

Erie County Annual Climate Action Update - 2023

Key Takeaways

Since last year's report, Erie County has made substantial progress implementing the initiatives outlined in the *Erie County Climate Action and Sustainability Plan for Internal Operations (CASP)*, including the successful implementation of several large projects. This report gives an overview of the progress on these initiatives. The most recent greenhouse gas (GHG) inventory of Erie County's government operations, which captures 2022 emissions, shows a decrease of 34.2% compared to the 2005 baseline.

Much of 2023 was focused on completing the development of the County's equity-centered *Community Climate Action Plan (CCAP)* to expand on earlier community climate planning efforts. The actions outlined in the CCAP are directed at reducing climate pollution and protecting our residents and economy from the impacts of climate change. The CCAP was finalized and released at the end of 2023 and was adopted by the Erie County Legislature in January 2024. Already, the County is seeing the fruits of this effort, with the development of complex multi-partner grant applications and grant awards to implement CCAP actions.

Background

The CASP was completed in 2019 and focuses on internal strategies to reduce GHG emissions. This plan was developed by the Erie County Green Team, a committee with representatives from all Erie County Departments serving under the County Executive, as well as representatives from the offices of other County elected officials. Since the release of the CASP, the Green Team has continued to meet quarterly, with its Transportation, Energy, and Waste Committees also meeting quarterly.

The CASP set aggressive internal operations greenhouse gas (GHG) emission reduction targets, including a 50% reduction from the baseline of 2005 by 2025, and an 80% reduction by 2040. The 2022 internal operations GHG inventory is included in this report.

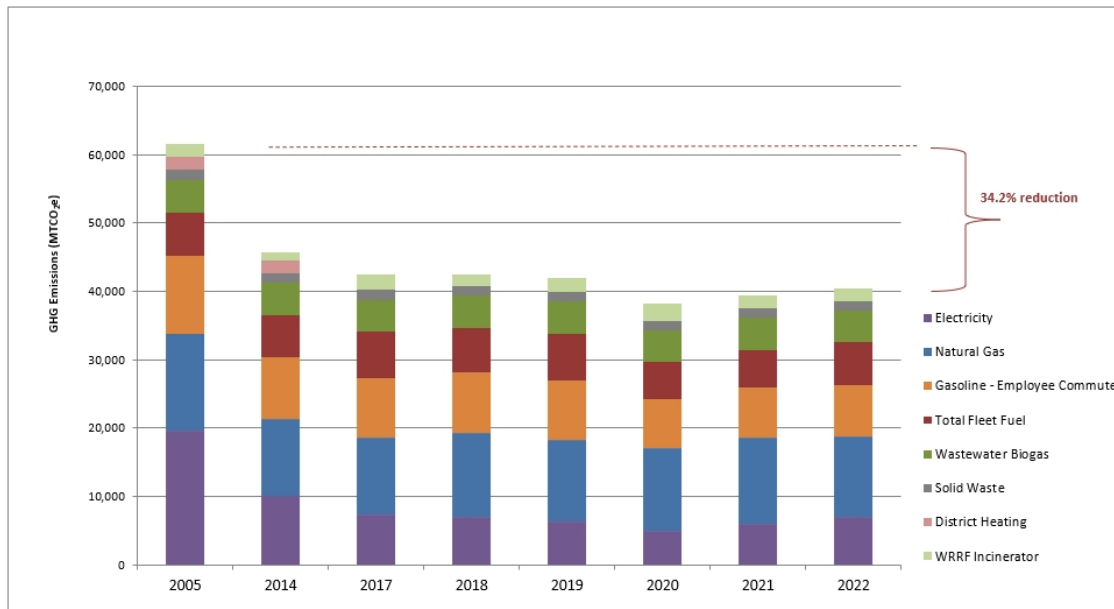
In 2018 the County also committed to procure all electricity for County operations from renewable sources by 2030. This has become more challenging because of statewide delays in the development of renewable energy, and electric transmission infrastructure bottleneck, which have slowed renewable energy development in Western New York. As of now, the cost to purchase NYS Renewable Energy Credits (REC) to achieve this goal would exceed \$800K per year, and those RECs would mostly be from projects outside of Western New York. Therefore, rather than purchasing RECs, the County is focusing on energy conservation and reducing climate pollution directly from its operations.

To better address community-wide climate action, in 2021 Erie County established the Community Climate Change Task Force (C3TF), a committee of its Environmental Management Council, as the official advisory board on the issue. The C3TF includes representatives from community-based organizations, not-for-profits, colleges, municipalities, business representatives, NFTA, National Grid, the Greater Buffalo Niagara Transportation Council, the Buffalo & Erie County Public Library, the Buffalo Museum of Science, and the WNY Youth Climate Council. Over several years the C3TF supported the development of the equity focused CCAP, which involved broad community involvement, 100 active volunteers, 10 topic-based workgroups, hundreds of community engagement activities, and extensive public input. This CCAP is broadly consistent with the New York State climate plan and goals. The resulting plan can be downloaded at www.erie.gov/climateaction.

2022 Greenhouse Gas Inventory for Internal Operations

The 2022 GHG inventory for the County’s internal operations shows a 34.2% reduction in GHG emissions compared to the 2005 baseline (Figure 1). This year the inventory was updated to use US Environmental Protection Agency eGrid emission factors for electricity use for all inventory years, which is consistent with government operations inventory protocols, and is the method used by almost all local and county governments in New York State. The emissions reduction is a slight increase from the 2020 and 2021 inventories and reflects a higher level of onsite work and commuting emissions by Erie County staff as the COVID pandemic subsided. Since 2014 the County’s largest emission reductions are from reduced emissions from employee commuting, elimination of a district heating system in 2016, reduced electricity use, and availability of greener electricity in upstate New York as coal power was replaced by natural gas generated electricity and renewable energy.

Figure 1. Erie County Internal Operations GHG Emissions by Source



The County has implemented many energy conservation, waste reduction, and renewable energy projects, which have resulted in GHG emission reductions. Those projects are described below and in the attached tables. It is important to note that key projects, including the Energy Performance Contract, were only partially implemented by the end of 2022. Thus, they are not fully captured by the 2022 GHG inventory.

The County set a goal of 50% greenhouse gas reduction by 2025. Additional building performance savings, including from the Energy Performance Contract and fleet savings from purchase of electric vehicles, will help move us toward that goal, but it will be challenging to achieve this near-term goal. Deeper reductions later this decade will be achieved as the state implements its Clean Energy Standard for renewable energy in the grid, and as electric vehicles become more available.

Progress on Initiatives

Tables with updates on initiatives in the CASP are attached. Below are several significant projects and achievements that were accomplished over the past year.

Energy Performance Contract – The first phase of a large Energy Performance Contract was completed in 2022 and the second phase is being completed in the spring of 2024. These projects have involved more than 100 projects at 40 buildings, and have significantly improved energy efficiency, made the buildings healthier for staff and the public, and reduced climate pollution. Examples of projects include the installation of energy-efficient heating and cooling systems, high-tech digital controls for building equipment, and power-saving LED fixtures. The second phase of the project included retrofitting the 120,000 square foot Board of Elections building with air source heat pumps – the largest municipal heat pump project ever undertaken in upstate New York. The energy savings are projected to save the County over \$400,000 per year and GHG emissions from County buildings will be reduced by over 13%. Energy cost savings are guaranteed by the contractor.

Electric Vehicles - In 2023, Erie County purchased its first EV pickup truck – a Ford 150 Lightning which is being used by the Sheriff’s Office for the composting program. This is the County’s 9th EV vehicle. In 2024 the County will work with a specialist to systematically assess opportunities to transition to EVs and charging infrastructure needs.

Building Electrification – In 2023, DPW completed the conversion of the Sprague Brook Park Casino to a ground source heat pump heating system. This is the first ground source heat pump installed at a County property. With this project the County will have almost eliminated the use of expensive and polluting propane and fuel oil from its buildings.

Climate Action Fund – This fund, established in the 2020 budget, reinvests half of the cost savings achieved through energy conservation and waste reduction projects into additional sustainability initiatives. Due to how the Energy Performance Contract is structured, the fund does not include the savings from those projects. The fund is overseen by the Core Green Team, the steering committee of the Green Team, which includes representatives from DPW, DEP, Parks, Social Services, and Budget. The fund is utilized to implement action items identified in the CASP, as well as other projects identified by the Green Team. Whenever possible the fund is used to leverage additional funding through grants and rebates. In 2023, the Climate Action Fund supported the purchase of an electric golf course mower for the Parks Department, electric vehicle charging projects, an electric cart for Sheriff’s personnel, EV chargers for County buildings, the Sprague Brook Park Casino ground source heat pump project, a solid waste study, and a temporary junior staff to support the CCAP project.

DSM Initiatives - The Division of Sewerage Management has several projects in progress which will reduce GHG emissions. For example, a high-level biosolids master plan study is in progress with a draft report expected in the first half of 2024. Improvements continue regarding optimizing biosolids dewatering/stabilization. Construction of the anaerobic digester improvements at the Lackawanna Water Resource Recovery Facility (WRRF) continues and is expected to be completed by mid-2024. Various energy efficiency projects are ongoing, ranging from minor changes such as LED lighting conversions to major upgrades such as the replacement of the blowers at the Big Sister Creek WRRF which is estimated to decrease the electrical load for this equipment by over 990,000 kWh annually.

State and National Recognition – Erie County is one of only four counties to receive Silver Certification, currently the highest level, in NYSDEC’s Climate Smart Communities program by demonstrating the

extensive work being done across the County to reduce GHG emissions and prepare for the changing climate. Erie County also received the most points of any large county or city in the New York State Energy Research and Development Authority's (NYSERDA) Clean Energy Communities program. This achievement resulted in the County receiving a \$250K grant award from NYSERDA for additional energy conservation projects. In 2023, the American Planning Association's New York Upstate Chapter recognized the County for Public Outreach for its CCAP. Finally, also in 2023, GObike Buffalo recognized Erie County as the year's Most Bike Friendly Employer.

Commuter Committee – In 2023, the County convened a Commuter Committee as a committee of the Green Team. This committee works on reducing single occupancy vehicle commuting via rideshare, bicycling, walking, and transit use. The committee meets quarterly.

Unprecedented Grant Funding – The County's climate planning efforts are leveraging unprecedented climate grant applications and awards. The County was awarded a \$5.2M USDA Forest Service grant for community forestry initiatives in disadvantaged communities that will result in many benefits including improving our resilience to extreme heat. This grant involves six community partners, addresses seven CCAP actions, and was resulted from the CCAP development. In 2023 the County also worked with partners to submit two federal grant applications – one for more than \$20M to install rooftop solar on low-income residences and another for \$40M that will fund Lake Erie and Niagara River coastal resiliency projects. Awards have not yet been announced for these grants.

Conclusion

With the increasing availability of federal and state funding for climate initiatives, and the conclusion of the CCAP, we have entered an exciting time. However, as we can see in headlines every day, the impacts from climate change are increasing and we have much work ahead of us. Thanks to the efforts of many in our community, the leadership of the County Executive Mark Poloncarz, the support of the Erie County Legislature, and the hard work of County staff from many departments substantial progress has been made on this critical work.

What's Next in 2024

In the next year our focus will include developing an Extreme Temperature Plan and rolling out the Erie County Low Income Program for Sustainable Energy. We will commence work on the USDA Forest Service Community Tree Project. The County will also complete the Board of Elections Building electrification project, begin a green roof and solar energy project for the Central Library and install rooftop solar on the Rath County Building. We also will be continuing to aggressively pursue additional federal and state funding for actions identified in the CCAP.

DEP's 2024 Budget includes a \$500K Climate Resilience Fund that will pilot climate resilience strategies at community heating and cooling centers. This project will address vulnerabilities that became apparent during the 2022 Blizzard and will coordinate with an ongoing Extreme Temperature Planning Project

As we continue this work, our guiding principles remain the same: to do our part as a community to reduce greenhouse gas emissions, strengthen Erie County's economy and create good jobs as we transition to clean energy, and above all protect businesses and residents from the impacts of climate change, especially those who are most vulnerable.

2023 Summary Table of Initiatives - Erie County Climate Action and Sustainability Plan for Internal Operations - Priority Tier 1

Initiative	Sector	Lead Dept.	% complete	Recent Progress
C-1 - Reducing Single occupancy Vehicle Commuting	Transportation - Commute	Personnel	On-going	DEP facilitates the Green Team Commuter Committee, which was convened in 2023. This committee is helping to promote sustainable commute initiatives, like the recently announced pre-tax transit incentive, and bike parking amenities.
C-2 - Employee Education on Commute Alternatives	Transportation - Commute	DEP	On-going	Erie County has worked with partners such as GOBuffaloNiagara to make alternatives to single occupancy vehicle commuting a safer and viable option for employees. Currently 101 employees participate in the NY511 rideshare program, which is an on-line resource for employees to find easy, affordable, and sustainable alternatives to driving alone. In 2023, the Green Team formed a commuter committee, which meets quarterly to discuss employee commute opportunities and to promote sustainable transportation initiatives. An employee resource webpage and additional educational sessions are being planned for 2024.
C-3 - Construct Buildings and Parking to Support Alt. Transportation	Transportation	DPW	65%	The County has added 14 charging stations at 10 locations throughout the county. These locations include the following parks and ECC locations: Sprague Brook, Isleview, Emery, Elma Meadows, Ellicott Creek, ECC South (2), Bennet Beach, Grover Cleveland, ECC North (2), and ECC City.
F-1 - Preventative Fleet Maintenance Program	Transportation	DPW	65%	DPW maintains many of the County vehicles with the exception of Highways, Parks, Sewers, and Sheriff's, who all maintain their own vehicles. The fleet inventory is continually updated by DPW to identify older, less efficient vehicles to target for replacement. Maintenance records of non-leased vehicles are kept at the department level. Information is shared through the Green Team Transportation Committee. Erie County is in the process of replacing almost all 2019 (and some 2018) vehicles. There are very few older vehicles remain, except for heavy duty.
F-2 - Reducing Vehicle Idling	Transportation	DPW	25%	The transportation committee has created a draft fleet efficiency policy which establishes goals for reducing excess idling in the fleets. The committee will send this to the Executive Office for consideration. Automatic vehicle locators (AVLs) have been installed, but idle times have not been reviewed.
F-3 - Increase Use of Alternately Fueled Vehicles	Transportation	DPW	On-going	Due to maintenance issues, the Sheriff's Office will be removing a few hybrids from their inventory. Additionally, the general fleet will be losing some hybrids due to lease maturity. Fleet intends to buy another fully electric vehicle in 2024 to replace an inefficient Volt. A fleet electrification and optimization study is being planned for 2024, which will identify the most efficient way the County can transition its fleet to electric.
F-4 - Improve Fleet Deployment and Monitoring	Transportation	DPW	On-going	AVLs are fully operational, with units being added as new vehicles are brought into the various fleets. Every department that has at least one vehicle with an AVL has had an invitation sent to a department head (or designated person) to create an account and view their vehicle(s).
W-1 - Departmental Waste Plans	Waste Management and Recycling	DEP	40%	Erie County conducted a waste audit of County facilities which was completed at the end of 2023. The contractor (UB) is in the process of putting data together for review. Anticipate the final report by the end of March 2024, which will help create individual departmental plans.
W-2 - Paper Reduction	Waste Management and Recycling	DISS	40%	We continue to reap the benefits of the paper reduction efforts that took place five years ago. The Green Team will look at ways to reengage employees on the topic in 2024.

Initiative	Sector	Lead Dept.	% complete	Recent Progress
W-3 - Construction & Demolition Waste Policy	Waste Management and Recycling	DPW	5%	No progress has been made, but this action will continue to be discussed at committee meetings in 2024.
W-4 Meeting & Event Guidelines	Waste Management and Recycling	DEP	60%	No progress has been made, but the above referenced solid waste audit will help to address this action item.
W-5 - Organic Waste Reduction Compost Program	Waste Management and Recycling	DEP	75%	2023 saw the full reinstatement of the composting program at the Erie County Correctional Facility in Alden. On April 1 the county began to collect all pre-consumer (from kitchen) waste from the Holding Center in Buffalo. Totes are picked up twice a week and the Holding Center is provided with clean totes at each trip. In Fall of 2023 the County began to offer an opportunity for various departments in the Rath Building to collect and compost coffee and tea. Expansion is anticipated in 2024.
E-1 - Building Performance and Operations Improvements	Buildings and Energy	DPW	75%	The County is continuing to implement strategies to improve building performance and operations. These include the replacement of pneumatic controllers with electrical controllers when equipment breaks; integrating more equipment into a software based management system to allow better control and oversight, and training opportunities for staff to learn how to service and maintain equipment to perform optimally.
E-2 - Building Energy Efficiency Improvements	Buildings and Energy	DPW	On-going	The County continues to invest in its buildings by upgrading outdated equipment and installing various energy efficiency measures, such as new windows and LED lighting. The County is also adopting new technology and energy saving strategies by switching to all-electric heating and cooling where practicable. The signature project is taking the five-story Board of Elections Building and switching from a large steam boiler to an air source heat pump system which will provide clean heating and cooling for all of the occupants. The County is also on track to remove propane heating from all of its parks by 2024.
E-3 - Renewable Energy	Buildings and Energy	DPW	50%	The County completed the construction of a 450kW system to add to its 2 MW portfolio. The County continues towards its goal of 100% renewable energy through energy conservation, renewable production and renewable energy certificate purchasing.
L-1 - Landscape Management Guidelines	Land Management	Parks	On-going	The County continues to implement low-mow and no-mow areas as outlined in the Parks Master Plan Update and wildflower areas are being designated throughout County Parks. Utilizing Climate Action Funding, the County has begun replacing gas-powered landscape equipment with electric models.
L-2 - Natural Resource Inventory	Land Management	DEP	100%	The Erie County Natural Resource Inventory has been completed and is available on the Erie County website for internal and public use.
L-3 - Native Plant Policy	Land Management	DEP	40%	The Native Plant Policy has been drafted. A list of native and invasive plants exists, but needs to be scaled down and sorted by availability. This has proven to be both complicated and time consuming, delaying implementation.
Wa-1 - Implement Green Infrastructure Projects	Water Conservation and Stormwater	DEP	On-going	The County was recently awarded a Green Infrastructure Grant to install a vegetative roof on the Central Library in Downtown Buffalo. This demonstration project will provide stormwater retention benefits for the City of Buffalo as well as thermal benefits all while extending the longevity of the roofing system

Initiative	Sector	Lead Dept.	% complete	Recent Progress
Wa-2 - Educate Employees on Water Conservation and Protection	Water Conservation and Stormwater	DEP	On-going	<p>The Lake Erie Watershed Protection Alliance (LEWPA), which Erie County participates in, developed watershed training videos for municipal officials and are available online. LEWPA held one septic system maintenance workshops in Akron. The Erie County Water Quality Committee continued to hold presentations on water quality initiatives and topics. These opportunities were shared with employees.</p> <p>Other employee education consisted of 11 employee trainings on the following topics: NYS stormwater permit regulations, illicit discharge detection, sampling and elimination, stormwater management practices/inspection, erosion and sediment control, construction site inspection, pollution prevention/good housekeeping, facility self-assessments.</p>
S-1 - Investigate alternative means to manage biosolids at County owned water resource recovery facilities	Sewerage Management	DSM	50%	<p>The Division of Sewerage Management retained the services of Brown and Caldwell to complete a high-level biosolids master plan study. A draft report is expected in the first half of 2024. Improvements continue with regard to optimizing biosolids dewatering/stabilization. Evaluation of the use of alternative fuels in the incineration process at the Southtowns Advanced Wastewater Treatment Facility (AWTF) is on-hold. Construction of the anaerobic digester improvements at the Lackawanna Water Resource Recovery Facility (WRRF) continues and is expected to be completed by mid-2024.</p>
S-2 - Address GHG Impacts at Water Resource Recovery Facilities	Sewerage Management	DSM	75%	<p>The Strategic Energy Management pilots have been completed at the Southtowns AWTF and Big Sister Creek WRRF. Several initiatives have been implemented, with others in progress. There has been no progress on potential combined heat/power - likely this will be considered after the anaerobic digesters at the Lackawanna WRRF are upgraded.</p>
S-3 - Triple Bottom Line Decision Making Process for Large Capital Projects	Sewerage Management	DSM	100%	<p>A triple bottom line analysis was developed for evaluating options associated with major upgrades at the Southtowns facility.</p>
P-1 - Environmentally Friendly Procurement	Purchasing	DEP	20%	<p>DEP provided the Purchasing Department with information on the NYS Green Purchasing program and is waiting for an evaluation if we can participate. DEP has begun reviewing bids and specs to identify products being purchased by the County that are not environmentally preferable and are determining potential alternative products from the GreenNY approved list. Implementation of a program to be discussed in 2024.</p>
P-2 - Financial Mechanism for Climate Actions	Budget	DEP	100%	<p>The Erie County Green Team and DEP oversee a funding mechanism for clean energy and sustainability projects called the Climate Action Fund. DEP documents ongoing cost savings from energy conservation and waste projects (not including the Energy Performance Contract), and requests 50% of these savings are included in the County budget for the Climate Action Fund to be used for additional sustainability projects. Funded projects to date include heating and cooling projects in Parks' buildings, electric vehicles, electric vehicle chargers, electric landscaping equipment, electric bicycles for the Sheriff's Office, energy conservation projects, support for a County waste and transportation study, and support of the Community Climate Action Plan.</p>

2023 Summary Table of Initiatives - Erie County Climate Action and Sustainability Plan - Internal Operations - Priority Tier 2

Initiative	Sector	Lead Dept.	% complete	Recent Progress
C-4 - Expand Current Commuter Programs	Transportation	DEP	On-going	The Niagara Frontier Transportation Authority's fare system has been updated and Erie County will soon offer pre-tax bus and train passes to County Employees. The recently formed Green Team Commuter Committee has added additional programs to expand commuter options, such as a new carpool and vanpool program and consultations on individual commutes.
C-5 - Employee Schedule - Implement and promote a comprehensive flexible work schedule	Transportation	Personnel	80%	A Work From Home Policy was developed and adopted by the County. Additional opportunities could be explored including flexible scheduling and a compressed work week.
F-5 - Strategies to promote walking & bicycling	Transportation	DPW	40%	Erie County participated in the development of the Greater Buffalo Niagara Regional Transportation Council (GBNRTC) Regional Bicycle Master Plan, which was finalized in 2021. Municipalities will coordinate with GBNRTC for bicycle infrastructure on County-owned roads within their community. In addition, the Live Well Erie (LWE) transportation and mobility sub-committee has started conversations with the EEO and Parks departments as they are looking at policies and infrastructure to improve walkability in Erie County.
W-6 - Plan and implement ongoing waste assessments by facility	Waste Management and Recycling	DEP	On-going	A solid waste management study of County owned buildings was completed in 2023 and recommendations from the study will be released in early 2024.
W-7 - Divert Waste from Landfill, Increase Recycling & Reuse	Waste Management and Recycling	DEP	On-going	All non-Cannon printer cartridges are now able to be recycled by a new program that was put in place near the end of 2023. All cartridges are now being returned to the Purchasing office in the Rath Building. Coffee grounds and tea bags are now being composted in the Rath building. Expansion to additional buildings is anticipated in 2024.
E-4 - Increased Standards for Building Design and Construction	Buildings and Energy	DPW	On-going	All newly constructed buildings are evaluated for LEED eligibility with the Erie Community College STEM building and the Botanical Gardens Expansion being recent examples of LEED certified projects. Smaller construction projects are subject to the NYS 2020 Energy Code to maximize energy efficiency.
L-4 - Update the Forest Management Plan and identify strategies to utilize and improve protection and management of trees	Land Management	DPW	On-going	A tree planting policy and tree donation policy have been established. The Forestry Management Plan Update process has started and the Public Engagement Strategy is complete and being implemented. Estimated completion date: Sept. 2025
L-5 - Reuse/repurpose underutilized properties for sustainability projects	Land Management	DEP	On-going	Erie County completed the construction of a 445kw solar array on the existing brownfield located at 303 Woodward Avenue. DPW and the solar contractor worked with DEC to create a plan that would minimize soil disturbance to the area.

Initiative	Sector	Lead Dept.	% complete	Recent Progress
Wa-3 - Conserve Water in County Owned Buildings	Water Conservation and Stormwater	DPW	On-going	Erie County upgraded all sink faucets and bathroom flush valves to touchless fixtures. These modern fixtures have reduced the consumption of water by an estimated 6 million gallons per year.
Wa-4 - Erosion and Flooding Control using Natural or Organic materials	Water Conservation and Stormwater	DEP	on-going	The Lake Erie Watershed Protection Alliance (LEWPA) has continued implementing riparian buffers in Erie County. Additionally LEWPA continued to conduct stream assessments that included bank assessments in the Niagara River and Middle Tonawanda Creek Sub-watersheds.
S-4 - Assess Sewer Collection System Carbon Footprint	Sewerage Management	DSM	on-going	The Division of Sewerage Management has several projects in progress which will reduce GHG emissions. For example, a high-level biosolids master plan study is in progress with a draft report expected in the first half of 2024. Improvements continue regarding optimizing biosolids dewatering/stabilization. Construction of the anaerobic digester improvements at the Lackawanna Water Resource Recovery Facility (WRRF) continues and is expected to be completed by mid-2024. Various energy efficiency projects are ongoing, ranging from minor changes such as LED lighting conversions to major upgrades such as the replacement of the blowers at the Big Sister Creek WRRF which is estimated to decrease the electrical load for this equipment by over 990,000 kWh annually.