



Greening New York State

11th Progress Report on Agency Sustainability

Fiscal Year 2021–2022



GreenNY

Message from the Chairs



New York State is a leader in sustainable government operations and progress.

The fiscal year (FY) 21–22 Greening New York State report lays out how the 75 Affected Entities covered by Executive Order 22 (E.O. #22) have taken action to lower the environmental footprint of State government across a wide range of areas, including reducing greenhouse gas emissions, reducing waste, decreasing the use of hazardous substances, and enhancing the landscapes that we manage in the face of climate change and other threats. The holistic nature of the State’s GreenNY program is one of its greatest strengths as New York State blazes a trail for others to follow.

Accomplishments by Affected Entities in FY 21–22 include:

~1 trillion BTUs of energy reduction at New York State facilities from energy efficiency projects logged through BuildSmart 2025

50% increase in amount of organic material composted

37 new or updated GreenNY purchasing specifications approved

\$286 million spent on green products and services

91% overall recycling rate

This progress is set to accelerate under Governor Hochul’s leadership with the signing of E.O. #22. This nation-leading directive on sustainable State operations names the GreenNY Council as the implementing body of the State’s lead-by-example programs. The executive order empowers the GreenNY Council to issue new operational directives, continues New York State’s successful green procurement program, and sets ambitious environmental performance targets for State operations.

These include 100% renewable electricity use in State government by 2030, a 100% zero-emission (ZEV) light-duty fleet by 2035 and medium- and heavy-duty fleets by 2040, 11 trillion BTUs of energy savings at State facilities by 2025, decreasing the embodied carbon in construction projects, reducing waste and eliminating single-use plastics from State operations, reducing the use of hazardous substances, and enhancing landscapes managed by the State. Critically, it also includes provisions to ensure that State operations do not disproportionately impact disadvantaged communities and prioritizes funding and facilities located in these areas for sustainability upgrades.

We're looking forward to building upon the progress made to date and seeing New York State continue to lead by example as it implements this new executive order.



Justin E. Driscoll, President and CEO
NY Power Authority

A handwritten signature in black ink that reads "Justin E. Driscoll".



Doreen M. Harris, President and CEO
NYSERDA

A handwritten signature in black ink that reads "Doreen M. Harris".



Jeanette Moy, Commissioner
Office of General Services

A handwritten signature in black ink that reads "Jeanette Moy".



Basil Seggos, Commissioner
Department of Environmental
Conservation

A handwritten signature in black ink that reads "Basil Seggos".



Blake Washington, Budget Director
New York State

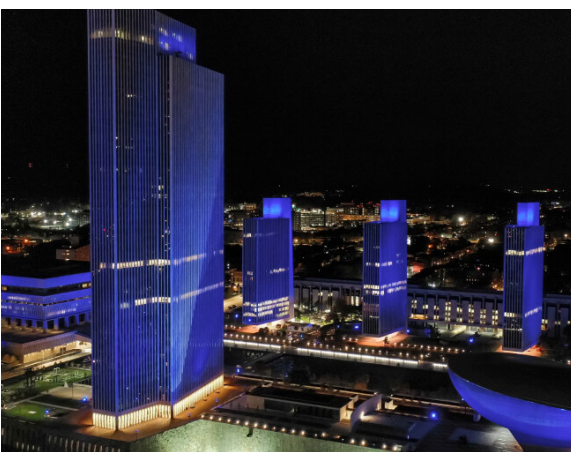
A handwritten signature in black ink that reads "Blake Washington".



DEC's new Division of Marine Resources Headquarters in Long Island features both roof and ground mounted solar, electric vehicle charging stations, and other sustainable features. *Credit: DEC*



MTA replaced lighting in Grand Central Station with LEDs, saving 75% of the energy they were previously using. *Credit: NYPA*



OGS is completing comprehensive energy improvements at the Empire State Plaza. Projects include chiller electrification and water system upgrades that will save over \$1.2 million annually and interior and exterior LED lighting that will result in over \$600,000 savings annually. *Credit: NYPA*

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Guide to State Agency Acronyms

AGING – Office for the Aging

AGM – Agriculture and Markets

APA – Adirondack Park Agency

ARTS – Council on the Arts

BFSA – Buffalo Fiscal Stability Authority

BOE – Board of Elections

BPCA – Battery Park City Authority

CDTA – Capital District
Transportation Authority

CELG – Commission on Lobbying
and Ethics in Government

CENTRO – Central New York Regional
Transportation Authority

CIVIL – Department of Civil Service

CPB – Central Pine Barrens Joint
Planning and Policy Commission

CUNY – City University of New York

DASNY – Dormitory Authority
of the State of New York

DCJS – Division of Criminal
Justice Services

DEC – Department of
Environmental Conservation

DFS – Department of Financial Services

DHCR – Homes and
Community Renewal

DHR – Division of Human Rights

DHSES – Division of Homeland
Security and Emergency Services

DMV – Department of Motor Vehicles

DOB – Division of the Budget

DOCCS – Department of Corrections
and Community Supervision

DOH – Department of Health

DOL – Department of Labor

DOS – Department of State

DOT – Department of Transportation

DPS – Department of Public Service

DVS – Division of Veteran's Services

ECFSA – Erie County Fiscal
Stability Authority

ECMC – Erie County Medical Center

EFC – Environmental Facilities
Corporation

ESD – Empire State Development

FCB – Financial Control Board

Gaming – Gaming Commission

GOER – Governor's Office
of Employee Relations

HESC – Higher Education
Services Corporation

HRBRRD – Hudson River Black River
Regulating District

HRVG – Hudson River Valley Greenway

IG – Office of the Inspector General

ITS – Information Technology Services

JC – Justice Center

LIPA – Long Island Power Authority

MTA – Metropolitan Transportation
Authority

MNA – Division of Military
and Naval Affairs

NFTA – Niagara Frontier
Transportation Authority

NIFA – Nassau Interim
Finance Authority

JAVITS – New York Convention
Center Operating Corporation

NYPA – New York Power Authority

NYSBA – New York State
Bridge Authority

NYSERDA – New York State Energy
Research and Development Authority

NYSIF – New York State Insurance Fund

OASAS – Office of Alcoholism and
Substance Abuse Services

OCFS – Office of Children and
Family Services

OGDENSBURG – Ogdensburg Bridge
and Port Authority

OGS – Office of General Services

OMH – Office of Mental Health

Parks – Office of Parks, Recreation,
and Historic Preservation

OPWDD – Office for People with
Developmental Disabilities

ORDA – Olympic Regional
Development Authority

OTDA – Office of Temporary
Disability Assistance

PERB – Public Employees
Relations Board

PORTOSWEGO – Port of
Oswego Authority

RIOC – Roosevelt Island
Operating Corporation

RTS – Rochester-Genesee Regional
Transportation Authority

SLA – State Liquor Authority

SUNY – State University of New York

TAX – Department of Tax and Finance

THRUWAY – Thruway Authority

TROOPERS – State Police

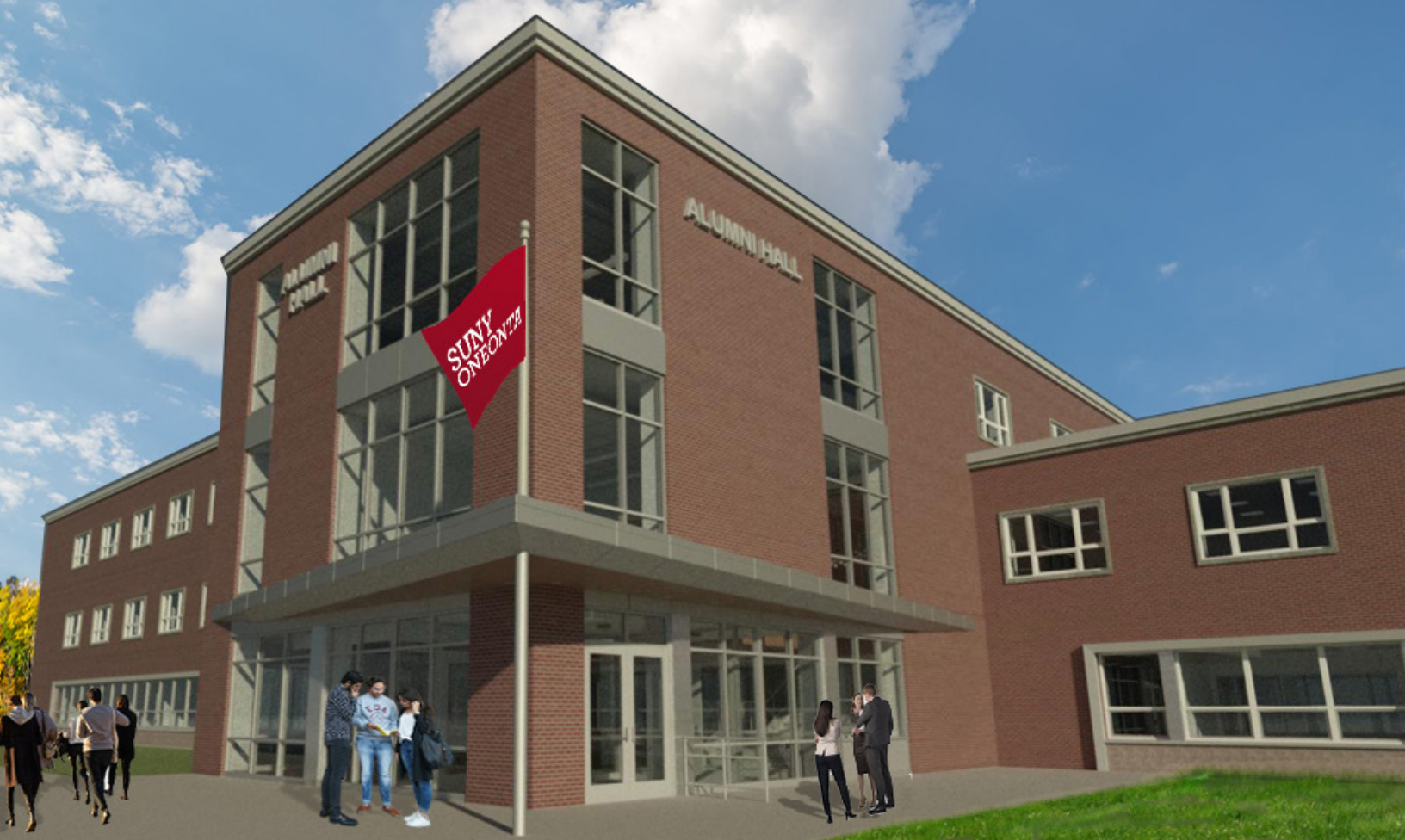
UDC – Urban Development Corporation

UNDC – United Nations
Development Corporation

VS – Office of Victim's Services

WCB – Worker's Compensation Board

WCMC – Westchester County
Health Corporation



Oneonta (SUNY) is undertaking a gut renovation of Alumni Hall that will make it the first building on campus completely heated and cooled with ground source (geothermal) heat pumps that feature 30 new wells under the parking lot. In addition, by renovating the building SUNY Oneonta lowered the embodied carbon of the project relative to tearing it down and utilizing materials for a new structure. *Credit: SUNY Oneonta*



University at Buffalo (SUNY) hosted Vice President Kamala Harris who touted the University's climate and sustainability initiatives. *Credit: University at Buffalo (SUNY)*

Executive Summary

Affected Entities continued to decrease the environmental footprint of State operations across a wide range of areas in FY 21–22.

In addition, the GreenNY Council continues its efforts to build capacity within Affected Entities to carry out additional projects through the creation of project guidance, provision of technical assistance, training opportunities for agency staff, and engagement events for sustainability coordinators.

Executive Order 22: Leading by Example — Directing State Agencies to Adopt a Sustainability and Decarbonization Program, signed by Governor Hochul in September 2022, highlighted and consolidated the State’s critical environmental and sustainability efforts. The executive order provides continued momentum for the GreenNY Council and Affected Entities to continue working toward reducing our environmental impact, and contributing to a greener, safer future for New York State.


FY 21–22 Highlights

- **Staff Engagement** – The GreenNY Council provides a monthly newsletter to sustainability coordinators to keep them engaged with the latest guidance, trainings, and requirements.
- **Waste Reduction** – 50% increase in the amount of organic matter, including food scraps, composted by Affected Entities.
- **Recycling and Composting** – Affected Entities reported a 91% recycling rate.
- **Reducing Hazardous Chemical Use** – 92% of Affected Entities that operate laboratories have put in place measures to purchase the smallest amounts of substances needed for the tasks they carry out, an increase from FY 20–21.
- **Clean Energy** – Affected Entities logged an additional 1 TBTU of energy savings in FY 21-22, keeping the State on track to meet its BuildSmart 2025 goal of 11 TBTU of savings from State facilities by 2025.
- **Refrigerant Management** – Affected Entities installed new, or updated, leak detection systems to decrease refrigerant emissions.
- **Sustainable Transportation** – More than 5% of the State’s light-duty fleet are zero-emission vehicles and all Affected Entities are completing fleet decarbonization plans by the end of 2023.
- **Water Conservation** – Farmingdale State College (SUNY) installed over 250 low-flow aerators on faucets across campus that will save water and reduce energy use by 5,000 therms/year through reduced hot water use.
- **Green Infrastructure** – The University at Albany’s (SUNY) new ETEC building has a green roof and manages all stormwater on site.
- **Sustainable Landscaping** – 63% of Affected Entities use sustainable landscaping practices.
- **Species and Habitat Protection** – 18 of Affected Entities engaged in invasive species survey and removal activities during FY 21–22.
- **Buying Green** – OGS won a sixth consecutive Electronic Product Environmental Assessment Tool (EPEAT) award for their purchasing of green electronics.
- **Green Specifications** – 37 new and updated green purchasing specifications were approved.
- **Purchasing Recycled Paper** – 75% of State dollars spent on paper went toward products that contained higher than 30% recycled content.
- **Reducing the Purchase of Bottled Water** – 96% of Affected Entities were in compliance with bottled water purchasing restrictions with only 32% documenting the need for an exemption.

FY 21–22
By the Numbers



ONE *new nation-leading executive order that will accelerate progress*

5.38 |  *~1 trillion BTUs over FY 20–21*
trillion BTUs of energy savings logged through BuildSmart 2025

91%
overall State recycling rate



 **50%** **amount of organic material composted, including food scraps**

37 **new or updated GreenNY purchasing specifications approved**



\$286 **million spent on green products and services**



DEC put the first electric boat in State government in service to monitor water quality in the Finger Lakes. Data from the boat's performance will be analyzed to determine emissions reductions and performance. *Credit: DEC*

Achieving the Promise of Sustainability

New York State government is committed to leading by example, taking action to fight climate change, and lowering the environmental footprint of its operations through the GreenNY program.

Affected Entities are taking action on a wide range of environmental issues from reducing greenhouse gas emissions and decreasing waste, to eliminating hazardous substances and increasing green procurement opportunities. These actions are beneficial for the environment as well as taxpayers because they can reduce operating costs while increasing sustainability.

Affected Entities consistently set an example of sustainable government operations for the rest of the nation, and their efforts took a significant step forward when Governor Kathy Hochul signed E.O. #22: Leading by Example during Climate Week of 2022.

This executive order replaces and supersedes E.O. #4, #18, #88, and #166 and sets new standards and environmental performance requirements for State government. E.O. #22 also designates the GreenNY Council to be the implementing body for the directives in the executive order.

Environmental performance requirements in E.O. #22 include:

- 100% of the electricity used in State operations will come from renewable energy (as defined by the Clean Energy Standard) by 2030.
- 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.
- 11 trillion BTUs of energy savings will be achieved by 2025 through BuildSmart 2025.
- Restricting new State facilities that enter design and permitting starting in 2024 from using infrastructure that can be used for the combustion of fossil fuels.
- Waste disposal will be reduced 10% every five years until reaching a goal of 75% lower than a FY 2018-2019 baseline, which will include a combination of strategies to divert materials from landfills, increase recycling, and enhance composting and other reuse of organic materials.
- The use of single-use plastics will be eliminated in State operations.
- The use of toxic substances will be reduced in State operations.
- Habitats maintained by Affected Entities and authorities will be enhanced, including support for native pollinators.
- State facilities will build resiliency in the face of changing climate risks.

In addition, E.O. #22 takes steps to ensure State government operations do not have a disproportionate impact on Disadvantaged Communities.

*For FY 21–22,
a total of 72 out of
73 Affected Entities
reported under
E.O. #22.*

These are areas that meet criteria outlined by the Climate Justice Working Group, meant to identify communities that are underserved and have borne the burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households. By identifying such communities, the State ensures that they benefit from the transition to a clean energy economy.

Beyond E.O. #22, State government is following additional directives and utilizing additional resources to decrease its environmental impact, including the Climate Leadership and Community Protection Act (Climate Act), utilizing the New York Energy Manager and the [“New Efficiency: New York”](#) whitepaper.

The Climate Action Council released its scoping plan in December 2022. It calls for the GreenNY Council to take further actions to assist the State in meeting its Climate Act requirements. Those actions include issuing new procurement specifications and operational directives to incentivize procurement of low-carbon products and lowering the embodied carbon in products and materials utilized by Affected Entities.

E.O. #22 directs the 75 Affected Entities to incorporate sustainability into all aspects of their operations and assign a sustainability coordinator. Affected Entities are encouraged to create a sustainability team in-house to support the work of the Council. This team should be comprised of appropriate staff involved in identifying, approving, and implementing sustainability or energy projects, and environmental justice matters. The team should include an executive sponsor.

The GreenNY Council has begun implementation and is working 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 E.O. #22 has been consolidated into one joint, annual GreenNY reporting form, complemented by topic-specific requests for information to determine progress and support planning. For FY 21–22, a total of 72 out of 73 Affected Entities reported under E.O. #22, the highest rate of compliance to date. This summary compiles those reports. FY 20–21 and prior progress reports for E.O. #4 and E.O. #18 can be found on the [GreenNY website](#), which includes more detailed information, webinars, fact sheets, and case studies on sustainable operations and purchasing.

GreenNY Council Membership

Co-Leads:

DEC, DOB, NYSERDA, NYPA, OGS

Members:

DOH, ESD, DOT, State Parks,
EFC, DASNY, MTA



Parks

worked with the [Pollution Prevention Institute \(P2I\)](#) to create a closed loop gravity filtered wash system for golf course maintenance equipment at Bethpage State Park that has reduced the amount of water needed to wash equipment by 90%. Parks and P2I developed a document that describes a set of standard operating procedures, including construction, operation, and maintenance of the system so that it is replicable by other organizations. *Credit: Parks*

Savings and Costs

Sustainable practices can bring cost savings as well as environmental benefits.

However, larger investments, such as upgrading heating systems and converting to ZEVs, require upfront costs to implement. Fortunately, over the past 13 years, the GreenNY Council has found that the vast majority of sustainability investments either save entities money over time, or don't negatively impact their overall bottom line.

On the FY 21–22 GreenNY survey, Affected Entities indicated whether sustainability initiatives across various sectors saved money, were cost neutral, or caused costs to increase. The cost effects of New York State's sustainability activities by project type are shown in the chart on the next page.

Renewable energy systems were the most common strategy for saving money, with 36% of Affected Entities reporting a reduction in costs. Eliminating the purchase of bottled water and reducing waste also cut costs, with 18% and 14% of Affected Entities, respectively, recording savings for FY 21–22.

Affected Entities implemented a variety of cost-saving sustainability measures in FY 21–22, including:

- DOL reduced spending on paper purchases by transitioning to digital document sharing. Converting the employee handbook to electronic delivery for all new hires saved more than 14,300 sheets of paper.
- DPS saved approximately \$2,000 in FY 21–22 by returning toner cartridges to their vendor for recycling.
- OGS is realizing considerable utility bill savings from several energy projects. Replacing the boiler at the Senator Hughes Building in Syracuse is estimated to save more than \$20,000 annually, while the LED lighting upgrade at 44 Holland Ave. is expected to save over \$172,000 annually.
- OMH is saving more than \$9,000 annually on energy costs at the Buffalo Psychiatric Center following LED lighting upgrades. The project payback period is estimated at just over two years.
- SUNY ESF saved over \$6,500 annually by focusing on building system operation and maintenance systems. These often get overlooked in energy savings projects but are key to a low-carbon energy system. The lighting system in the Gateway building that was designed to save money and energy was malfunctioning and wasting thousands of kilowatt hours every week. By spending resources to repair the system, ESF peak demand was reduced by 5 kW and consumption reduced by 90,480 kWh/year. The total payback was under one year.
- TAX expects to save more than \$1,200 a year on fuel costs with the purchase of their first electric fleet vehicle.

**Count of State Agencies Reporting Outcomes
from Sustainable Practices FY21–22**

	Saving Money	Cost Neutral	Increase in Cost
Recycling & Composting	4	25	4
Waste Prevention	10	33	0
Green Cleaning	0	26	11
Less Toxic Pest Management	0	24	6
Renewable Energy	26	0	11
Green Transportation	3	28	0
Water Conservation	2	33	2
Green Infrastructure	0	31	2
Stormwater Management	0	33	1
Sustainable Landscaping	2	33	3
Species Protection	1	33	2
Invasive Species Management	1	29	4
Green Procurement	4	27	7
No Bottle Water	13	41	0



University at Albany (SUNY) staff giving a tour of their new LEED Platinum certified ETEC Building to officials from DEC. The building is all-electric, net zero ready, and manages all its stormwater on site.
Credit: University at Albany (SUNY)

Operating Green

Engaging the Green Team

Achieving New York State's ambitious climate and sustainability goals entails significant collaboration and coordination between State government entities.

The day-to-day work to lower the emissions and environmental impact from State operations is led by sustainability coordinators and teams across the 75 Affected Entities covered by E.O. #22. Sustainability coordinators are fundamental to catalyzing change and breaking down barriers in an organization. Their work is bolstered with the support of an executive sponsor and members from facilities, finance, fleet management, procurement, and a tenant representative, if applicable. This core team structure helps encourage collaboration and learning to spread out the workload and identify cross-cutting solutions. Empowering a sustainability team with decision-making authority increases employee buy-in and enhances opportunities to integrate sustainability in operations and culture.

The GreenNY Council regularly provides resources and opportunities for sustainability teams to increase engagement, through the monthly GreenNY newsletter, the SharePoint Action Agenda Wiki, information on the [GreenNY website](#), and more. Additionally, the GreenNY Council held its annual GreenNY Forum at the Javits Center in 2022, with more than 50 participants. The event was an exciting day of presentations by sustainability champions, networking between sustainability coordinators across our State Affected Entities, and a tour of Javits' one-acre urban rooftop farm in the heart of Manhattan.

The GreenNY Council's annual GreenNY Forum took place at the Javits Center and featured more than 50 attendees learning best practices and new innovative solutions for their entities.

In FY 21–22, 86% of Affected Entities reported having a part-time sustainability coordinator, with an additional 10 entities having a sustainability coordinator as a dedicated full-time position. Those 10 Affected Entities are CUNY, DEC, DFS, MNA, DOL, Javits, MTA, NYPA (and Canals), ORDA, and State Parks. The full list of sustainability coordinators can be found on the [GreenNY Website](#). Furthermore, 12 entities have developed sustainability plans while another six report having plans currently in development.

Some examples of successfully engaging the sustainability coordinators and other interested stakeholders in FY 21–22 include:

- CUNY continued its “Make a Wish for a Plastic-Free Ocean” initiative to engage students, faculty, and staff in reducing and eliminating the use of single-use plastic on campus. The intern-led project introduced a clear-paneled recycling bin on campus to visualize the volume of disposed single-use plastic items and surveyed nearly 200 participants on consumer behavior and recycling habits to inform campus waste reduction efforts.
- DHSES created a more cohesive sustainability structure by moving Facilities Management under their Office of Administration & Finance.
- DOL hired their first full-time sustainability coordinator and increased staff engagement in sustainability through a monthly newsletter and creation of a training module for new hire orientation.
- SUNY Farmingdale hired two full-time staff — a sustainability manager and energy manager — to lead the campus’s sustainability planning efforts. Just this year, Farmingdale formed a new sustainability committee and began developing a master sustainability plan.
- SUNY New Paltz has had more than 80 employees participate in its Sustainability Faculty Learning Community, a professional development training program focused on integrating sustainability into curriculum.



Javits Center sustainability coordinators viewing the green roof and solar project at Javits during the 2022 GreenNY Forum. *Credit: DEC*



Cortland (SUNY) auxiliary worker weighs the waste from a student's plate to see how much post-consumer food waste is composted during a single lunch. *Credit: SUNY Cortland*



ESF (SUNY) student EcoReps conduct a waste audit on campus. *Credit: SUNY ESF Sustainability Office*



ESF (SUNY) worked with on-campus vendors to eliminate single-use plastics from vending machine offerings. *Credit: SUNY ESF Office of Sustainability*

Waste Reduction and Reuse

Affected Entities are leading by example in reducing waste and incorporating reuse and repair into everyday operations.

The GreenNY program has played a significant role in how Affected Entities generate and handle waste through the training and support it offers entities seeking to implement more ambitious waste reduction initiatives. Affected Entities reported generating 2,074,910 tons of waste in FY 21–22, 92% of which was clean construction and demolition (C&D) debris that was recycled (see “Recycling, Composting, and Special Wastes”). The data shows an increase in waste generation from the previous year and is attributed to improved tracking and reporting of recycling.

Through E.O. #22, New York State has committed to decrease State agency waste disposal by 10% every five years from a baseline of FY 18-19, until reaching a goal of 75%. Improving data quality and collection techniques are crucial first steps to reducing waste, and many Affected Entities are working on improving data collection through technical assistance and programming offered by the GreenNY program. Waste audits have shown to be useful in understanding the new types and amounts of waste being generated after the changes in agency operations spurred by the COVID-19 pandemic. For example, DOL identified opportunities to reduce and divert food scraps through waste audits conducted in FY 21–22.

Affected Entities took action to reduce waste in numerous ways in FY 21–22, including:

- Having procurement policies designed to prevent waste, such as ordering items with less plastic or polystyrene packaging.
- Employing practices to reduce food wasted at facilities.
- Leveraging the OGS [State Surplus Property Program](#) and developing their own agency- and facility-specific programs to reduce waste and reuse materials wherever possible.
- Increasing the use of electronic rather than paper communication within and outside of entities as a result of the pandemic.

Affected Entities reported generating 2,074,910 tons of waste in FY 21–22, 92% of which was clean construction and demolition debris that was recycled.

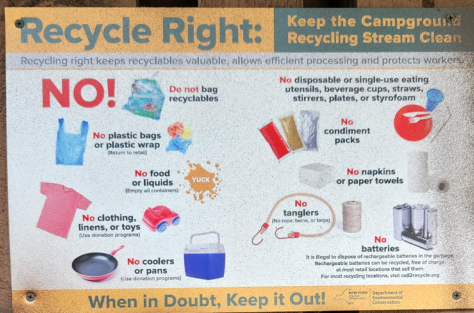
A few examples of successful waste prevention initiatives in FY 21-22 include:

- BPCA achieved GOLD TRUE Zero Waste Certification at one of their headquarter buildings, indicating that they were able to divert over 90% of the waste produced in the building from disposal in landfill.
- BFSA and DOL have seen significant reductions in paper waste by shifting to electronic methods of sharing and delivering documents to the public. BFSA has been successful in reducing paper waste by shifting to electronic transmittal of board books. DOL has prevented over 10 million sheets of paper from being printed and sent through the mail by converting documents to digital versions and implementing electronic delivery and signature for many of its forms used by the public.
- JC has been successful in reducing waste and spending by encouraging the reuse of packaging materials and boxes.
- CUNY LaGuardia Community College was able to reduce the amount of plastic waste generated by purchasing goods in bulk and in refillable containers instead of individual units.

93% of reporting Affected Entities are reducing paper waste by using electronic means to provide documents and information to the public all (36%) or a majority of the time (57%)

10 million sheets of paper saved by DOL by shifting core business functions to digital

91% set printer default settings to double-sided (duplex) printing all (58%) or a majority of the time (33%)



DEC installed signs at campgrounds reminding campers how to recycle right. *Credit: DEC*

Recycling, Composting, and Special Waste

Reporting for FY 21–22 continues to show a robust and encouraging trend of high recycling rates by Affected Entities. In the last three reporting years, over 90% of the solid waste generated by entities was recycled or composted, compared to a 50% recycling rate in FY 08-09.

FY 21–22 saw an overall State agency recycling rate of 91%. Across all reporting Affected Entities, 1,893,107 tons of waste were recycled or composted in FY 21–22, including 1,742,534 tons of clean construction and demolition (C&D) debris. Reporting for FY 21–22 shows a 26% increase in total materials recycled by Affected Entities.

Diverting organic waste and food scraps that cannot be avoided or donated to composting, anaerobic digestion, or another form of recycling, reduces methane generation in landfills. Composting in particular sequesters significant amounts of elemental carbons, while simultaneously producing a beneficial amendment that improves soil health and reduces the need for energy-intensive fertilizers and hazardous pesticides. Affected Entities composted a total of 12,888 tons of material, including 4,910 tons of food scraps in FY 21–22, a 50% increase in total waste composted compared to FY 20–21.

A few examples of successful recycling and composting initiatives in FY 20–21 include:

- DEC’s Central Office and all nine regional offices compost food scraps from their kitchens. Many suboffices and other facilities compost their food scraps as well. While some food scraps are sent to commercial composting facilities, some offices and facilities have on-site composting programs and use the compost generated for their pollinator gardens.
- Binghamton University (SUNY) and The Javits Center conduct rolling contamination audits to monitor contamination and address issues quickly.
- CUNY Bronx Community College deployed 14 Big Belly Solar Compactors, sensor-equipped waste and recycling stations that communicate their real-time status to help streamline waste operations.



Bronx Community College’s (CUNY) 14 Big Belly Solar Compactors are sensor-equipped waste and recycling stations that communicate their real-time status to help streamline waste operations. *Credit: Bronx Community College (CUNY)*

Affected Entities reported composting 50% more organic materials, including food scraps, in FY 21–22 than in FY 20–21.

Breakdowns of the total quantity of materials recycled by entities, on average, in FY 21–22. Waste types are split out by weight, “office recyclables” (paper, bottles, and cans) amount to significantly less weight than non-office recyclables, such as bulk metals and compostables which are heavier. C&D material includes concrete, asphalt, brick, and clean wood that come from building construction, renovation, and demolition, as well as highway construction and maintenance.

Tons of Material by Type Recycled by Reporting Affected Entities FY 21–22

	Tons	Percent Total
Clean C&D	1,742,534	92%
Bulk Metals	98,316	5%
Office recyclables	13,090	1%
Maintenance and Equipment	5,256	0%
Compostables	12,888	1%
Other	21,023	1%
TOTAL	1,893,107	100%

Affected Entities continued to make progress in reducing refrigerant emissions by installing low GWP refrigerant-utilizing equipment, installing more leak detection equipment, and inventorying their refrigerant use.



NYPA's new chiller at the Niagara Plant includes a built-in leak detection system. *Credit: NYPA*

Refrigerant Management

Affected Entities continued to make progress in tracking and eliminating their refrigerant emissions in FY21–22. Of the 72 reporting Affected Entities, 32 stated that they utilize unsealed refrigerant-containing equipment. Twenty-five have chillers for buildings, 19 have heat pumps, 17 have commercial food and beverage coolers, and 4 have chillers for other types of facilities besides buildings. Twelve of these entities reported using refrigerant management plans that cover all or some of their facilities.

A total of nine entities reported their refrigerant emissions in FY 21–22. Refrigerants used by these entities include R-134A, R-22, R-407A, R-407C, R-410A, R-438A, and R-448A. Total reported emissions were 8,844 metric tons of CO₂e utilizing the Climate Act's 20-year accounting method.

Affected Entities also reported the following actions to reduce their refrigerant emissions:

- College of Staten Island (CUNY) installed a new refrigerant leak detection system in their chiller plant. The system was quickly successful in detection of a leak that was able to be repaired, reducing emissions.
- DASNY installed a new freon leak detection system in their building's chiller room to better alert them to leaks.
- Binghamton University (SUNY) implemented a new refrigerant tracking and compliance system to help staff manage its refrigerant inventory. The tool replaced information that was previously tracked on paper and allows the data to be more readily accessible throughout the campus network.
- ORDA upgraded the refrigerant plant at the Olympic Center and switched to equipment that utilizes a lower GWP refrigerant that is a third of what the previously installed equipment costs.
- NYPA installed new chillers at the Niagara Power Project that have a refrigerant leak detection system. In addition, they also have an annual operations process that is followed to detect leaks at the facility.



DASNY's leak detection system installed at DASNY's headquarters to reduce refrigerant emissions.

Credit: DASNY



College of Staten Island's (CUNY) new leak detection system reduces refrigerant emissions by detecting leaks sooner and addressing them.

Credit: College of Staten Island (CUNY)

Reducing Hazardous Chemical Use

Pest Management

IPM practices focus on indoor facilities and may be applied by monitoring for pests, enhanced sanitation, and implementing structural controls, along with using the least hazardous pesticide if its use becomes necessary. IVM focuses on vegetation management in outdoor settings and reduces the need for pesticides, which promotes ecosystem health, increases biodiversity, and helps control invasive species. Affected Entities reported that they continued to utilize the GreenNY specifications for both [IPM for indoor spaces](#) and for [IPM and IVM](#) for outdoor spaces.

A few examples of IPM and IVM at State facilities in FY 21–22 include:

- NYSERDA continues to use IPM and IVM for both indoor and outdoor spaces. This helps to educate staff on environmental concerns and allows them to reduce the introduction of harmful chemicals into workspaces.
- BPCA uses rat ice for a successful means of rat control in outdoor park areas. Rat ice eliminates the risk of effecting non-target wildlife by using dry ice placed in rat burrows, rather than baited poison traps.
- Parks has implemented extensive IPM programs at a number of their golf courses in partnership with Cornell Cooperative Extension. This includes several that have successfully switched to non-chemical means of insect control.
- NYPA employs the IVM process to manage vegetation on its transmission rights-of-way. This involves removing non-compatible, tall-growing vegetation and promoting diverse communities of low-growing vegetation. It allows NYPA to ensure the safe and reliable transmission of power, while minimizing the use of pesticides and supporting habitat for pollinators and other wildlife.

In FY 21–22 Affected Entities reported that they continued successfully using both Integrated Pest Management (IPM) and Integrated Vegetation Management (IVM) to reduce the use of hazardous substances and toxic chemicals.

63% of agency's now implement IPM at all or most of their indoor facilities

32% of agency's use non-chemical means of pest management for turf and ornamental plantings at all or most of their facilities

Outdoor IPM/IVM is performed by 24% of entities at all or most of their facilities

28% of entities avoid purchasing nursery stock that is treated with insecticides at all or most of their facilities



BCPA applying rat ice to control rats without using hazardous chemicals.
Credit: BPCA



NYPA employs the process of IVM to manage the vegetation on its transmission rights-of-way. Pictured are butterflies and bees foraging on butterfly weed along the right-of-way. *Credit: NYPA*



NYSERDA began using fragrance free soaps and other products.

Credit: NYSERDA



DEC continues to increase the use of cedar picnic tables to avoid pressure treated wood, which contains chemical compounds in it, and do not need to be painted. *Credit: DEC*

Reduction of Hazardous Substances

Affected Entities continued making progress in utilizing green cleaning practices, such as using less-hazardous chemicals, reducing a facility’s inventory of cleaning products, using smaller volumes of cleaners by using automated dispensers, and implementing methods that don’t require chemicals at all.

The task of maintaining clean work environments and public spaces requires careful consideration of many factors by both the State purchasers and the staff involved in cleaning State facilities. In addition to understanding product performance, the need for specialized equipment, and the costs of using a particular method, staff need to consider the health, safety, and environmental concerns related to cleaning. Since the beginning of GreenNY reporting, Affected Entities have made considerable progress in implementing green cleaning practices and mitigating potential hazards posed to employees and the public at State facilities.

Among the noteworthy advances made by Affected Entities in green cleaning in FY 21–22, NYSERDA noted that they switched to fragrance-free green cleaning products at their headquarters. In addition to NYSERDA, 82% of entities indicated that they used fragrance-free products at all, or a majority of, their facilities.

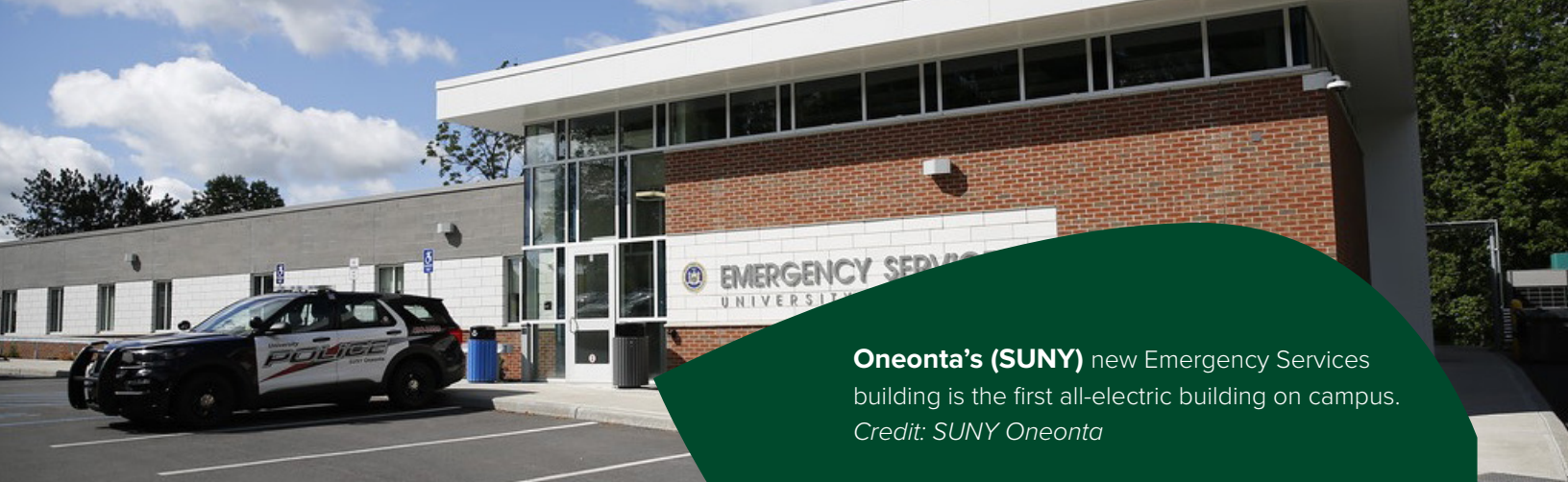
There are several GreenNY purchasing specifications that include restrictions on unnecessary fragrance ingredients, including the [Disinfectants and Sanitizers](#) specification, which requires that products be fragrance-free, and the [General Purpose Cleaners](#) specification, which specifies third-party certifications, some of which certify products with an optional “fragrance-free” label.

In addition to avoiding unnecessary fragrances, Affected Entities continued to utilize the [Green Cleaning Program website](#) and the [GreenNY Tip Sheet](#) to learn how to implement green cleaning practices and purchase approved green cleaning products.

Affected Entities with laboratory facilities have also been focusing on reducing the chemical hazards associated with their operations. Thirteen Affected Entities reported that they operate labs, and 92% of these entities indicated that they have reduced the purchase and use of hazardous chemicals in all, or a majority of, their labs. Further, 100% indicated that they have undertaken efforts to clean out old inventory and reduce the storage of toxic chemicals in their labs. This paves the way for a cleaner, healthier lab that will be a source of fewer hazards in the future.

85% reported using general purpose green cleaners at all, or a majority of, their facilities

82% of entities report the use of green cleaning practices that minimize the amount of chemical cleaning products at all, or a majority of, their facilities
These practices include the use of walk-off mats, micro-fiber mops, and controlled dilution systems for concentrated products



Oneonta's (SUNY) new Emergency Services building is the first all-electric building on campus.
Credit: SUNY Oneonta

E.O. #22 incorporates BuildSmart 2025 as the collective effort by Affected Entities to reduce site energy use by 11 trillion BTUs by 2025 from a 2015 baseline.

Clean Energy

Energy Efficiency

E.O. #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 2025 from a 2015 baseline. Eleven trillion BTU represents approximately 34% of all energy consumed by NYS Entities. E.O. #22 directs each Affected Entity to work with NYPA to achieve their allotted portion of the overall energy savings target for State operation.

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. NYPA's BuildSmart program 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 E.O. #22 energy savings goal. In addition to its management of the overall BuildSmart program, NYPA delivers energy efficiency and clean energy solutions to State entities. NYPA has committed to assisting Affected Entities in implementing 6.6 trillion BTUs of energy savings projects as part of BuildSmart 2025. At the close of FY 21–22, NYPA-implemented projects made up 94% of State progress toward the BuildSmart 2025 goal. NYPA-assisted projects include the CUNY energy master plan project and the MTA Grand Central Terminal project referenced below.

E.O. #22 establishes NYPA's New York Energy Manager (NYEM) as the system of record for all energy data from covered facilities and requires all Affected Entities to ensure their energy data is entered in NYEM. Data collected in NYEM will be used by the GreenNY Council to develop a GHG baseline for State agency operations. Data may also be used by the Council to support development of goals and guidance related to building decarbonization, electrification, and renewables. Energy savings project data entered into NYEM is used to demonstrate progress toward an Affected Entity's portion of the 11 trillion BTU goal.

Many Affected Entities have completed energy audits or master plans and are beginning to act on recommended energy conservation and reduction measures. With committed projects underway, E.O. #22 Affected Entities logged 5.38 trillion BTUs of energy saving projects as of the end of FY 21–22, putting the State on track to meet its energy efficiency goal of 11 trillion BTUs by 2025.



DEC installed magnetic LED retrofit strips at a number of their facilities. These provide a low-cost way to decrease energy use for lighting.
Credit: DEC

As of March 2022:

5.38 trillion BTUs of energy saving projects are either underway or completed, which represents 49% of the 11.0 trillion BTU goal

Approximately 80% of Affected Entities report using high-efficiency light technologies – like LEDs – at some, or all, of their facilities

Over 50% of Affected Entities report using high-efficiency/heat pump HVAC and hot water systems at some, or all, of their facilities

Highlights from energy efficiency projects initiated, in-progress, or completed in FY 21–22 include:

- CUNY developed a five-year comprehensive energy master plan for community colleges that identified hundreds of energy conservation measures across the campuses. The plan lays out a roadmap for CUNY to meet the 40% by 2025 GHG reduction targets set by New York City. A similar master plan is currently being developed for CUNY's senior campuses.
- Justice Center (JC) remodeled and consolidated two rented buildings (401 State St. and 409 State St. in Schenectady). JC installed energy efficient office lighting, appliances, and heating, ventilation, and air conditioning (HVAC) systems in both buildings.
- SUNY Oneonta is nearing completion of a gut-renovation of Alumni Hall, which will be SUNY Oneonta's first building completely heated and cooled with ground source heat pumps and a 30-well geothermal array in the parking lot. The deep energy retrofit and all-electric operation of Alumni Hall prepare it for net-zero operation via annual renewable energy credit (REC) purchases. Alumni Hall will also become the cornerstone building in a heating/cooling node when SUNY Oneonta's district geothermal system is implemented.



MTA replaced the platform lighting (T12s) in Grand Central Terminal with LEDs, saving 75% energy compared to original load. *Credit: NYPA*

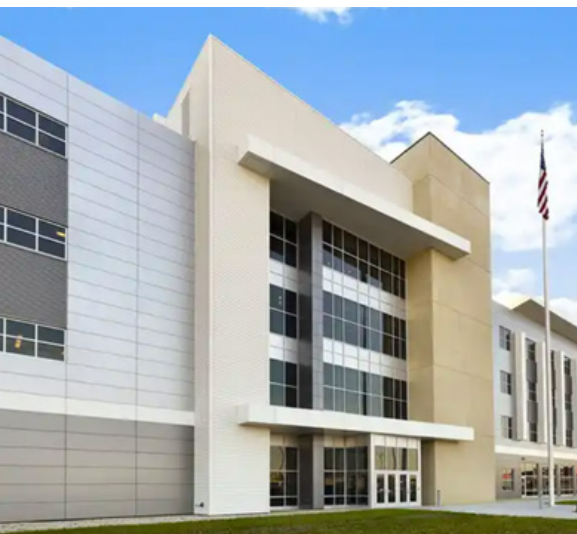


Parks Installed a solar array on a maintenance facility in Niagara Falls. Credits: Paul Vargovich, Jr. – National Solar Technologies and Parks

Renewable Energy

Affected Entities will accelerate the progress they’re making in utilizing more renewable energy due to language in E.O. #22 that directs Affected Entities to use 100% renewable electricity for their operations by 2030. The executive order states:

“By 2030 and thereafter, subject to available supply, 100% of the electricity used by Affected Entities for their own operations, except electricity needed to support the generation of electricity by an Affected Entity in accordance with its enabling authority, shall come from energy systems that are eligible under the Clean Energy Standard (“Eligible Systems”) as part of an all-of-government approach to meet the goals of the Climate Act in a cost-effective manner.”



MNA started construction on a solar PV project at Farmingdale Armed Forces Reserve Center. The 215.6 KW array is expected to produce approximately 15% of the facility’s needs. Credit: MNA

This ensures that Affected Entities are leading by example as the Climate Act calls for 70% of New York State’s electricity to come from renewable sources by 2030. To achieve this directive, NYSERDA, NYPA, and DPS are working in coordination to guide this ambitious transition through detailed guidance and technical assistance, which are presently in development.

In addition, work has been done to make it easier for Affected Entities to use renewable energy through the development of centralized contracts for solar power purchase agreements and community solar, coupled with technical assistance provided by OGS, NYPA, and NYSERDA. These resources have enabled the State to take a leadership role in transitioning to a cleaner and more sustainable energy future, while also promoting economic growth and job creation in the renewable energy sector.

Renewable Energy Milestones

New solar projects are under development, backed by Governor Hochul's announcement selecting two new transmission projects to help bring more renewable energy to high-load areas in New York City and reduce New York State's dependence on fossil fuels.

NYPA continues to play a leadership role in upgrading existing and building new transmission infrastructure to integrate more renewable energy into the grid. NYPA is rebuilding nearly 300 miles of transmission lines with its Smart Path, Smart Path Connect, and Central East Energy Connect (CEEC) transmission projects.

NYPA is also collaborating with National Grid on the SmartPath Connect Project and with LS Power Grid NY on the CEEC. In addition, NYPA continues to develop public-private collaborations with the Clean Path NY project as well as other emerging New York State transmission solutions.

Affected Entities also continued working with utilities and New York Independent System Operator (NYISO) to find innovative solutions to overcoming issues related to interconnecting renewable energy projects to the grid, which will eventually make it even easier for Affected Entities to implement more renewable energy projects.

Some examples of actions Affected Entities took in FY 21–22 to increase their use of renewable energy include:

Javits broke ground on phase one of a solar PV installation with Siemen's and NYPA.

NYPA installed solar panels on the rooftop at their Eugene W. Zeltmann Power a, consisting of 468 individual panels with about 170 kVa capacity for behind-the-meter consumption.

DOCCS completed four 5-MW PV solar systems during FY 21–22 with a 5th that will be complete FY 22–23. These are the product of Power Purchase Agreements (PPAs) with Ameresco Solar for 22.4 MW (total).

MNA worked with NYPA using OGS's PPA contract to perform site analysis at two locations: Camp Smith and Ithaca. An agreement was executed to pursue a request for proposals at both locations based on the analysis.

Parks installed a 286 KW roof mounted solar array at their Niagara Falls maintenance facilities. The project is estimated to generate 292 MWH of electricity per year, enough to power 100% of energy needs for two maintenance facilities in Niagara Falls. This is estimated to save \$30,000 in annual energy costs.



Sustainable Landscaping

Affected Entities continued to implement sustainable landscaping practices in FY 21–22. These practices benefit the environment due to using less water, as well as fewer fertilizers and pesticides. Sustainable landscaping practices are also cost-efficient and can save money. By utilizing native plants, Affected Entities are able to provide habitat for pollinators in accordance with the State’s [Pollinator Protection Plan](#). In addition, many Affected Entities use their sustainable landscaping techniques to educate the public on the need to take steps to make their own land more sustainable.

Sustainable landscaping techniques can be implemented by Affected Entities no matter how much land they manage, with entities such as Javits and BPCA continuing to lead the way on sustainably managing lands in Manhattan.

Some examples of actions Affected Entities took in FY 21–22 to implement sustainable landscapes include:

- SUNY Farmingdale has achieved Bee Campus USA designation for their actions to increase the abundance of native plants, provide nesting sites, and reduce the use of pesticides on the grounds. In addition, their horticulture program has a sustainable gardens program that is training students and the public on the goals of being a bee campus. Furthermore, their Sustainability Manager partnered with the Horticulture Department’s Landscape Plans I class to design an on-campus pollinator garden – converting a grass field into a sustainable landscape. The plans feature native plants, bee hotels and an outdoor classroom to enhance and demonstrate the importance of sustainable landscape for future horticulturists.
- NYPA is continuing to establish new pollinator habitat at its facilities, visitor centers, and along the Canalway Trail. At NYPA facilities and alongside the Erie Canal, NYPA is replacing frequently mown areas with native meadows that require less mowing and provide habitat for a variety of wildlife. NYPA prepared new native landscaping designs for its offices in White Plains and its Blenheim-Gilboa Visitors Center and designed a new educational exhibit communicating the importance of native plants and pollinators. The exhibit will accompany its flagship pollinator garden at the Power Vista Visitors Center and will include information on sustainable landscaping options to support native plants and pollinators.
- DEC installed new, or enhanced their existing, pollinator gardens at their region 1, 3, 5, and 9 offices and plan to use them to educate staff and the public on the importance of pollinator protection. In addition, to inform the public about what the areas are used for, DEC created standardized pollinator habitat signage that will be used to mark their pollinator gardens and no-mow zones.

DEC staff planted a new pollinator garden at their Region 3 Office in New Paltz.

Credit: DEC



NYPA installed a pollinator garden at their Power Vista. Here, a bumble bee visits one of their anise hyssop. (*Agastache foeniculum*). *Credit: NYPA*

- Parks got the community involved at The Bear Mountain Trailside Zoo and Museum, which received the Garden Club of America Founders Fund Award, 3rd place nationally, for native plant restoration and interpretation at new animal exhibits. The \$10k award was used to plant native trees and shrubs in the facility.
- SUNY Cortland enlisted the assistance of sheep to maintain the vegetation in our ground mount solar array. This initiative sparks lots of conversation from employees, students, and the general public.
- NYPA's Tree Power program supports tree planting across the State by offering a one-to-one match for every tree planted through the program. The trees help to mitigate carbon emissions, improve stormwater quality, and provide food and habitat for various birds, bugs, and other wildlife. In 2021, over 1,000 trees were planted across 8 out of the 10 Regional Economic Development Regions in New York State. Twenty-seven municipalities, universities, and State agencies participated, including OGS and DEC.

Of All Affected Entities:

63% use sustainable landscaping practice

39% implement practices to reduce the use of potable water for landscaping and mitigate the impacts of storm water runoff

22% use small scale green infrastructure and storm water management practices

24% provide signage and/or outreach to the public about their agency's natural resource conservation efforts

36% use sustainable landscaping practices that preserve, protect, or promote the use of non-native or non-invasive vegetation to support native wildlife and pollinators and reduce water and energy use, such as low- or no-mow policies



DEC put their first all-electric riding lawn mower into service. The mower's performance will be monitored, and recommendations made based on the findings for the rollout of further zero-emissions lawn mowers. *Credit: DEC*



DEC overseeing a prescribed fire to control southern pine beetle in the Long Island Pine Barrens. *Credit: DEC*

Species and Habitat Protection

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 hitch a ride 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, but 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.

Some examples of Affected Entities leading by example to protect New York State from invasive species in FY 21–22 include:

- DOT obtained highway work permits for placement and monitoring of 70 spotted lanternfly traps set up on DOT right-of-way, and work with regional staff on weekly monitoring and reporting.
- DEC, after a six-year control project, successfully eradicated the aquatic invasive plant hydrilla (*Hydrilla verticillate*) from the Croton River. The project was successful in preserving the Croton River and its uses, as well as protecting the Hudson River Estuary and its unique habitats. The river will continue to be monitored for three years and a restoration project of *Vallisneria americana*, an aquatic plant, will occur in the Croton Bay.
- Parks has several field teams across the State that actively manage and look for invasive species. These teams conduct surveys for a range of plant and animal species; monitor threatened, rare, and endangered species; and report and remove invasive species on their lands.



DEC's traps spotted Lantern Flies.
Credit: DEC

DEC field technician
controlling a giant
hogweed infestation.
Credit: DEC

E.O. #22 calls for the implementation of an Early Detection Rapid Response (EDRR) protocol for invasive species management by all Affected Entities and encourages the prioritization of integrated pest management techniques.

18 entities engaged in invasive species survey and removal activities during FY 21–22.





Wild blue lupine – the key to Karner Blue butterfly habitat.
Photo by USFWS; Joel Tric



DOT's pollinator protection initiatives have led to more milk weed and flowering plants being present in their Utica region. Credit: DOT

Endangered Species

Affected Entities continued to act in FY 21–22 to protect endangered species. Their efforts were focused on protecting species from ongoing threats such as habitat loss, development and land-use changes, and the effects of climate change. Due to efforts by Affected Entities, multiple species are recovering their numbers, including the Karner blue butterfly and peregrine falcon. Progress will continue as E.O. #22 contains language directing Affected Entities to ensure that their operations do not have an adverse impact on endangered species. In addition, the GreenNY Council has created and issued guidance to assist Affected Entities in this endeavor.

Examples of Affected Entities working to improve the habitats of our rarest species in FY 21–22 include:

- ESF (SUNY) received the highest marks for biodiversity in their STARS reporting through the Association for the Advancement of Sustainability in Higher Education (AASHE). As part of their initiatives and land stewardship, they worked with the NY Natural Heritage Program to compile a list of endangered and threatened species known to protect and enhance the habitat of SUNY ESF properties throughout the State. The list included threatened northern harriers and over a dozen species of state rare, threatened, and endangered plants, some in multiple locations across their properties. They are continuing their work by implementing the New York Mammal Distribution Study in collaboration with Cornell University and DEC.
- Parks in partnership with the Open Space Institute (OSI), DEC, and the Albany Pine Bush Commission are working to promote the successful establishment of the Karner Blue Butterfly to the newly acquired 890 acres that will be added to Moreau Lake State Park. The first action will be to establish wild blue lupine, the host plant for the butterfly.
- DOT continued their pollinator protection initiative by taking actions to protect the Monarch butterfly. This includes the establishment of no-mow zones to allow flowering plants to persist through the active season of the butterflies.

New York State's endangered species efforts focus on the most sensitive elements in the system and work to find and correct problems before certain species are lost forever.



Stony Brook University (SUNY) installed 75 smart irrigation controllers to reduce water usage. *Credit: Stony Brook University (SUNY)*



Farmingdale State College (SUNY) installed over 250 low flow aerators on faucets across campus. *Credit: Farmingdale State College (SUNY)*



ESF's (SUNY) rainwater recovery system has reclaimed more than 4,300 gallons of water used to wash vehicles, water plants, and for other general purposes on campus over the past three years. *Credit: SUNY ESF*

Water Conservation

Water is a valuable limited resource that must be used efficiently in order to meet the challenge of supporting the varied and increasing water uses of New Yorkers.

Water is used for drinking, irrigation, producing electricity, cooking, manufacturing industrial products, cleaning, and more. Conserving water has many benefits, including saving energy and money, protecting and preserving the aquatic ecosystems, and ensuring that future needs can be met in the face of climate change. Affected Entities are taking the lead on finding innovative ways to conserve water whether it be through replacing, repairing, and retrofitting existing infrastructure, developing and implementing practices and policies that reduce water use, or designing for the future with innovative new designs and techniques.

In addition, outdoor irrigation systems used by Affected Entities are continuing to become more water efficient. Technological solutions like moisture sensors are also being deployed to determine how much water to use for irrigative purposes. Smart irrigation systems are also able to take weather into account when determining when to irrigate. As these technologies continue to evolve and be deployed across Affected Entities, additional savings will be realized.

Some examples of water conservation projects undertaken in FY 21–22 include:

- NYPA switched from reverse osmosis water demineralization to ion exchange demineralization and optimized the boiler water chemistry regime at their Zeltmann Power Project to reduce water usage by 18.47 MM gallons per year. This reduced use of tri-sodium phosphate and aqueous ammonia by approximately 50%.
- SUNY Old Westbury installed low-flow fixtures in six bathrooms during renovations.
- Stony Brook University (SUNY) installed 75 smart irrigation controllers to reduce water usage on campus.
- Farmingdale State College (SUNY) installed more than 250 low-flow aerators on faucets across campus. The aerators will save water and reduce energy use by 5,000 therms/year through reduced hot water use.
- NYSIF found that their introduction of remote working policies reduced water usage by 13% at their Albany and Syracuse offices.
- Parks worked with the Pollution Prevention Institute (P2I) to create a closed loop gravity filtered wash system for the golf course maintenance equipment at Bethpage State Park. The system has reduced water used to wash equipment by 90%.



University at Albany (SUNY)'s
new ETEC building includes a green roof.
Credit: University at Albany (SUNY)

Green Infrastructure and Stormwater

As open space is developed, rain and snowmelt are no longer able to soak into the ground and instead flow directly into streams and ponds. The quantity and speed of flow can cause erosion, flooding, pollution, and damage to aquatic habitat, personal property, and infrastructure such as roads, culverts, and sidewalks.

Green infrastructure reduces the negative impacts of stormwater runoff by mimicking natural processes that slow or treat stormwater at its source. Green infrastructure is more cost-effective than constructing new stormwater and sewage catchment and treatment systems. Additional positive benefits include beautiful greenery, expanded wildlife habitat, improved air quality, energy savings, urban cooling, and enhanced resiliency to climate change.

E.O. #22 aims to increase the amount of green infrastructure installed by Affected Entities by directing them to evaluate the use of, and incorporate, green infrastructure into all construction projects regardless of size.

A few examples of Affected Entities successfully deploying green infrastructure in FY 21–22 include:

- University at Albany (SUNY)'s newly constructed net-zero energy ready Emerging Technology and Entrepreneurship Complex (ETEC) building incorporated green infrastructure practices into their design. The green infrastructure practices for stormwater management include a 560-square-foot green roof with advanced instrumentation integrated into research and academics and a 28,000-square-foot porous asphalt parking lot. The use of the green roof as a teaching and research tool will enable the University's academic departments to integrate it within their coursework and engage students to measure and analyze the impact of green roofs on stormwater management, urban heat island effect, and building heat loads.
- DOT's commitment to regional green infrastructure practices through their Pollinator Initiative reestablishes natural habitat along many busy travel corridors across New York State. The maintenance practices undertaken by DOT staff create sustainable landscapes, which encourages the natural treatment of stormwater runoff.
- EFC has awarded \$145 million to 238 projects through the Green Innovation Grant Program (GIGP) since 2009. The GIGP funds projects on a competitive basis that improve water quality and mitigate the impacts of climate change.

Sustainable Transportation

New York State sets the national standard for low greenhouse gas emissions in transportation, thanks to our robust public transit systems and a rapidly growing electric vehicle charging network.

Still, transportation remains the second largest source of greenhouse gas emissions in New York State, comprising 28% of total emissions. Transit will be a critical factor in helping the State reach its emissions reduction requirements, and Affected Entities will be driving change at every step.

Through E.O. #22, New York State committed to the 100% decarbonization of its light-duty fleet by 2035. Currently 5% of the approximately 20,000 vehicle light-duty fleet are ZEV (either battery electric, hydrogen fuel cell, or plug-in hybrid). In FY 21–22, 4% of new vehicles procured by Affected Entities were ZEV, a number expected to increase in coming years as supply constraints ease and increased manufacturing facilitates easier procurement of ZEVs, particularly battery electric vehicles. Leading by example, the 75 Affected Entities covered by E.O. #22 are each completing Fleet Decarbonization Plans to specify what their fleet transition will look like. A Statewide Clean Fleet Plan, currently in development by OGS and NYSERDA, will provide guidance for a streamlined and coordinated transition, as well as estimate anticipated costs and savings for Affected Entities.

While the requirements for medium- and heavy-duty ZEV conversion plans are not due until 2025, New York State has committed to an accelerated transition of its 42,000 school buses, which carry 2.3 million students to school. By 2027, all new school bus purchases are mandated to be electric, with the 100% transition of school buses set for 2035. NYSERDA has been assisting school districts and bus contracting vendors with the necessary tools and information to achieve this target.



NYPAs EVOlve NY team opens high-speed electric vehicle charging hub at Mirabito Convenience Store in South Syracuse. *Credit: NYPAs*



NYPA and MTA are working on electric fleet charging in Manhattan, NY. Pictured, a New York City electric bus travels along East 80th Street and East End Avenue in Manhattan. *Credit: NYPA*

Transit bus electrification has been a major focus for DEC, NYPA, NYSERDA, DOT, and the transit agencies.

The 2020 State of the State required that the five largest upstate and suburban transit fleets (Buffalo, Rochester, Albany, Westchester, and Suffolk) electrify 25% of their fleet by 2025 and 100% of their fleet (roughly 1400 buses combined) by 2035.

In addition, NYC Transit has a target of electrifying 500 buses by 2025 and 100% (about 5,700 buses) by 2040. Two other transit agencies actively placing electric buses in their fleets are Ulster and Tompkins Counties. NYPA is working with most of these transit agencies to manage the installation of bus depot charging equipment. For the upstate and suburban fleets, this installation is being funded with VW Diesel Settlement funds in partnership with DEC and NYSERDA. In addition, DOT, NYSERDA and NYPA are funding an electrification master planning study for these fleets.

Multi-faceted charging programs will tailor infrastructure solutions to power the fleet transition and ensure the availability of public and employee ports at State facilities. NYPA's EVolveNY program will install up to 400 fast chargers at average intervals of 50 miles along key interstate corridors by the end of 2025.

During the reporting period NYPA opened 18 fast charging sites statewide with a total of 59 high-speed chargers. Affected Entities are also becoming familiar with maintaining and operating this equipment, with 44% of entities reporting owning vehicle chargers outright or utilizing chargers at leased facilities.

Proving their adeptness in applying best practices to current fleet management, over 80% of respondents reported assigning staff the lowest emitting vehicle in most cases.



OGS developed new signage and decals for State facilities and vehicles to increase visibility of on-site EV charging. *Credit: OGS*

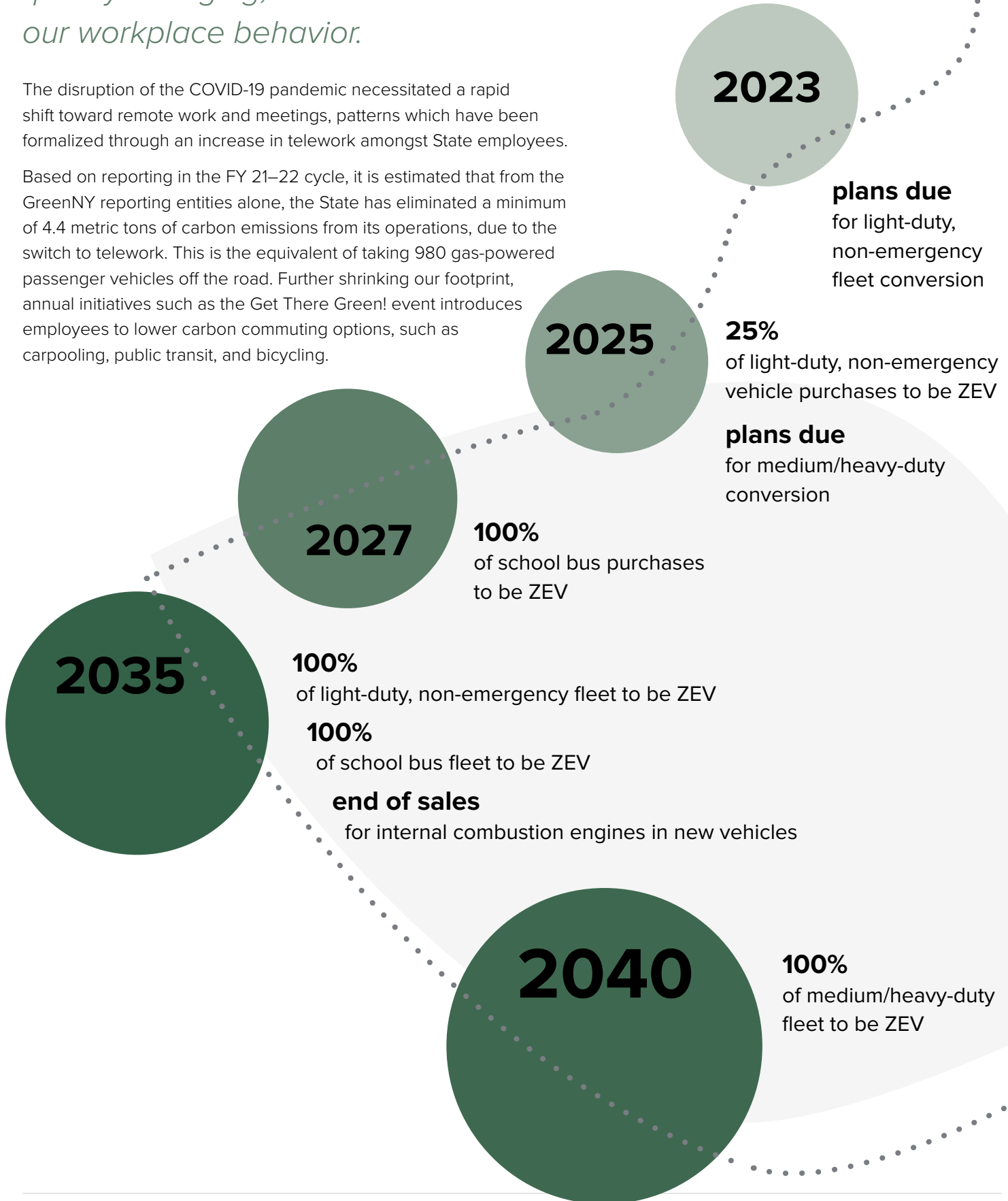
Between shared efforts led by NYPA and the Office of General Services, over 1,300 chargers will be installed at State facilities in the next five years, including DC fast chargers that can fully power most light-duty batteries in 20–40 minutes.

While vehicles and infrastructure are quickly changing, so too is the nature of our workplace behavior.

The disruption of the COVID-19 pandemic necessitated a rapid shift toward remote work and meetings, patterns which have been formalized through an increase in telework amongst State employees.

Based on reporting in the FY 21–22 cycle, it is estimated that from the GreenNY reporting entities alone, the State has eliminated a minimum of 4.4 metric tons of carbon emissions from its operations, due to the switch to telework. This is the equivalent of taking 980 gas-powered passenger vehicles off the road. Further shrinking our footprint, annual initiatives such as the Get There Green! event introduces employees to lower carbon commuting options, such as carpooling, public transit, and bicycling.

Key Milestones

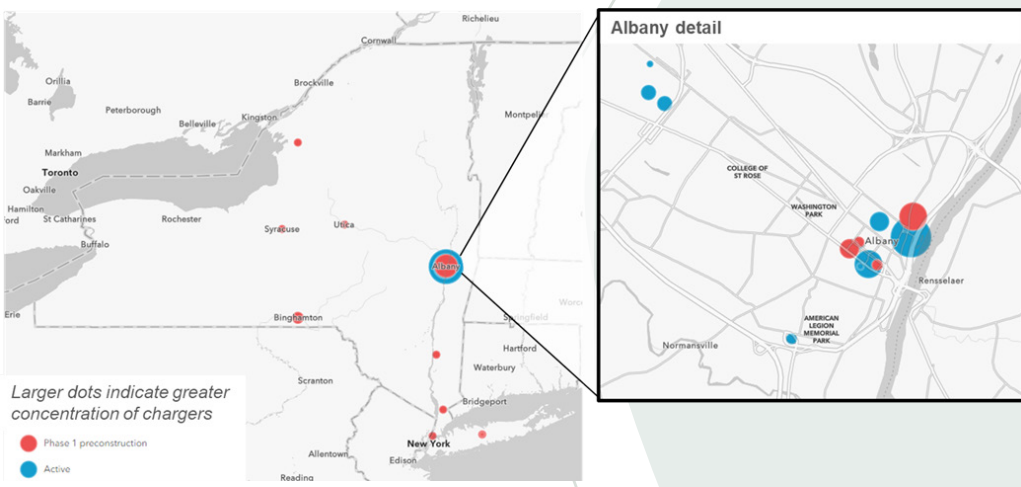




Bronx Community College (CUNY) purchased more efficient, John Deere Gator electric utility vehicles that are utilized by their Physical Plant Services and Public Safety departments. *Credit: Bronx Community College (CUNY)*



CDTA launched DRIVE, an all-electric car sharing program launched on January 6, 2023. The DRIVE Program operates with six electric Chevy Bolts located at “home” locations in Albany and Cohoes. Registered members can reserve the vehicles 24/7 once they have completed the application and DMV clearance process. All rentals are \$5 per hour. The DRIVE Program has shown a consistent increase in active memberships as well as trips in each of the first three months of service. Across the six-vehicle fleet there is an average of 42 hours of rental time booked per day. *Credit: CDTA*



OGS is accelerating the installation of electric vehicle charging stations throughout the State for fleet and employee use. *Credit: OGS*

Buying Green



Purchasing Recycled Paper

Paper is an essential commodity purchased in large quantities by Affected Entities. Paper manufacturing uses significant amounts of energy and natural resources and is a source of pollution and greenhouse gas emissions.

To reduce these impacts, Executive Order 4 (E.O. #4) required the purchase of copy paper and the printing of agency publications on paper made from 100% post-consumer recycled content that is processed chlorine-free.

Under E.O. #22, an updated copy paper and paper supplies specification was recently approved and notably establishes new requirements for paper products based on their color and usage. The term “processed chlorine-free” (PCF) refers to recycled paper in which the recycled content and any virgin material is unbleached or bleached without the use of chlorine or chlorine derivatives. Post-consumer material has completed its life as a consumer item and is disposed of as solid waste if it is not recovered for repurposing. The higher the post-consumer content, the more materials were diverted from the waste stream. The table on page 42 presents data on the amount of copy and janitorial paper – broken out by percentage of recycled content – that was purchased in five of the past State fiscal years.

Key Copy Paper Findings

The greatest amount of money spent on copy paper (55%) went toward purchasing 100% post-consumer recycled content, processed chlorine-free paper. This represents a thirty-three-percentage-point increase from the 22% of money spent on such paper in FY 08–09.

Fifty-eight percent of Affected Entities reporting paper purchases in FY 21–22 reported buying at least some 100% post-consumer recycled content, processed chlorine-free copy paper. Of all Affected Entities that reported purchasing copy paper, only 35% continued to purchase paper with less than 30% recycled content. Those purchases accounted for only 23% of the total number of boxes of copy paper purchased. Three quarters (75%) of total dollars spent on copy paper went toward purchasing paper with higher than 30% recycled content.

Analysis of paper purchasing data reveals that 100% post-consumer recycled content copy paper is not more expensive than copy paper with little to no post-consumer recycled content. On the contrary, this year, entities paid less for 100% post-consumer recycled content copy paper (at \$30 per box) than they did for paper with less than 30% post-consumer recycled content (at \$34 per box).

Key Janitorial Paper Findings

Sixty-four percent of dollars spent on janitorial paper in FY 21–22 (or approximately \$3.675 million) went to purchase 100% recycled-content paper. This amount represents a thirty-percentage-point increase from the 34% of total dollars spent on such paper in FY 08–09.

Only 11 entities (31% of all entities reporting janitorial paper purchases) continued to purchase unrecycled janitorial paper in FY 21–22. Such purchases amounted to only 14% of all reported dollars spent on janitorial paper.

Janitorial Paper Purchases by Amount of Recycled Content

	FY	Agencies Reporting Purchases	Percent of Agencies Reporting Purchases	Total Cases of Janitorial Paper Purchased	Total Dollars Spent on Janitorial Paper	Percent of Expenditures by Recycled Content
100% Recycled Chlorine-free	09–10	28	88%	236,139	\$6,320,148	75%
	18–19	25	81%	157,545	\$2,790,958	55%
	19–20	31	84%	176,628	\$2,526,902	66%
	20–21	25	81%	142,114	\$1,144,026	56%
	21-22	25	71%	133,018	\$3,675,863	64%
1%–99% Recycled	09–10	22	69%	71,029	\$1,699,169	18%
	18–19	18	58%	62,537	\$2,046,644	31%
	19–20	20	54%	46,499	\$1,565,156	24%
	20–21	21	68%	56,997	\$1,583,361	28%
	21-22	26	74%	36,675	\$1,312,904	23%
Unrecycled	09–10	9	30%	81,407	\$2,665,794	8%
	18–19	6	37%	38,890	\$1,487,386	13%
	19–20	8	37%	17,262	\$500,813	10%
	20–21	10	49%	11,637	\$403,661	16%
	21-22	11	31%	35,753	\$797,564	14%
Total Agencies Reporting Purchases	09–10	32	N/A	398,150	\$9,565,211	100%
	18–19	31		258,044	\$6,525,256	100%
	19–20	37		253,662	\$6,445,013	100%
	20–21	31		244,352	\$5,735,135	100%
	21-22	35		100%	205,443	\$5,786,331

Other Paper Purchases

The GreenNY reporting form asks Affected Entities whether they purchased other types of paper such as colored paper, card stock, plotter paper, graph paper, bond paper, map paper, steno pads, etc. Thirty-one entities reported purchasing other types of paper in FY 21–22.

Three quarters (75%) of total dollars spent on copy paper went toward purchasing paper with higher than 30% recycled content.



Hunter College’s (CUNY) installation of 78 new printers, since 2021 (as part of a university-wide initiative to replace a personal and aging printer fleet) has reduced costs and paper usage. *Credit: Hunter College (CUNY)*

Copy Paper Purchases by Amount of Recycled Content

	FY	Agencies Reporting Purchases	Percent of Agencies Reporting Purchases	Total Boxes of Copy Paper Purchased	Total Dollars Spent on Copy Paper	Average Price Per Box	Percent of Expenditures by Recycled Content
100% Recycled Chlorine-free	09–10	54	77%	159,857	\$6,320,148	\$39.50	49%
	18–19	44	70%	90,806	\$2,790,958	\$31.00	48%
	19–20	47	75%	86,145	\$2,526,902	\$29.00	63%
	20–21	35	61%	33,311	\$1,144,026	\$34.00	60%
	21-22	41	65%	65,869	\$3,675,863	\$30.20	55%
30%-99% Recycled	09–10	43	61%	110,028	\$3,803,229	\$34.50	30%
	18–19	36	57%	57,955	\$1,541,596	\$27.00	26%
	19–20	31	49%	36,389	\$960,282	\$26.00	24%
	20–21	28	49%	16,831	\$374,517	\$22.00	19%
	21-22	33	52%	26,112	\$1,312,904	\$28.03	20%
<30% Recycled	09–10	21	30%	81,407	\$2,665,794	\$33.00	21%
	18–19	23	37%	38,890	\$1,487,386	\$38.00	26%
	19–20	23	37%	17,262	\$500,813	\$29.00	13%
	20–21	28	49%	11,637	\$403,661	\$35.00	21%
	21-22	22	35%	26,834	\$797,564	\$34.00	25%
Total Agencies Reporting Purchases	09–10	70	N/A	351,292	\$12,789,171	N/A	100%
	18–19	63		187,651	\$5,819,940		100%
	19–20	63		139,796	\$3,987,997		100%
	20–21	57		61,779	\$1,922,204		100%
	21-22	63		100%	118,815		\$5,786,331

Green Specifications

E.O. #4, issued in 2008, created a green procurement and agency sustainability program that has continued and expanded upon E.O. #22.

That green procurement program has led to the creation of 89 green procurement specifications that are currently approved for use in State procurement.

They cover over 130 different commodity, service, or technology products (e.g., the “Computers and Displays” specification covers nine types of devices: desktops, integrated computers, laptops, notebooks, tablets, small-scale servers, thin clients, monitors, and signage displays).

A summary of the new specifications adopted by the Committee is shown on this page.

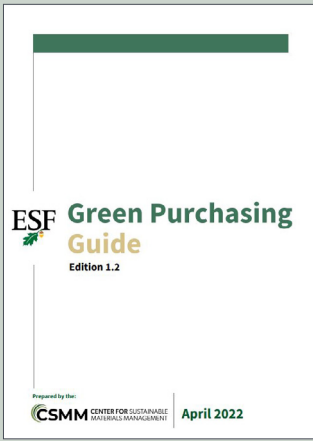
A complete list of approved specifications, as well as their full text, is available on the [GreenNY website](#).

Recent specifications approved by the E.O. #4 Interagency Committee include:

December 2021 Meeting	April 2022 Meeting
Air Purifiers	Passenger Vehicles
Commercial Coffee Brewers	Heating and Cooling Equipment
Commercial Dishwashers	Brooms
Commercial Hot Food Holding Cabinets	Disinfectant Delivery Devices
Commercial Griddles	Mops
Commercial Fryers	On-site Chemical Generation Units
Commercial Ice Machines	Powered Floor Maintenance Equipment
Commercial Ovens	Sorbents
Commercial Refrigerators and Freezers	Sponges and Scrubbers
Commercial Steam Cookers	Waste Baskets and Recycling Containers
Dehumidifiers	Wiping Rags and Clothes
Residential Clothes Dryers	AAA AA and D Batteries
Residential Dishwashers	Disinfectants
Residential Freezers	Electric Hand Dryers
Residential Refrigerators	Trash Bags
Refrigerant Containing Equipment	
General Purpose Cleaners	
Hand Cleaners and Personal Care Cleansing Products	
Cookware and Bakeware	
Lower Carbon Concrete	
Menstrual Products	
Packaging Language	

Affected Entities Use:

89
approved GreenNY
specifications
covering
130+
products



Green Purchasing Guide
Credit: ESF

In FY 21–22 many Affected Entities used GreenNY procurement specifications when making purchasing decisions.

79% said they review and use the specifications all (50%) or a majority (29%) of the time.

These rates are comparable to the rates reported in FY 20–21.

ESF (SUNY) and the Center for Sustainable Materials Management implemented a new project that created a [Green Purchasing Guide](#) to facilitate increased usage of the GreenNY specifications by campus purchasers. The guide is updated three to four times a year and contains live links to products that meet the GreenNY specifications, hold third-party certifications, or meet ESF green purchasing standards.

Green Specifications Finalized in December 2021 and April 2022

Appliances and Commercial Kitchen Equipment

This group of fifteen specifications covers several types of appliances and commercial equipment and requires the appliances and commercial kitchen equipment to meet ENERGY STAR® requirements. The specifications include:

- Air Purifiers
- Commercial Coffee Brewers
- Dishwashers
- Hot Food Holding Cabinets
- Griddles
- Fryers
- Commercial Ice Machines
- Commercial Ovens
- Commercial Refrigerators and Freezers
- Commercial Steam Cookers
- Dehumidifiers
- Residential Clothes Dryers
- Residential Dishwashers
- Residential Freezers
- Residential Refrigerators

Refrigerant Containing Equipment

This specification sets standards for refrigerant-containing equipment in order to lower the climate impacts of leaked refrigerants. The specification requires Affected Entities to evaluate options for refrigerant-containing equipment that utilizes the lowest GWP refrigerant available and to follow proper end-of-life guidance for the equipment. The specification also encourages the purchase of equipment that utilizes a low GWP and contains a built-in leak detection system and encourages entities to take steps to reduce leaks in new and existing equipment.

General Purpose Cleaners

This specification was updated to include new language requiring Affected Entities to purchase cleaning products that comply with the recently passed New York State Environmental Conservation Law (ECL) Article 35, which restricts the amount of 1,4 dioxane in cleaning products.

continued on next page >>

Hand Cleaners and Personal Care Cleansing Products

This specification was updated to include new language requiring Affected Entities to purchase cleaning products that comply with the recently passed New York State Environmental Conservation Law (ECL) Article 35, which restricts the amount of 1,4 dioxane in cleaning products.

Cookware and Bakeware

This specification sets standards for the purchase of cookware and bakeware and requires Affected Entities to explore surplus or reconditioned products before purchasing new products. In addition, when purchasing new products Affected Entities are required to avoid products with a California Prop 65 warning, that contain a PFAS-based, non-stick coating or nanoparticle-infused non-stick coating. They are also encouraged to purchase products that contain recycled content and that limits the amount of packaging provided.

Lower Carbon Concrete

This specification sets standards for lower-carbon concrete used in buildings, roadways, and other infrastructure. The specification requires Affected Entities to set cement content limits and to reduce the cement content in concrete through the use of pozzolans and by reducing the percentage of binder in the mix. It also requires the purchase of concrete that has an environmental product declaration statement and encourages entities to maximize the Supplementary Cementitious Materials (SCM) percentage, reduce the volume of concrete needed, and consider the use of CO₂ injection in tandem with additional cement reduction.

Menstrual Products

Legislation passed in 2018 requiring all public schools to provide free menstrual products in bathrooms, leading to increased purchasing of these products by State entities, including SUNY and CUNY. A subsequent law on menstrual product labeling was passed in 2021. This specification seeks to ensure that Affected Entities purchase products from vendors with labeling demonstrating that the products exclude intentionally added chemicals of concern. It also seeks to promote the purchase of reusable products.

Packaging Language

This specification was an update to the model packaging language that established a hierarchy approach, which lists a preference for the elimination of packaging first, followed by reusable packaging, before other environmental attributes.

Green Specifications Tentatively Approved in April 2022

Passenger Vehicles

This specification is intended to make Affected Entities aware of GHG emissions information, and to help entities lower their emissions impact by providing guidance and recommendations regarding low and zero emission electric vehicle purchases.

Heating and Cooling Equipment

This specification for heat pumps and technical services is intended to increase uptake of clean heating and cooling in State agency buildings. The specification and its guidelines are consistent with, and link to, the Public Service Commission-approved New York State Clean Heat Statewide Heat Pump Program (NYS Clean Heat Program) and provides information on clean heating and cooling technologies for staff who make purchasing decisions.

Green Cleaning Products

This group of 13 specifications covers various green cleaning products and is intended to ensure that the State's green procurement specifications line up with the green attributes that products must meet to be included in the new FAC118 contract led by the State of Massachusetts, and which serves as the OGS centralized contract for State purchasers. Staff from DEC and OGS were involved in the creation of the specifications used in the contract, along with experts from Massachusetts, Connecticut, the Responsible Purchasing Network, and the Massachusetts Toxics Use Reduction Institute, which ensured that the FAC85 contract is "all green" as the products on it will meet these specifications. The products include "Brooms," "Disinfectant Delivery Devices," "Mops," "Onsite Chemical Generation Units," "Powered Floor Maintenance Equipment," "Sorbents," "Sponges and Scrubbers," "Waste Baskets and Recycling Containers," "Wiping Rags and Clothes," "AAA, AA, and D Batteries," "Disinfectants," "Electric Hand Dryers," and "Trash Bags."

OGS Centralized Contract Updates

Green Cleaning Contract

A new contract was issued in June of 2022 for environmentally preferable cleaning products. The new FAC118 contract is a multistate procurement, led by the State of Massachusetts and is structured similarly to the previous green cleaning contract, with all products meeting environmental criteria.

Motor and Hydraulic Oil

A new contract was issued in 2021, and the contract allows purchasers to buy products with re-refined content. All motor and hydraulic oil on contract contains at least 55% re-refined content and meets the GreenNY specification.

Electric Vehicle Supply Equipment

OGS is replacing its award for electric vehicle charging stations. The new contract will be similar to the existing award but will feature additional contractors. Awards are anticipated to be made by the end of 2023.

Computer Aggregate Buy

OGS Procurement Services continues to offer EPEAT certified computers through its aggregate buy program.

School Buses

A new contract was issued in December of 2022 that includes expanded offerings for electric school buses. The contract currently has 63 awarded school buses on contract, with 21 of the awards for electric buses.

Buying Green

New York State is a national leader in environmentally preferable purchasing by using aggregated spending to procure competitively priced green products.

In 2022, New York earned its sixth consecutive national award for excellence in sustainable electronics procurement from the Green Electronics Council, for requiring that all microcomputers purchased through OGS's aggregate buy meet [EPEAT requirements](#), a global technology products environmental rating system managed by the Global Electronics Council (GEC).



OGS's sixth consecutive EPEAT purchaser award for its aggregate purchase of computers. *Credit: OGS*

Many green products are competitively priced and perform as well as or better than conventional products, as reported by 43% of Affected Entities who procured sustainable products.

Green products, such as traffic safety equipment made from recycled plastic, glass beads in reflective paint made from recycled glass, and remanufactured toner cartridges, are consistently less expensive than conventional products. Many others, including 100% recycled content janitorial paper, green cleaning products, and soy-based ink, are consistently comparable in price to conventional products, and products such as green computers, lighting, solar power, and ZEVs are cost neutral compared to their non-green counterparts when life-cycle costs and energy savings are considered. A list of competitively priced green products offered on State contract can be accessed on the [OGS website](#).

Green Spending

Approximate data on green spending across the State was obtained by reviewing sales reports from OGS centralized contracts, and spending data reported by Affected Entities through the GreenNY reporting form. The approximate total of purchases of green products from these two sources was over \$286 million in FY 21–22. The entities that reported the greatest amount of green spending were DOT, OGS, SUNY, and CUNY, which together accounted for more than 75% of the spending reported by entities. The 10 product categories with the highest levels of spending included EPEAT-certified computers, re-refined motor oil, environmentally preferable cleaning products and services, furniture, EPEAT-certified printers, recycled copy paper, EV charging stations, and green lighting products.

Savings and Costs

Overall, data regarding the cost of green procurement continues to be encouraging. In FY 21–22, almost half of the entities (43%) reported either a reduction in costs (7%) or that costs remained the same (36%), while only seven entities (10%) reported that there was an increase in costs as a result of implementing green procurement practices.

**Top 10 Green Purchasers
2021–2022**

Agency and Spend
Department of Transportation \$44,420,656
State University of New York \$31,843,944
Office of General Services \$27,199,586
City University of New York \$11,170,081
Department of Labor \$8,458,600
Westchester Medical Center \$5,187,286
New York Power Authority \$4,503,440
New York State Insurance Fund \$3,124,214
Jacob K. Javits Center — New York Convention Center Operating Corporation \$3,030,303
Department of Motor Vehicles \$2,812,979

**Summary of Green Spending
by Product Category, FY 21–22**

Product	Estimated Spend (\$)
EPEAT Certified Computers	175,451,900
Re-Refined Motor Oil	47,443,700
EP Cleaning Products and Services	35,257,100
Furniture	7,805,200
Solar PPAs	3,946,000
Recycled Copy Paper	3,892,000
EPEAT Certified Printers	3,760,000
EV Charging Stations	1,890,000
Lighting Products	1,796,100
Zero Emission Vehicles	1,541,300
Carpet and Carpet Tile	931,600
Recycling and Composting Services	853,900
Integrated Pest or Vegetation Management	481,800
Non-Chemical Pest Management for Outdoor Spaces	445,000
Photovoltaic Systems	176,700



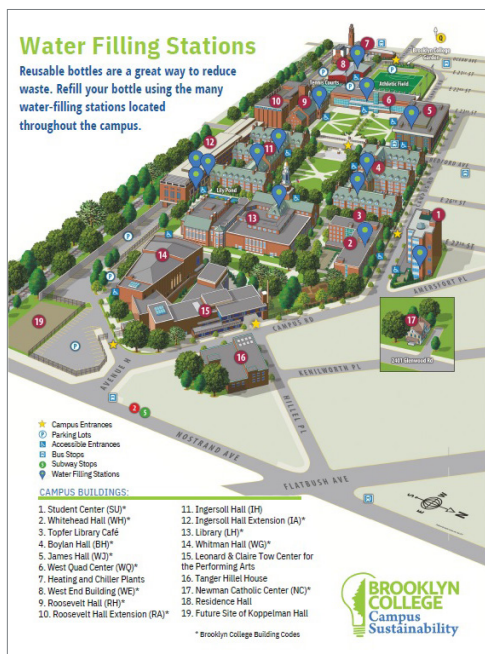
Eliminating the Use of Bottled Water

Single-use water bottles have a large environmental impact, both as litter in our streets and waterways, as well as from the greenhouse gas emissions it takes to create and transport them.

E.O. #22 directs all Affected Entities to “not expend State funds for the purchase of bottled water.” E.O. #22 builds upon E.O. #18, which had similar restrictions, but only for executive agencies. Notably, public authorities are now covered under E.O. #22, unlike under E.O. #18. However, E.O. #22 was not in effect when the GreenNY data collection for this report took place, so this report only discusses E.O. #18, which directed all executive agencies to “develop and implement a plan to eliminate the expenditure of State funds for the purchase of bottled water for use at executive agency facilities.”

Brooklyn College (CUNY) welcomes students with reusable water bottles at the start of the Fall 2022 semester.
Credit: Brooklyn College (CUNY)

State agencies and authorities continue to report a high level of compliance with the directives of E.O. #18. Of the 50 executive agencies required to comply with E.O. #18 and reporting in FY 21–22, 48 are in compliance. In addition, of the 22 authorities and other entities not covered by the Order, 17 (77%) adopted the goal of eliminating the purchase of bottled water. Finally, 62 out of the 72 reporting agencies and authorities report that they have eliminated the purchase of bottled water except for their documented and compliant exemptions.



Sixteen executive agencies covered by E.O. #18, and 11 entities not covered (nine of which nonetheless successfully met its goals), documented their need for an exemption at one or more locations, as allowed under the Order. Reasons for exemptions include working in remote areas without access to potable water and water contamination issues. Large offices served by reliable municipal water supplies generally reported no need for exemptions.

Most agencies reduced their spending or saw no change in their spending because of their efforts to eliminate the purchase of bottled water. Thirteen agencies or authorities saved money specifically through efforts to reduce bottled water in FY 21–22.

In summary, the data for FY 21–22 continue to document that the executive agencies covered by E.O. #18 have largely eliminated the purchase of bottled water.

Brooklyn College (CUNY) created a map that shows locations of the water bottle filling stations throughout campus.
Credit: Brooklyn College (CUNY)

62 agencies and authorities have eliminated their purchase of bottled water except for documented and compliant exemptions.

In addition, State agencies took actions in FY 21–22 to continue to decrease their reliance on bottled water, as well as the reliance of the communities they serve:

- Brooklyn College (CUNY) purchased 175 water bottle filling stations during FY 21–22 for the replacement of all fountains on campus as part of the Safe Return Together COVID-19 pandemic plan. A total of 8 units have been installed following the college’s 2021 purchase of filling stations, doubling the total number of stations on campus. Usage is being promoted on the BC Navigator app, which maps station locations. The college plumbing staff is continuing to install stations.
- Parks In order to promote access to drinking water in facilities and decrease consumption of bottled water, many State Park facilities have installed bottle fillers, including Bethpage, Saratoga Spa State Park, and others. At Taughannock Fall State Park, a reusable bottle filler was installed at a trailhead to serve hikers. Upgrades to existing water systems is another keyway the agency is enhancing drinking water availability, such as the installation of a new water main at Hempstead Lake State Park.
- SUNY New Paltz: In 2015, the New Paltz campus eliminated plastic bottle sales. In the fall of 2020, the campus transitioned to offering beverages in aluminum cans, which are preferable to both cardboard and single-use plastics. They also generated a [case study](#) on this transition.

Conclusion

New York State's Affected Entities continued to lead by example in FY 21–22 by taking action to lower greenhouse gas emissions, reduce waste, decrease the use of hazardous substances, purchase green products, and enhance the lands and habitats that they maintain.

The GreenNY Council continued to build State government capacity for sustainability practices by conducting trainings, providing guidance for Affected Entities, and offering other forms of engagement. This progress establishes a firm foundation for State efforts to accelerate toward and meet the new set of environmental and sustainability requirements laid out by Governor Hochul in E.O. #22.

New York State government is continuously improving on environmental and sustainability performance year after year — doing its part to secure a more sustainable future for New Yorkers.



Oneonta (SUNY) installed four new level 2 electric vehicle charging stations on campus.
Credit: SUNY Oneonta



Cover and Back Cover:

University at Buffalo (SUNY)'s new solar field in the process of installation along the Audubon Parkway on North Campus. *Credit: University at Buffalo (SUNY)*



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