conscious design, including super-insulated walls, geothermal heating and cooling, and rooftop solar with battery backup. A substantial portion of the property will also be dedicated to a ground-mounted solar array to power 100% of this facility and as well as other County buildings. Learn more about this exciting project on the County's [website](#).

Golden Hill Penrose Project: This \$87 million project involves a multi-use development complex at the former closed County jail site at Golden Hill in Kingston, NY. The development features all-electric

buildings designed to meet the highest energy efficiency and green design standards, including a 700-kilowatt rooftop solar system funded through a Department of Environmental Conservation Climate Smart Communities Grant secured by the County.

The Golden Hill project will unlock underutilized development potential, acting as a catalyst for meeting the housing goals outlined in the City of Kingston 2025 Comprehensive Plan and the Ulster County Comprehensive Plan as detailed in the 2005 Priority Strategies to Support Housing Development in Ulster County report and create a new neighborhood on the site of the Old Jail. Residents will also benefit from free broadband internet, childcare, a community garden, playgrounds, and a fitness center.

The project received a \$10 million award from Governor Hochul's inaugural Mid-Hudson Momentum Fund, as well as funding from multiple state and federal sources. More details about this innovative project can be found on the project website.

Appendix F: Ulster County Buildings List

The following table includes a full list of all County owned or operated buildings in 2024. Buildings are sorted first by inclusion in the 2025 report and secondly by alphabetical order.

Table 10: Ulster County Buildings List

Included in 2025 Report?	Building Name	Address	Floor Space (sqft)	Ownership Status	Notes and/or Reason for Omission from 2024 Report
Yes	21 Elizabeth St	21 Elizabeth Street, Kingston	5,742	Owner	Energy use for 21 Elizabeth is not included in building averages because the building remains unoccupied.
Yes	368 Broadway	368 Broadway, Kingston	31,683	Owner	Square footage updated in 2024 report to match DPW records, allowing for accurate EUI reporting. Total building square footage is now 31,683 sqft instead of 1,000 sqft. (U.C. Wellness Center)
Yes	Board of Elections	79 Hurley Ave. Kingston	12,511	Lessee	2024: Added building. A new submeter was installed in 2023 allowing for accurate use data of the property.
Yes	Carr Building (1 Pearl Street)	1 Pearl Street, Kingston	5,438	Owner	
Yes	Ulster County Courthouse	285 Wall Street, Kingston	43,650	Owner	2025: Building included again. Was omitted from 2024 due to missing data.
Yes	County Office Building Complex	244 Fair Street, Kingston	62,396	Owner	
Yes	County Pool / Fairgrounds	241-249 Libertyville Road, New Paltz	7,126	Owner	
Yes	DSS / Development Court	1 Development Court, Kingston	117,977	Owner	
Yes	Emergency Management 911	238 Golden Hill Dr, Kingston	3,537	Owner	
Yes	Environment (17 Pearl Street)	17 Pearl Street, Kingston	4,229	Owner	
Yes	Golden Hill Office Building	239 Golden Hill Drive, Kingston	39,600	Owner	
Yes	Hall of Records	300 Foxhall Ave., Kingston	22,550	Owner	
Yes	Highway Substation - Accord	456 Granite Road, Rochester	2,324	Owner	
Yes	Highway Substation - Boiceville	8 Cabin Hill Road, Olive	13,690	Owner	

Yes	Highway Substation - Plattekill	227 Fosler Road, Plattekill	2,265	Owner	
Yes	Highway Substation - Saugerties	344 Harry Wells Road, Saugerties	3,552	Owner	
Yes	Highway Substation - Shandaken	7336 State Rt. 28, Shandaken	5,364	Lessee	
Yes	Highway Substation - Shawangunk	40 King's Ln., Shawangunk	4,433	Owner	
Yes	Highway Substation - Sundown	30 Greenville Road, Denning	4,984	Owner	
Yes	Highway Substation - Ulster Heights	229 Ulster Heights Road, Wawarsing	3,545	Owner	
Yes	Hutton Building	234 Golden Hill Lane	3,386	Owner	
Yes	Information Services	25 South Manor Ave., Kingston	13,174	Owner	
Yes	Persen House	74 John Street, Kingston	6,405	Owner	
Yes	Probation (Restorative Justice Center)	733 Broadway, Kingston	20,724	Owner	
Yes	Public Safety Training Center	250 Ulster Landing Road, Kingston	6,804	Lessee	
Yes	Public Works Building	313- 317 Shamrock Ln, Kingston	10,740	Owner	
Yes	Public Works Building and Quarry	317 Shamrock Ln, Kingston	35,000	Owner	
Yes	Sojourner Truth Ulster Landing Park	916 Ulster Landing Road, Kingston	3,198	Owner	
Yes	Trudy Resnick Farber	50 Center Street, Ellenville	20,732	Owner	
Yes	UCAT	1 Danny Circle, Kingston	23,413	Owner	In the 2024 report, energy usage from EV Connect electric vehicle chargers is properly deducted from UCAT's electricity usage, allowing for accurate data from building energy use.
Yes	UCLEC (Law Enforcement Center)	380 Boulevard, Kingston	277,000	Owner	
Yes	Van Dale Garage - Fabrication Shop	316 Van Dale Road, West Hurley	15,146	Lessee	
Yes	Veteran's Transitional Housing Facility	67 Wurts Street, Kingston	6,656	Owner	Included in reports from 2016 to 2021; Removed from reports starting in 2022.
No	Boices Lane, Le Kingston Trois	535 Boices Lane, Town of Ulster	10,287	Lessee	

Included in 2025 Report?	Building Name	Address	Floor Space (sqft)	Ownership Status	Notes and/or Reason for Omission from 2024 Report
No	Department of Health - W.I.C.	230 Aaron Court, Kingston	2,917	Occupied	No metered energy use data
No	DPW New Warehouse (Ulster)	1711-1715 Ulster Avenue, Town of Ulster	12,048	Owner	Not previously metered
No	Family & Child Advocacy Center of U.C.(DSS)	51 Hurley Avenue, Kingston	3,328	Occupied	Leased Space without Metered Energy
No	Former Board of Elections	284 Wall St, Kingston	3,566	Occupied	Leased Space without Metered Energy
No	Golden Hill Pump House	44 Golden Hill Drive, Kingston	N/A	Owner	Accessory Infrastructure
No	Golden Hill Water Tower	733 Broadway, Kingston	N/A	Owner	Accessory Infrastructure
No	Highway Substation - New Paltz	246 Libertyville Road, New Paltz	13,697	Owner	Limited energy data due to meter errors.
No	Office of Employment and Training	521 Boice's Lane, Kingston	10,287	Occupied	Leased Space without Metered Energy
No	Probation Department	124 Main Street, New Paltz	1,308	Occupied	Leased Space without Metered Energy
No	Public Defender	280 Wall Street, Kingston	4,848	Occupied	Leased Space without Metered Energy
No	Sheriff's Substation Mt. Tremper	146-152 Mt. Pleasant Road, Mt. Tremper	2,004	Occupied	Leased Space without Metered Energy
No	Sheriff's Substation Port Ewen	Esopus Town Hall, Salem Street	N/A	Occupied	Leased Space without Metered Energy
No	Sheriff's Substation Shandaken	Town Hall, Rt. 28	N/A	Occupied	Leased Space without Metered Energy
No	Sheriff's Substation Wallkill	1500 Rt. 208, Wallkill	711	Occupied	Leased Space without Metered Energy
No	Sheriff's Impound Yard	1 Maxwell Lane, Town of Ulster	28,125	Occupied	Leased Space without Metered Energy
No	Sheriff Substation - Ellenville	155 Airport Road, Ellenville	1,534	Occupied	Leased Space without Metered Energy
No	SUNY Ulster at Kingston	94 Marys Avenue, Kingston	30,830	Owner	Leased to SUNY Ulster; Included from 2016 to 2018; removed starting in 2019.
No	Tech City	300 Enterprise Drive	--	N/A	Not owned or occupied by County; Briefly owned by UC Econ Devel Alliance before transfer to iPark 87.

Appendix G: Resolution No. 447 of 2016

Resolution No. 447 October 18, 2016

Establishing A Policy To Require Annual Public Reporting Of Building Energy Consumption And Benchmarking Information For County Owned Buildings

Referred to: The Energy and Environment Committee (Chairman Richard Parete and Legislators Bartels, Heppner, Lapp, and Wawro)

Legislators James H. Delaune and Kevin A. Roberts and Legislators Bartels, Greene, Heppner, Lapp, R. Parete and Wawro offer the following:

WHEREAS, Ulster County has distinguished itself as an environmental leader through numerous environmental actions including earning designation by NYS as a Bronze Certified Climate Smart Community; and

WHEREAS, per Executive Order No. 1-2016, Ulster County purchases renewable energy credits ensuring all our electricity comes from renewable sources, received a Green Power Leadership award from the United States Environmental Protection Agency (EPA) and is recognized by the United States EPA one of the top municipal green energy purchasers in the country; and

WHEREAS, the County further demonstrates leadership on climate protection by purchasing carbon credits to offset all remaining greenhouse gas emissions associated with operations resulting in a net carbon neutral government operation; and

WHEREAS, per Executive Order No. 1-2016 the County Executive committed to reducing-through conservation, efficiency and renewable generation- the GHG emissions associated with operations by 25% by 2025 and 80% by 2050 over the 2012 baseline; and

WHEREAS, since 2012 government efficiency and restructuring efforts have resulted in over a 20% reduction in electricity use and an average savings of over \$370,000 per year to tax payers; and,

WHEREAS, NYS Energy Research and Development Authority (NYSERDA) has announced a new Clean Energy Communities program which would allow the County access to significant grant funding to further implement clean energy actions reducing both energy costs and greenhouse gas emissions; and,

WHEREAS, the Clean Energy Communities program requires that the County implement certain High-Impact Actions; and

WHEREAS, one of the High-Impact Actions requires the legislative establishment of a policy requiring the public reporting of building benchmarking and energy consumption; and

Resolution No. 447 October 18, 2016

Establishing A Policy To Require Annual Public Reporting Of Building Energy Consumption And Benchmarking Information For County Owned Buildings

WHEREAS, the County already has instituted an operational practice of tracking all building energy use and producing reports; now, therefore be it

RESOLVED, that it is the policy of Ulster County to continue to collect energy use data for all fuel types used, on a monthly basis where possible, on all buildings greater than 1,000 square feet in size that are owned or occupied by the County of Ulster as well as data documenting property use; and, be it further

RESOLVED, that the County will maintain records as necessary for carrying out the purposes of this Local Policy, including but not limited to energy bills and other documents received from tenants and/or utilities and such records shall be preserved by the County for a period of at least three (3) years; and, be it further

RESOLVED, that the County will make publically available on the internet no later than September 1st of each year annual summary statistics, as well as a comparison of the annual summary statistics across calendar years for all years since annual reporting under this local policy has been required for all the buildings, for each covered building for the pervious calendar year including Energy Use Intensity (EUI), weather normalized source EUI, annual greenhouse gas emissions, an energy performance score where available, and other information as required by EPA Portfolio Manager or deemed appropriate by the County,

and moves its adoption.

ADOPTED BY THE FOLLOWING VOTE:

AYES: 20 NOES: 0
(Absent: Legislators Delaune, Gerentine, and
Maloney)

Passed Committee: Energy and Environment as amended on October 12, 2016

FINANCIAL IMPACT:
NONE

Resolution No. 447 October 18, 2016

Establishing A Policy To Require Annual Public Reporting Of Building Energy Consumption And Benchmarking Information For County Owned Buildings

STATE OF NEW YORK
 . SS:
 COUNTY OF ULSTER

I, the undersigned Clerk of the Legislature of the County of Ulster, hereby certify that the foregoing resolution is the original resolution adopted by the Ulster County Legislature on the 18th Day of October in the year Two Thousand and Sixteen, and said resolution shall remain on file in the office of said clerk.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the County of Ulster this 19th Day of October in the year Two Thousand and Sixteen.

|s| Victoria A. Fabella Victoria
A. Fabella, Clerk
Ulster County Legislature

Submitted to the County Executive this
Day of October, 2016.

Approved by the County Executive 19th
this 24th Day of October, 2016.

|s| Victoria A. Fabella
Victoria A. Fabella, Clerk
Ulster County Legislature

|s| Michael P. Hein
Michael P. Hein, County Executive

Ulster County New York



NYSERDA On-Site Energy Manager Final Report

Prepared by:

Guth DeConzo Consulting Engineers, P.C.

January 2025



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1. Executive Summary

The OsEM project identified a large number of issues within UC buildings that lead to excessive energy usage that are listed below.

- Larger UC buildings that have existing BMSs where not scheduled to operate heating, cooling, and in some cases lighting, in unoccupied modes during hours of limited or no occupancy.
- UC will need to implement work started during the OsEM project to have consistent temperature setpoints throughout each building, and county wide within building types, to maximize energy efficiency and limit staff complaints.
- Smaller UC buildings generally have manual thermostat control for heating and cooling systems with most of these buildings not scheduled for unoccupied operation.
- BMSs in several of the buildings are outdated and offer limited functionality to implement energy conservation measures. The OsEM project worked with DPW staff to develop an RFP to upgrade the BMSs in most of these buildings.
- The OsEM project uncovered significant shortcomings in the implementation of existing service contracts between UC and the three BMS contractors serving these buildings. Some of the items below that are being worked on by the end of the OsEM project include:
 - Determine any equipment in a buildings HVAC system that is not being covered by the BMS contractor in their interpretation of the UC Service Contract.
 - Gather written information from each BMS contractor as to how they are meeting each aspect of the Schedule A Scope of Services contract including:
 - Detailed list of equipment covered and not covered by the contract.
 - Detailed list of hardware and software versions for each BMS system and
 - “System Firmware Versions” that have been updated (including dates) detailed in contract section 15 of Schedule A Scope of Services.
 - Inspection reports for each equipment type including inspection frequency, testing procedures, data points/component tested, and changes made to “ensure the efficient and reliable operation” of equipment detailed in contract section 6 of Schedule A Scope of Services.
 - Service reports provided to UC after each service visit including how the problem was identified (ie; UC staff request, BMS contractor testing), work performed, and any schedule for follow-up work to complete tasks.
 - Annual schedule by the BMS contractor for the “Energy Review Meetings” detailed in contract section 13 of Schedule A Scope of Services.
 - Annual schedule by the BMS contractor for the “on-site training” detailed in contract section 18 of Schedule A Scope of Services.
 - Adjust language in the contracts so that it is clear what equipment is covered under these contracts and the expectations for the work as needed.
 - Ensure that the BMS Upgrades project includes IT work so that necessary UC staff will have computer workstations available with all the building’s BMSs for monitoring alarms and general operation. Each BMS should also include power meters for electricity and fuel to allow for regular monitoring of energy consumption.
- ECMs identified electrical savings across all UC buildings of approximately 19% and fuel savings of 25%, totaling approximately \$384,000 annually. Implementation numbers exceeded the 3% target for each type of energy sought by the project, totaling \$111,900 annual savings.

2. Summary of Activities

2.1 Energy Management Plan

The initial quarterly report included the Energy Management Plan, which outlined the scopes of the OsEM project including project and campus building overview, roles and responsibilities of all parties involved, meeting and reporting requirements, energy consumption tracking, and project schedule. (Appendix 1.1)

2.2 Building Temperature Setpoint and Scheduling Report

The initial report issued in July 2023 to address the lack of consistent and efficient heating and cooling temperature setpoints throughout the many buildings in addition to lacking unoccupied schedules for most buildings was estimated to save over \$139,000 annually in energy cost. The cost to implement this work was estimated at the time to be \$7000 which represented product cost for WiFi thermostats at several dozen buildings that still have manual thermostats in service. Programming work for BMS scheduling and setpoint changes as well as labor to install new thermostats was expected to be performed by UC staff at no cost. (Appendix 1.2)

2.3 Project Summary Sheet

The initial Project Summary Sheet (energy conservation measure (ECM) project tracking list) issued with the first quarterly report identified a long list of field sensors that were not reading accurately or building management system (BMS) control points that were not functioning to maximize energy efficiency. Multiple BMS work lists and reports were generated during this project detailing these required repairs for two controls contractors, Encon Services and EM Tech, currently serving the county. Conversations took place at multiple monthly team meetings concerning the existing service contracts between these two companies and UC, and how these contracts can be leveraged to get these lists repaired. These conversations allowed UC to determine that some of the identified problems were known to the BMS contractors but not being addressed.

The service contract with Encon Services provided the most information to UC on what has been occurring (or not occurring) under these service contracts. Encon Services were aware of some identified issues with sensors as well as buildings operating in a 24/7 occupied mode, but informed UC that they have made changes as UC staff has requested, despite any negative implications for increases to energy consumption. Encon Services also identified buildings where they did not consider large quantities of HVAC equipment under their contract responsibilities, and have not been servicing these problems, or providing documentation to UC to indicate that problems exist that are not being addressed. It was also determined that the service reports that have been provided to UC were not legible to determine what work has been performed. Corrections to the service reports had been made by the last quarter of the project. At the end of this project UC staff is attempting to acquire information from Encon Services detailing the work that they are doing under their service contract.

EM Tech has three buildings under their contract, but service records indicate that they are only making service visits upon request from UC staff for repairs and not on a regular schedule as the contract specifies. There was equipment in Em Tech buildings that were not communicating with the BMS due to failed components or field changes over the years.

Some of the OsEM identified issues were corrected during the last quarter of the project but some will require BMS equipment replacements to accomplish, which is also ongoing at the end of this project.

For much of the duration of the OsEM project, efforts to get identified ECMs implemented, either under current BMS contracts or by UC staff, had limited progress. The general slow speed of implementing changes for the county combined with Encon Services not being very cooperative with this work kept the final implemented numbers at a low level, leaving many opportunities for UC to continue this work. The final Project Summary Sheet is included at the end of this report (pages 12-19).

1.3 UC Capital Improvements Reports

The OsEM twice provided a document to include in the five-year Capital Improvement Report, with the 2023-28 one occurring in the first quarter of the project and the 2024-29 addition in spring of 2024.

1.4 UC Office Complex/DSS Lighting Upgrades

During the first and second quarters of the project, UC staff requested that the OsEM review the LED replacement design that was already in design for DSS. Testing was performed by the OsEM with the demonstration LED installation to verify that the airflow through the new fixtures was adequate, as the LED manufacturer had previously not manufactured this type of fixture. Changes were made to the ceiling occupancy sensors for this project to allow for a future low cost upgrades to include these sensors into the BMS for more efficient operation of the buildings RTUs and VAVs.

Also, during this time the OsEM was utilized to review the bid proposal for insulation upgrades to the Department of the Environment building.

1.5 UC Court House and Trudy Resnick Farber BMS Control

In the second quarter of the OsEM project two short reports were issued detailing how inaccuracy of outside air temperature sensors are causing control issues in operating the HVAC equipment. (Appendix 1.4 & 1.5)

1.6 UCLEC Airflow Control Issues

The second quarter included a report that was requested by UCLEC staff to evaluate air flow problems in two dorm spaces. The lack of proper exhaust airflow from the bath/shower area of the dorm has been an issue since the buildings construction and has caused excessive moisture in this area to cause rust on metal ceiling tiles. Testing in this report prompted UCLEC staff to find and repair ductwork that was never connected to the ceiling diffusers, correcting the exhaust airflow problem.

A second report for UCLEC was issued during the 3rd quarter covering the airflow and pressure controls in the four isolation rooms in the medical clinic. The report detailed the lack of proper control occurring with the original equipment, and prepared a scope of work

and contractors' quotations for a systems upgrade that will provide more long-term accuracy in operation than the existing system provided.

1.7 UCLEC HVAC System Control

The report for UCLEC detailed extensive energy savings possible through reversing the current temperature setpoints in the building that has the cooling temperatures much lower than heating temperatures. Additional savings were identified returning some of the facilities 40 air handling units (AHUs) to the original sequence reducing airflow during unoccupied hours as well as reverting the face & bypass dampers to original operation. Getting all the AHUs to operate economizer control consistently also added to an estimated savings of \$202,000 annually. It is expected that most work would be BMS programming performed under the existing BMS contract or by UC facilities staff. The report identified larger work estimates that include adding VFD controls to AHUs-22-25 as well as calibrating all room DP and airflow station transmitters that account for about 80% of the BMS contractor estimate of \$92,000 to implement these changes. (Appendix 1.6)

1.8 UC Area Transportation HVAC Control Report

This report identified minor energy savings of approximately \$4000 annually due to the small percentage of the building that has heating and cooling systems already had equipment scheduled to be off during unoccupied hours, with building temperatures more efficient than most buildings. Minor changes to the operation for the two AHUs serving the office spaces were recommended in addition to a control upgrade for AHU-1 that would allow for isolation for the dispatch office area that maintains second shift hours while the remainder of the building is unoccupied. (Appendix 1.7)

1.9 UC Office Complex/DSS HVAC Control Report

This building had four separate reports issued with the extensive issues identified in the operation of this building, with the last two prompted by the BMS contractors' continuous insistence that there was nothing wrong with the HVAC system operation. The initial report, and subsequent revision, identified an estimated \$82,000 in annual energy savings. The savings were primarily due to the existing 31 roof top heating and cooling units (RTUs) operating as if the building was occupied 24/7, and temperature setpoints not being efficient. Two follow-up supplemental reports for this building were necessitated in 2024 to show the BMS contractor that the trend data from their BMS continued to show the same issues that are leading to inefficient HVAC system operation. In addition to the HVAC system never running in a reduced unoccupied mode, the BMS trend data showed RTUs regularly operating in both heating and cooling modes, outside air and bypass dampers not operating to the BMS settings, and the economizer control not controlling well. Due to the limitations of this outdated BMS system, only 9 of the 31 RTUs had trend data available, which raised the serious concern that these many identified issues only scraped the surface of the building's problems. Additionally, there are approximately 162 variable air volume boxes

(VAVs) that control airflow and temperature to smaller zones that showed no indications that they were moving. (Appendix 1.8)

1.10 Golden Hill Office Building HVAC Control Report

The report for Golden Hill Office Building detailed that even though the buildings was running 24/7 in occupied mode, and temperatures in the spaces were rather inconsistent, the energy use was 26% lower than national average for office buildings. The heat pump system that provides heating and cooling are the reason that despite operating the building in an inefficient manner, that building is still efficient compared to the national average. Scheduling the building's 50 heat pumps, as well as AHU-1 that provides fresh air for the building, combined with getting the lighting control system functional to keep all the interior lights from running 24/7, provided an estimated savings of \$31,000 annually. During the implementation phase for this building the control panel controlling AHU-1, and providing the outside air temperature for the BMS (which is the input to control other HVAC equipment), was repaired after being out of service since prior to this project. Also it was determined that only 5 of the 15 lighting circuits were functioning, so the savings for scheduling the lights off during unoccupied hours was reduced by approximately 67%. (Appendix 1.9)

1.11 DPW HVAC Control Report

The report for the DPW building detailed an HVAC system similar, but much smaller than Golden Hill, with 30 heat pumps and one AHU (Heat Recovery Unit HRU-1) providing fresh air to the building. Unlike Golden Hill however, DPW is 43% higher than the national average for office buildings. The report estimated annual energy savings of \$3500 by scheduling equipment for unoccupied operation with temperature setbacks. It was determined during the attempts to implement these scheduling changes that one of the control boards in the mechanical room had failed, requiring replacement before this programming work can occur. (Appendix 1.10)

1.12 UC Community College HVAC Control Report

The report covered the fact that the building has rather limited hours off occupation for much of the building, only the main RTU-1 and the lighting are controlled for unoccupied operation. Like other UC buildings the space temperatures during the cooling season is slightly lower than the heating season temperature. Making setpoint and scheduling changes for individual zones, utilizing existing CO2 controls for demand control within the zones, and changing zone sequence of operation for both UVs and fin tube heating are estimated to save approximately \$28,000 annually. UC does not currently pay the utility bills for this building, so implementation of identified energy measures were not pursued during the OsEM project. (Appendix 1.11)

1.13 UC BMS Upgrade RFP

UC has determined during the OsEM project that the multitude of issues with the existing

BMSs at nine of eleven buildings, that replacement is necessary. The two buildings with BMS controls installed and serviced by Eastern Heating & Cooling are not included in this RFP, as UCLEC was upgrading all the field controllers at the end of the OsEM project, and UCAT is a relatively new system. Of the nine remaining buildings Probation/Restorative Justice was already in the design and bidding phase of replacing the entire HVAC equipment including the BMS. The eight buildings remaining in the RFP include the following:

Building Name	Hardware Point Total	Software Point Total
DPW	134	425
Golden Hill OB	256	841
Medical OB - 368 Broadway	154	568
Records Storage	169	537
Trudy Resnick Farber	131	368
UC Court House	897	2245
UCOB	365	924
UCOC - DSS	1243	4103
TOTALS	3448	10266

The OsEM prepared the specification section for the RFP which resulted in a 300+ page document to cover the extensive quantities of equipment in these buildings. UC plans to implement this project over a three-year period starting with the buildings with the most potential energy savings that will be generate with functioning BMSs.

1.14 Commissioning Documentation

Included in the 5th and 6th Quarter Reports commissioning spreadsheets were developed for 11 buildings that includes the ECMs identified in the Project Summary Sheet to allow for proper tracking of changes during this project and for UC into the future months. These spreadsheets were update as work was performed in some of the buildings, with the final versions included in this report (Appendix 1.12) and added to the UC sharepoint “Building Energy & Green Fleet” in the location listed below:

Documents - PROJECTS - On-Site Energy Manager Documents - Commissioning Spreadsheets

1.15 Energy Tracking & Monitoring

There were no buildings that have existing meters in service to include electrical usage or fuel usage that are connected into the BMSs. Monitoring is currently an annual exercise when UC files their annual Benchmarking report to the US EPA. The specifications for the BMS Upgrades RFP included both electrical power meters and gas meters for each building so the UC can have an energy dashboard implemented for each building.

1.16 Meeting Minutes

Meeting agendas and minutes for the duration of this project will be included in Appendix 1.13.

2.0 Methodology

1. The purpose of OsEM is to improve the operations and performance of various mechanical and electrical equipment for UC that will result in energy and operation savings. For the UC engagement, the OsEM has been working approximately 20 hours per week for an 21-month period. The UC buildings were visited on a regular schedule, with larger buildings having regular field visits, and on an as-needed basis for the other smaller buildings. The project was originally scheduled for an 18-month period, but it was extended by three months to allow for implementation of some ECMs.

2. The role of the OsEM is to provide oversight, coordination, savings and cost estimates, documentation of progress, and measurement and verification of savings. Due to most of the ECMs being implemented during the final three months that the project was extended for, verification was reduced to short trending periods after implementation. For the OsEM to be effective, all parties must actively participate, including UC management and staff, and building management system contractors.

3.0 Modifications to Standard Operating Procedures

Two of the primary objectives of the OsEM project are implementation of ECMs and utilizing any existing energy monitoring system so that UC staff will use it on a continuous basis to identify energy waste within individual buildings. UC DPW staff was very slow to become engaged in the OsEM project that originated within the Department of the Environment, with work to implement ECMs primarily occurring in the last few months. This combined with UC getting limited work, delays, and obstruction, from the controls contractor that controls five of the ten buildings with existing BMSs, made for very limited implementation of ECMs. The staff at most buildings have limited interaction and familiarity with the existing BMSs due to its age and lack of functionality, so ECM changes required working with the BMS contractors. Also, there were no existing energy monitoring systems in these BMS buildings to utilize, so that work did not occur.

Another issue that limited the OsEM project progress in some buildings was that often other larger problems with the BMS were identified during attempts to implement ECMs. These problems included contractors not servicing all equipment in a building, (interpreting their contract to not include certain equipment), or failed controls keeping ECMs from being implemented without other repairs occurring first. The existing contracts with the controls contractors to maintain the buildings running in an efficient manner were not well understood by either the contractors or UC staff, which has led to obvious problems within some buildings not being identified and repaired.

Encon Services is contracted by UC to maintain the BMS and HVAC equipment at the UC Court House, Trudy Resnick, Records Storage, UCOC/DSS, and Probation/Restorative Justice. Though commissioning spreadsheets and direct communications between UC staff, the OsEM, and Encon Services concerning their BMS deficiencies took place over the last few quarters, few repairs have been confirmed in writing to UC staff. This has prompted UC staff to request written details from Encon Services as to the maintenance procedures that are performed to meet their service contract

as well as requests for UC staff to accompany Encon Service technicians on field visits to observe this work. At the time of this report, UC has not received a response from Encon Services.

Some BMS repairs and ECM implementation occurred under the EM Tech contract in the buildings that they cover, UCOB, Golden Hill OB, and DPW. During this work and UC staff review of invoicing from EM Tech it was realized that EM Tech was treating the contract more as an on-call service contract and not the maintenance contract as written. Though UC was not getting invoiced for work not performed, each building had BMS repair issues that the OsEM project identified that routine maintenance should have identified and addressed. Several of these repairs remain open at the time of this report.

Eastern Heating & Cooling provides BMS contracted service for UCLEC and UCAT buildings. There was extensive savings identified at UCLEC primarily due to heating and cooling temperature settings being reversed from efficient values, and some air handling units running full speed 24/7 though originally set to reduced speed during low or unoccupied hours for the spaces they served. The ECM implementation for UCLEC was put on hold until the end of the OsEM project, as upgrades to all the BMS controllers in the building has been occurring since the fall 2024. At the time of this report plans are being made to implement as many ECMs as possible at the end of January 2025 as the OsEM project concludes.

The one deviation to standard operating procedures undertaken by the OsEM was not having ECMs interactive with other measures within the building. With a list of ECMs into the hundreds, it was determined that the estimated savings for each ECM would provide realistic savings numbers without spending time redoing each buildings ECM calculation every time a new one was added for that building.

3.1 OsEM Project Contact List

Team Member	Company and Contact Names	Phone Number/ Contact Information
Owner	Ulster County	
Director – Dept of the Environment	Europa McGovern	(845) 802-7978
Maintenance Coordinator – Dept. of Public Works	Ed Vertullo	(845) 340-3142
Deputy Commissioner – Finance	Dean Rylewicz	(845) 340-3127
Deputy Commissioner – Buildings & Grounds	Leo Maneri	(845) 340-3975
Deputy Commissioner – Capital Projects	Rob Parete	(845) 340-3116
OsEM	Guth DeConzo	

On Site Energy Manager	Dan Spilman	(518) 488-9406 (c)
Mechanical Engineer	Jeremy McDonald	(518) 266-9600 ext. 101
Electrical Engineer	BouJeloud Reed	(518) 266-9600 ext. 106

4. Energy Conservation Measures and Tracking

4.1 Energy Conservation Measures Project Summary

1. The final list of ECMs is included in Appendix 1.3. Final identified electrical savings totaled 23% of UC baseline consumption, 766% higher than the 3% OsEM target. Final identified fuel savings ECMs was 29% of UC baseline consumption, 985% higher than the 3% OsEM target. Installed or implemented ECMs were below the 3% savings targets for both electric and gas, and will be updated in the appendix 4.1 at the end of the project. This ECM list includes many no cost and low cost measures that could be implemented by UC as staff and resources allow. Many ECMs will be addressed when the BMS Upgrade project occur at those buildings. Limited ECM implementation occurred during the OsEM project period due to reasons discussed previously. Work under the BMS Upgrade Project will also install energy monitoring system for each of the larger UC buildings with new meters and BMS software to allow UC staff to monitor these buildings' energy consumption.

2. The chart below provides a brief overview of each of the ECM types that are included in Appendix 4.1 Project Summary Form second column, titled "Measure Description".

Energy Conservation Measure Description	Energy Conservation Measure Overview
AHU Control	Correct AHU sequence of operation and/or equipment not functioning as designed.
BMS Temp Control	BMS scheduling and temperature setpoints.
BMS Upgrades	Add additional BMS sensors and/or controls.
Boiler Control	Sequence of Operation changes to maximize boiler and boiler pump efficiency.
Building Temperature Control	Setpoint and scheduling changes for buildings with stand-alone controls.
Chiller Control	Chiller outside reset control, cooling tower modulating control, BMS control upgrades.
DHW Pump Control	Install controls to eliminate 24/7 operation for domestic HW recirculation pumps.
EF Control	Install controls to eliminate 24/7 operation for equipment room EFs.

HVAC/Heating System	Equipment upgrade varies by ECM.
HW System Upgrades	Upgrades and replacement of heating system equipment.
HWP Control	Adjust HWP DP setpoints to allow for modulation of the HWP VFDs over a larger range.
Kitchen EF and Cooler Controls	Install kitchen hood controls for variable supply & exhaust air flow. Install cooler controls.
Lighting Upgrades & Controls	Upgrade to LED lighting and/or add lighting controls.
Pipe Insulation	Install insulation on piping, valves, and fittings that has no insulation or damages insulation.
Sensor Repair	Recalibrate or replace BMS sensors that are not reading properly.
Windows	Replace existing single glazed windows.

5.0 Supporting M&V, calculations, cost estimates

Savings calculation will be included for many of the identified ECMs in Appendix 5.1.

Cost estimates for some ECMs are included in the Appendix 5.2 chart.

6.0 Case Study

A case study summarizing the OsEM project at UC will be provided to UC when completed by NYSERDA staff. The OsEM provided text to NYSERDA for the preparation of this document.

7.0 Road Map

A Road Map summarizing the process for UC to enroll in the OsEM project, and to positive and negative highlights of this project will be provided to UC when completed by NYSERDA staff. The OsEM provided text to NYSERDA for the preparation of this document

Appendix I: Decarbonization Fund Resolution

Resolution No. 702

December 18, 2023

Establishing A Restricted Capital Reserve Fund - Decarbonization Capital Reserve - Under Section 6-C Of The New York State General Municipal Law

Referred to: The Energy, Environment and Sustainability Committee (Chairwoman Greene and Legislators Hansut, Levine, Maloney, and Stewart), The Public Works, Capital Projects and Transportation Committee (Chairwoman Petit and Legislators Erner, Fabiano, Litts, and Nolan), and The Ways and Means Committee (Chairman Gavaris and Legislators Cahill, Criswell, Roberts, and Ronk)

Chair of the Legislature, Tracey A. Bartels, offers the following:

WHEREAS, this resolution has been submitted at the request of the County Executive; and

WHEREAS, the 2024 - 2029 proposed Capital Improvement Program has outlined various capital improvements to aging and outdated fossil fuel related building infrastructure; and

WHEREAS, the Ulster County Executive is requesting the Ulster County Legislature establish a Restricted Capital Reserve – Decarbonization Capital Reserve to provide eighteen million dollars (\$18,000,000.00) in funding to offset the costs of the projects as laid out in the 2024 - 2029 proposed Capital Improvement Program; and

WHEREAS, this dedicated reserve will fund capital projects that improve energy efficiency in buildings and operations, and replace fossil fuel-reliant HVAC and other equipment at the end of its useful life with clean, energy-efficient technologies; and

WHEREAS, these investments are intended to both reduce climate-damaging emissions and provide long-term operational savings to the County government as building improvements are made over time; and

WHEREAS, General Municipal Law Section 6-C allows the governing board of any county, city, village, town or sewer and water improvement district to establish capital reserve funds for the financing of all or part of the cost of the construction, reconstruction, or acquisition of a type of capital improvement or the acquisition of a type of equipment; and

WHEREAS, current calculations for the end of fiscal year 2023 estimate that Ulster County will end with an unrestricted fund balance in excess of one hundred ten million dollars (\$110,000,000.00), and

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WHEREAS, Ulster County's adopted Fund Balance Policy requires the unrestricted fund balance within the General Fund to be between 15% and 20% of current General Fund operating expenditures; now, therefore be it

RESOLVED, that out of the ending unassigned fund balance for the fiscal year ended December 31, 2023, the sum of eighteen million dollars (\$18,000,000.00) be restricted for the establishment of a Restricted Capital Reserve Fund for the Decarbonization Capital Reserve of the County of Ulster, and the Commissioner of Finance of the County is hereby authorized, empowered, and directed to transfer from said unassigned fund balance the said sum of eighteen million dollars (\$18,000,000.00) dollars to said Fund; and, be it further

RESOLVED, such fund is to be known as the "Restricted Capital Reserve – Decarbonization Capital Reserve" (the "Fund"); and, be it further

RESOLVED, the Restricted Capital Reserve – Decarbonization Capital Reserve is accounted for within the Restricted Fund Balance; and, be it further

RESOLVED, there may be paid into such Fund such amounts as may be provided therefore by budgetary appropriation or raised by tax therefore, and such revenues as are not required by law to be paid into any other fund or account, including the proceeds from the sale of any capital improvement or equipment owned by the County; and, be it further

RESOLVED, moneys in the Fund may be appropriated:

a. Only to finance design, construction, reconstruction, or acquisition for the purpose of capital projects that improve energy efficiency in County buildings and operations, or that replace fossil fuel-reliant HVAC and other equipment at the end of useful life with clean, energy-efficient technologies for which bonds may be issued.

b. For the payment of interest on and principal of indebtedness, other than indebtedness evidenced by bonds and notes described in paragraphs A and D of section five of article eight of the state constitution, and indebtedness for assessable improvements or renewals thereof, all or part of the unexpended balance remaining in a fund established for the decarbonization plan. Any such appropriation may not be made unless the improvement has been completed or acquired, and shall not include any moneys required to satisfy all outstanding claims arising from the construction, reconstruction or acquisition of such capital improvement. and, be it further

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Establishing A Restricted Capital Reserve Fund - Decarbonization Capital Reserve - Under Section 6-C Of The New York State General Municipal Law

RESOLVED, the Ulster County Commissioner of Finance shall account for the Fund separate and apart from all other funds of the County of Ulster; and such accounting shall show: the source, date and amount of each sum paid into the Fund; the interest earned by such Fund; capital gains or losses resulting from the sale of investments of the Fund; the interest or capital gains which have accrued to the Fund; the order, source thereof, date and amount of each appropriation and withdrawal from this Fund; the assets of the Fund, indicating cash balance therein and a schedule of the amounts invested in federal or state obligations; and, be it further

RESOLVED, not later than sixty (60) days after the start of each fiscal year and at such times as may be required by the Ulster County Legislature (the "Legislature") or the Ulster County Executive (the "Executive"), the Commissioner of Finance shall furnish to the Legislature and the Executive a detailed report of the operation and condition of the Fund during the preceding fiscal year which shall include a statement of receipts and disbursements, and a statement of the balance of the Fund as of the last day of such preceding fiscal year and such other dates as may be specified by the Legislature; Not later than thirty (30) days prior to the last date provided by the Ulster County Charter (the "Charter") for the filing of the executive capital budget, the Commissioner of Finance shall furnish to the County Executive a statement of the current balance of the Fund; and, be it further

RESOLVED, any request for appropriation from the Decarbonization Capital Reserve shall include a project-specific alternatives analysis providing quantitative documentation related to anticipated energy efficiency and or clean energy benefits; and, be it further

RESOLVED, any project funded with the Decarbonization Capital Reserve will have project level energy reporting data provided annually in the Ulster County Benchmarking Report produced in accordance with Resolution No. 447 of 2016; and, be it further

RESOLVED, any interest earned or capital gains realized on the moneys so deposited or invested shall accrue to and become a part of such Restricted Capital Reserve Fund; and, be it further

RESOLVED, an expenditure shall be made from the Fund only by authorization of the Legislature, the cost of which may be financed therefrom,

and move its adoption.

Resolution No. 702 December 18, 2023

**Establishing A Restricted Capital Reserve Fund - Decarbonization
Capital Reserve - Under Section 6-C Of The New York State General
Municipal Law**

ADOPTED BY THE FOLLOWING VOTE:

AYES: 15 NOES: 7
(Noes: Legislators Corcoran, Fabiano, Hansut,
Litts, Lopez, Roberts, and Ronk)
(Absent: Legislator Stewart)

Passed Committee: Energy, Environment and Sustainability as amended on
December 7, 2023

Passed Committee: Public Works, Capital Projects and Transportation on December
11, 2023

Passed Committee: Ways and Means as amended on December 12, 2023

FINANCIAL IMPACT:

**\$18,000,000.00 – RESTRICTED CAPITAL RESERVE – DECARBONIZATION
CAPITAL RESERVE**

Resolution No. 702 December 18, 2023

**Establishing A Restricted Capital Reserve Fund - Decarbonization
Capital Reserve - Under Section 6-C Of The New York State General
Municipal Law**

STATE OF NEW YORK

SS:

COUNTY OF ULSTER

I, the undersigned Clerk of the Legislature of the County of Ulster, hereby certify that the foregoing resolution is the original resolution adopted by the Ulster County Legislature on the 18th Day of December in the year Two Thousand Twenty-Three, and said resolution shall remain on file in the office of said clerk.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the County of Ulster this 22nd Day of December in the year Two Thousand Twenty-Three.

[s] Victoria A. Fabella
Victoria A. Fabella, Clerk
Ulster County Legislature

Submitted to the County Executive this
22nd Day of December 2023.

[s] Victoria A. Fabella
Victoria A. Fabella, Clerk
Executive Ulster County Legislature

Approved by the County Executive this
26th Day of December 2023.

[s] Jen Metzger
Jen Metzger, County