

GREENING NEW YORK STATE

*Thirteenth Progress Report on State
Green Procurement & Sustainability*

Fiscal Year 2023–2024



GreenNY



Message from the Chairs

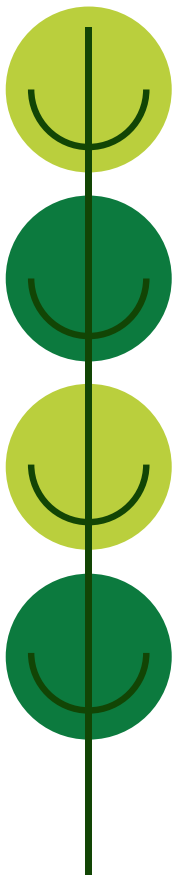
New York State stands at the forefront of sustainable government operations.

Under Governor Kathy Hochul's leadership and with the signing of **Executive Order 22: Leading By Example: Directing State Agencies to Adopt a Sustainability and Decarbonization Program (EO 22)**, the State's decarbonization and sustainable operations efforts have gained significant momentum. This directive designates the GreenNY Council as the body responsible for implementing the State's lead-by-example programs and grants the Council authority to issue new operational directives.

The fiscal year 2023-2024 (FY 23–24) "Greening New York State" report details the efforts of the 75 Affected Entities under EO 22 to minimize the environmental and health impacts of State government operations. These efforts span a wide range of areas, including decarbonization, waste reduction, green procurement, decreased use of hazardous substances, and enhanced management of natural landscapes. The comprehensive approach of the State's GreenNY program is one of its greatest strengths, positioning New York State as a leader in sustainable state operations.

Key achievements by Affected Entities in FY 23–24 include:

- Reducing energy use at State facilities by nearly 1.5 trillion BTUs through energy efficiency projects documented in BuildSmart 2025
- Decreasing the amount of waste produced by 50%, compared to FY 22–23
- Initiating a comprehensive project to improve use of GreenNY purchasing specifications
- Achieving an 89% overall recycling rate



The ambitious environmental performance targets set by EO 22 include:

- 100% renewable electricity use in State government by 2030
- A 100% zero-emission vehicle (ZEV) light-duty fleet by 2035 and medium- and heavy-duty fleets by 2040
- 11 trillion BTUs of energy savings at State facilities by the end of 2025
- Reducing embodied carbon in construction projects
- Cutting waste and eliminating single-use plastics from State operations
- Procuring green products and services and decreasing the use of hazardous substances
- Enhancing State-managed landscapes

The directive also includes provisions to prevent State operations from disproportionately impacting disadvantaged communities (DACs), and it prioritizes funding and facilities located in these areas for sustainability upgrades.

We have made great strides in building out the programs directed in EO 22 and are making progress toward the various targets across the 75 Affected Entities. We look forward to continuing to push onward as New York State sets an example of successful decarbonization and sustainable operations.



Justin E. Driscoll | President and CEO
NY Power Authority



Doreen M. Harris | President and CEO
New York State Energy Research
and Development Authority



Jeanette Moy | Commissioner
Office of General Services



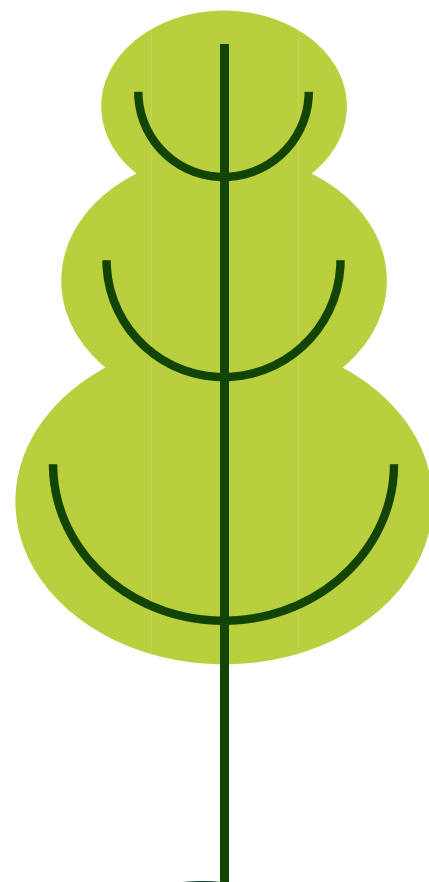
Amanda Lefton | Commissioner
Department of Environmental Conservation



Blake Washington | Budget Director
Department of Budget

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List of EO 22 Affected Entities

Adirondack Park Agency
Battery Park City Authority
Board of Elections
Bridge Authority
Buffalo Fiscal Stability Authority
Capital District Transportation Authority
Central New York Regional Transportation Authority
Central Pine Barrens Joint Planning & Policy Commission
City University of New York
Commission on Ethics and Lobbying in Government
Council on the Arts
Department of Agriculture and Markets
Department of Civil Service
Department of Corrections and Community Supervision
Department of Economic Development
Department of Environmental Conservation
Department of Financial Services
Department of Health
Department of Labor
Department of Motor Vehicles
Department of Public Service
Department of State
Department of Taxation and Finance
Department of Transportation
Division of Criminal Justice Services
Division of Homeland Security and Emergency Services
Division of Human Rights
Division of Military and Naval Affairs
Division of the Budget
Division of Veterans' Services
Dormitory Authority of the State of New York
Energy Research and Development Authority
Environmental Facilities Corporation
Erie County Fiscal Stability Authority
Erie County Medical Center Corporation
Financial Control Board
Gaming Commission
Higher Education Services Corporation
Homes and Community Renewal
Hudson River Valley Greenway
Hudson River–Black River Regulating District
Information Technology Services
Justice Center for the Protection of People With Special Needs
Long Island Power Authority
Metropolitan Transportation Authority
Nassau County Interim Finance Authority
New York Convention Center Operating Corporation
New York Power Authority
Niagara Frontier Transportation Authority
Office for People With Developmental Disabilities
Office for the Aging
Office of Addiction Services and Supports
Office of Children and Family Services
Office of Employee Relations
Office of General Services
Office of Mental Health
Office of Parks, Recreation and Historic Preservation
Office of Temporary and Disability Assistance
Office of Victim Services
Offices of the Inspector General
Ogdensburg Bridge and Port Authority
Olympic Regional Development Authority
Port of Oswego Authority
Public Employment Relations Board
Rochester–Genesee Regional Transportation Authority
Roosevelt Island Operating Corporation of the State of New York
State Insurance Fund
State Liquor Authority
State Police
State University of New York
Thruway Authority
United Nations Development Corporation
Urban Development Corporation
Westchester County Health Corporation
Workers' Compensation Board

Executive Summary

The GreenNY Council helped Affected Entities align their planning and operations with the directives of Executive Order 22 (EO 22) by developing project guidance, providing technical assistance, creating training, and hosting engagement events for Sustainability Coordinators and their teams.

FY 23–24 Highlights

- **Staff Engagement:** While all Affected Entities have Sustainability Coordinators, more than half reported having full teams. In addition to the Annual GreenNY Forum, outreach continued through regular newsletters, webinars, and updates to the GreenNY SharePoint.
- **Sustainability Coordinators:** A new sustainability coordinator orientation training and handbook were developed and launched to help new coordinators onboard.
- **Waste Reduction:** Affected Entities submitted Waste Diversion Plans to guide progress toward reducing waste by 10% every five years.
- **Recycling and Composting:** Affected Entities are diverting organic matter from landfills or combustion, eliminating single-use plastics, and increasing material reuse. The amount of total waste generated decreased by 50% as compared to FY 22–23.
- **Reducing Toxic Chemical Use:** Affected Entities inventoried and removed outdated and hazardous chemicals from storage. Surplus chemicals were redistributed, reducing disposal costs and minimizing new purchases.
- **Buying Green:** In FY 23–24, Affected Entities prioritized purchasing on green products and services.
- **Clean Energy and Renewables:** Affected Entities have collectively logged 8.4 trillion BTUs of energy-saving projects as of the end of FY 23–24, putting the State on track to meet its energy efficiency goal of 11 trillion BTUs saved by the end of 2025.
- **Refrigerant Management:** Reporting of refrigerant emissions increased in FY 23–24. Nineteen Affected Entities reported refrigerant management plans that cover some or all facilities, a 58% increase over FY 22–23.
- **Sustainable Transportation:** 7.4% of the State’s non-emergency, light-duty fleet was zero-emission vehicles at the end of FY23–24.
- **Sustainable Landscaping:** Pollinator gardens are being planted and maintained by multiple Affected Entities; tree planting was also prioritized, resulting in over 67,000 trees planted and furthering the Governor’s 25 million trees incentive.
- **Species and Habitat Protection:** Affected Entities considered impacts on endangered species through screening for listed species at 17 project sites.
- **Water Conservation:** the State University of New York (SUNY) University at Buffalo installed two snow melt recapture areas, an example of the State’s commitment to protect water quality and improve public safety.
- **Green Infrastructure:** Affected Entities installed bioretention basins, bioswales, rain gardens, green roofs, rainwater harvesting systems, and permeable pavement; they also completed tree plantings and wetlands construction, restoration, and preservation.
- **Climate Resilience:** Affected Entities are increasingly incorporating climate resilience into their operations. The Metropolitan Transportation Authority (MTA) created a Climate Resiliency Roadmap, and the New York Power Authority (NYPA) is developing a comprehensive scoring tool.
- **Green Procurement Improvements:** New projects were launched to improve green purchasing, including updating all green purchasing specifications for ease of use and increased compliance. An additional upcoming project will make it easier to find green products on State contracts and through preferred sources.
- **Restricting the Use of Bottled Water:** Affected Entities have continued to test water quality, install water filters, fountains, and water bottle refill stations, and provide reusable alternatives to their staff to eliminate purchases of bottled water.

FY 23–24 By the Numbers



75

**Affected Entities
working together
to Lead by Example**

16.9



*tons of material composted
by Affected Entities*

8.4 trillion BTUs of
energy savings logged through
the BuildSmart 2025 program



89%
overall State
recycling rate



100% of Affected Entities
have a designated
Sustainability Coordinator

67,818 trees
planted



\$228 million spent on
green products
and services

Achieving the Promise of Sustainability

New York State is committed to leading by example to lower the environmental footprint of operations through the GreenNY program.

Affected Entities are acting on a wide range of environmental issues from reducing greenhouse gas (GHG) emissions and decreasing waste, to eliminating hazardous substances and increasing green procurement opportunities. These actions are a win-win for Affected Entities because they improve environmental and health impacts while often reducing operating costs.

Affected Entities consistently set an example of sustainable government operations for the rest of the nation, and their efforts took a significant step forward during Climate Week in September 2022 when Governor Kathy Hochul signed EO 22. This executive order replaced and superseded EOs 4, 18, 88, and 166 and set new standards and environmental performance requirements for State government. EO 22 also designates the GreenNY Council as the implementing body.

Environmental performance requirements in EO 22 include:

- Reduce waste disposal by 10% every five years until reaching a goal of 75% lower than a FY 2018–2019 baseline.
- Eliminate single-use plastics in State operations.
- Reduce toxic substances in State operations.
- 100% of the electricity used in State operations will come from renewable sources (as defined by the State's Clean Energy Standard) by 2030.
- 11 trillion BTUs of energy savings will be achieved by the end of 2025 through the BuildSmart 2025 program.
- 100% of light-duty non-emergency vehicle fleets will be zero-emission vehicles (ZEVs) by 2035 and 100% of medium- and heavy-duty vehicle fleets will be ZEVs by 2040.
- Enhance habitats maintained by Affected Entities, including support for native pollinators.
- New State facilities that enter design and permitting from 2024 onward will be restricted from using equipment that can be utilized for the combustion of fossil fuels.
- State facilities will build resilience in the face of changing climate risks.
- Align purchasing with green procurement specifications.

Additionally, EO 22 directs Affected Entities to reduce adverse impacts of their operations on DACs.

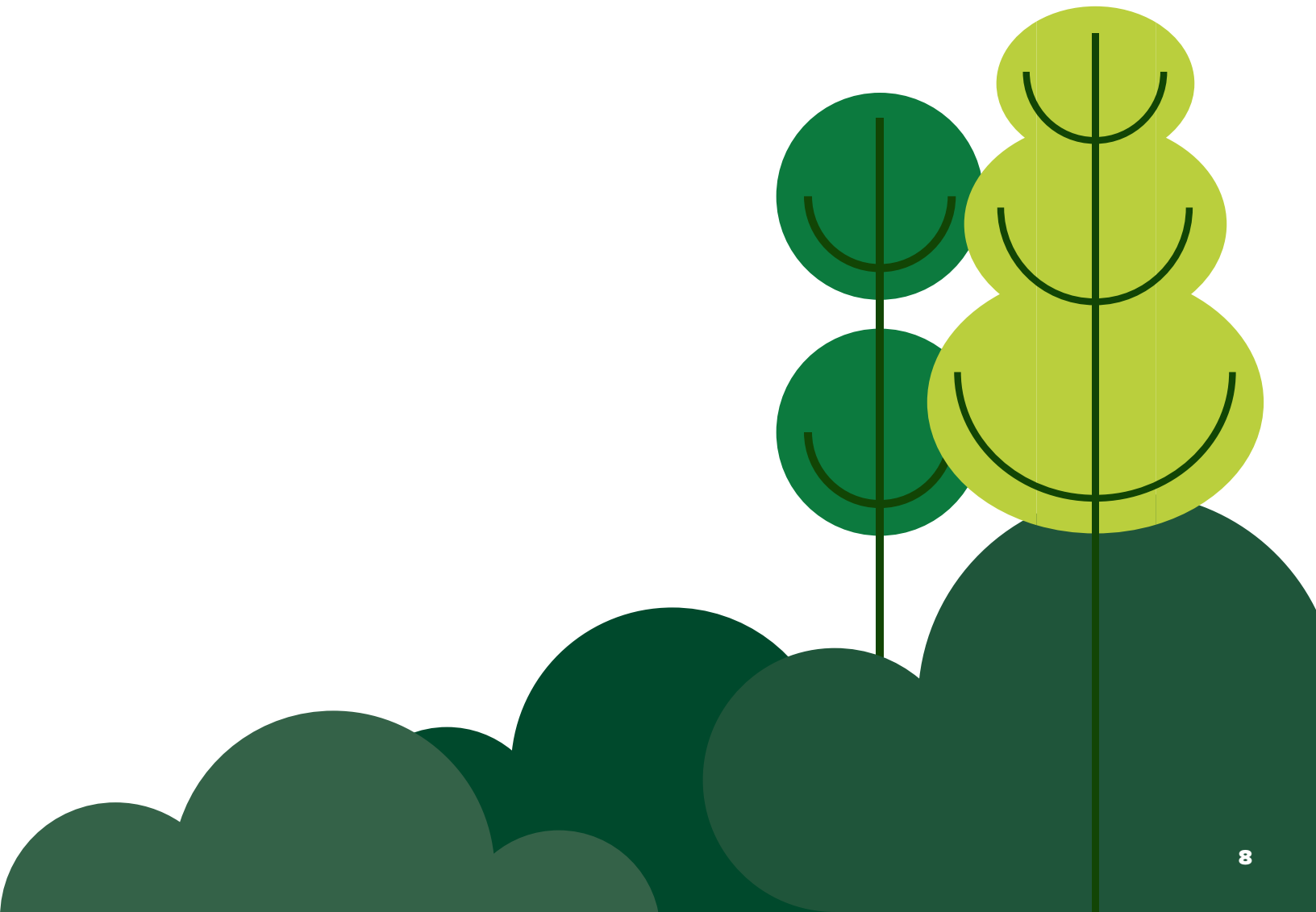
DACs are communities meeting criteria outlined by the Climate Justice Working Group that considers environmental burdens, climate change risks, and vulnerabilities related to population characteristics. By identifying such communities, the State is ensuring that these communities and their residents benefit from the transition to a clean energy economy.

The GreenNY Council has made great strides in implementing EO 22.

It continues to leverage resources, create guidance, streamline sustainability reporting, and make it easier for Affected Entities to achieve the State's climate and sustainability goals. Affected Entity reporting under EO 22 consists of a single annual GreenNY reporting form, complemented by topic-specific requests for information to determine progress and support planning in areas such as embodied carbon, waste, fleet management, and renewable energy.

All 75 Affected Entities reported under EO 22 for FY 23–24.

This document compiles their responses to the FY 23–24 GreenNY reporting form. Progress reports can be found on the [GreenNY website](#), which also includes more detailed information, webinars, fact sheets, and case studies on sustainable operations and purchasing.



Operating Green

Engaging Staff on Sustainability

Successfully reducing the carbon footprint of New York State operations calls for collaboration and coordination across the 75 Affected Entities covered by EO 22. Sustainability Coordinators and their teams lead the daily work that lowers the emissions and environmental impact from State operations.

Sustainability Coordinators are fundamental to catalyzing change and breaking down barriers in an organization.

All 75 Affected Entities have a designated Sustainability Coordinator. The number of Affected Entities with full-time Sustainability Coordinators has been steadily increasing since EO 22 was signed.

In FY 23–24, 16% of Affected Entities reported having a full-time Sustainability Coordinator, compared to approximately 13% in FY 21–22. The GreenNY website provides a [list of Sustainability Coordinators](#).

Nearly 60% of Affected Entities report having a Sustainability Committee to support their EO 22 work. Most of these teams engage regularly with staff. The GreenNY Council provides numerous resources that can help increase support for EO 22 efforts, including monthly GreenNY newsletters, the SharePoint Action Agenda, and the GreenNY website.



In September 2024, the GreenNY Operations and Engagement Working Group released a new Sustainability Coordinator Orientation training and an accompanying Sustainability Coordinator Onboarding Handbook to help onboard, educate, and empower new coordinators. Since its release, 45% of Affected Entities report having used the new training, and 36% of Affected Entities plan to view the training at a later date. The training was pre-recorded and is available as a permanent training resource on the internal GreenNY website.

Examples of successfully engaging Sustainability Coordinators, staff, and the broader sustainability community in FY 23–24:



The City University of New York (CUNY) hosted a **Campus Sustainability Councils Conference in September 2024**. It engaged faculty, staff, and students representing **Campus Sustainability Councils** from across CUNY campuses to discuss, share, and advance collective sustainability goals.

Niagara Frontier Transportation Authority (NFTA) partnered with the East Buffalo Development Corporation on the Buffalo Community Connectors program as part of the Bailey Avenue Bus Rapid Transit project. The program hosted quarterly community cleanups, youth bike rodeos, and the Kensington farmer’s market. NFTA’s Comprehensive Transportation Oriented Development Strategic Implementation Plan also utilized new engagement approaches to promote participation from people who live in areas designated as DACs.



Central New York Regional Transportation Authority (Centro) completed an **Earth Day Community Cleanup event in April 2024** that included both staff and community members.





Annual GreenNY Forum

The GreenNY Council's 2024 Annual Forum was held at NYPA's White Plains office on November 14, 2024.

More than 75 attendees representing 20+ agencies and authorities from across New York State gathered to discuss progress toward the goals of EO 22 and opportunities to make State operations more sustainable.

Ashley Dougherty, New York State's Deputy Secretary for Environment, opened the meeting and reaffirmed the State's commitment to sustainability, congratulating the GreenNY Council on its progress. Agencies and authorities shared success stories, best practices, and insights.

The GreenNY Forum provides the opportunity for Sustainability Coordinators to meet in person and strengthen collaboration with colleagues. Many Sustainability Coordinators said they left the meeting inspired and reenergized.



Clear, consistent, and color-coded signage is one of the most effective ways to enhance recycling programs. Affected Entities have created appealing signage to help increase recycling and decrease contamination.

Type and Tons of Material Recycled by Reporting Affected Entities FY 23–24

	Tons	% Total
Clean C&D	923,864	87.9%
Bulk Metals	10,870	1.0%
Office Recyclables	71,487	6.8%
Maintenance and Equipment	27,705	2.6%
Compostables	17,185	1.6%
TOTAL Recycling rate	1,051,111	100%



Waste Reduction, Recycling, Composting, and Special Waste

Affected Entities reported that they generated just over 1 million tons of waste material in FY 23–24, 88% of which was clean construction and demolition (C&D) debris. This represents a nearly 50% decrease in waste generation from the previous fiscal year. The overall recycling rate, including C&D, for Affected Entities was 89%.

Through EO 22, New York State committed to decreasing Affected Entity waste disposal by 10% every five years from a baseline of FY 18–19, with the goal of reaching 75%. In FY 23–24, Affected Entities developed their EO 22 waste diversion plans, in which high-impact opportunities for waste reduction were identified. Waste audits and other monitoring activities helped Affected Entities identify additional opportunities for diversion, such as collecting film plastics as a separate stream for recycling.

Waste audits have also improved existing diversion programs:

- **Battery Park City Authority (BPCA)** used waste audits to identify ideal locations for dog waste and food waste compost collection bins.
- **NYPA** identified an opportunity to recycle additional wood waste at the Blenheim-Gilboa power plant.

New York State entities have also used waste audits to monitor improvements in recycling behaviors over time. For example, results from a waste audit conducted by DEC at their Schenectady office two years after an initial audit in 2022, showed that with improved communication and signage, contamination issues had been addressed and recycling behavior had improved significantly.

Improving data quality and collection techniques are crucial steps to reduce waste and increase diversion. Some Affected Entities reported seeing improvements in this area through the use of new digital solutions, such as centralized software for tracking and reporting waste data.

Affected Entities took action to reduce waste in numerous ways in FY 23–24, including:

- Encouraging use of reusable plates, cups, and utensils, supporting the shift to eliminate single-use plastics in operations.
- Providing access to water bottle filling stations to reduce single-use plastic bottles.
- Implementing procurement policies designed to prevent waste, such as ordering items with less plastic or polystyrene packaging or purchasing in bulk to reduce packaging.
- Leveraging the NYS Office of General Services (OGS) State Surplus Property Program and developing entity- and facility-specific programs to reduce waste and reuse materials wherever possible.
- Increasing use of electronic rather than paper communication within and outside of entities.

Examples of successful waste reduction and reuse initiatives in FY 23–24 include:

- **NYS Department of Transportation (DOT)** salvaged concrete blocks from the Brockport Lift Bridge, which were recycled at an aggregate recycling facility in Rochester. Recycled concrete aggregate is becoming increasingly popular for use as subbase materials for driveways, parking lots, and roadways.
- **New York State Energy Research and Development Authority (NYSERDA)** made digital business cards available and engaged staff through its in-house newsletter to help reduce paper waste.
- **SUNY College of Environmental Science and Forestry (ESF)** adopted a resource exchange, a digital platform that enables faculty, staff, and students to post and view surplus property available for reuse on campus.

Examples of successful recycling and composting initiatives in FY 23–24 include:



The New York Convention Center Operating Corporation (NYCCOC) began using brightly colored, wax-coated waste bin wraps for event-facing waste bins at the Javits Center that clearly identify what goes in each bin, significantly improving the quality of the recycling stream.

- **NYS Department of Motor Vehicles (DMV)** placed uniformly labeled three-stream bins in all public areas.
- **NYSERDA** added an assessment of bin placement and signage to the quarterly building walkthroughs carried out by Facilities Department staff.

CUNY Brooklyn College participated in a “Pumpkin Smash,” a fun and messy initiative to reduce pumpkins to a manageable size for composting.

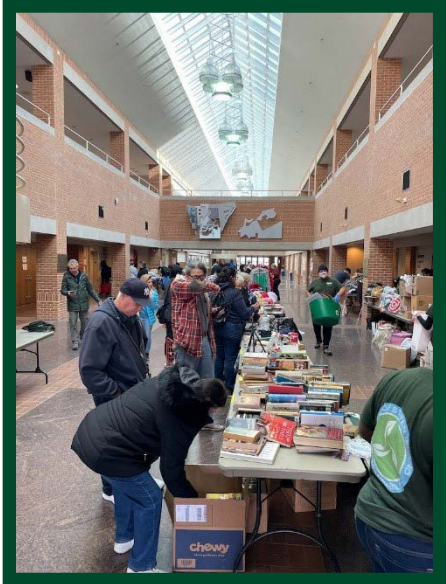
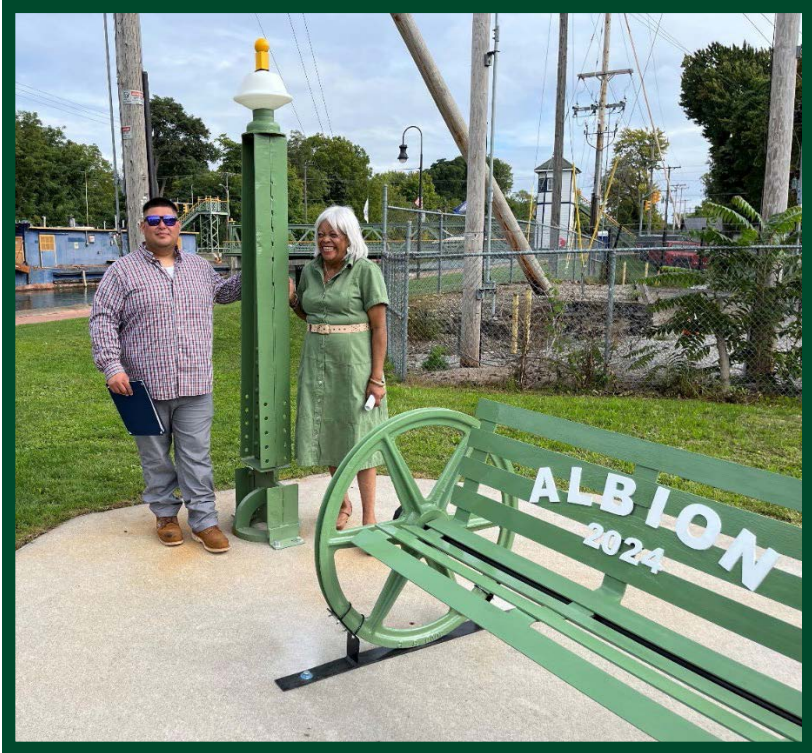


NYS Office of Parks, Recreation and Historic Preservation (OPRHP) installed tall format signage visible at a distance to help park goers recycle.



Other noteworthy recycling and composting projects in FY 23–24 included:

DOT salvaged pieces of a bridge to make public art and a bench in the Village of Albion in the Finger Lakes Region.



A Stop 'N' Swap event at the **CUNY College of Staten Island** enabled 140 attendees to divert 2,207 lbs. of items from going to landfills.

The **CUNY College of Staten Island's** "Zero Waste Dorms Move Out" event collected, redistributed, and donated 119.5 pounds of food, 279.2 pounds of clothes and shoes, and 281.6 pounds of other household items.



Affected Entities continued to look for ways to reduce single-use plastic in FY 23–24.



NYPA made strides to reduce or eliminate single-use plastics across all facilities. Reusable dishes were restocked in kitchen areas, and educational campaigns such as “Plastic-Free July” increased awareness of environmental and health issues associated with single-use plastics.



The **OGS** Central Warehouse houses a film plastic baler that captures pallet wrap and other film plastic for recycling.

- **NYS Department of Labor (DOL)** and **CUNY Brooklyn College** reduced plastic liners in waste and recycling bins by reducing desk-side wastebaskets in favor of centralized waste and recycling bins.
- **DEC’s** Five Rivers Environmental Education Center installed a dishwasher and purchased dishes and cutlery. Events held at the Center can now offer reusable ware, providing an educational opportunity on reuse while reducing single-use plastics.
- The **SUNY** Board of Trustees passed a policy in April 2024 to phase out single-use plastics and promote the use of durable and reusable alternatives, reducing the environmental impact of plastics within the SUNY system.



Reducing Toxic Chemical Use

Reducing the Use of Hazardous Substances in NYS Operations

State entities are prioritizing human and environmental health by reducing or eliminating the use of toxic substances. Affected Entities continue to evaluate safer alternatives while choosing less-hazardous chemicals in their operations. Some Affected Entities are removing stored chemicals that are no longer in use, while also evaluating ways to reduce their use of toxic chemicals. Creating organized and healthier facilities and labs that are focused on green chemistry practices leads to fewer hazards in the future.

Following GreenNY procurement specifications is one way that Affected Entities minimize or eliminate the use of certain chemicals. Affected Entities are also implementing green cleaning practices that mitigate potential hazards posed to employees and the public at State facilities.

86%

of Affected Entities reported using cleaning products that meet GreenNY Specifications at all or most facilities

100%



of Affected Entities with laboratory facilities are taking action to clean out inventory and reduce the storage of toxic chemicals in labs

73%

 reported using fragrance-free cleaning products at all or most facilities

Using fragrance-free products reduces potential adverse health reactions and maintains a healthy working environment

79%

reported using disinfectants and sanitizers that meet GreenNY Specifications



Noteworthy advances that reduced toxic chemical use in FY 23–24:

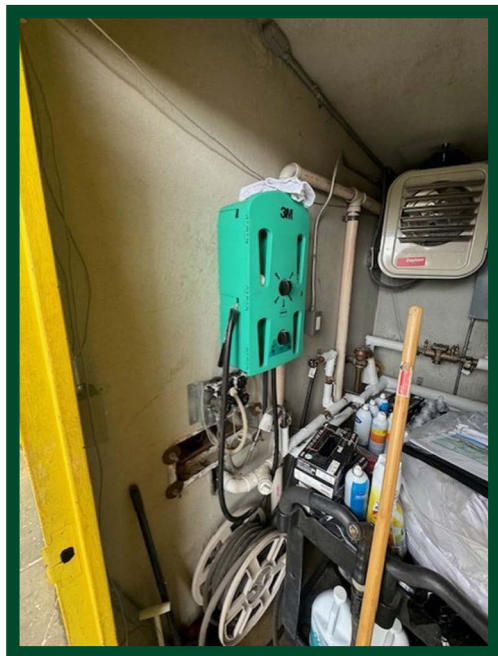
- **NYS Olympic Regional Development Authority (ORDA)** has been identifying outdated, unused, and unnecessary chemicals in facility garages and maintenance areas.
- **DEC's** Region 9 digitized their Safety Data Sheets (SDS) to enhance availability. DEC's Office of Sustainability is creating a centralized database of products used at DEC facilities that require an SDS, enabling evaluation for safer alternatives.
- **NYS Thruway Authority** educated staff on the safe use of non-toxic or less toxic alternatives for cleaning.
- **CUNY Baruch College** removed outdated and hazardous chemicals from storage, which improved safety and freed up valuable space. **CUNY Queens College** reduced disposal costs and minimized new purchases by redistributing surplus chemicals among departments.
- **CUNY Kingsborough Community College** focused on green chemistry practices to reduce environmental impact while promoting a culture of safety and responsibility.



DOT properly disposed of old and expired hazardous chemicals in April 2023. The agency is staying on top of its storage by inventorying in conjunction with its annual hazardous waste disposal.



NYPA identified EO 22-compliant green cleaning products that are effective alternatives for a range of processes, such as washer solvents, significantly reducing toxic chemical use at sites.



Roosevelt Island Operating Corporation of the State of New York (RIOC) implemented an updated chemical dilution control dispenser system to minimize waste. Dispensing systems reduce spills and staff exposure to cleaning products, ensure accurate dosing, and are cost effective.

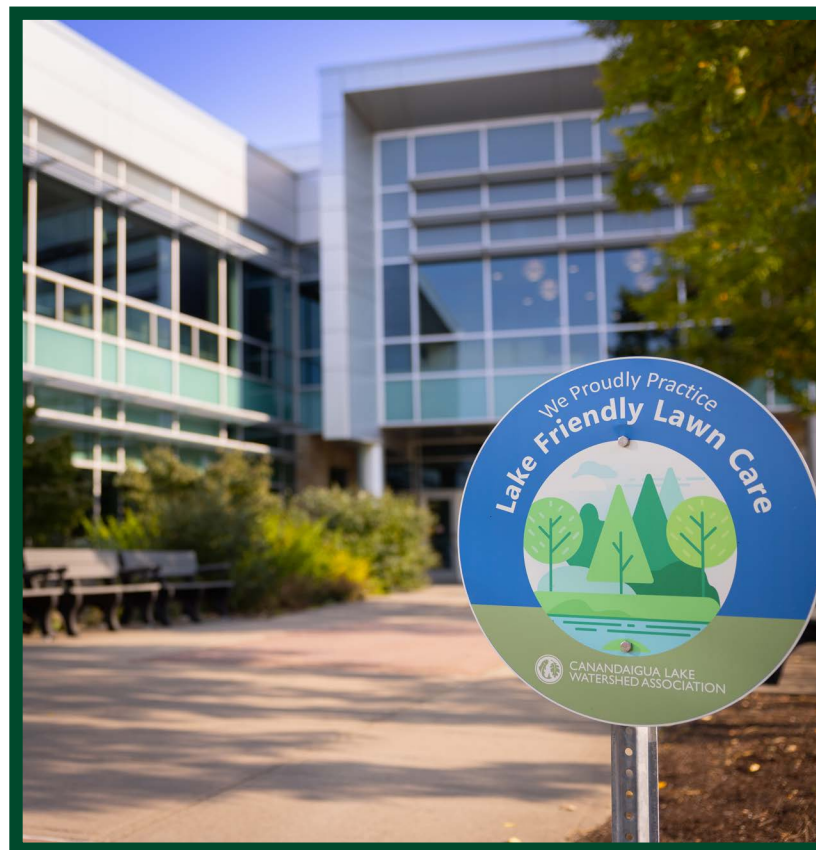
Reducing the Use of Toxic Chemicals in Pest Management

Affected Entities report continued implementation of Integrated Pest Management (IPM) applied in indoor and outdoor settings, and Integrated Vegetation Management (IVM) for outdoor spaces, to reduce or eliminate the use of hazardous chemicals at their facilities.

IPM practices are utilized where pest populations are an economic threat or a health risk. IPM practices are holistic and focus on prevention, early detection, and the judicious use of control methods, including biological, and chemical approaches. IPM relies on regular monitoring and assessment to determine the presence and impact of pests, and to evaluate the effectiveness of control methods. Understanding and evaluating a preventative strategy can eliminate the need for toxic pesticides.

IVM focuses on vegetation management that can reduce or eliminate the need for toxic chemicals, which are harmful to native pollinators and waterways. This approach can promote ecosystem health by increasing native biodiversity, while simultaneously controlling invasive species populations. In FY 23–24, 80% of Affected Entities reported using IPM programs at indoor facilities. Furthermore, approximately 60% of entities are using non-chemical means of pest management for turf and ornamental plantings at all or most facilities.

- **DEC** is working with Cornell University to develop bio-controls for hemlock woolly adelgid, which is an invasive species. Staff are also using solarization to heat the soil and eradicate invasive species such as mugwort in DEC pollinator gardens and meadows.
- **BPCA** continued to use IPM methods for pest control, specifically outdoors where dry ice provides a more sustainable approach for rodent control. BPCA's organic landscaping practices also reduced their reliance on synthetic fertilizers.
- **SUNY College of Optometry** used IPM indoors and found that regular communication with the pest control contractor helps to stay ahead of issues. Good housekeeping and sealing entry points reduced pest access and the need for chemical controls.
- **NYPA** continued to implement a set of IVM best management practices to prevent the spread of invasive species along their corridors including practices such as right-of-ways vehicle washing.



SUNY Finger Lakes Community College implemented “lake friendly lawn care,” prioritizing the health of nearby water resources rather than trying to maintain a weed-free lawn.

Clean Energy and Renewables

Clean Energy

EO 22 incorporates the BuildSmart 2025 goal in its requirements.

BuildSmart 2025 is the collective effort by Affected Entities to reduce site energy use by 11 trillion BTUs by the end of 2025, which is approximately a 34% reduction in energy use from a FY 14–15 baseline.

Eleven trillion BTU represents approximately one-third of all energy consumed by State entities. Affected Entities are directed to work with NYPA to achieve their allotted portion of the overall energy savings target for State operations.

NYPA, through its **BuildSmart program**, supports Affected Entities as they plan for, act on, and track progress toward New York State's ambitious energy efficiency goal. BuildSmart sets individual energy savings targets, establishes interim milestones and deliverables, and creates supporting resources to set Affected Entities on a path toward meeting the collective EO 22 energy savings goal. In addition to managing BuildSmart, NYPA delivers energy efficiency and clean energy solutions to State entities. At the close of FY 23–24, NYPA-implemented projects made up 61.8% of State progress toward the BuildSmart 2025 goal.

EO 22 establishes **NYPA's New York Energy Manager (NYEM)** as the system of record for collecting energy data from covered facilities. NYEM data will be used to support development of goals and guidance related to building decarbonization, electrification, and renewables. Energy saving project data must be entered into NYEM to demonstrate progress toward an Affected Entity's portion of the BuildSmart 2025 goal, as well as the cumulative state progress toward the 11 trillion BTU goal.

Many Affected Entities have completed energy audits or master plans and are acting on recommended energy conservation and reduction measures. With committed projects underway, EO 22 Affected Entities have collectively logged 8.4 trillion BTUs of energy-saving projects as of the end of FY 23–24, putting the State on track to meet its energy efficiency goal of 11 trillion BTUs by the end of 2025.

**8.4 trillion
BTUs**

**of energy-saving projects
are either underway or
completed, representing
76% of the 11 trillion BTU goal**



50%

of all Affected Entities

converted their lights to high-efficiency LEDs at most or all facilities as of the end of FY 23–24

Highlights from energy efficiency projects initiated, in-progress, or completed in FY 23–24 include:

- **MTA** reported eight planned and financed energy projects, targeting building envelope improvements, installation of solar photovoltaic (PV) technology, and the decarbonization of heating systems. Implementing these projects will save a total of nearly 114,000 therms in heating and reduce over 4,000 megawatt-hours (MWh) in electricity usage.
- **NYS Office of Mental Health's (OMH's)** Central New York Psychiatric Center is in the final stages of construction of a comprehensive rehabilitation of Building 39, including variable refrigerant flow heat pumps and upgrades to the heating, ventilating, and air-conditioning (HVAC) controls, building management system, lighting, and building envelope, as part of the transition to fully electrify the building.
- **OGS** installed 95,000 LED fixtures in 350 Empire State Plaza machine equipment rooms, in addition to 16,000 LED office fixtures at the Cultural Education Center with light control.
- **OMH** implemented the Comprehensive Energy Efficiency Program (CEEP) to benefit all 25 primary OMH campus locations, 13 of which reside wholly or partially within DACs. OMH procured Power Purchase Agreements (PPA) for onsite low-emission (hydrogen fuel cell) and renewable energy (solar PV) at Kingsboro Psychiatric Center and Pilgrim Psychiatric Center.
- **SUNY University at Albany** completed its clean energy master plan for its uptown and downtown campuses. The school also received \$30 million in State appropriations to replace two chillers as part of the conversion to low-temperature hot water and ground source heat pumps.
- **SUNY Binghamton University** replaced all fluorescent light fixtures in Marcy Hall with LEDs using a \$35,000 utility rebate. The project will result in 105 MWh of energy savings annually, reduced maintenance costs, and improved lighting quality in the building.
- **OPRHP** completed LED lighting, HVAC, water heater, and chiller upgrades, resulting in an approximately 30% reduction in energy consumption at the Bethpage State Park Clubhouse, the Glimmerglass State Park Maintenance Building, and the Keewaydin State Park Regional Maintenance Facility.
- **United Nations Development Corporation (UNDC)** upgraded HVAC units to new water-cooled air conditioning units with direct digital controls on three floors at Three UN Plaza.

Renewables

Complementing vital energy efficiency gains pursued under BuildSmart 2025, the adoption of renewable energy sources is a critical pillar of New York State’s clean energy strategy for State operations. Affected Entities are increasingly exploring and implementing on-site renewable energy generation and procurement options which are tracked through the NYEM platform alongside efficiency metrics.

However, as Affected Entities pursue additional renewables, federal uncertainty and market headwinds persist for many entities. Addressing these barriers, while continuing to pursue renewable energy opportunities, will be crucial as the State works towards its broader clean energy goals by pairing efficiency with clean energy generation.

Despite these challenges, progress is evident across several Affected Entities. For example, SUNY, NFTA, and ORDA reported Renewable Energy Credit (REC) purchases and renewable energy investments. Other significant progress made in FY 23–24 includes:

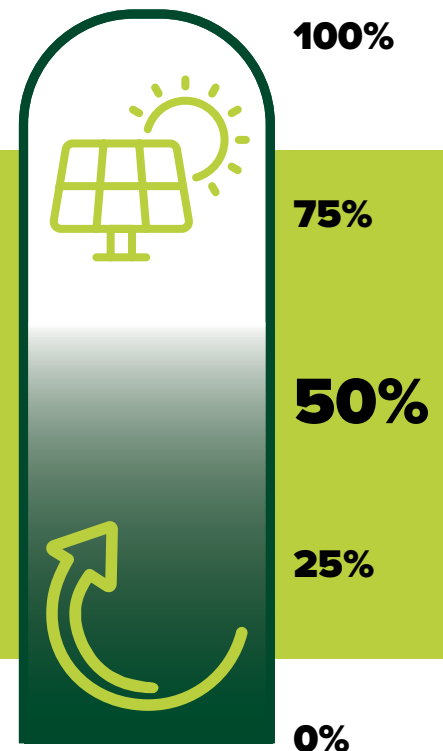
- **OMH’s** Pilgrim Psychiatric Center brought a large 2.8 megawatt (MW) solar array with battery storage online that is expected to meet over a quarter of the campus’ annual electricity needs.
- **OPRHP** achieved a significant milestone at Hither Hills State Park, where a new solar array covers the park’s entire electricity usage, saving approximately \$45,000 annually on electricity costs.
- **SUNY** campuses are advancing renewable integration through clean energy master plans, geothermal projects like SUNY Delhi’s Farnsworth Hall, and on-site solar installation.
- **NYS Division of Military and Naval Affairs** (DMNA) built a solar array at the Farmingdale Armed Forces Reserve Center.
- **ORDA** purchased 100% green power attributes via **NYPA**.

OPRHP’s Hither Hills Solar Array began operating in October 2023, covering the park’s entire electricity use and saving approximately \$45,000 annually.

Renewable Electricity Installation Progress

Entities that have at least one project greater than 50% through completion on individual projects:

CUNY	DOH	OGS
NYSCA	ECFSA	ORDA
AGM	OFA	SUNY





CDTA added solar PV panels to bus shelters, decreasing their reliance on fossil fuels.

Additional Renewable Energy Project Highlights:

- **SUNY Delhi** Farnsworth Hall Geothermal: Celebrated the ribbon-cutting for Farnsworth Hall, SUNY Delhi's first geothermal building, following a \$37.9 million renovation. Another geothermal project is in design. This showcases a transition away from fossil fuels for heating and cooling.
- **SUNY Farmingdale** Solar Array: The solar PV array at the Farmingdale Armed Forces Reserve Center became operational in FY 23–24 and provides nearly 14% of the facility's power.

Refrigerant Management

New York State is a national leader in reducing emissions from high global warming potential (GWP) refrigerants.

In late 2024, **DEC** adopted Part 495 and updated Part 494 regulations targeting incredibly potent fluorinated GHGs including sulfur hexafluoride and hydrofluorocarbons. These regulations are a crucial step towards reducing emissions and align with the State's broader strategy for a cleaner, more sustainable future.

DEC continued offering HFC-free demonstrations and developed training opportunities in partnership with the North American Sustainable Refrigeration Council and the Pollution Prevention Institute. DEC also issued draft eligibility criteria to inform development of a new grant program, supported by the Clean Water, Clean Air and Green Jobs Environmental Bond Act, to fund food stores and food banks in DACs, supporting a transition to natural refrigerants and building the workforce for these new technologies.

Affected Entities continued tracking and eliminating their refrigerant emissions in FY 23–24.

Of the Affected Entities that reported refrigerant data:

40 use unsealed refrigerant-containing equipment with 35 having chillers for buildings

25 have commercial food and beverage coolers

25 have commercial refrigerators

8 have chillers for other types of facilities besides buildings

25 use heat pumps—a 32% increase from FY 22–23

Of the Affected Entities that reported refrigerant emissions:

35 different refrigerants were used

48,869 metric tons of CO₂e emissions were reported, which is equivalent to the emissions from 10,624 cars driven for one year.

19 Affected Entities have management plans in place that cover some or all facilities, a **58%** increase over FY 22–23.

36 Affected Entities reported their refrigerant emissions in FY 23–24, a **112%** increase over FY 22–23.

Despite the significant increase in reporting by Affected Entities, emissions did not rise proportionately, only 13% from FY 22–23 levels.



OGS routinely conducts refrigerant inventories and performs maintenance on its chillers to assess for leaks and make sure equipment is running optimally. This helps lower the climate impact of refrigerants at OGS facilities.

- **DEC** issued a Stationary Refrigerant Management and High GWP Refrigerant Emissions Elimination Policy for its internal operations. DEC also conducted an inventory of all refrigerant-containing equipment and found that 16% already use natural refrigerants.
- **DEC** created a video explaining the importance of proper refrigerant management, including how the public can also help do their part, and released it on the agency's social media and YouTube channels.
- **SUNY Geneseo** had 15 staff members undergo training to receive their EPA Section 608 certification. The course covered how to properly maintain refrigerant containing equipment and reduce refrigerant emissions, covering topics on leak detection and natural refrigerants.

Sustainable Transportation

New York State has a diverse multi-modal transportation network.

Even as residents take advantage of electric vehicles, trains, subways, ferries, and bike shares, transportation remains the second largest source of statewide emissions.

Decarbonizing the State Fleet

EO 22 directs Affected Entities to lead by example to reduce transportation emissions by decarbonizing the State fleet, which consists of roughly 30,000 vehicles.

OGS is spearheading the initiative to electrify the State fleet by providing Affected Entities with guidance and technical assistance and supported the development of their initial conversion plans in 2023. The plans explore how to convert the light-duty fleet to 100% ZEVs by 2035.

At the end of 2025, plans for total conversion of roughly 11,500 medium- and heavy-duty fleet vehicles to ZEVs by 2040 must be filed with the GreenNY Council. Affected Entities will update the light-duty and the medium- and heavy-duty conversion plans on a three-year cadence.

In FY 23–24, OGS aggregated the light-duty fleet plans and developed the first iteration of the [State fleet ZEV dashboard](#). Entities also used these plans to identify key locations for Electric Vehicle Supply Equipment (EVSE) build out.

At the end of FY 23–24, Affected Entities reported collectively purchasing 174 more light-duty ZEVs than the total reported in their conversion plans in early 2023. When deducting the emergency fleet vehicles, which are currently exempted from conversion, the total light-duty fleet reported was 17,250 vehicles, 1,269 (7.4%) of which were ZEVs.

As charging infrastructure build out plans began, Affected Entities continued purchasing light-duty ZEVs. During FY 23–24, Affected Entities collectively reported purchasing 452 ZEVs, about 19% of all light-duty vehicle purchases. Cost parity between ZEV and internal combustion vehicles is improving, as shown in the following chart. The point-of-sale price differential is partially made up for in savings from maintenance and fuel costs. Affected Entities purchase of ZEVs that met Inflation Reduction Act (IRA) requirements were eligible to receive direct pay credits of up to \$7,500 per vehicle, which covers most of the upfront cost differential in the chart.

Vehicle Type	# Bought	Average Price	Differential w/ICE
Internal Combustion Engine (ICE)	1,969	\$37,739	-
Plug-in Hybrid Electric Vehicle (PHEV)	352	\$40,387	+\$2,649
Battery Electric Vehicle (BEV)	100	\$45,820	+\$8,082

Though recent federal actions have generated uncertainty in the EV market, resulting in potential headwinds for our fleet electrification goals, Affected Entities are now beginning to focus their efforts on converting their medium- and heavy-duty fleets to ZEVs. The timeline for conversion, infrastructure, and procurement for this portion of the fleet is only a few years away; therefore, efforts to reduce emissions in the current medium- and heavy-duty vehicle fleets is crucial.

~30,000
NYS fleet vehicles



For Affected Entities' fleets and employees, OGS and NYPA are overseeing the build out of more than
600
charging ports across
50+
locations



Renewable Diesel

OGS added renewable diesel to its suite of fuel offerings through centralized contract ([Contract Award 23343](#)), as New York became the first state in the Northeast to offer it on contract. Use of renewable diesel allows the medium- and heavy-duty fleet to lower its emissions immediately because it is a drop-in fuel compatible with existing diesel infrastructure and can be blended with any amount of petroleum diesel.

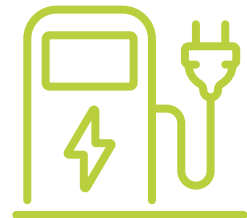
7.4% of the State's non-emergency, light-duty fleet vehicles were ZEVs by the end of FY23–24



OGS and **NYP&A** hosted the second annual fleet EVent at Empire State Plaza, where 31 ZEVs were showcased by 17 agencies, dealers, and other partners. EVSE, utility, and planning consultant companies all tabled at the event.



OGS installed BEAM solar chargers at multiple State office buildings as part of a pilot to assess the effectiveness and resilience of off-grid charging.



NYPA acquired its first all-electric bucket truck in 2024. Stationed at the Niagara Switchyard, it requires about 45 minutes to an hour and a half to fully charge using a fast charger and can cover 100-125 miles on a single charge, sufficient for a typical 8-hour workday.

SUNY University at Albany runs an all-electric trolley on its campus.



Sustainable Landscaping

New York State is home to more than 31 million acres of diverse landscapes — from forests, wetlands, and parks to urban green spaces and campuses.

A significant portion of this land is owned or leased by Affected Entities, which provides an opportunity for the State to lead by example and adopt sustainable landscaping practices. As stewards of public land, Affected Entities play a critical role in shaping how land is managed, used, and perceived. Sustainable landscaping emphasizes environmental health, biodiversity, and long-term viability. Landscapes can be thoughtfully planned, designed, and maintained, providing functional and beautiful environments that restore and protect ecosystems, and support [pollinators](#).

One of the core tenets of sustainable landscaping is the use of [native plant species](#), which require less water and maintenance, thrive without synthetic fertilizers or pesticides, and are more resistant to local pests and diseases. Native plants support a broad range of pollinators and wildlife, serving as critical habitats in urban and rural areas.

In FY 23–24, Affected Entities reported sustainable practices to conserve water and support landscapes such as: drip irrigation, protecting and promoting the use of native or non-invasive vegetation, plant placement as a form of energy-efficient landscape design, and providing educational signage and/or outreach. Native trees play an important role in supporting the sustainable landscape and biodiversity of New York State.

Sustainable Landscaping Success Stories in FY 23-24:

- **BPCA** completed an [Urban Tree Canopy & Biodiversity Assessment](#) which included the completion of an outdoor thermal comfort study. The tree inventory helped BPCA analyze the health of existing trees and the opportunities to improve species and age diversity of the tree canopy.
- **DEC** and **DOT** prioritized installation and maintenance of pollinator gardens on State-managed public land.
- **NYPA** completed a Nature Impact Assessment that evaluated how operations positively and negatively impact nature, depend on nature, and have nature-related risks and opportunities. This allows NYPA to proactively mitigate biodiversity-related risks and communicate the value of nature to different areas of the organization. NYPA also continued its “Tree Power” program. Each native tree purchased by an Affected Entity will include an additional tree for free, encouraging and supporting the planting of native trees across the State.
- **SUNY Oswego** was awarded a Tree Campus USA designation. The school is using i-Tree to calculate the benefits of the trees on campus, including carbon sequestration, canopy cover, air quality improvement, water retention, and energy savings.
- **SUNY** continues to add pollinator gardens and use campuses as “everyday classrooms.” New pollinator gardens can be found at **SUNY Binghamton** and **SUNY ESF**. SUNY is also leveraging staff, students, and facilities to support sustainable landscapes and practices. **SUNY University at Albany’s ETEC building** is incorporating data into curriculum and SUNY ESF’s [Restoration Science Center](#) has created a custom seed mix — including 50 species of plants for use in the school’s “Lawn to Meadow Program.”
- **SUNY Cobleskill** incorporated riparian zone improvements to include no-mow areas and tree plantings.
- **The Thruway Authority** has extensively used “living” snow fences to enhance safety by controlling drifting snow through a natural countermeasure. This approach also provides habitat for pollinators and other wildlife, promoting environmental benefits alongside operational improvements.



CUNY Brooklyn College revitalized landscaping by planting over 1,000 native perennials and shrubs from 19 different species, enhancing campus biodiversity and engaging the college community.

FY 23–24

67,818 *trees planted*

39% *(18 of 46) reporting entities used signage compared to 33% in FY 22–23*

63% *(29 of 46) reporting entities occupy land that requires the maintenance or management of outdoor spaces compared to 60% in FY 22–23*

58% *(27 of 46) reporting entities implemented sustainable landscape practices compared to 50% in FY 22–23*

52% *(24 of 46) reporting entities followed sustainable practices to address snow removal*

Species and Habitat Protection

Endangered Species and Communities

Endangered species are the most fragile of our fish and wildlife resources in New York State. Whether due to emerging diseases (e.g. white nose syndrome in bats), contaminants (e.g., DDT and rat poison impacts on birds of prey), or habitat loss (e.g., grassland birds), these native species require a helping hand to remain viable members of the State's ecological system.

Affected Entities value understanding project impacts on endangered species: 17 entities reported screening for potential impacts to listed species at project sites. A total of 12 entities screened for listed species in FY 23–24. Multiple projects avoided or reduced harmful impacts to species such as the brook floater mussel (endangered), and the northern harrier and the pied billed grebe (threatened). Progress will continue, as EO 22 directs Affected Entities to ensure that their operations do not have an adverse impact on endangered species. DEC created and issued guidance to assist State agencies and authorities with this.

Examples of State entities working to improve the status of our rarest species in FY 23–24:

- **SUNY Oswego** provided habitat for threatened birds. At the 350-acre Rice Creek Field Station, open fields are maintained through rotational mowing in October or November to avoid the breeding season for birds. Northern harriers are positively affected by this management. A dam creates open water habitats used by bald eagles, pied-billed grebes, and northern harriers. The property is managed with all wildlife in mind, with fallen trees only removed in maintained areas. Boating is limited to avoid disturbing waterfowl and wetland species. A butterfly garden attracts monarch butterflies.

New York State's endangered species efforts focus on the most sensitive elements in the ecosystem, working to find and correct fish or wildlife problems before certain species are lost forever.



SUNY Oswego student in the butterfly garden.

DOT addresses endangered species issues by regularly identifying habitat and species presence in project reviews.

The agency uses DEC's Natural Heritage database to understand when potential or known occurrence of protected species may be present. Methodologies for identifying suitable habitat for protected species are discussed in DOT's Transportation Environmental Manual, which was updated last year to include newly listed species of mussel (snuffbox, northern riffleshell, longsolid). If protected species or critical habitat are found on DOT property, avoidance is the first step taken.

Mussels are the group of listed species most frequently encountered at bridge projects. If, after coordination with federal and/or State regulatory agencies, avoidance is not feasible, relocation of the species to an off-site area is an option. Mitigation and monitoring of relocated species to determine their reaction would be incorporated for relocations of threatened or endangered species, along with design improvements to improve water quality at the project work location.



Endangered dwarf wedge mussels.

Photo by: Kathryn J. Schneider

SPECIES PROTECTION SPOTLIGHT:



DOT SUPPORT FOR NATIVE WILDLIFE

In 2020, DOT formed the **Terrestrial Wildlife Connectivity Technical Working Group (TWG)**. The TWG aims to work across disciplines to incorporate terrestrial wildlife passage into key manuals, forms, and documentation for bridge, culvert and other projects.

In FY 23–24 the TWG completed a number of projects, including collaborating on “Habitats & Highways” trainings, creating a library of reference materials, and ensuring safe passage of wildlife. An example of a successful project completed in FY 23–24 is **DOT's Turtle Fencing initiative**.

In the Mohawk Valley, there is a turtle crossing location on a very busy section of Route 12 bisecting the Utica Marsh Wildlife Management Area. After a 2021 turtle mortality survey, it was clear that a more permanent solution was needed to prevent turtle deaths in the area. In spring 2023, a total of 2,000 feet of exclusion fencing with five escape ramps was constructed. The ramps allow turtles that get on the other side of the barrier a way to return to safety. The fencing protects the different species of turtles trying to find suitable nesting habitat and reduces a hazard to the traveling public. A mortality survey conducted in summer 2023 showed a decrease in mortality counts by almost half.

Invasive Species

Invasive species are non-native organisms that can cause harm to the environment, the economy, and human health. A lack of predators, the ability to adapt to various habitat conditions, and faster reproductive rates allow certain non-native species to expand their populations quickly. Invasive species can outcompete native ones for resources, disrupt food webs, spread disease among humans and livestock, damage crops, and negatively impact recreation and associated income. They can be introduced intentionally (e.g., when invasive plants are used for landscaping) or unintentionally (e.g., when wood borers hide in firewood).

As a hub for international trade and travel, New York State has one of the highest rates of non-native introductions in the country. Affected Entities play a significant role in preventing the spread of invasive species by actively surveying their land, identifying infestations early, and restoring native ecosystems.

Examples of Affected Entities protecting New York State from invasive species in FY 23–24:

- **BPCA** monitored and scraped spotted lanternfly egg masses each winter and uses traps and vacuums to reduce numbers of adults.
- **DOT** actively managed invasive species on right-of-ways, removed invasive trees, alternated mowing schedules to control invasive plants, and used native seed mixes to increase biodiversity.
- **NYPA** continued to implement best management practices, such as vehicle washing, on right-of-ways to prevent the spread of invasive species along these corridors.



NYPA's Canal Corporation is working with **DEC** to support the NYS Watercraft Inspection Steward Program and expand coverage of boat decontamination stations throughout the State. The stewards educate and assist the public in cleaning their boats, trailers, fishing gear, and other equipment before recreating in State waters to prevent the spread of aquatic invasive species.

11

Affected Entities took action to manage invasive species during FY 23–24

13

Affected Entities had Early Detection Rapid Response protocol in place to identify invasive species in FY 23–24.

*In 2024, DEC and its partners utilized the handheld NYS invasive species database, iMapInvasives, to survey and document terrestrial and aquatic invasive species across the State. iMap users entered **43,677** unique presence records and **6,604** treatment records which covered **196,774** acres searched.*

SUNY Purchase students working to manage invasive species on campus as part of a project funded by DEC's Invasive Species Grant Program.



Water Conservation

Affected Entities are empowered to conserve water by incorporating new efficiency enhancements as outlined in the NYSERDA New York State Appliance and Equipment Efficiency Standards.

This rule, which went into effect June 2023, sets minimum energy efficiency standards for products sold in the State, including reduced flow rates for certain water fixtures such as showerheads, urinals, lavatory faucets, kitchen faucets, and lawn spray sprinklers. Fixtures with improved efficiency save money through reduced water, energy, and chemical costs, which protect the environment by reducing drawdown on water resources. Each entity is unique, which leads to varying uptake rates, but all are doing their part to conserve water where possible.

The most important tasks in water conservation are often the least glamorous — replacing aging water fixtures with more efficient models and developing and implementing plans to detect and repair leaks.

Design that is conscious of water demand helps new projects and major renovations avoid unnecessary water use and prevent waste. This can include automated sprinklers, which use weather data or soil moisture sensors to irrigate only when needed; gray or reclaimed water for irrigation; and efficient landscape design using plantings with lower water demand.

Examples of Affected Entities leading by example to prioritize water conservation in FY 23–24:



SUNY University at Buffalo installed two snow melt recapture areas near the Alumni Arena.

Snowplow piles are often formed in areas where all the snowmelt flows into stormwater drains. This increases the load on stormwater systems negatively impacting water quality due to salt, oil, and debris. Snow melt recapture areas provide a place for plows to deposit cleared snow, allowing melted snow to flow back into groundwater and reducing irrigation demand.

BPCA conducted a pilot program to evaluate the effectiveness and performance of a variety of permeable pavers that allow rainwater to pass through the surface. This keeps the pathways enjoyable for users and reduces the amount of stormwater that needs to be transported away and treated, while allowing the rainwater to irrigate the plants in the park. This beneficial technology reduces reliance on treated potable water to irrigate plants.



Green Infrastructure and Stormwater Management

As land is developed and climate change exacerbates extreme precipitation events, stormwater flooding is becoming an increasingly relevant hazard for many Affected Entities.

Green infrastructure, which utilizes natural elements like plants and soils to manage stormwater, is a key strategy for mitigating flooding. This approach also offers co-benefits such as improving biodiversity and air quality.

EO 22 aims to increase the amount of green infrastructure installed by directing Affected Entities to evaluate and incorporate green infrastructure into all construction projects, regardless of size. For example, Affected Entities are increasing tree canopy cover to help mitigate stormwater flooding. Tree leaves and branches intercept rainfall and tree roots allow precipitation to infiltrate into the soil and groundwater. Bioretention basins and bioswales collect rainwater and allow it to soak into the ground naturally.

Even paved areas, such as parking lots and roadways, Affected Entities are implementing green infrastructure solutions to mitigate flooding concerns. Permeable pavers are a great example, as they allow rainwater to soak into the ground instead of creating runoff that can pollute ecosystems.

In FY 23–34, Affected Entities made several significant green infrastructure upgrades to reduce stormwater runoff and improve water quality:

- **DOL** completed a feasibility study of incorporating bioswales and retention ponds into parking lot renovations to help manage stormwater.
- **SUNY Binghamton** began two projects to upgrade its campus green infrastructure. On its central quad, the school is replacing a walkway with permeable pavers and adding a bioretention area to reduce stormwater volume. Underneath the East Gym, the school is installing a retention chamber to store stormwater and allow it to percolate and recharge the groundwater.

Green infrastructure strategies:

- **Bioretention basins, bioswales, and rain gardens**
- **Green roofs**
- **Tree planting**
- **Wetland construction, restoration, and land preservation**
- **Rainwater harvesting systems**
- **Permeable pavement**



BPCA installed a cistern to manage stormwater runoff as a part of their broader efforts to increase the resilience of South Battery Park City and mitigate inundation and sea level rise.

DOT, in coordination with the Hamilton County Soil and Water Conservation District, completed a topsoil conservation project in July 2023 after a flood event in the Adirondack Park left the Long Lake and Blue Mountain Lake area damaged, with some locations impassable. A topsoil alternative that accelerates the growth and establishment of vegetation was applied to the affected areas. Because of its engineered soil properties, turf was reestablished, and the sites stabilized within a few weeks.



SUNY Cobleskill is making improvements to campus riparian zones to reduce stormwater induced flooding and erosion. By reducing mowing and planting more trees, the school is establishing riparian vegetation that will help to stabilize the shoreline in the face of stormwater flooding.

SUNY University at Albany's Teaching Green Roof is equipped with sensors and instruments to monitor rainfall absorption, soil moisture, air temperature, and numerous other environmental variables. The green roof is used as a teaching laboratory and is being integrated into academic curriculum and student-led research.



Low-Impact Development and Climate Risk

Climate change impacts every region of New York State and is projected to continue, even with aggressive emission reduction efforts. All Affected Entities must evaluate opportunities to improve resilience and take steps to reduce risk.

Many Affected Entities identified multiple climate vulnerabilities, including extreme storms, extreme heat, precipitation flooding, changes in average temperature, and sea level rise. Multiple Affected Entities reported intensive climate resilience planning efforts.

In FY 23–24, several Affected Entities highlighted climate resilience initiatives across the State. **NYPA, LIPA, MTA,** and **DOT** implemented climate risk assessment processes to support strategic long-term planning. These entities plan, design, construct, and operate critical infrastructure intended to serve New Yorkers far into the future. Investments are being planned with considerations for the climate conditions predicted at the end of a project's life.

For example, **DOT** is considering future climate hazards such as increased intensity of storms and flood hazards when scoping and designing transportation infrastructure projects. DOT is working to account for and reduce the effects of extreme heat in construction and operations by referencing extreme heat considerations and mitigation in agency guidance documents.

In March 2024, **NYPA** began a climate resilience gap assessment and adaptation strategy analysis. This work builds upon NYPA's 2022 climate vulnerability assessment, which is used for internal asset management, investment planning and evaluation of potential system-level impacts under future climate scenarios. The gap assessment and adaptation strategy analysis leverages updated climate models and data for additional exposure and vulnerability analysis, including asset-specific hazard variables (e.g., temperatures at which transformers begin to deteriorate), and identifies implementable and targeted adaptation strategies.

In the coming fiscal year, Affected Entities constructing new or substantially rehabilitating existing buildings will begin to incorporate strategies from the November 2024 Decarbonization and Climate Resiliency Design Guide. This guide will support the design of sustainable and resilient buildings that reduce emissions while preparing for future climate conditions.

Every community and every sector in New York State has the potential to contribute to innovative climate solutions that reduce vulnerabilities, foster resilience, and enhance equity.

MTA published the Climate Resilience Roadmap to address the urgency of climate action in the face of hazards such as flooding, extreme heat, and wind, and outlined 10 goals for climate resilience action.



In FY 23–24, Affected Entities took important steps to improve the resilience of their operations.

- **BCA's** [North/West Battery Park City Resiliency Project](#) planning is well underway and will begin construction in 2025. The objectives of the project are to “provide a reliable and adaptable coastal flood barrier system that minimizes risk and the need for operational interventions by relying on passive flood control” and “minimize urban heat island effect and enhance outdoor occupant thermal safety.”
- **NYPA** began working on a sustainability-informed model for initial screening of NYPA-owned sites for distributed energy resources. The model provides a systematic process for prioritizing land based on financial, social, environmental, and climate change considerations and applies a cross-functional and collaborative approach with numerous subject matter experts. The model incorporates climate resilience considerations such as changes in temperature, precipitation, heat waves, and flood areas in addition to biodiversity, community impact, and technoeconomic considerations.



Buying Green

Embodied Carbon in Construction Materials

Addressing embodied carbon in construction materials is an important part of EO 22 and Affected Entities are now required to report data to the Embodied Carbon Working Group annually.

Embodied carbon is defined in the 2022 New York State Climate Action Council Scoping Plan as the emissions resulting from mining, harvesting, processing, manufacturing, transporting, installing, and utilizing products and materials that are used in the construction of buildings and infrastructure, as well as the end-of-life emissions associated with the disposal of those materials.

EO 22 directed the GreenNY Council to issue guidance to reduce the embodied carbon of new State construction projects, including both buildings and infrastructure. The EO 22 Embodied Carbon Guidance was released in June 2023 as a first step toward driving demand for and creation of Environmental Product Declarations (EPDs) in the construction materials market, and benchmarking the environmental impact of steel, concrete, glass, and asphalt in State construction projects.

NYS Buy Clean Concrete Guidelines

In December 2021, Governor Hochul signed into law Chapter 724 of the Laws of 2021, adding a new section, 136-d (SFL § 136-d), to the State Finance Law. This new provision requires OGS to establish guidelines requiring procurement of low embodied carbon concrete.

Established guidelines require Affected Entities to use low-carbon concrete in construction projects above a quantity and cost threshold. Affected Entities must select ready-mix concretes equal to or below a Global Warming Potential (GWP) threshold determined by the specified compressive strength of the concrete to be used in a project.

A phased approach based on reporting and EPDs will lower GWP limits by January 1, 2027 (or within 6 months of that date). The GreenNY Council approved a Lower Carbon Concrete purchasing specification in 2024, which will ensure consistent adherence to lower carbon concrete goals outlined in the revised State Finance Law.

Annual reporting includes:

- 1** Disclosure of the material quantities, EPDs, and Global Warming Potential (GWP), in kg CO₂e, emission factors associated with materials used in substantially complete construction projects; and
- 2** A list of each Affected Entity's applicable construction projects, including project location, contracting agency, cost, and substantial completion date.

Building Capacity

OGS launched an Embodied Carbon Working Group to facilitate implementation of the [new guidance](#) through knowledge sharing, peer-to-peer exchange, trainings, and resource sharing. The monthly working group has 57 members representing 17 Affected Entities across State government whose operations are most relevant for these improvements and best practices in construction. Since October 2023, OGS has hosted several public webinars on embodied carbon. Topics covered general embodied carbon knowledge, case studies, demonstrations, and information about material EPDs. Recordings of past webinars are available saved on the [OGS website](#).

The level of Affected Entities' engagement in the Embodied Carbon Working Group and the Concrete Technical Subcommittee demonstrates the State's commitment towards reducing embodied carbon associated with building and infrastructure projects. In addition, longitudinal data collection on materials and EPDs will ensure better tracking of embodied carbon and allow Affected Entities to aim for meaningful reductions.

HIGHLIGHT STORY:

MTA CLEAN CONSTRUCTION PROGRAM

The **MTA's** Construction & Development department implements one of the nation's largest capital construction programs. The magnitude of the program presents a tremendous opportunity to move the construction industry toward more sustainable practices.

In October 2023, the MTA's Sustainability Team initiated the MTA Clean Construction Program with an event featuring construction industry professionals, construction material manufacturers, and major contractors. The event raised awareness about embodied carbon tracking, environmental product disclosures (EPDs), and cost-effective strategies to reduce construction-related emissions. More than 100 representatives participated in the convening, along with the largest public infrastructure construction agencies in the New York City region.



MTA Sustainability Coordinator Eric Wilson kicked off the MTA's October 2023 Clean Construction Program in October 2023.

Environmentally Preferable Purchasing

New York State continues to be a national leader in environmentally preferable purchasing, with Affected Entities reporting approximately \$228 million spent on green products and services in FY 23–24.

Buying green products and services supports the State’s commitment to sustainability by selecting goods and services that have less harmful impacts on public health and the environment compared to traditional products.

Affected Entities spent the most on computers, furniture, and green cleaning products in FY 23-24. Money spent on transportation equipment and ZEVs significantly increased as part of the statewide fleet transition to 100% ZEVs by 2035 for light-duty vehicles and by 2040 for medium- and heavy-duty vehicles. Additionally, data on treated road salt was collected for the first time in FY 23–24, and Affected Entities reported spending over \$16 million. Treated road salt was primarily purchased by **DOT** and the **Thruway Authority**.

Many green products and services are competitively priced and perform just as well as or better than conventional products. A list of competitively priced green products and services offered on State contracts can be accessed on the [OGS website](#).

The greatest reported expenditures were made by the 10 Affected Entities listed in the table to the right, totaling approximately \$164 million. Their purchases accounted for 31% of total green spending.

Green purchasing strategies that Affected Entities used included updating purchasing policies, integrating green procurement into staff trainings and outreach, improving labeling and tracking of green purchases, and educating suppliers.

Affected Entities are also updating tracking tools to identify and increase green purchases. Some entities added tracking codes in the Statewide Financial System (SFS), while others tagged items in their inventory, added GreenNY checkboxes on requisition forms; or developed guidance tools for users, like the Green Product Finder (developed by **OPRHP**).

Top 10 Green Purchasers, FY 23–24 Agency and Spend

Department of Transportation	\$76,431,329
State University of New York	\$37,967,543
City University of New York	\$9,356,008
Metropolitan Transportation Authority	\$8,119,904
New York Power Authority	\$6,875,933
Department of Corrections and Community Supervision	\$6,816,692
Thruway Authority	\$6,079,833
Department of Environmental Conservation	\$4,625,000
Department of Motor Vehicles	\$3,720,520
Department of Labor	\$3,664,136

OGS won its eighth consecutive Electronic Product Environmental Assessment Tool (EPEAT) Purchase Award in 2024 for excellence in sustainable electronics procurement. Affected Entities' aggregate purchases of sustainable computers, tablets, and monitors resulted in approximately \$1.4 million in cost savings.

Recycled copy paper consumption represented 35% of overall copy paper consumption in calendar year 2023. Recycled copy paper meeting the GreenNY specification requirements for post-consumer recycled content was consistently purchased from the OGS centralized contract for recycled copy paper.

Procurement Strategies

GreenNY specifications help Affected Entities choose compliant green products.

There are currently over 100 GreenNY specifications, covering over 130 different commodities, services, and technologies.

Notable GreenNY Specifications were approved in FY 23–24 were PV systems and carpet, rug, and upholstery cleaners. The GreenNY Council continues to partner with **DEC** and the **SUNY** Center for Sustainable Materials Management to complete a comprehensive review and update of existing GreenNY specifications. Once the project is complete, the specifications will be user-friendly, streamlined, and will leverage the latest third-party certifications.

New York State uses aggregated purchasing to procure competitively priced green products and services. Affected Entities leverage OGS centralized contracts to purchase green products and services. OGS continues to update its contract offerings to prioritize these products and improve user interface by adding green identifiers in pricelists.

Two-thirds of Affected Entities report procuring first from Preferred Sources when feasible. Many Affected Entities must purchase first from Preferred Sources, per State Finance Law. OGS continues to analyze the [Preferred Source Offerings](#) products and services to develop suggestions for enhanced green offerings. OGS, working with a consultant, identified commonly purchased products, flagging items with green alternatives to make finding GreenNY specification-compliant products from Preferred Sources easier.

Affected Entities spent approximately \$228 million on green products and services during FY 23–24.

Summary of Green Spending by Product Category, FY 23–24

Product	Estimated Spend (\$)
Pest Management for Outdoor Spaces	\$59,101,119
Computers and Displays	\$30,489,220
Furniture	\$25,245,804
Zero-Emission Vehicles	\$18,837,994
Treated Road Salt	\$16,870,079
Green Cleaning Products and Maintenance	\$14,427,527
Other Transportation	\$9,284,453
Lighting	\$8,201,476
Copy Paper and Paper Supplies	\$6,268,600
Janitorial Paper Products	\$5,046,898
Printers and copiers	\$4,726,973
Other Construction & Facility Maintenance	\$4,694,610
Solid Waste Recycling and Management Services	\$4,332,292
Floor Coverings	\$4,087,128
Photovoltaic Systems	\$3,030,151

The GreenNY Council will continue to encourage Affected Entities to leverage buying power to support the State’s climate and sustainability goals.

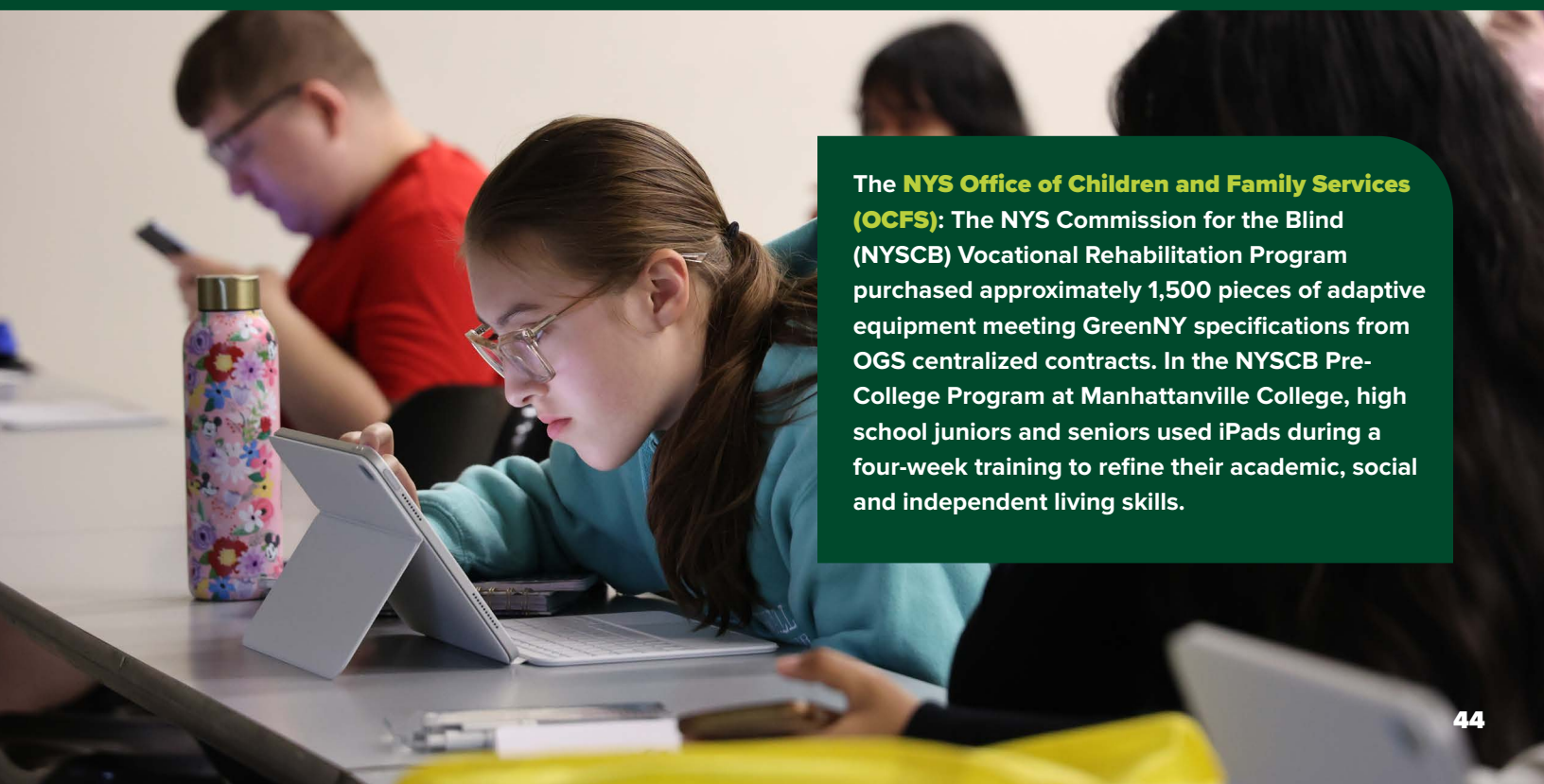
OGS centralized contracts include GreenNY specification-compliant items in many of the highest-spend categories:

- **Janitorial**
- **Construction and facility maintenance**
- **Electronics**
- **Office Supplies**
- **Transportation and fleet**

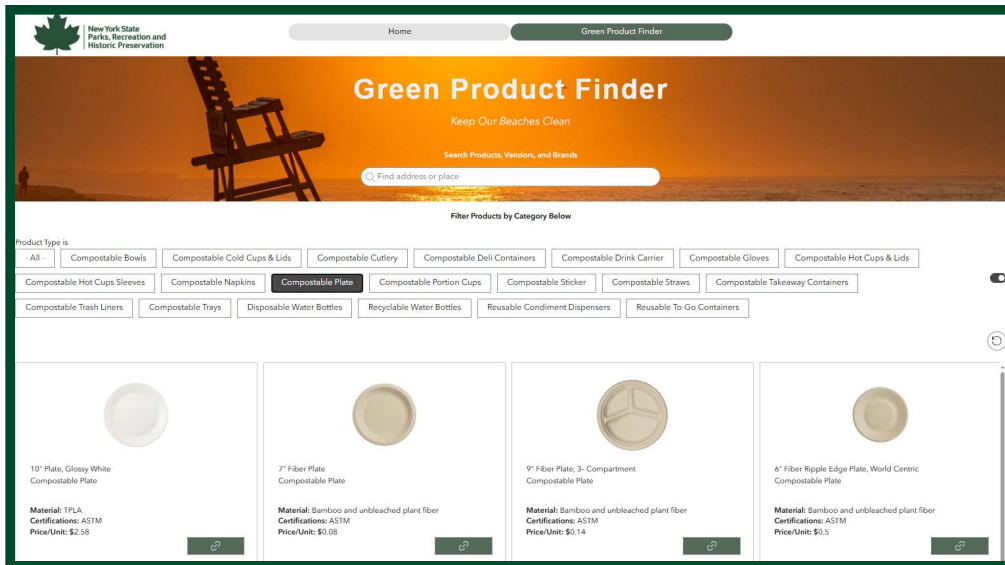
Affected Entities more than doubled their green spending on appliances, electronics, lighting, ZEVs, EV chargers, furniture, and recycling and composting services compared to FY 22–23.

**Summary of Green Spending
by Product Category, FY 23–24 (continued)**

Product	Estimated Spend (\$)
High Detergent Oils	\$2,914,640
Appliances	\$1,606,572
Apparel & Textile Material	\$1,445,654
EV Charging Stations	\$1,331,719
Heating & Cooling Equipment	\$1,150,046
Pre-Packaged Deicers	\$998,065
Green Servers	\$938,441
Sustainable Landscaping	\$850,257
Other Office Supplies	\$783,536
Pest Management for Indoor Spaces	\$478,574
Other Grounds/ Landscaping	\$238,143
Green Mobile Phones	\$78,847
Outdoor Furniture and Playground Structures	\$67,546



The NYS Office of Children and Family Services (OCFS): The NYS Commission for the Blind (NYSCB) Vocational Rehabilitation Program purchased approximately 1,500 pieces of adaptive equipment meeting GreenNY specifications from OGS centralized contracts. In the NYSCB Pre-College Program at Manhattanville College, high school juniors and seniors used iPads during a four-week training to refine their academic, social and independent living skills.



OPRHP created a Green Product Finder to streamline internal purchasing of GreenNY compliant products. The tool aims to increase accessibility of verified products and reduce procurement of single-use plastics.

The **SUNY** procurement office reduced paper from 625 million pages per year to 266 million pages, reduced printers from 197,000 devices to 47,000 devices, and reduced operating costs by \$20 million in maintenance and supplies, while providing networking capability and tracking at centralized printers. These efforts are expected to conserve 35 million gallons of water, reduce carbon dioxide emissions by nearly 5,000 tons, and save 43,000 trees annually.



CUNY New York City College of Technology (City Tech) continued replacing outdated copy equipment with energy-efficient models, including a college-wide purchase of EPEAT-registered computers and devices.

Green Purchasing Guide

Food Service & Cafeteria

Reusable, Reusable Dishes
If you are in need of reusable dishware for a business related campus event, please use China, Ceramic, and glassware from one of the following local vendors instead of opting for single-use compostable items.

The Sustainability Division will strive to cover the entire cost of these rental items, please contact Sun@ecolived.com for information.

For smaller internal campus events, consider purchasing reusable dishware from a local thrift store and keeping them in your office for future use. If these items will be used for "personal" events (banquets, birthdays, retirement) then they must be purchased with personal funds. State dollars cannot be used to support these activities.

- Syracuse Tents & Events
- Albany Party Rental
- Catara Party Rental
- A Classic Party Rental
- Relax Companies
 - China
 - Glassware
 - Plasticware

Reusable Takeout Containers

- OZZI
 - OSQO Take Out Containers
- G.E.T Enterprises
 - Eco-Takeouts
- Hobart
 - Reusable Takeout Containers

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Food Service & Cafeteria

Reusable cutlery, plates, trays, bowls, cups, and mugs for purchase are not included in guide due to wide availability. State entities are encouraged to use reusables to the extent possible prior to purchasing compostable disposable versions.

Disposable tableware must be **20% certified** to be compostable at SUNY ESF.

Reusable Utensils and Cutlery

Preferred Sources

- None

DQS Contracts

- None

Summit Paper Co.

- World Center, Biodegradable Fiber Bowls
- World Center, Classic Green Biodegradable

Imperial Bag & Paper Co.

- Technical, Biodegradable Paper Source Bowls

Eco-Products

- Eco-Products, Sustainable Bowls

Compostable Bowls

NYSFP

- Environmentally Friendly Tableware, Bowls

Summit Paper Co.

- World Center, Biodegradable Fiber Bowls
- World Center, Classic Green Biodegradable

Imperial Bag & Paper Co.

- Technical, Biodegradable Paper Source Bowls

Eco-Products

- Eco-Products, Sustainable Bowls

Compostable Hot Cups & Lids

Preferred Sources

- None

Summit Paper Co.

- World Center, Green Hot Cups and Lids

Imperial Bag & Paper Co.

- Base, Eco-Friendly PLA Coated Paper Hot Cups
- Eco-Products, World of PLA Coated Paper Hot Cups
- Star, Eco-Friendly PLA Coated Paper Hot Cups

Eco-Products

- Eco-Products, Biodegradable Hot Cups
- Eco-Products, World of PLA Coated Paper Hot Cups
- Eco-Products, Biodegradable Hot Cups
- Eco-Products, Eco-Green Hot Cup Slippers

Biodegradable Paper Plates and Trays

NYSFP

- Environmentally Friendly Tableware, 5-Compartment Tray
- Environmentally Friendly Tableware, Clam

ProfTech - Off contract, use Shipping Location: PFT-NC42

- Biodegradable, Biodegradable Paper Plates, Assorted Styles
- Biodegradable, Biodegradable Paper Plates, Assorted Styles
- Eco-Products, Vegetable Sustainable Plates, Assorted styles

Hill & Markes

- Eco-Products, Sustainable Plates, Assorted Styles and Quantities
- Technical, Wheat Straw Dishware shown through link
- World Center, Biodegradable Paper Plates, Assorted Styles and Sizes
- World Center, Biodegradable Paper Plates, Assorted Styles

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Food Service & Cafeteria

Compostable Bowls

NYSFP

- Environmentally Friendly Tableware, Bowls

Summit Paper Co.

- World Center, Biodegradable Fiber Bowls
- World Center, Classic Green Biodegradable

Imperial Bag & Paper Co.

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Eco-Products

- Eco-Products, Sustainable Bowls

Compostable Hot Cups & Lids

Preferred Sources

- None

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- World Center, Green Hot Cups and Lids

Imperial Bag & Paper Co.

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Many **SUNY** campuses are integrating green procurement into training programs for procurement officers, staff, and departments involved in purchasing decisions. For example, SUNY's schools at Albany, Binghamton, Brockport, and Geneseo all provide green procurement training as part of their broader purchasing training.

CUNY Brooklyn College procured bulk compostable plates, cups, and take-away containers for student clubs to use during campus-wide events. Students, faculty, and staff used the food ware in their "Curry Q Cook Off" event. This initiative significantly reduced the need for single-use plastics at student events.

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Restricting the Use of Bottled Water

New York State is committed to eliminating the purchase of bottled water, and more specifically the use of State funds to purchase single-use plastic water bottles. Allowing for rare exceptions, EO 22 restricts the use of State funds for the purchase of bottled water by Affected Entities.

As a result of this commitment, 92% of Affected Entities reported that their bottled water purchasing practices were compliant with EO 22 for the second consecutive fiscal year, with numerous Affected Entities reporting no bottled water purchases during FY 23–24.

To further reduce the need for bottled water, Affected Entities continue to test water quality at their buildings; install water filters, fountains, and water bottle refill stations; provide reusable alternatives to their staff; and limit purchases of single-use plastic water bottles to emergencies or situations where potable water is not available.

Some Affected Entities' successes in FY 23–24 include:

- **DEC** installed water bottle refilling stations over basic water fountains at regional offices.
- **The NYS Justice Center for the Protection of People with Special Needs (Justice Center)** installed a water filtration and bottle filling station at its Schenectady office.
- **NYPA** installed flow-through filtration systems at the Clark Energy Center, where potable water is readily available.

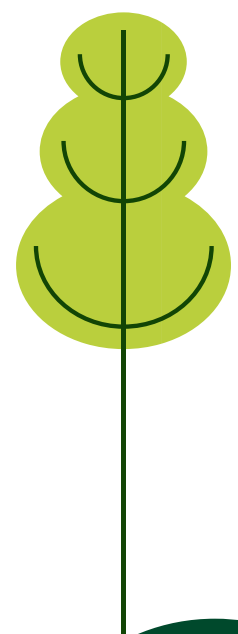
Kingsborough Community College Water Bottle Refilling Station Locations



Refilling your own reusable water bottle reduces the number of plastic bottles that end up polluting the environment for centuries, conserves important natural resources such as petroleum, water and energy, and prevents the production of greenhouse gases and other pollutants.

We have 30 water bottle refilling stations installed across the campus, providing safe, high quality drinking water. The station filters are certified to NSF 42 and 53 ANSI standards for lead, cyst, particulates, chlorine, taste and odor reduction — and have the added benefit of making the water taste better!

Multiple **CUNY** and **SUNY** schools installed more water bottle refilling stations throughout their campuses. **CUNY Kingsborough Community College** created a map of refillable stations for students, staff, and visitors.

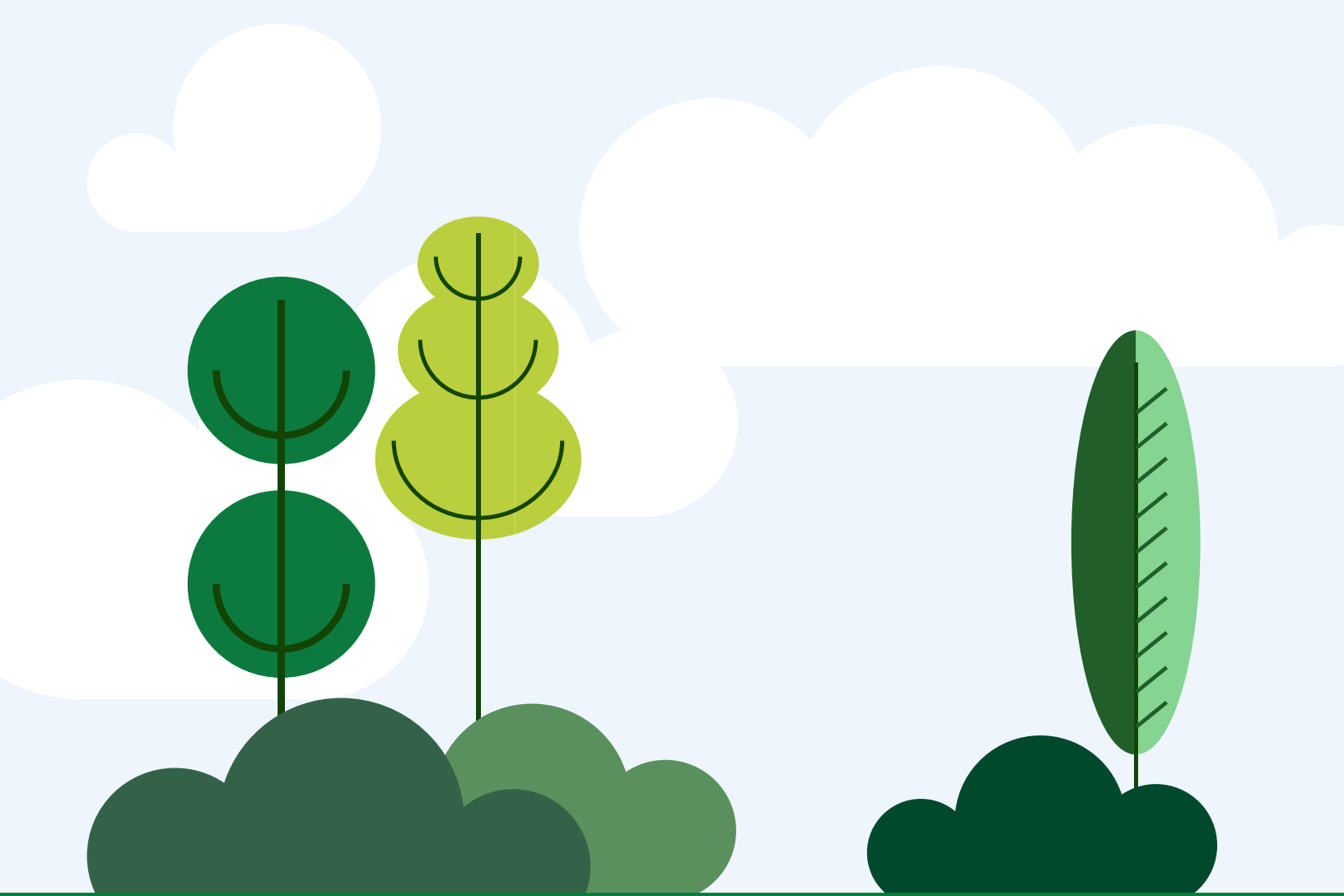


Conclusion

During FY 23–24, New York State Affected Entities made significant strides in environmental stewardship by reducing GHG emissions, minimizing waste, cutting down use of toxic substances, opting for sustainable products, and enhancing the lands and habitats they manage.

The GreenNY Council played a crucial role in these efforts by providing technical guidance, training, and engagement initiatives. These collective efforts are helping State entities make progress towards the ambitious sustainability targets set by Governor Hochul in EO 22.

Each year, New York State continues to improve its sustainability performance, paving the way for a greener future for all its residents.



GreenNY

ogs.ny.gov/greenny